1st Pharmacoeconomics and Outcome Research Conference 2012

Theme: Pharmacoeconomics - making choices in healthcare

MARCH 31ST & APRIL 1ST 2012
HOTEL ISTANA, KUALA LUMPUR

Co-organizers:
Pharmaceutical Services Division
Ministry of Health Malaysia

Co-sponsors:
UNITED NATIONS UNIVERSITY
UNU-IIGH
(International Institute for Global Health)

SANOFI  Lilly  SERVIER
Professor Dato’ Dr. Syed Mohamed Aljunid

President MySPOR

Welcome Message from Founding President, Malaysian Society for Pharmacoeconomics and Outcome Research (MySPOR)

It gives me great pleasure to welcome all participants to this 1st Pharmacoeconomics and Outcome Research Conference 2012. The Conference’s theme, “Pharmacoeconomics-Making Choices in Health Care” reflects the real challenges facing healthcare policy makers in the world today of trying to manage our health system with limited resources. Pharmacoeconomics is gaining recognition in many countries as a discipline that combines health economics with clinical and non-clinical services in allocating monetary value to healthcare inputs. In this conference, we will observe a landmark event in Malaysian health system with the launching of the Pharmacoeconomics Guideline for Malaysia. Although MySPOR is just two years’ old, it is recognized by Ministry of Health Malaysia to provide significant input towards the development of the Guidelines. One of the missions of MySPOR is to build human resource capacity in pharmacoeconomics in the country. MySPOR was established to serve as a platform for those interested in pharmacoeconomics, to sharpen their skills and knowledge in this discipline.

On behalf of MySPOR, I would like to thank Pharmaceutical Services Division Ministry of Health, Malaysia and United Nations University International Institute for Global Health (UNU-IIGH) for providing their support in co-organizing this Conference. It would also not have been possible for us to hold this Conference without the generous support from our industry colleagues.

I also like to thank the members of the organizing committee who have been working diligently despite the time and financial constraints. It is also my duty to acknowledge our advisors who have given us valuable inputs in improving the organization and preparation of a robust scientific program hosted by an array of distinguished speakers that I hope you will find insightful and rewarding.

Last but not least, it is my sincere hope that you will have an enjoyable as well as fruitful time in the next three days. I look forward to meeting all of you during this Conference.

Professor Dato’ Dr. Syed Mohamed Aljunid

Founding President
Malaysian Society for Pharmacoeconomics and Outcome Research.
Professor Dr. Samsinah Haji Hussain  
Organizing Chairperson  

Salam and Welcome to the 1st Pharmacoeconomics and Outcome Research Conference 2012.

This inaugural conference marks a historical event for MySPOR and I am confident that the conference will provide a conducive environment for discussion and knowledge sharing in the area of pharmacoeconomics and outcome research. We have chosen the theme “Pharmacoeconomics - Making Choices in Healthcare” in tandem with our aim to promote the use of pharmacoeconomics information in assisting health care decision makers arrive at better informed choices. Together with the launch of MySPOR and the Pharmacoeconomics Guideline for Malaysia, we hope that this conference will be the impetus to spur more research in this area.

We offer our sincere thanks for the direct or in-kind support given to us by the various organizations. I would like to take this opportunity to thank the Pharmaceutical Services Division, Ministry of Health Malaysia and United Nations University – International Institute of Global Health for their willingness to be our partners as co-organizers to MySPOR’s inaugural conference.

My sincere thank you to all local and overseas experts for agreeing to come together, share their experiences and exchange information in this exciting field of pharmacoeconomics which is new to us here in Malaysia. In this context, I also extend my thanks to major stakeholders - for their strong support and the sponsors - for their generosity that helped ensure the conference a success. I am also grateful to have been given the opportunity to work with a wonderful team of committed and dedicated people.

As the organizing chairperson of the 1st Pharmacoeconomics and Outcome Research Conference 2012 and also the vice-president of MySPOR, I wish you all a fruitful and fun meeting. To our guests, I welcome you to Kuala Lumpur and Malaysia. Please do not miss the opportunity to explore our beautiful city and what she has to offer to make this meeting even more memorable.

Keep smiling and make new friends….

Professor Dr. Samsinah Haji Hussain  
Organizing Chairperson  
1st PEOR Conference 2012
1st Pharmacoeconomics and Outcome Research Conference
31st March & 1st April 2012

Theme : Pharmacoeconomics: Making Choices in Health Care

Aim : To encourage pharmacoeconomics and outcome research in Malaysia.

Objectives :

• To raise awareness on current and future strategies of pharmacoeconomics use in health policy decision making.

• To discuss issues pertaining to pharmacoeconomics application and their potential impact on health technology assessment.

• To share country experience in the development of pharmacoeconomics and outcome research in health care.
ORGANIZING COMMITTEE

Conference Advisor : Professor Dato’ Dr. Syed Mohamed Aljunid
Organizing Chairperson : Professor Dr. Samsinah Haji Hussain
Secretary : Assoc. Professor Dr. Sharifa Ezat Wan Puteh
Treasurer : Mrs Azuana Ramli
Logistics & hospitality : Mrs Noormah Darus
                  Ms Kathleen Yeoh
Publicity : Mrs Zaiton Kamaruddin
                  Dr. Azimatun Noor Aizuddin
Conference assistant : Mr. Al-abed Ali Ahmed Al-abed
Master of ceremony : Ms. Suzainur Kulop Abdul Rahman

With support and help from : Staff of Community Health Department,
UKMMC, staff and post graduate students
of UNU-IIGH and research assistants from
Pharmaceutical Services Division, Ministry
of Health, Malaysia

Mr. Muhammad Hafiz bin Ramli for his
contribution in designing the conference
flyer, announcements, and sharing his
photo of KLCC.
## PROGRAMME SCHEDULE

**Friday - 30th March 2012 : Pre Conference Workshop**

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<td>Economic evaluation of HPV vaccinations in the prevention of cervical</td>
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*Sunday - 1st April 2012*

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Pharmacoeconomics of health technology assessment: A guide to decision making in healthcare  
**Professor Gerard de Pouvoirville**  
*ESSEC Business School, France*  
Chairperson: Professor Abu Bakar Abdul Majeed |
| 0915 - 1015 | Symposium 3 – Evidence-based Decision Making  
Health Technology Assessment in Malaysia: Challenges in pharmacoeconomics evaluations and future plans  
**Datin Dr. Rugayah Haji Bakri**  
*Ministry of Health Malaysia*  
Use of pharmacoeconomics to support formulary decisions  
**Professor Dr. Samsinah Haji Hussain**  
*University of Malaya*  
Scoring methods for formulary decision making  
**Mrs. Azuana Ramli**  
*United Nations University – International Institute for Global Health*  
Moderator: Mr. Adrian Goh |
| 1015 - 1030 | Q & A Session                                                        |
| 1030 - 1100 | Break                                                                |
| 1100 - 1130 | Plenary 4  
Role of drug regulatory agencies and economic evaluations: The 4th hurdle  
**Dr. Suzanne Hill**  
*Department of Health, Australia*  
Chairperson: Professor Abu Bakar Abdul Majeed |
PROGRAMME SCHEDULE

1130 - 1230  Symposium 4 – Cost Effectiveness & Affordability

Can we afford the increase in drug cost?

**Dr. Jayabal Thambyappa**
*Health & Safety Advisory Centre, Penang*

Value of using generic medicines: Wading through the myth and facts with evidence Assoc.

**Professor Dr. Mohamed Azmi Ahmad Hassali**
*Universiti Sains Malaysia, Penang*

Pharmacoeconomics modeling in healthcare research.

**Dr. David Bin-Chia Wu**
*Monash University Sunway Campus*

Moderator : Dr. Faridah Aryani Mohd. Yusof

1230 - 1300  Q & A Session

1300 - 1400  Lunch Symposia (Courtesy of Pfizer)

Chairperson: Mrs. Zaiton Kamarruddin

1400 - 1500  Panel Discussion

Lessons learned from Europe and Asia - Pasific

**Professor Gerard de Pouvoirville** *(France)*,
**Dr. David Wu** *(Taiwan)*, **Dr. Suzanne Hill** *(Australia)*

Moderator : Professor Kenneth KC Lee

1500 - 1545  Q & A Session

1545 - 1600  Closing and take home message

**Professor Dato’ Dr. Syed Mohamed Aljunid**
*President, MySPOR*

1600 - 1630  Tea and conference ends
Malaysia Pharmacoeconomics Guideline:
Transferability and generalizability of health economic evaluation data.

Professor Dato’ Dr. Syed Mohamed Aljunid

President MySPOR

Drug is increasingly becoming a significant factor in driving the cost of health care in the world today. New and more powerful drugs are being developed to manage newly emerging diseases and also to response to increasing burden of chronic and non-communicable diseases. It was estimated that it took on average of 12 years and USD 800 million to discover and develop one new drug. Once the drug is approved and released in the market, pharmaceutical industries will try to recover all their capitals and human resource investments. The high cost of drugs has to be absorbed by the health system where in developing countries can range between 20 to a high as 50% of total healthcare expenditure. To ensure that health care cost remain manageable, mechanisms should be established to ensure that only effective and efficient drugs are given the priority. Malaysia has taken a positive step to introduce pharmacoeconomics guidelines that will provide a framework for objective assessments of drugs to be publicly funded. The pharmacoeconomics guidelines were developed by a technical working group comprising of experts from academia, Ministry of Health, non-governmental organizations and pharmaceutical industries. Use of health economic data especially from local healthcare environment is strongly encouraged in the guideline. Preferred type of economic evaluation methods and ways to interpret outcome of such evaluations in the guidelines will assist decision makers to make objective decision in judging the value of new and existing drugs. It is hope that this newly introduced pharmacoeconomics guidelines will help Malaysia to maintain an efficient and sustainable health system in the future.
Plenary 2

Pharmacoeconomics: Perceptions from multiple stake holders
Professor Kenneth KC Lee
Monash University Sunway Campus

Pharmacoeconomic (PE) studies are designed to meet the different information needs of healthcare suppliers and regulatory authorities (often also act as healthcare purchasers) in an era of increasingly constrained healthcare resources. Due to the differences in value and setting of priorities of these two sectors, conflicts of interest often arise. In addition, other parties including patient groups, healthcare providers, insurance agencies etc are involved and their interest should therefore also be given due consideration.

No single study will be able to provide all interested audiences with complete clinical and economic information on a new health technology. Academics are hence charged with an important yet sometimes impossible task in this tripartite relationship in having to perform well-designed and unbiased studies, leading to the generation of neutral and reliable data to help the making of healthcare policy. In considering economic analysis of a health technology, there are three dimensions of analysis – cost-effectiveness, perspective of study, and types of cost and benefits. To this end, healthcare suppliers and regulatory authorities often tend to have different interpretations although universal definitions have long been made available. The present 30min talk aims to examine these differences and an attempt is made to propose a tripartite collaborative model in Malaysia similar to the UK NICE with a view to provide a possible solution. If this can be proven to be feasible and sustainable, it will make important contributions to the future healthcare reform of Malaysia.
Plenary 3

Pharmacoeconomics of health technology assessment: A guide to decision making in healthcare

Professor Gerard de Pouvourville

ESSEC Business School, France

Health Technology Assessment is “a multidisciplinary field of policy analysis, studying the medical, economic, social and ethical implications of development, diffusion and use of health technology”. Each of these terms is equally important to identify what is the essence of the evaluation of health care interventions, in the view of improving decision making. Each disciplinary field has its own scope, which will be defined through examples. Specific emphasis shall be given to the economic dimension of Health Technology Assessment (HTA). The grounding principles of economics are to achieve an optimal allocation of scarce resources, taking into account the welfare of the population. Applied to health services and goods, this requires specific considerations on how to measure the benefit of health interventions, and also to specify what cost items are relevant, according to the perspective adopted. The role of economic evaluation will then be discussed, in relation to admission to reimbursement and pricing.
Plenary 4

Role of drug regulatory agencies and economic evaluations: The 4th hurdle
Dr. Suzanne Hill
Department of Health, Australia

As the pressure of the economic crisis continues to be felt, countries are considering not only quality, safety and efficacy of medicines before making them available to the community, but cost and cost effectiveness. Ideally, a new product should satisfy all criteria before being used. Systems around the world differ in their application of the criteria. Most countries separate process of assessment of quality, safety and efficacy – as classic drug regulatory assessment – from the process of assessing cost and cost effectiveness as well as value for money. This secondary assessment can be done through a health technology assessment agency, a pharmacoeconomics assessment process, and can also be part of the process of developing clinical guidelines.

In order to carry out the assessment, however, there are some common requirements and challenges. This presentation will review the data required for the different types of assessment, the challenges in assessing and interpreting the data, the implications for stakeholders, and the lessons from some of the most well established systems. To promote effective, cost-effective and quality use of medicines and thus better health outcomes, all of the components in national processes need to be considered and where possible, harmonized.
Symposium 1 - Pharmacoeconomics Guideline Development

Pharmacoeconomics requirement in drug listing process in Malaysia

Dr. Salmah Bahri

Ministry of Health Malaysia

Ministry of Health (MOH) Drug Formulary consists of the list of medicines which are allowed to be used in MOH Facilities. The choice of medicines to be listed in the drug formulary is done using the Evidence Based Medicine approach by availing the evidence of clinical efficacy/effectiveness, safety & tolerability and economic evidence. Previously, in the absence of economic evidence, the method used is calculation of budget impact using the local prevalence data and medicines acquisition cost. At present, cost effectiveness data from published papers are used in formulary decision making where the Gross Domestic Product per capita country Malaysia is used to compare with the estimated Incremental Effectiveness Ratio (ICER) from the economic papers selected, in accordance with WHO-CHOICE. However, difficulty continues to occur due to the limited or unavailable economic papers and also the transferability factors of the results to the local setting. Therefore, a Pharmacoeconomics guideline is developed to aid researchers in conducting pharmacoeconomics research to achieve dependable evidence for formulary listing in Malaysia.
Challenges in implementing pharmacoeconomics teaching & research into the curriculum: Malaysia perspective

Dr. Asrul Akmal Shafie

Universiti Sains Malaysia, Penang

The present health system sees that pharmacoeconomics is widely used in formulary listing, registration of pharmaceuticals, program restructuring and budget planning. The importance of pharmacoeconomics as a tool for rational decision making made it an essential knowledge and skills for future health care practitioners. It is now a required competency for undergraduate pharmacy program in Malaysia. Local educationist and academician however are facing various challenges implementing it in the curriculum which is traditionally dominated by basic sciences, and formulation component. These challenges can be broadly categorized into internal and external factors based on their source of contention. Internally, revising an old curriculum to introduce a new subject would be challenged by the need to either replace an existing core subject or increase the credit requirement for the program. The first option would be likely resisted by fellow faculty members that could evolved to relentless tug-of-war. Vote counting is best avoided here as new discipline like pharmacoeconomics would likely be voted out with its skeletal staffing. The second option of increasing the credit requirement could add extra load to students that would be stressful to both student and lecturer. If left uncontrolled, students might need to add another year to complete their studies. Hence it is vital that its implementation be done amicably and systematically. One strategy that can be used is to introduce the subject as an elective first rather than a core subject that would prevent hostility from fellow faculty members and promote the subject’s importance. The second internal challenge that could be faced is related to the appropriate pedagogy which is limited by availability of qualified lecturers in the subject. Most pharmacoeconomics terminologies are based on economic discipline that could be misunderstood if it is not well taught. This could happen if teaching of pharmacoeconomics subject focus only on economic evaluation technique but leave out basic principles of economics. Some instructive methods like problem based learning (PBL) would also require sufficient staff to support its extensive teaching approach. Implementation of research on pharmacoeconomics as part of curriculum poses a different challenge – mostly external. Even though pharmacoeconomics analysis can be done in a laboratory, it requires exhaustive evidence from either literatures or de novo research. This can be limited by (un)availability of subscription by the library, or local evidence. In addition, de novo research in Malaysia is frequently complicated by (un)willingness of public health care provider to provide required data, conditional publication restriction by government, and limited grant for pharmacoeconomics.
Symposium 2 - Pharmacoeconomics Application and Conceptualization

Pharmacoconomics modeling in healthcare research
Dr. David Bin-Chia Wu
*Monash University Sunway Campus*

Randomize clinical trials (RCT) have long been considered as gold standard in proving efficacy and safety of a drug before it can be approved on the market. RCT data, however, are sometimes too expensive and time-consuming to collect. Moreover, efficacy in RCT may not reflect the true effectiveness in a real-world scenario. As a result, pharmacoeconomic (PE) models allow rational and scientific approach to overcoming those limitations by the best available evidence using various data sources. During this talk, the potential use of PE models in RCT to facilitate drug approval process will be discussed.
Symposium 2 - Pharmacoeconomics Application and Conceptualization

Challenges in generating local pharmacoeconomics data for drug listing: Industry perspective

Mr. Ewe Kheng Huat
Pharmaceutical Association of Malaysia (PhAMA)

With healthcare costs escalating year on year and resources being limited, establishing cost-effectiveness of treatment options will help healthcare payers select the best affordable treatments available. While the pharmaceutical industry is supportive of providing sound scientific evidence to assist in decision making on the usage of treatment options, there are some challenges in generating local pharmacoeconomics data in the current Malaysian setting. Quality and complete data is not readily available. It is not uncommon for the required information in a study to be "missing" or not available in patients' medical records. As a result, many study subjects may end up having to be excluded from the analysis due to incomplete data. Epidemiological data and disease burden data, the 2 key components in pharmacoeconomics research, are also not readily available, or even if collected are often not published, for many diseases and conditions in Malaysia. Lack of information in these areas poses another problem for local PE data collection. Gathering information on resource utilization such as transport costs and drug prices is also often a tortuous process. The sources of cost data are very limited currently. Needless to say, having to conduct cost-effectiveness studies will require additional resources both in monetary terms as well as human resource perspective. This will in turn add on to the cost in bringing the drugs to patients. In addition, the prerequisite of having cost-effectiveness data before being able to submit for formulary listing may also lead to a delay in making important treatment options available to patients. From a technical point of view, there are also many challenges in local pharmacoeconomics data collection. The choice of an appropriate comparator drug is one such example. At times, the "Gold Standard" comparator used in Phase III clinical studies is either not used or not available in Malaysia making the comparator used in PE studies different from what was used in clinical research. Also, if lower price, poorer quality generics were to be used as comparators, the comparisons will not be fair. In general, the industry supports pharmacoeconomics evaluation using sound scientific methods appropriately applied for the objectives of improving health outcomes for patients and achieving efficiencies in the healthcare system. We would like to actively work with all relevant parties to manage and overcome the challenges above and would appreciate having a share of voice in the implementation of pharmacoeconomics plans in Malaysia. As a partner in providing healthcare to the people, we would like to emphasize that it is important to strike a balance between wise spending by healthcare payers while giving patients the best treatment affordable, and compensation commensurate with the value that innovative products contribute to patients. Congruence of demonstrated value and commensurate compensation will continue to encourage investment in R&D for continuous innovation and fulfillment of the unmet medical needs.
Symposium 2 - Pharmacoeconomics Application and Conceptualization

Benefits of pharmacoeconomics evaluation: Industry perspective
**Mr. Glen Lingam**
SERVIER Malaysia

The objective of pharmacoeconomics is to optimize healthcare resources given that resources are limited. Sometimes pharmacoeconomics is considered another hurdle for the industry, achieving the ever stringent requirements for registration which is increasing development cost, but after those requirements are achieved, the drug is considered effective but now comes another evaluation – Is the drug efficient from an economical point of view? Pharmacoeconomics is a branch of economics, and here we need to point out that pharmacoeconomics implemented poorly with focus only on cost containment has detrimental effects on the pharmaceutical industry and possibly the general economy. It can reduce the attractiveness of the pharmaceutical market and examples such as United Kingdom have seen this. And pharmacoeconomics not thought true could see a decline in patients having access to ‘new’ and better drugs. The importance of pharmacoeconomics is undisputed especially in this day and age given the rising cost of healthcare, drug development, aging populations around the world, and social security systems are finding hard to cope with these challenges, furthermore in view of the implementation of Malaysia 1Care which would represent a system similar to these social security systems.

The implementation of pharmacoeconomics is a question of balance, in order to preserve the attractiveness of the industry for continuous investment and at the same time benefit the patients for an economic stand point. To reiterate, the goal of pharmacoeconomics is not to reduce healthcare spending but to make sure that it is spent more efficiently. This is the paradigm and spirit of which pharmacoeconomics should be embraced, it is not solely about cost containment but cost effectiveness or cost utility. This presentation will focus on the implementation of pharmacoeconomics and to share perspectives from the industry viewpoint, in order to attain all the benefits that pharmacoeconomics can offer the nation whilst avoiding certain ‘pot-holes’ along the way. With the right implementation of pharmacoeconomics in line with the incentives and encouragement under the current National Key Economic Area (NKEA) in Healthcare and the related Entry Point Project (EPP), we believe that it can achieve the goal to benefit all – payers, medical professionals, industry and most of all the patients.
Symposium 3 - Evidence – based Decision Making

Health Technology Assessment in Malaysia:
Challenges in pharmacoeconomics evaluations and future plans
Datin Dr. Rugayah Haji Bakri
Ministry of Health Malaysia

Health Technology Assessment (HTA) is a multi-disciplinary activity which systematically examines the safety, clinical efficacy/effectiveness, cost, cost-effectiveness, organizational implications, and social consequences, legal and ethical considerations of the application of a health technology usually a drug, medical device or clinical/surgical procedure. HTA broadly focuses on two questions: 1. Clinical effectiveness – how do the health outcomes of the technology compare with available treatment alternatives; 2. Cost-effectiveness – do these improvement in health outcomes commensurate with the additional costs of the technology? HTA acts as ‘a bridge’ between evidence and policy-making. In Malaysia, from the public point of view, health care services are expected to be provided at a low cost but with high standards. However with escalating public health expenditure, rapid aging population, lack of effective cost-containment and healthcare financing strategies, it is becoming a challenge to sustain the present healthcare system. Lack of healthcare data / support, difficulty to access the healthcare data, no proper electronic database on health data, no economic details and getting involvement of the private sectors are some of the difficulties of getting information and initiating pharmacoeconomics evaluation for HTA in Malaysia. The foreseen potential challenges with HTA are: 1. HTA may seem to be restricting patient access to treatment needed; 2. Evidence requirements can be a significant burden, in particular to small companies which may be discouraged in pursuit of breakthrough technologies; 3. Lack of transparency and stakeholder involvement; 4. Limited talent pool in conducting HTA and separate process for evaluating economic evidence and pricing/reimbursement scope. In addition, such as for medical devices, there is lack of the national HTA processes to commission new clinical research especially economics research. There is also little articulation with the existing medical research priority-setting processes.
This often results in rejecting new technologies because there is neither a Randomized Controlled Trial (RCT) evidence of the efficacy or effectiveness, nor evidence of their ineffectiveness, and assessment for new technologies where access to necessary data for performing economic evaluations is seldom evident or available. In most public decision making bodies such as NICE, UK they apply a threshold cost-effectiveness ratio whereby judgment about the acceptability of a certain technology is an effective use of the government resources. WHO-CHOICE threshold values: (WHO, 2005) states that it is highly cost-effective if the technology costs is less than the GDP per capita and not cost-effective if more than three times the GDP per capita of the country. In Malaysia there is no formal threshold value, hence making it difficult to decide how most cost-effective a certain technology is. One of the two important foundations of economic evaluations is cost and outcome comparison. Hence there is an increased necessity of local economic evidences for rational drug /medical device usage. The political and bureaucratic elements posed both opportunities and constraints. Hence, Malaysian HTA (MaHTAS) must be able to have a balanced capacity to respond to immediate policy questions and future foresee/predict key issues and produce evidence accordingly vis a vis awaiting for windows of opportunity. There is definitely a future need for more pharmacoeconomics research locally such as studies on cost effectiveness analysis, cost benefit analysis and budget impact analysis. However, the public and private agencies in Malaysia are warranted to comply with the newly formulated Pharmacoeconomics Guideline for Malaysia by the Pharmacy Division, MOH which is in the pipeline. In Malaysia there is an urgent need to assess the current capacity, capacity gaps and needs for capacity development / strengthening of MaHTAS. Human resources in terms of the number of staffing, skills to carry out economic evaluations, training needs assessment and long term planning such as introductory and advanced training in economic evaluation issues need to be considered. Other public agencies (academic, MOH, research institute, etc.) involvement as well as private sector (pharmaceutical, medical device) plays an important role in this area for efficient and effective decision and policy making regarding health technologies.
Symposium 3 - Evidence – based Decision Making

Use of pharmacoeconomics to support formulary decisions
Professor Dr. Samsinah Haji Hussain

University of Malaya

The rapid growths of healthcare expenditure worldwide in an environment where resources are limited have prompted cost-outcome based decisions to be used apart from the traditional cost containment strategies. Among the factors that may be responsible for the increase in global healthcare expenditure include an aging population which are associated with increase in co-morbidities and therefore increase in healthcare resource utilization and also the introduction of new and more expensive medical technologies. The Institute of Medicine has reported that only 4% of interventions used in healthcare have strong supporting evidence of their effectiveness. Pharmacoeconomics evaluations therefore, when used appropriately can be useful for determining which medical technologies or interventions can provide the greatest value for money. The Drugs and Therapeutic Committee (DTC) of a hospital is responsible for careful evaluation of new drugs before they are added into the formulary. Pharmacoeconomics data together with efficacy, safety, and effectiveness data must be available for the DTC to make decisions so that the economic impact of adding the new drug or intervention on the healthcare system and patients can be anticipated. Cost-effectiveness study and cost-outcome study based on drug use evaluation principle can be used to demonstrate how pharmacoeconomics can assist to support formulary decisions.

Keywords: Drugs & Therapeutic Committee (DTC) – Formulary decisions – Pharmacoeconomics – Cost effectiveness – Cost outcome
Symposium 3 - Evidence – based Decision Making

Scoring methods for formulary decision making
Mrs. Azuana Ramli
United Nations University - International Institute for Global Health

Maintaining a restricted drug list or drug formulary is an effective approach in managing drug usage and expenditure without compromising the quality of care being provided to patients. Principles of evidence-based medicines should be applied in selecting drugs for formulary with the aim to ensure only efficacious, safe and cost-effective drugs get listed. However, drug selection for the formulary is rather complex as different drugs have different sets of utility values for the different attributes being considered. Additionally, decision makers may not consider all attributes to be equally important in making the selection. Decisions can also be easily influenced by external factors some may even be unrelated to actual utilities of the drug. A scoring system potentially provides a more structured and objectified approach to facilitate drug selection. Applying the multi-attribute utility concept in devising the scoring tool, multiple attributes/selection criteria of the drugs including clinical efficacy, safety, tolerability, patient acceptability and costs are put into perspective and weighted accordingly. Using evidence-based information, utilities of the evaluated drugs are scored against these predetermined selection criteria. Apart from guiding decision makers, this more organized method has the advantage of providing greater transparency to stakeholders as well as reproducibility in drug selection for the formulary.
Symposium 4 - Cost Effectiveness & Affordability

Value of using generic medicines: Wading through the myth and facts with evidence
Assoc. Professor Dr. Mohamed Azmi Ahmad Hassali
Universiti Sains Malaysia, Penang

The provision of healthcare has traditionally been managed based on the philosophy that, where the patient is concerned, price should not be a hindrance. However, with the global escalating healthcare cost, governments in many countries have adopted ongoing series of cost containment attempts in an effort to spend their limited financial resources efficiently. One of the many ways to control healthcare expenditure is by introducing component of cost containment in national medicines policy. Within this context, the use of cheaper generic drugs instead of the more expensive branded equivalents had been advocated by many health authorities around the globe, including Malaysia. The availability of cheaper generic medicines in the Malaysian market gives an opportunity for both the government and consumers alike to reduce the cost associated with the use of pharmaceutical products. However, the use of generic medicines is often seen as a contentious issue among majority of Malaysian healthcare practitioners and consumers. This are mainly due to the debate which centered on issues related to bioequivalence, quality and safety of generic medicines available in the country. As the Malaysian government through its National Medicine Policy has mandated the use of generics in both public and private sectors, it is imperative that misconceptions held towards generics among both the health care professional and consumers need to be addressed using evidenced based approach.

Key words: Healthcare cost- generic medicines quality-safety
Symposium 4 - Cost Effectiveness & Affordability

Economic evaluation of HPV vaccinations in the prevention of cervical cancer in Malaysia

Assoc. Professor Dr. Sharifa Ezat Wan Puteh

Universiti Kebangsaan Malaysia

Objectives: Cervical cancer is the second highest incidence of female cancers in Malaysia, causing high impact on nation’s health cost and patient’s quality of life that can be avoided by better screening and HPV vaccination. Methods: This is a cross sectional study done from 2006-2009 and respondents were interviewed from six public hospitals. Methods include experts’ panel discussions to estimate treatment costs and respondents' interviews using costing and SF-36 quality of life (QOL) questionnaires. Three programs options were compared i.e. Pap smear screening; quadrivalent HPV vaccination and combined strategy (screening plus vaccination). Results: 502 cervical cancer patients participated in the study. Mean age was 53.3 ± 11.21 years, educated till secondary level (39.4%), Malays (44.2%) and married for 27.73 ± 12.12 years. Life expectancy gained from vaccination is 13.04 years and average Quality Adjusted Life Years saved (QALYs) is 24.40 in vaccinated vs 6.29 in unvaccinated women. Cost/QALYs saved for Pap smear at base case is RM 1,214.96/QALYs and RM 1,100.01/QALYs at increased screening coverage. In HPV vaccination, base case is at RM 35,346.79/QALYs and RM 46,530.08/QALYs when vaccination price is increased. In combined strategy, cost/QALYs at base case is RM 11,289.58/QALYs; RM 7,712.74/QALYs at best case and RM 14,590.37/QALYs at worst case scenario. Incremental cost-effectiveness ratio (ICER) showed that screening at 70% coverage or higher is highly cost effective at RM 946.74 per QALYs saved and this is followed by combined strategy at RM 35,346.67 per QALYs saved. Budget impact analysis indicated that it cost the government RM 180.4 million per year and 2.5% of the national health budget. Conclusions: Vaccination increase life expectancy with better QOL. Cost effective strategies will include increasing the Pap smear coverage to 70% or higher. Since feasibility and long term screening adherence is doubtful among Malaysian women; vaccination of young women is more cost effective strategy against cervical cancer.
Speakers’ Curricula Vitae
Dato’ Sri Dr. Hasan bin Abdul Rahman is the current Director General of Health Malaysia.

He obtained his degree in Medicine and Surgery in 1981 from Universiti Kebangsaan Malaysia and a Master degree in Public Health in 1985 from University Malaya.

He has served in various capacities with Ministry of Health from 1981 to 2004 in Sabah and Selangor. In 2004, he was posted as the Pahang State Director of Health. He was promoted to post of Director Disease Control, Ministry of Health (JUSA B) in 2007 and Deputy Director General of Health (Public Health) (JUSA A) in 2009. He was appointed as the Director General of Health, Ministry of Health on 11.03.2011. He has been involved with Public Health for more than 29 years. He walks the talk when it comes to Public Health.

He has won several honors and awards such as Ahli Setia Darjah Kinabalu (A.S.D.K) from the Sabah State Government in 1999 and Darjah Indra Mahkota Pahang (DIMP) which carries the title of Dato’ in 2006 and most recently Dato’ Sri Dr. Hasan was awarded the Sri Sultan Ahmad Shah Pahang (SSAP) in 2011.

He is the Chairman and Member of several committees at the National and International level such as the Chairman of the National Committee for Clinical Research and he also sits on the Infection Control and Antibiotics Committee and the National Council for Occupational Safety and Health executive committee to name a few. He is a firm believer of ‘People First, Performance Now’.
Dr. Salmah Bahri graduated with a B. Sc in Pharmacy from the University of Baghdad, Republic of Iraq in 1981. She continued her advanced degree studies in 2001 and received her M. Sc (Pharmacy) and Ph. D in Drug Policy and Management from the Universiti Sains Malaysia in 2002 and 2007 respectively. Her areas of interest include medicines policy and management, quality use of medicines, medicines pricing, good governance in medicines, pharmacosociology, and pharmacoconomics. She is an active researcher in these fields in the Ministry of Health Malaysia (MOH) and also cooperated as field supervisor of researches by a few MSc and PhD graduate students from several universities. Among her important national research projects are the Drug Utilization In The Treatment On Diabetes Mellitus In The Ministry of Health Facilities and National Survey on the Use of Medicines by Malaysian Consumers (2007; 2012-in progress).

She has also published some international peer reviewed articles, mostly in collaboration with USM, and various proceedings, compendiums, research reports, articles, bulletins and newsletters for the MOH. She has also co-authored a few book chapters and was recently the main author of a book entitled National Medicine Policy-A Malaysian Perspective.

Dr Salmah is currently the Director of Pharmacy Practice & Development, Pharmaceutical Services Division (PSD), MOH. Her previous designations were Deputy State Director of Health (Pharmacy) in the Federal Territory of Kuala Lumpur and Putrajaya (2008-2011) and Melaka (2007; 1997-2001), Senior Principal Assistant Director, PSD, MOH (2006) and Pharmacist, Hospital Muar, Johor (1983-1997). She has also been elected as the chairman for various committees in MOH such as the National Research & Development Committee, Pharmaceutical Services Program (2006-2011), Implementation Committee for Comprehensive National Project on the Quality Use of Medicines by Consumers, Implementation Committee for Good Governance in Medicines, Advisory Group for the Medicine Price Monitoring Program in Malaysia, and Technical Committee for Implementation of National Drug Policy. In addition, she is a member of the Malaysian Board of Pharmacy, Panel of the MOH Drug Formulary, Malaysian Medical Research Ethical Committee and WHO panel member for the development of the guideline on pharmaceutical pricing policies.
**Professor Dato’ Dr Syed Aljunid** is a Professor of Health Economics and Senior Research Fellow at United Nations University-International Institute for Global Health. Prior to this he served as a Senior Consultant in Public Health Medicine and Head of Department of Community Health, Faculty of Medicine, National University of Malaysia (UKM). He obtained his MD from Universiti Kebangsaan Malaysia, Master of Science in Public Health from National University of Singapore and PhD in Health Economics and Financing Programme, London School of Hygiene and Tropical Medicine. He is a Fellow of Academy of Medicine Malaysia since 2000 and awarded with the Fellowship in Public Health Medicine Malaysia in 2011. His main interest is in the strengthening of health care system of developing countries through research and development in health economics and financing. He is currently involves in supporting a number of developing countries to develop and implement case-mix system, a health management and information tool to enhance quality and efficiency of healthcare services provided under Social Health Insurance programmes. His work on case-mix system in UNU-IIGH covers research and capacity building programmes in Malaysia, Indonesia, Philippines, Mongolia, Vietnam, China, Saudi Arabia, United Arab Emirates, Sudan, Nepal, Uruguay, Iran, Chile, Kenya and Ghana. He is the developer and owner of the patents for case-mix groupers MY-DRGs and UNU-CBGs.

Currently, he serves as the co-chair of Morbidity Technical Advisory Group of ICD-11 Revision of World Health Organisation-Family of International Classification. He is actively involves in teaching public health medicine, health economics and health management courses in MPH, MBA and PhD programmes jointly run by UNU-IIGH and its partner universities in Malaysia, Nepal, Yemen, United Arab Emirates and Sudan. He served as consultant and adviser to a number of international agencies including International Atomic Energy Agency, World Health Organisations, GTZ, AUSAID, UN-AIDS, UNDP, UNICEF, GAVI, Asian Development Bank and the World Bank in various international projects. He is the President of the Public Health Medicine Specialists’ Association of Malaysia and Founder President of Malaysian Health Economics Association (MY-HEA) and Malaysian Society of Pharmacoeconomics and Outcome Research (MY-ISPOR). He served as Visiting Professor to Faculty of Allied Health Universiti Sains Malaysia and guest lecturer in Department of Social and Preventive Medicine, University of Malaya and visiting Professor of School of Public Health, BP Koirala Institute for Health Sciences, Kathmandu, Nepal and University of Science and Technology, Sana’a Yemen and University of Medical Sciences and Technology, Khartoum, Sudan.

He has published widely in referred journals and presented papers in major conferences both local and abroad in areas of health economics and public health medicine in general. He has served in editorial board of Journal of Public Health Medicine and Malaysian Medical Journal.
Kenneth KC Lee is Professor of Pharmacy and Head of Pharmacy, School of Medicine and Health Sciences, Monash University, Malaysia. Before he moved to Malaysia, he was Professor and Associate Director (External Affairs) of the Chinese University of Hong Kong (CUHK) School of Pharmacy where he was one of the founding members and had subsequently worked for 18 years. Professor Lee received his pharmacy undergraduate training from the University of Washington in Seattle. His subsequent higher qualifications were from the CUHK and the University of Oxford, UK. He is widely recognized as one of the pioneers in pharmacoeconomics and outcomes research in Asia focusing on comparative effectiveness research, health technology assessment and healthcare policy development. He has published extensively in peer-reviewed international journals. He has been the Editor-in-chief of the Journal of Medical Economics since 2006 and is serving on the editorial board of a number of international journals including Value in Health. He is also Adjunct Professor of School of Pharmacy, the CUHK; Honorary Professor of School of Public Health, the University of Hong Kong; and was visiting Professor of University of London School of Pharmacy from 2008-2011.

Professor Lee has served in a number of positions in ISPOR. He was the major driving force and later a founding member of the first ISPOR regional consortium - ISPOR Asia Consortium which was established in 2004. He served as chair of the Consortium from 2006-8. Before this, he also spearheaded and became the founding chair of the first ISPOR local chapter in Asia – ISPOR Hong Kong Chapter in 1999. He was a member of the organizing committees of several ISPOR Asia Pacific Conferences from 2004-2011. He had also taught in a number of ISPOR short courses. Currently he is chair of the ISPOR Asia Consortium Publication Committee.
Dr. Asrul Akmal Shafie BPharm, PhD is a registered pharmacist in Malaysia since 2001. He was awarded USM fellowship to pursue PhD degree in pharmaco economics which he successfully completed in Cardiff University, UK in 2007. His research interests are in the application of econometric, economic evaluation, and Markov modeling methods in pharmaceutical services and product, and pharmacy practice. He is now leading and co-investigating a number of researches in pharmacy practice, PRO instrument validation and valuation, and health technology assessment where he has published more than 100 peer reviewed journal articles in various international journals including Value in Health, Quality of Life Research, BMC Public Health and Pharmaco economics. He regularly reviewed manuscripts for international and local publications including British Medical Journal, Bulletin WHO and Value in Health. He was invited to speak in numerous international and domestic scientific events in UK, South Korea, Indonesia, China, Thailand and Singapore. He is also a regular speaker in the Malaysia Star Career Talk. His works were also presented in more than fifty international and domestic scientific conferences.

He is also an appointed expert member for Malaysia Pharmaco economics Guidelines Development Committee, Malaysia National Medicine Policy Steering Committee, Ministry of Health’s Quality Use of Medicine Committee, Malaysia Health Promotion Board, Malaysia Pharmacy Advisory Board and Pharmaco economics Technical Committee for Pharmaceutical Services Division. In 2010, Dr Asrul was awarded the prestigious International Fellowship for International Society of Pharmaco economics and Outcomes Research. Dr Asrul is also the current Chair-Elect for ISPOR Good Outcomes Research Practices & Publications Committee and Chairman for Malaysia Pharmaceutical Society’s Penang Area Committee. At present, Dr Asrul is a senior lecturer in social and administrative pharmacy in Universiti Sains Malaysia, where he teaches pharmaco economics, statistic and epidemiology to both undergraduates and postgraduates in the university and four other local institutions.
Dr. David Bin-Chia Wu received his B.S. degree in Mathematics from Soochow University, and M.S. degree in Statistics from National Cheng Chi University, Taipei, Taiwan. He then received his Ph.D. degree in Biostatistics from National Yang-Ming University, Taipei, Taiwan. His research interests cover a wide range of areas in pharmaco-economics modelling using transmission dynamic model, decision-analytic model, and Markov state-transition model. His other research has been focused on developing new statistical methodology in patient-level data analysis to better inform decision-making. During his pursuit of Ph.D. degree, he has been providing statistical consultation service for medical doctors and pharmacists in Chang Gung Memorial Hospital in Taiwan.

To enhance the awareness of health economics for Taiwan government, he has worked closely with the Centers for Disease Control with his pharmacoeconomics expertise in order to assist the Advisory Committee on Immunization Practices (ACIP) members with decision-making in national pneumococcal conjugate vaccination policy. Dr. Wu is currently a member of International Society of Pharmacoeconomics and Outcome Research (ISPOR), Taiwan Chapter of International Society of Pharmacoeconomics and Outcome Research (TASPOR), and the Society for Medical Decision Making (SMDM). He has served as a bio-statistic editor for Journal of Medical Economics from 2011 and journal reviewer for Value in Health and Journal of Medical Economics.
Mr. Ewe Kheng Huat has over 20 years' experience in the pharmaceutical industry, culminating in his appointment as Managing Director of Merck Sharp & Dohme (MSD) in Malaysia in April 2002. Before commencing this role, he was Country Manager for the previous eight years, leading the transformation of the company from a division within Summit Company (M) Sdn. Bhd., a pharmaceutical and healthcare distributor, to an entity of its own in 1997. During his tenure at MSD in Malaysia, Kheng Huat was instrumental in the development and growth of functions such as medical affairs, human resources, strategic marketing & sales along with corporate affairs.

The company had grown from staff strength and revenue of about RM70 and RM40 million respectively in 1997 to over 300 and RM390 million respectively today. Before joining MSD in Malaysia, Kheng Huat worked for 10 years at Welcome Malaysia (now GlaxoSmithKline), gradually being promoted from a medical sales representative through various positions to become National Sales Manager. Kheng Huat holds a Bachelor's degree with Honors in Pharmacy from the Universiti Sains Malaysia and is a qualified pharmacist. He is the President of the Pharmaceutical Association of Malaysia and a committee member of the Pharmacy Board Committee for Continuous Pharmacy Education (Ministry of Health) since 2009.
Mr. Glen Lingam graduated with a pharmacy degree from Universiti Sains Malaysia (USM) in 1993. Following his pharmacy pre-registration training, he joined Servier Malaysia Sdn. Bhd as a Medical Product Specialist in July 1994.

From 1997 to 2004, he was responsible for various roles in Servier Malaysia including Training Executive, Training Manager, Group Product Manager and Head of Marketing. During this period, he was also involved in regulatory affairs including product registration and clinical trial for the company.

In January 2008, he was promoted to join Servier International in France as the International Project Manager responsible for the marketing, communication and regulatory aspect of the product at international level.

Within a year, he was promoted as the International Project Director. His involvement not limited to the life-cycle management of the product, but also specific projects related to pharmacoconomics and price & reimbursement of the product internationally in general, and European Countries in particular.

From a pharmacoconomics perspective, he was involved in the preparation of the dossiers for submission to the National Institute for Health and Clinical Excellent (NICE), and other agencies internationally.

After 2 years of exposure at international level, he was promoted as a Deputy Regional Operation Manager assisting operational aspects of the business to the Zone Director for Central & South Asia, responsible for India and Singapore. He also provides supporting role the General Managers of those countries from research to sales and marketing.

In September 2011, he was appointed as a General Manager for Servier Malaysia and this is his first company for the past 18 years.
Dato’ Eisah A. Rahman graduated as a pharmacist from the Curtin University of Technology, Western Australia in 1977. She later obtained a postgraduate degree, M. Sc in Pharmaceutical Analysis from the University of Manchester, United Kingdom in 1986. She has served the Ministry of Health Malaysia as a pharmacist since 1979 to date and has held several key positions throughout her 30 over years of service with the ministry.

She first started her career as a pharmacist at the National Pharmaceutical Control Bureau (NPCB) and had been appointed as Head of Pharmaceutical Microbiology Laboratory, Head of GMP and Licensing Section, Deputy Director of Centre for Product Registration and later in 2006 became Director of National Pharmaceutical Control Bureau. In 2007, she moved on to become Director of Pharmacy Enforcement and in 2008 was promoted to become Senior Director of Pharmaceutical Services, Ministry of Health where she takes charge of the entire pharmacy programme in Malaysia.

Throughout her career, she has contributed tremendously to the overall development of the pharmacy service and the pharmaceutical sector. Besides her involvements in various high level committees at national level, she has also participated in several healthcare related conferences in the international arena particularly in the area pertaining to regulations.

With her vast experience in the area of regulatory control and her long involvement in ASEAN harmonisation initiatives for pharmaceuticals, since 2008 she is the Chair of ASEAN Consultative Committee for Standards and Quality (ACCSQ) Pharmaceutical Product Working Group. Currently, she is also a WHO Expert Advisory Panel on Drug Policies and Management.
Professor Gérard de Pouvourville teaches in the M. Sc as well as in Executive Education. He is in charge of the joint ESSEC-Paris Descartes curriculum, which allows medical and pharmacy students to graduate both from ESSEC and achieve an MD or a PharmD. His major research areas deal with health policy, health care financing and health technology assessment.

Gérard has recently co-published a book with Professor John Kimberly, Wharton School, and Professor Thomas D’Aunno, from INSEAD on the globalization of managerial innovations in the field of health care management. He is also the co-author of a handbook on health economics and management, and has published in health economics journals as well as medical journals. Gérard has formerly been the Chairman of the French Association of Health Economists and is now Vice-President.

He is affiliated with the International Health Economists Association as well as the International Society for Pharmaceutical Outcomes Research. In 2008, he had been invited to participate in the distinguished scholar program set up by the Wharton School, University of Pennsylvania. Gérard is an advisor to the French Ministry of Health, to the French National Sickness Fund and consults for major pharmaceutical companies.
Datin Dr. Rugayah Bakri

M.B.B.S (Cairo University), M.P.H. (University Malaya), Postgraduate Certificate in Evidence-based Health Care (Oxford University, UK)

1. Working experience:
   - Housemanship in Hospital Sultanah Aminah, Johor Bahru and Muar Hospital, Johor (1980-1981)
   - Medical officer in IMR at the Microbiology Division, Virology Division, Haematology Division and Epidemiology Division in IMR (1983-1986 & 1991-1992)
   - Experience as a district health officer in Gombak District Health Office (1986-1988 & 1989-1991); also had experience in the control of typhoid outbreak, cholera outbreak and diphtheria outbreak
   - Medical Research Officer in Health Systems Research (1994- 2000); had significant experience in the conduct of National Health and Morbidity Survey 1996 as co-researcher
   - Head of Evidence-based Medicine/Health Outcomes Research Unit, Clinical Research Center, Hospital Kuala Lumpur (2001-2004)
   - Head of Evidence-based Medicine Unit, Medical Research Resource Center, Institute for Medical Research (1 Jan 2005-16 Sept 2005)
   - Head of Health Technology Assessment Unit, Medical Development Division, Ministry of Health Malaysia (16 Sept 2005-current)

2. Presentations and Speakers:
   - Presented in many numerous national and international conferences as plenary speakers, oral and poster presentations such as 6th HTAi annual meeting in Singapore, CADTH, SIGN meeting in Edinburgh Scotland, MOH-AMM conference, Malaysian NIH conferences and others.
3. Training:
   - Involved in training of undergraduates pharmacy students of University Malaya Medical center (UMMC) and Medical students in Cyberjaya Medical University.
   - Also involved in training of MPH students IN UMMC and UKM.
   - Conduct courses on conduct of HTA & EBM for development of CPG for in service healthcare providers in MOH.

4. Publications:
   - Published articles in peer reviewed journals such as Journal of Public Health Dentistry 2006, Malaysian Journal of Medicine (MJM) and Diabetes Care.
   - Produced numerous HTA and TR reports. In addition, coordinate the development of National Evidence-based CPG.

5. Consultancy:
   - Members to many committees such as Technical advisor to EBM in Healthcare and Practice as MaHTAS is the WHO Collaborating Center for Asia Pacific region 2004-2012, Board Member to JULIUS CENTRE, University Malaya Medical Center 2007-2008, Reviewer to abstracts for ISPOR conference 2008, Regional Advisor to 6 HTAi Conference in Singapore 2009 and others.
Professor Dr. Samsinah Haji Hussain was conferred a degree in Bachelor of Pharmacy (Hons) from Universiti Sains Malaysia (USM) Penang in 1984 and a PhD in 1987 from Leeds University, United Kingdom in the field of medical physiology (neuro-endocrinology). She was appointment as a lecturer in the School of Pharmaceutical Sciences and held several academic posts until she was seconded to the Northern Consortium United Kingdom Programme, ITM Shah Alam. Dr. Samsinah later joined the newly established Department of Pharmacy at University of Malaya in 1996 and was Head of Department from 2001 until 2003. She completed a specialty training in Graduate Certificate in Pharmacoeconomics at Monash University, Australia in 2005 and was promoted to Professor of Pharmacy in 2008.

Dr. Samsinah has been a member of the Malaysian Drug Control Authority (DCA) since 2001 and the permanent representative to the Drugs and Therapeutics Committee for UM Medical Centre. She is a member to the National Professor Council for the Pharmacy and Applied Science Cluster and an expert member for the Ministry of Health Malaysia Pharmacoeconomics Technical Working Group. She actively conducts training workshops pertaining to pharmacoeconomics evaluation in healthcare for the Pharmaceutical Services Division, Malaysian Health Technology Assessment Section (MaHTAS), multinational pharmaceutical companies and the Malaysian Pharmaceutical Society. Dr. Samsinah also serves as external examiner and reviewer for universities and international journals. She is a member of several professional societies and non-government organizations.

Currently, Dr. Samsinah is the vice-president of the Malaysia Society for Pharmacoeconomics and Outcome Research (MySPOR) and heads the Student Empowerment & Research Unit (SERU) under University Malaya Student Affairs Division. Her research interests include economic evaluation and outcome research in the areas of healthcare resource utilization, drug formulary management, paediatric asthma and obstructive sleep apnea syndrome, diabetes and metabolic disorders.
Mrs. Azuana Ramli is a registered pharmacist graduated from the University of Bradford, UK. Her career started as a community pharmacist for a leading retail chain in Malaysia. After close to 7 years working in retail, she ventured into drug distribution working with a wholesale company in East Malaysia. Mrs. Azuana later joined the public service and worked as a hospital pharmacist in Hospital Labuan and later Hospital Serdang. Upon completing her Masters degree at the National University of Malaysia (UKM), she was posted to the Formulary and Pharmacoeconomics Section in Pharmacy Practice and Development Division, MOH with main responsibility of drug evaluation and review for Formulary inclusions. Her other areas of interest besides drug formulary include pharmacoeconomics, drug utilization, patients’ compliance and cost analysis.

Mrs. Azuana is the present treasurer for MySPOR and also a member of the Pharmacoeconomics Technical Working Group responsible for the development of the Pharmacoeconomics Guideline for Malaysia. Mrs. Azuana is currently pursuing her doctoral degree at the United Nations University-International Institute for Global Health (UNU-IIGH) in Kuala Lumpur.
Dr. Suzanne Hill is a clinical pharmacologist and public health physician, trained at the University of Newcastle, Australia. She was appointed as Chair of the Australian Pharmaceutical Benefits Committee in September 2011 and also holds a position as Visiting Professor at the Australian National University School of Medicine. Prior to taking up the position as Chair of PBAC, Dr Hill worked at the World Health Organization Geneva, Switzerland from 2005, as Secretary to the WHO Expert Committee on Essential Medicines, responsible for the WHO Model List of Essential Medicines and its implementation in countries.

She was principle investigator for the WHO project on Better Medicines for Children. She was the foundation chair of the WHO Guideline Review Committee, setting up standards for guideline development by WHO. Before working for WHO, Dr Hill was Associate Professor in Clinical Pharmacology at the University of Newcastle, Australia, directing a group providing pharmacoconomics advice to the PBAC. Her research interests are related to the public health and policy aspects of clinical pharmacology, including access to medicines and use of pharmacoconomics and clinical evidence in decision-making.
Assoc. Professor Dr. Mohamed Azmi Hassali graduated with a pharmacy degree from Universiti Sains Malaysia (USM) in 1998. Following his pharmacy pre-registration training, he undertook his Master’s studies in the field of Clinical Pharmacy at USM and graduated in 2000. Upon completion of his Master’s degree, he had been appointed as a clinical pharmacy lecturer at the Department of Pharmacy, Faculty of Medicine, University of Malaya. In the year 2002, he had been selected to receive the Universiti Sains Malaysia “Academic Staff Training Scheme Fellowship” to pursue his PhD studies in the field of pharmacy practice at Victorian College of Pharmacy, Monash University, Melbourne, Australia. He had been successfully awarded with a PhD degree in May 2006. Upon returning from Australia, he had been appointed as a lecturer at Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, USM.

In July 2010, due to his excellent contribution to the field of social pharmacy, he had been promoted to the post of Associate Professor by USM. He actively serves in many international organization such as International Society of Pharmacoepidemiology (ISPE), International Society of Pharmacoeconomics and Outcomes Research (ISPOR), International Pharmaceutical Federation (FIP), Health Action International-Asia Pacific (HAI-AP) and Action on Antibiotic Resistant (ReAct). In the July 2011, he had been selected to head the country group for the International Network For Rational Use of Drugs (INRUD). He also holds visiting researcher and lecturer appointments at a few medical and pharmacy institutions in Nepal, India and Pakistan. He always been invited to countries such as Nepal, Pakistan, India, Indonesia, Australia and Thailand to deliver lecturers and conduct workshops especially on topics related to social pharmacy education and pharmacy practice research. At current, he also serves as the international advisory board for many international journals such as the “American Journal of Pharmaceutical Education”, “Pharmacy Practice” and often been invited as a reviewer for journals such as Pharmacoepidemiology and Drug Safety, Public Health, British Journal of Clinical Pharmacology, Value in Health and International Journal of Pharmacy Practice.
At national level, he had been appointed as a council member for Malaysian Pharmaceutical Society and serves as a committee member for the Malaysian Academy of Pharmacy. He is also been appointed as the advisor for the Malaysian Pharmacy Student Association (MyPSA). He also serves as one of the committee member for the National Medicine Policy Steering Committee under the Ministry of Health and also serves as one of the committee member for the Malaysian Health Promotion Board health promotion grant evaluating committee. His current main research interests are related to the area of social pharmacy, pharmacy practice and public health pharmacy. During the last five years, Dr Azmi had successfully supervised 8 PhD candidates and 7 MSc candidates mainly in the field of social pharmacy and pharmacy practice.

Due to his vast experience in the field of social pharmacy, he also had been appointed by many foreign universities especially from New Zealand, Australia and UK as external postgraduate thesis examiner. As an avid researcher and writer, Dr Azmi had published more than 150 full research journal articles in international peer reviewed journals and had authored/co-authored more than 160 conference presentations. Currently, Dr. Azmi holds the appointment as the programme chair for the Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Science, Universiti Sains Malaysia.
Assoc. Professor Dr. Sharifa Ezat Wan Puteh trained as Medical Doctor from UKM and has worked in Kuala Lumpur Hospital and Sg. Buloh Hospital. She joined UKM as a trainee lecturer in 2000 and obtained her Associate Professorship in 2009. She obtained her Masters in Public Health and PhD in Public Health-Health economics on "Cost Effectiveness of HPV Vaccinations Against cervical Cancer in Malaysia" from the United Nations University-International Institute for Global Health.

She is the head of unit for Hospital and Health Management, Programme Coordinator for Masters in Community Health Science, assistant coordinator for MBA Health care Management and Associate Fellow for the Centre for Entrepreneurship and Small Medium Enterprise Development Faculty of Economics. She is also a case-mix consultant (with UNU-IIGH and ITCC UKM) sponsored by WHO, AUSAIDS with developing countries such as Indonesia, Philippines and upcoming Vietnam. She is currently the assistant editor for the Malaysian Journal of Public Health and reviewer of other journal locally and abroad including Value in Health and social sciences journals. In 2011, she was awarded an International Fellowship for International Society of Pharmacoeconomics and Outcome Research. She has published papers locally and abroad, chapter in book and book on cost effectiveness of vaccination against cervical cancer.

She has presented many papers and proceedings locally and abroad and is a reviewer on HTA on HPV vaccinations in Malaysia and a member of the Health Economics Association Malaysia, the Malaysian Public Health Physicians Association, MySPOR and One Health with the Global Health Institute.
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