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Malaysian Burden of Disease Study

Introduction

In 1993, the Harvard University and the World Health Organisation jointly developed a comprehensive method to measuring the loss of health in populations. Known as the disability adjusted life years method or DALY in short, this summary outcome measure combined both the mortality and morbidity components of diseases. The methodology was applied by Ministry of Health in an attempt to obtain its first detailed and internally consistent set of epidemiological estimates for a broad range of diseases, injuries and associated risk factors in the country.

Known as the Malaysian Burden of Disease (BOD) Study, it was a collaborative research project undertaken by the Burden of Disease Division, Institute for Public Health (IPH) and the Institute for Medical Research (IMR). Financial support for this study had been obtained from both the Ministry of Health and the World Health Organisation. The main objective was to provide a comprehensive assessment of premature mortality and morbidity outcomes attributable to diseases, injuries and various risk factors for the year 2000 and subsequently provide a twenty year projection for the country.

Methodology

The Malaysian BOD study is largely based on the methods developed for the Global Burden of Disease and Injury Study, a joint project between the World Bank, the World Health Organisation and the Harvard School of Public Health. In quantifying the burden of disease and injury of human populations, the method allows the quantification of all states of ill health into a universal factor – the disability adjusted life years (DALYs). The latter extends the concept of potential years of life lost due to premature death (YLL) to include equivalent years of “healthy” life lost by virtue of being states other than good health.

DALYs for a disease or health condition is calculated as the sum of the years of life lost due to premature mortality (YLL) in the population and the equivalent “healthy” years lost due to disability (YLD) for incident cases of the health condition. This is represented as :

$$DALYs = YLLs + YLDs$$

whereby

Years of Life Lost (YLL) is the mortality component of DALYs and is determined by the life expectancy at age of death. The mean life expectancy for each age group

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Welcome to the second issue of the *NH Bulletin*. Since the new editorial team took over the helm, we have tried our best to provide a balance – technically informative yet light reading. In our endeavor to continuously improve the contents of this bulletin, the editorial team appreciates any contributions and feedbacks from all. This can be submitted either via e-mail or hard copy to the address given below.

Our feature article provides an insight of the *Malaysian Burden of Disease Study (BOD)*. Aimed at providing the first detailed and internally consistent epidemiological estimates for a broad range of diseases, injuries and related risk factors in Malaysia, this study for the first time will provide a credible interpretation of the cause of death structure for our country. With finite resources having to be juggled against infinite demands, the findings from the BOD is never timelier for senior management to use in the distribution of resource in the coming years. This issue also highlights some of the activities organized by the various component institutes for the year 2004 including the recently concluded 5th Ministry of Health – Academy of Medicine Scientific Meeting. The latter is

From The Editorial Desk

of historical significance to the National Institutes of Health as it was for the first time in the history of this joint Scientific Meeting between the Ministry and the Academy of Medicine that the annual *NH Scientific Meeting* had also been incorporated.

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The Centre for Burden of Disease and Cost-Effectiveness

School of Population Health, University of Queensland

The Centre for Burden of Disease and Cost-Effectiveness (BODCE) was established in September 2003 within the School of Population Health, University of Queensland. The Centre aims to further research and foster expertise in translating population health statistics into evidence-based health policy. Key elements of this work include measurement of the size and distribution of health problems at country and sub-national levels ("Burden of Disease") as well as analysis of the opportunities to improve the efficiency of health systems by directing resources from cost-ineffective to cost-effective health service options ("Cost-Effectiveness").

The BODCE has received recognition in the form of funding from the Department of Health and Ageing, the National Health and Medical Research Council, and the Wellcome Foundation. The BODCE continues to provide assistance to national study teams in Indonesia, Fiji, Egypt, Jordan and South Africa and training of researchers to carry out burden of disease and economic evaluation studies. Two researchers from the Institute of Public Health had the opportunity to attend a workshop organized by the centre.

For more information on BODCE, the website is given below.

<http://www.sph.uq.edu.au/bod>

contributed by Dr Mohd Azahadi

To see things in the
seed, that is genius.
—Lao-Tzu

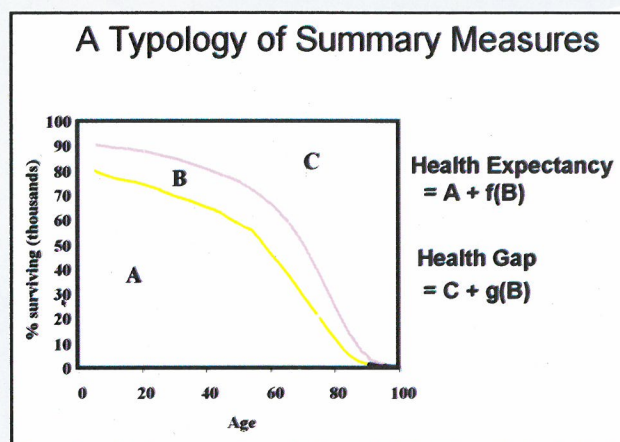


Malaysian Burden of Disease Study

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and sex was estimated from the observed mean age at death in age interval and the life expectancy figures at the exact ages defining the age interval. This has then to be multiplied by the number of deaths of the specific disease.

Years lived with disability (YLD) is the morbidity component of DALYs and is defined as the loss of healthy life due to non-fatal health conditions.



In determining the disease categories to be included in the study, mutually exclusive categories for more than 100 conditions and 400 disabling sequelae were defined using the International Classification of Disease – Revision 10 (ICD-10). This approach had resulted in the classification of diseases into 3 major disease groups, 22 categories of diseases and injuries and 111 specific conditions.

Benefits of DALYs

Using DALYs as a summary measure of population health allows meaningful comparisons to be made between diseases, taking into account both fatal and non-fatal health outcomes. As such, largely non-fatal outcomes such as mental and musculo-skeletal disorders which would otherwise be ignored with traditional mortality based measures will become apparent as large health problems with DALYs.

Strengths of the BOD study

This study has several strengths for which the most important was the involvement of policy makers and senior clinicians throughout the study. Thus this will

ensure acceptance and greater possibility of usage of the information. Other strengths include the utilization of local data sources as far as possible. The latter came from multiple data bases. In addition, the accuracy of causes of death from the vital registration data was verified using WHO templates.

Limitations of the BOD study

No study is perfect. Amongst the more important limitations of this particular study is that the results assume that diagnoses of mortality using the WHO templates were correct. This may not have been a good assumption to make. Rather than leaving many deaths in ill-defined categories which could lead to greater misinterpretations, these ill defined codes were reallocated to specific disease categories. The disability weights used in the calculations were adopted from the Global Burden of Disease study and Dutch studies. As such, these may not be relevant to local health state preference and attitudes.

Caution in interpretation BOD results

Some caution in result interpretation is warranted. First and foremost, a BOD study takes a macro approach whereby the aim was to measure the health of population rather than particular individuals. Thus estimates of severity and duration were based on the level of disability experienced by the average case in a particular health state. Such generalizations do not do full justice to the variation in disease experience of individuals.

Secondly, the absolute number of DALYs associated with a disease or injury is difficult to interpret. Thirdly, the DALY is only a measure of one dimension– objective health status. Improving health status and reducing inequalities in health should be primary concerns to a health system but there are other important dimensions such as autonomy and

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Impossible is a word to be found only in the dictionary of fools.
—Unknown

Dr Maimunah A Hamid Director Institute for Health Systems Research

Dr. Maimunah A. Hamid, the Director of the Institute for Health Systems Research was born in Johor Bahru, where she received her early education and later continued her studies in Medicine in Cairo. Best known for her involvement with the Health Systems Research and Quality Assurance programme within the Ministry of Health, Dr. Maimunah started her career as a medical officer in Sultanah Aminah Hospital and later as a Medical & Health Officer in Johor Bahru District Health Office. Following the completion of her Masters in Public Health degree, she moved to the Public Health Institute. This was where she began her career as a researcher and subsequently promoted as the Head of the Health Systems Research Division. Following the upgrading of its status as an Institute for Health Systems Research (IHSR) in 2002, it was not a surprise that she has been appointed as its first Director.

Health Systems Research (HSR) and Quality Assurance (QA) are two subjects that this gutsy lady can passionately talk about for hours. Her commitment and tenacity has led to the HSR Division then to be awarded the status of a *WHO Collaborating Centre for Health Systems Research* in 1988. Since then, the WHO Collaborating Centre status has been renewed (every 4 years) until today. In 2001, a further recognition has been awarded when it was designated as the *WHO Collaborating Centre for Health Systems Research and Quality Improvement*.

Her work in HSR and QA has also brought Dr Maimunah international recognition especially within the WHO, both at Western Pacific regional level and Geneva Headquarters. As the Director, she has always put importance on human resource development. For one who strongly believes that human resource development is the key to a successful organization, she “walks the talk”. “It is a reflection on the success of the leader,” she quipped during the interview. It is no wonder that she has worked relentlessly and tirelessly to obtain scholarships to send her staff abroad and locally to pursue PhDs and Masters post-graduate training in the related disciplines important for HSR and QA.

In addition to her no nonsense work attitude, Dr Maimunah is noted for her emphasis on quality work and performance orientation. A firm believer in leadership by example, she continues to inculcate an excellent work culture among the staff through her exemplary role as a leader. “I set and expect the highest possible standard in every product of work from all and everyone of my staff,” when asked to elaborate. “In fact, they can expect the same from me!” she continued nonchalantly. She pushes her staff to perform their best but still maintains a balance between being a considerate leader and expecting nothing less than the best.

Being in the driver's seat of an institute recognized for its expertise in implementing large community-based surveys and also in systems research is definitely a demanding task. Her expertise is much sought internationally that she has to spend a considerable



amount of time away from the Institute. “Being a wife and mother does not make the job any easier”, sighs the mother of two grown up children. Nevertheless, this lady has her own unique ways of overcoming problems, be it technical, managerial or family. To manage every little time that she has, Dr Maimunah disciplines herself in using a checklist of things that needed her attention against the number of hours that she has in a day. “More than often this does not work!” she says sensibly to those who may want to try this strategy.

When asked about her views about making IHSR a Centre of Excellence for Health System Research in the international arena, “IHSR has the capacity and capability to be better than what it is today,” was her spontaneous response. “Nothing is impossible,” she continues. “IHSR must always be on the alert and dare to grab any opportunity that comes along, of course with a calculated risk of ensuring delivery of accepted tasks,” she says beamingly. On a more serious note, she says “in order for IHSR to remain relevant, the Institute must move with the pace and development of international leaders in the area (HSR) and bring back the gains to the country. The Institute must continue to play a proactive role in looking and supporting the health system development in the country. Anyway, this is the sole reason for the continued existence for the Institute!” And with those parting words, I bade farewell to this unassuming yet energetic and dynamic lady to her work.

Contributed by Cik Hasimah Ismail

The 5th MOH-AMM Scientific Meeting 2004 was held in Sunway Lagoon Resort Hotel from the 25th to 28th August 2004. For the first time in its history, this event had also incorporated the 7th Scientific Meeting of the National Institutes of Health. The occasion was graced by our honourable Minister of Health Dato' Dr Chua Soi Lek who was presented with an Honorary Fellowship to the Academy of Medicine Malaysia (which is not usually obtained so easily!) The theme for this year's meeting was 'Quality & Medical Professionalism'. This theme was chosen because of the awareness that quality & medical professionalism are increasingly at the forefront of today's healthcare issues. The highlight of the whole event was of course the debate entitled 'Medical Professionalism is Under Siege!!'. The proponents were Dato' Dr Khalid Kadir



5th MOH-AMM Scientific Meeting 2004

and Dato' Dr Narimah Awain whereas the opponents were Tan Sri Dato' Dr Abu Bakar Suleiman and Puan Sri Suraiya H Hussein. One could tell that the crowd of mostly doctors were rooting for the proponents. Dato' Dr Narimah had the most support during her very energetic, lively and eloquent speech. Dato' Dr Khalid and Tan Sri Dato' Abu Bakar on the other hand had their audience in stitches with their friendly verbal jousting with each other. Not to be outdone, Puan Sri Suraiya vowed the crowd with her articulate speech and thorough presentation. Fortunately, all of the speakers were winners. The moderator Dato' Dr Ridzwan Bakar declared the debate a tie. All in all, it was a fine ending to the 5th MOH-AMM Scientific Meeting 2004.

Contributed by Dr Sharmini Selvarajah

- Photos:**
- 1 DG giving keynote address
 - 2 Conferment of Honorary Fellowship to the Minister of Health
 - 3 & 4: Delegates to Scientific Meeting
 - 5: Procession
 - 6: Master of Academy addressing the audience
 - 7: Visiting the exhibition booths
 - 8: Conferment of Fellows

International Policy Makers' Meeting on Utilisation of Research towards Improving Health System

From 16th – 17th September 2004, the Ministry of Health was host to an international group of policy makers meeting on utilisation of research findings. Jointly organised by the Institute for Health Systems Research, and the Department of Research Policy and Cooperation, World Health Organization, Geneva in collaboration with the office of WHO Representative in Malaysia, the informal meeting held at Cititel, Mid Valley Mega Mall, the objective was to discuss how knowledge and evidence derived from research can facilitate high level decision- and policy-making towards achieving health system improvement. This meeting was part of the build-up to a Ministerial Summit on Health Research in Mexico City held from November 16-20, 2004. Amongst the distinguished participants were the Ministers of Health for Kenya and Nigeria. Malaysia's representative to this meeting were Y Bhg Dato' Dr. Narimah Awain, Y Bhg Tan Sri Dato' Dr Abu Bakar and Y Bhg Dato Dr M Jegathesan. Also in attendance were several observers including representatives from WHO Western Pacific and African Regional Offices, WHO

Representative for Brunei, Malaysia and Singapore, officers from Ministry of Health of Brunei Darussalam, Kenya, Nigeria and Malaysia.

Contributed by Dr Nordin Saleh

- Photos:**
- 1&2 : Meeting of Facilitators
 - 3 : Workshop session
 - 4 : Delegates to the meeting



Fiji Health Minister's Visit to Herbal Medicine Research Centre

On the 23rd of September a delegation from the Ministry of Health Fiji headed by its health minister visited the Herbal Medicine Research Centre located in the IMR. He was accompanied by Mrs Rigieta Nadakuitavuki, the Acting Director of Health Systems and Mr Peter Zinck, the Chief Pharmacist from the Pharmaceutical services. The Honourable Mr Solomoni Naivalu and his team were on a WHO Fellowship study tour on traditional medicine. The main objective of their half day visit to the Centre was to understand the policies and development pertaining to the practice of traditional medicine in Malaysia.



Datuk Ismail welcoming the visitors



Briefing by Dr Ng Kok Han



Briefing by Dr Zakiah, the Head of Herbal Research Centre



Promotion for the Director of Institute for Health Management

Congratulations to Dr Ahmad Nordin who has been promoted to U54. Dr Ahmad Nordin was the Director of IHM since May 2002; he has now moved to Pahang as the State Deputy Director of Health (Hospital Services). We wish him all the best for the future.

Institute for Medical Research (IMR) Bids Farewell to its Director

The staff of IMR bid farewell to its Director, Y Bhg Dato' Dr Lye Munn Sann on 24 September 2004. Y Bhg Dato' Dr Lye joined the Institute 25 years ago on 1 November 1979 as a medical officer and had held the office of the directorship for 5 five-years. During his tenure, Y Bhg Dato' Dr Lye takes pride in the fact that the IMR has a rich cultural heritage steeped in research and academic traditions. He ardently believes that the human resource of any organization is its single greatest asset and therefore it was not surprising human resource development was his priority.

The Deputy-Director General of Health for Research and Technical Support, the other Directors of the NIHS or their representatives, and Datin Lye, were among his well-wishers at the farewell lunch hosted at the IMR. The farewell lunch was refreshingly joyous with light bantering and amusing anecdotes narrated in the various speeches given, much to the amusement of the staff.

It was indeed a memorable occasion full of reminiscences and photo opportunities.

Contributed by: Dr Sumitra Sithamparam

On the Move: Institute of Public Health's Director

Institute of Public Health's staff held a farewell ceremony for their director, Dr Sulaiman Cherus on 20 May 2004 at the Royal Selangor Club, Kuala Lumpur. Dr Sulaiman was transferred to IPH as the Head of Epidemiology Division in 1994 and subsequently promoted as the Director of IPH in 1999. He is currently the State Health Director for Malacca.

contributed by Dr Mohd Azahadi



Photo

- 1 : Arrival at the farewell lunch
- 2 : Greeting the staff
- 3 : Happy Birthday
- 4 : Farewell speech
- 5 : Clocking out for the last time

National Community Survey on the Utilization of Traditional and Complementary Medicine amongst Malaysian Community



Field data collection team with research team members

The Ministry of Health has taken many roles and initiatives to optimally integrate T/CM into the Malaysian healthcare system. This vision and with the proper facilitation will consequently develop a synergistic improvement of the quality and services of T/CM. The need for factual and evidence-based information is integral for the advancement of this vision into reality and for this sole reason a nationwide survey was undertaken spearheaded by the Institute for Health Systems Research in collaboration with the Institute for Medical Research. Designed as a cross-sectional community-based study, the survey sought to acquire as much information on the prevalence and practices of T/CM in the Malaysian community. The latter include the types of health problems or conditions that made them choose T/CM, their preferred T/CM products and procedures, frequency of visits and their expenditure on T/CM. In addition, the survey was aimed at identifying and compiling a list of well known T/CM practitioners (doyens) from the perspective of the community.



Training session



Tongkat Ali

Data collection phase was concluded in 6 weeks and had yielded a response rate of 81.2 %. Presently, the study is at the pre-coding stage prior to the data entry phase.

Contributed by Dr Tahir Aris

NATIONAL EAR AND HEARING DISORDERS SURVEY

This two year survey (2004 to 2006) project is aimed at obtaining a baseline on ear disorders and hearing impairment in the country. To be undertaken as a community survey, all members of a household that has been selected will be subjected to an interview, ear examination by the ENT specialist and a hearing assessment by an audiologist. The estimated sample size is approximately 10,000 individuals. The questionnaire is a standardized internationally validated instrument developed by the WHO with modifications to suit the local context.

This is a collaborative study spearheaded by the Institute of Public Health and involving the public health specialists from the Family Health Development Division and the Institute for Health Systems Research, senior clinicians from Hospital Kuala Lumpur and from the Faculties of Medicine of Universiti Sains Malaysia and Universiti Kebangsaan Malaysia.

The study is currently in the process of field preparations and questionnaire pre-testing.

Contributed by Dr. Jasvinder Kaur

Development of an Intervention Package to Improve Exclusive Breast Feeding

The study is being conducted in Negri Sembilan and is aimed at developing an effective intervention to improve exclusive breastfeeding practices. This two year study which began in the early part of 2004 is being implemented in two phases. Phase 1 involved the collection of baseline information on current practices, knowledge, and identification of possible motivating and deterrent factors for exclusive breastfeeding.

This information will then be used for Phase 2 of the study which is to develop and subsequently implement the intervention package. The study population comprised of mothers with babies less than 6 months old, residing in Negeri Sembilan and who had their deliveries conducted also in the state. Currently the study is in the process of data analysis to provide the baseline information needed to develop the intervention package.



When you are content to be simply yourself and don't compare or compete, everybody will respect you.
—Lao-Tzu

Client Charter study

A Study on the Implementation of the Client's Charter in the Ministry of Health Malaysia, a project spearheaded by the Institute for Health Systems Research in 2004, is now into its data analysis phase. The study sought to determine the extent of availability of the Client Charter, extent and mode of its monitoring and evaluation, approaches adopted in its development, quality (including comprehensiveness, adequacy and responsiveness)

of the contents and to finally develop recommendations for improvement. To fulfill all these objectives, a multi-pronged approach was adopted which included a postal survey on health facilities, face-to-face interviews with clients of the facilities, an observation study as well as content analysis of the client's charters. It is hoped that findings from the study may guide the Ministry in its future plans regarding the Client's Charter.

Contributed by Haniza Mohd Anuar

Feature Article

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dignity. For example, promptness and convenience in service provision may not alter DALYs but are valued by the user. Using BOD in priority setting should not lead to the conclusion that health services are solely concerned with disease reduction.

Fourthly, DALY reflects the burden at a particular point in time. Thus diseases for which there are successful control programmes e.g. vaccine preventable diseases, may not rank highly in terms of burden of disease. Yet this should not be interpreted as a reason to reduce funding to existing control programmes. Nevertheless it would indicate that little additional health gain can be expected from an expansion of such programmes.

Finally, setting priority using BOD does not necessarily imply that highly ranked diseases should be given priority over those ranked lower. Other considerations must be taken into account in the distribution of resources to programmes such as feasibility, effectiveness and their affordability.

Conclusion

Information essential for the analysis of BOD had been difficult to obtain as there was no unified single national database. The BOD estimates were only as good as the data inputs. Current databases lack the stringent quality control measures that are vital for any BOD studies. Nevertheless this first attempt at obtaining such important estimates should be applauded despite all its limitations. The value and potential application far outweighs the weaknesses.

Contributed by Dr Ahmad Faudzi Yusoff, Dr Gupreet Kaur, and Dr Mohd Azahadi Omar.

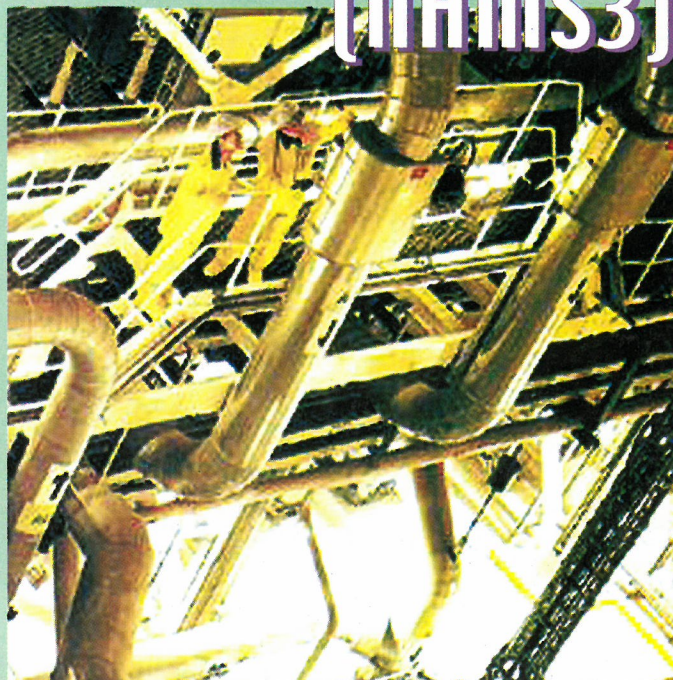
Note: The results of the Malaysian BOD study is being prepared and will be published in a special report.

In The Research Pipeline

The third National and Health Morbidity Survey will be undertaken in 2006. Also known as the NHMS, the last survey was done ten years earlier in 1996. To be spearheaded by the Institute of Public Health, this survey is essential to assess the populations' health status and also evaluate the health outcomes of the various health-related programmes over the past decade.

The Institute of Public Health is currently in the early stages of planning. Over the next year, a series of meetings will be organized with the various stakeholders to finalize the scope and subsequently prepare the study design and instruments.

Third National Health and Morbidity Survey (NHMS3)



We
are what we
repeatedly do.
Excellence, then, is not an
act but a habit.
—Aristotle