9th POSTGRADUATE FORUM ON HEALTH SYSTEMS AND POLICIES 2015
Provider Payment Reforms in South East Asia: Impact and Lessons Learned
14 - 15th September 2015

9th POSTGRADUATE FORUM ON HEALTH SYSTEM AND POLICY 2015
This annual Forum is a medium for postgraduate students of the South East Asian countries to share knowledge and skills in the fields of Health Systems & Policies that include Health Management, Health Economics and Health Financing.

The 9th Postgraduate Forum on Health System and Policy 2015 is organized by International Centre For Casemix and Clinical Coding, Universiti Kebangsaan Malaysia, Industry and Community Partnerships Secretariat (Hal Ehwal Jaringan Industri dan Masyarakat, HEJIM) UKMMC, and United Nations University-International Institute for Global Health; in collaboration with Universitas Gadjah Mada, Indonesia; Naresuan University, Thailand; Department of Community Health and Department of Family Medicine, UKMMC. This event is also supported by Novartis (Malaysia) Sdn. Bhd. and Ministry of Higher Education, Malaysia.

Objectives of this event
- To provide a platform for postgraduate students to communicate their knowledge and share experiences gained during the conduct of their research work.
- To provide opportunities for networking among postgraduate students, academics, researchers and clinicians.
- To promote and develop global excellence in health policy and health system management, especially in the areas of health provider payment reforms.

Conference format

The 9th Postgraduate Forum on Health System and Policy 2015 is held on 14 & 15 September 2015 at the UKM Medical Center (Hospital Canselor Tuanku Muhriz). The Forum theme for 2015 is Provider Payment Reforms in South East Asia: Impact and Lessons Learned.

This Forum will be officiated by the UKM Vice Chancellor, the keynote address will be delivered by the Deputy Director General of Health Malaysia (Public Health), three plenary papers will be presented by distinguished speakers, namely Prof. Dr. Supasit Pannarunothai (Naresuan University, Thailand); Prof. Dr. Laksono Trisnantoro (Universitas Gadjah Mada, Indonesia) and Prof. Dato’ Dr. Syed Mohamed Aljunid (Universiti Kebangsaan Malaysia). In addition, one symposium session, one special lecture, one panel discussion session and scientific paper presentations (oral and poster) will also be carried out.

The conference warmly welcomes all participants including public health undergraduates and postgraduates students, public health physicians, medical doctors and academics in the institutions of higher learning.
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POSTGRADUATE TRAINING IN PUBLIC HEALTH: CURRENT AND FUTURE NEEDS

Datuk Dr. Lokman Hakim Sulaiman  
Deputy Director General of Health (Public Health)  
Ministry of Health  
Malaysia

Public health continues to be challenged by changing microorganism environment, degrading environment and climatic change, increasing extreme climatic events and man-made disasters, changing lifestyle behaviour and expectation, advancing technology and molecular sciences, demographic changes, global movement and cross-border issues and rising health care cost. Therefore, public health specialist must be equipped with the knowledge, skills and competencies required to face those challenges. The nature of practice has changed not only because of changing major health profiles but also changing public expectation and demand. There is a shift from a blind trust of a doctor on health matters towards demanding expert opinions and services, as an outcome and impact of easy access to information leading to high health literacy among the general population and the widespread use of social media. This necessitate the advancement in training program for public health specialist from the basic generalist specialty training (general public health physician) to sub-specialty training. New and complex public health issues require subject matter experts and specialization to meet current and future global and local needs. Strong public health fundamentals are essentials and the bedrock of healthcare capacity to protect the public.
PLENARY 1

COMPLEX VS. SIMPLE ADDITIONAL PAYMENT DESIGNS TO HEALTH PERSONNEL TO ATTAIN EQUITY AND EFFICIENCY OF PUBLIC HEALTH SECTOR IN THAILAND

Prof. Dr. Supasit Pannarunothai1, Kanchit Sooknark2

1 Faculty of Medicine, Naresuan University
2 Faculty of Business, Economics and Communications, Naresuan University and Centre for Health Equity Monitoring Foundation

Payment to health personnel of the Ministry of Public Health, Thailand, has evolved with different concepts for different health professionals over three decades. The impacts of each additional payment are questioned as equity arguments whether who gets what have been consistently raised. This presentation briefly reviews existing conditions and presents results from simulation study on financial impacts of the complex and simple additional payment designs. Complex design is the conditions of status quo and simple design is the proposed simpler model. Reviews on existing research studies in Thailand related to each additional payment were undertaken. Simulations at hypothetical regional, general and community hospitals are analysed. Results show that hospitals of the Ministry of Public Health are considered as not working under the same firm since rules and regulations set at the ministry have been adapted to each specific hospital conditions. Fixed monthly payments, such as, rural area allowance, non-private practice, hardship area allowance, and specific health task allowance, are financed by government budget (mostly for community hospitals) and hospital revenue (mostly for regional and general hospitals). Payments based on hours of services or based on service workloads after office hour are financed by hospital revenue. The ‘new’ pay-for-performance (P4P) payments to increase efficiency both within and after office hours are recently introduced with limited sum financed by hospital revenue. A simpler payment model taking accounts of equity within and between health professionals and efficiency according to the national service plans requires huge intra- and extra-ministerial efforts to accomplish. Financial impact to each level of hospital will be presented. In conclusion, changing status quo complex additional payment design to simpler design sounds encouraging as we can see direct impacts of payments on equity and efficiency of health systems. However, the changes require huge supports from within and outside the health service systems.
PLENARY 2

PROVIDER PAYMENT MECHANISM CHANGE AFTER THE IMPLEMENTATION OF UNIVERSAL COVERAGE POLICY IN INDONESIA

Prof. Dr. Laksono Tristnantoro
Universitas Gadjah Mada

The implementation of universal health coverage in Indonesia has been started since January 2014 and is widely seen as a significant step forward for Indonesia’s 239.7 million people. Indonesia’s policy makers are committed to covering every citizen by 2019 managed by BPJS Healthcare (Implementing Agency of Social Security of Healthcare). There is a significant change of provider payment at hospital and primary level. Hospital payment system changed from fee-for-service to DRG-based payment system, while in primary care to capitation method. The study aims to critically assess the process of provider payment mechanism change in the implementation of UC Policy in Indonesia. There are some questions: Is payment mechanism change being implemented as planned? What factors are hampering smooth implementation of payment mechanism? Are there unintended consequences associated with the payment mechanism change? What actions should be taken to improve current implementation? An observational study in Yogyakarta Province was conducted. The result of this study showed that at hospital service, the DRG-type payment system is significantly implemented since January 2014. The payment mechanism change being implemented is not as planned. There are some factors are hampering smooth implementation of payment mechanism; the readiness of hospitals to fill the claim system, the sceptical responses from medical doctors, and rejections from some private hospitals. Fraud is one major unintended consequence associated with the payment mechanism change. Actions should be taken to improve current implementation: training human resources for DRG-based system, includes the claim system; intensive persuasion to medical doctors, and regulation to prevent and to eradicate fraud. At primary health center, the capitation payment system was introduced without sufficient plan. As result there are many problems which hamper effective implementation, such as: there is no performance indicators, the contract was poorly written, there is no independent supervision organization, and the lack of understanding on how to manage capitation budget at health centres. The unintended result is the in-efficient use of capitation budget in the primary health care. In both health service levels, BPJS has inadequate contractual arrangement, poor monitoring mechanisms to ensure that the health provider delivers an appropriate mix of quality health care services, at an agreed price. The BPJS capacity and authority to monitor health service quality is limited, especially in government providers.
Social health insurance (SHI) is becoming a dominant feature of health financing system that support the universal coverage goal in most developing countries. While issues on resource mobilisation and risk pooling is widely discussed at the early part of development of SHI, the provider payment reform is usually left towards the final implementation stage. Prospective payment methods such as capitation, casemix and global budget is generally being preferred by health policy makers over the retrospective payment approach, which is more prone to promote supplier induced demand. In theory, prospective payment methods could lead to higher level of efficiency and quality and can only be implemented with strong legal framework. Among the reasons for this is the lack of opportunity for the providers to abuse the system and maximise their income due to tight control over the payment package and application of quality and efficiency indicators based on good peer-defined practice. Lack of technical capacity of health planners to design good prospective payment package is a real issue affecting most developing countries. In practice, a lot of effort has to be put forward to plan and conduct extensive as well as continuous capacity building programme to educate all stakeholders at local, provincial and national level on designing and implementation of prospective payment. Based on the experience of designing casemix system for prospective provider payment in a number of developing countries, it is was observed that poorly informed and untrained stakeholders can create a lot of confusions in the field and even sometimes misled the local health practitioners by highlighting issues which are not central to the implementation of prospective payment. In casemix system implementation, the fear of loss of income of health providers when it replaced fee-for-service payment was proven to be unfounded. On the other hand, the critics of casemix system tend to argue on the potential of upcoding. In practice, it was found that upcoding is less likely to happen but instead, under-coding and non-optimal coding were more rampant due to poorly trained coders and uninformed clinicians leading to huge losses in income of the providers. Lack of capacity to conduct effective monitoring and evaluation in implementation of prospective payment method may lead to abuses by the SHI implementing agency rather than by the providers. In conclusion, there is a huge gap between the theory and practice in designing provider payment reform in SHI. Contextual issues within and outside the health system might be among the determining factors that influence the real positive or negative consequences of different methods of provider payment in social health insurance programme.
Ensuring reliable access to and appropriate use of safe, effective and affordable medicines is one of the core functions of an effective health system. Medicines are important beyond their therapeutic utility and are often seen by the public as the most tangible representation of health care. Their availability is taken as an indicator of the quality and accessibility of services. Despite medicines playing an important role in health system performance, the availability and appropriate use of essential medicines in developing countries continues to be a challenge. Medicines will continue to play an increasingly important part in supporting access to health care as the population age and life threatening and disabling diseases continue to be prevalent. To prepare for these changes, stakeholders should consider the trade-offs of measures that impact the industry’s capacity for scientific advancement and economic benefit as they seek cost control. Health care reform is an opportunity for the Pharmaceutical industry to work for positive change - change that does not diminish the significant societal and economic benefits of this industry. In the planning stage of the reforms, dialogue among stakeholders is crucial to exchange views, share their positions and impact. The reforms implemented should not negatively impact patient access in the long term and should not be used purely as a cost containment tool to drive down prices. The international reference pricing is one of such reforms. Countries would be tempted to choose reference countries that give a better deal in the short term to reduce the costs for public players. Pharmaceutical industries may have to deal with parallel trade and price convergence leading to delayed launched and inequality to access. Reforms not only impact the pharmaceutical industry but it also impacts overall investments in healthcare sector, medical tourism and foreign investments. As Malaysia aspires to achieve status as a developed nation, it will be critical to develop fair and sustainable healthcare financing, either through general revenue or the establishment of a social health insurance system.
ORAL PRESENTATIONS

A01

QUALITY IMPROVEMENT IMPORTANCE AND PERFORMANCE AT INSTITUTE FOR HEALTH PROFESSION EDUCATION IN YEMEN

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Education and training of health professionals are recognized as the corner stone in preparing the capable workforce that leads and provides health care towards improving and maintaining population health. The key elements of this study are to assess the quality improvement at health profession institute and to detect the importance of quality improvement among the staff. It aimed to conduct a comprehensive evaluation for pyramids of health profession institute. It focused on improving change in five dimensions across all levels in the organization, which are leadership, policy and strategy, people, partnership and resources and process. Importance and performance of quality improvement at the main campus of High Institute of Health Sciences in Sana’a and its branches in ten governorates in Yemen were assessed using general assessment questionnaire. The questionnaire consists of five major parts; each part is assigned to one dependent variable of the study. Each statement had two dimensions; importance and agreement. Both of the dimensions were ranked using typical five-level Likert scale. Descriptive statistics for the questionnaire items have been used to demonstrate the characteristics of the study population and to describe the variables of the study. The results of this study revealed significant gender differences between male and female in the performance of health profession institute in relation to policy and strategy, people, partnership, resources and process. This study contributes to a better understanding of the influence of quality improvement on the health profession education in Yemen.

Keywords: Quality improvement importance and performance, Health profession education, Yemen.
MALAYSIAN ABILITY AND WILLINGNESS TO PAY FOR HEALTHCARE AND THEIR INFLUENCING FACTORS

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Health is an intrinsic human right as well as a central input to poverty reduction and socioeconomic development. As the healthcare expenditure is further inflated, healthcare finance is one of the sensitive issues that currently been spoke and discuss by many people even in Malaysia. The main problem is to contain healthcare cost which currently, majority been finance by the government. Therefore, Malaysia needs one healthcare financial scheme to solve these problems. By assessing ability and willingness to pay for healthcare by individual, the study will help the policy maker to identify the group of individual and methods in sharing these financial burdens. The study objective is to study the ability and willingness to pay of household in Peninsular Malaysia to contribute to National Health Financing Scheme. It was a cross sectional study involving 1154 household addresses from 4 states that have been selected using multistage random sampling by Malaysia Statistic Department. Face to face interviewed using a validated structured questionnaire were conducted from February until September 2014. Seven hundred seventy four (774) respondents managed to be interviewed. The age of the household heads ranged from 19 to 87 years old (mean=48.93; SD=13.29 years). Majority of respondents are Malay 532 (68.7%), 79.5% of household heads were married with number of dependent between 0 – 17 people (mean 3.14; SD 2.08) and 73.4% have middle and high education level. The household’s incomes are between RM200.00 to RM28, 600.00 (mean =RM3, 140.18; SD= 2,822.13). Majority (86.6%) of respondents were able to pay for their healthcare. Majority (63.7%) of the households are willing to pay more than RM1.00 for government out patient clinic registration fee but most (83.3%) of them are not willing to pay more than RM30.00 for private clinic treatment charges for simple cases. Majority of household (91.2%) agreed that the National Healthcare Financing Scheme (NHFS) should be established, with 55.8% of respondents proposed that the NHFS to be handled by a government body. Majority (82.2%) of the households are willing to contribute to NHFS 0.5-1.0% of their monthly salary deduction. Majority of households (70.9%) are willing to contribute 1.0-2.0% of their monthly income to NHFS to gain access to both public and private healthcare basic services. The factors that were found to have significant associations with ATP were ethnicity, education, income, choice of inpatients healthcare services and type of diseases they have. Factors that were found to have significant associations with WTP for healthcare were number of dependent, education, income, choice of healthcare services. Factors that were found to have significant associations with WTP NHFS were age, ethnicity, education, income and choice of inpatients services. Majority of respondents were able to pay and willing to pay for their healthcare. Majority of respondents accept and willing to contribute for National Healthcare Financing Scheme.

Keywords: National Health Financing Scheme. Ability to pay. Willingness to pay.
PATIENT SATISFACTION TOWARD HEALTH EQUITY FUND: A CASE STUDY AT NONG DISTRICT SAVANKET PROVINCE LAO PDR

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The Health Equity Fund is a social assistance scheme for the poor whose income is lower than the standard established for poverty eradication in Lao PDR and who are unable to enroll in any kind of health insurance. This fund is used to cover health service costs for the poor as stipulated in the relevant regulations. Health Equity Fund is a fund which implements the government’s policy in helping poor population to have access to health care services. It is a non-profit fund with tax exemption. The abbreviation of the Health Equity Fund in Lao is “ስልቃስ” and in English is “HEF”. The objective of this study were to identify the level of members’ satisfaction towards the HEF, and to find out factors affecting members’ satisfaction at Nong District, Savannaket Province Lao PDR. The key elements of satisfaction were concerned with curative, food allowance, transportation, and co-payment. A structured questionnaire was applied to collect data from 336 patients who ever used health care service at health center and district hospital. Descriptive statistics were used to describe satisfaction level and independent variables affecting satisfaction. The analysis starts with general information about respondents, the relationship between customer satisfaction and demographic factors and other factors affecting customer satisfaction (age, sex, qualification) using statistical package for social science (SPSS) program. The findings revealed that patient’s satisfaction toward curative service was at the high level ($X=4.19$, S.D= 0.35), but low for transportation ($X=1.75$, S.D= 0.48), food allowance ($X=1.72$, S.D= 0.46), and co-payment ($X=1.75$, S.D= 0.49). Age and qualification were not related to the level of satisfaction. Female used more services than male but they were less satisfied with the services than male. Being male was a significant factor explaining satisfaction with curative service ($R^2 = .023$, p<0.01). Patient satisfaction level was high for curative care. The HEF needs to improve service satisfaction for female and in other aspects.

Keywords: Health Equity Fund, satisfaction, Lao PDR
The Government of Aceh launched Aceh Health Insurance (JKA) on 1st June, 2010. Under JKA, hospitals were reimbursed using fee-for-service method. From January 2014, the JKA programme has been integrated into the National Insurance Programme (JKN) that led the change reimbursement method, from fee-for-service to casemix system based on INA-CBGs. The shift of this method has sparked a debate and fears that hospital income might be reduced due to the application of prospective payment method. Hence, the study on the impact of hospital income by using the casemix system is extremely essential to provide evidence in support of the prospective payment method. The data was collected from the three hospitals recommended by the government as the referral hospitals with the highest number of admissions; RSUD Cut Meutia (Type B), RSUD Sigli (Type C) and RSUD Sabang (Type D). The tariff of JKA based on fee-for-services from 17,547 inpatients admission in period of 2012-2013 was compared to the Aceh Regional INA CBGs tariff to assess the impacts of financing method on the hospital income. The hospitals overall income raised by 32.4% when they were reimbursed using INA-CBG. The biggest difference was the income of type D that reached 81.0%, followed by type B (34.7%) and type C (33.4%). There is a significant increase of hospital income using the casemix system. Hence, the government is highly recommended to sustain the casemix system in order to enhance the hospital services for the whole of Aceh population.

**Keywords:** Casemix, Health Insurance, Reimbursement
A05

PHYSICIAN PAYMENT IN THE TEACHING HOSPITAL: SHOULD WE PAY RESIDENT IN INDONESIA’S JAMINAN KESEHATAN NASIONAL SETTING

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Jaminan Kesehatan Nasional (JKN) has changed fundamentally the health care service mechanism in the country. One of the most important changes is payment for physician. Remuneration system is applied to pay physician in hospital. In teaching hospitals, service is taken care and done by the residents and it plays a major role. In rural areas, several hospital has been supported by the existence of residents. By law, in the Medical Education Acts, it is clearly stated that residents should be paid as a part of the clinical team in the hospital. This paper aims to examine the payment mechanism for residents and its relation to remuneration system in teaching hospital in Indonesia. This is a case study and employed a qualitative approach to analyze secondary data from the teaching hospitals. Resident as a major player in the teaching hospital has not been paid accordingly. Based on the internal remuneration system, resident has not been recognized as a “worker” and is still considered as a student. Therefore, they are not eligible to receive an incentive. It creates an imbalance between workload and incentives. The supervisor received more incentive but did less clinical service. On the other hand, resident received nothing but did more clinical service. It implies to the accountability of the payment mechanism within the hospital. Supervisor’s workload may be up to 300%. External agency, such as tax office and national body of civil servant, would not accept this excessive work. At the end, it may endanger the hospital as organization and physician as a worker since it leads to fraud. Resident should be paid accordingly to the remuneration system in the hospital. It is not only an issue of law but also issue of service accountability in the teaching hospital.

Keywords: resident, payment mechanism, remuneration
ESTIMATING THE UNIT COST OF PRIMARY CARE SERVICES OF COMMUNITY BASED ORGANIZATIONS IN MYANMAR

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In Myanmar, Ministry of Health is the main provider of health care, and the sources of finance for the health care are dominated by private households, community contributions and external aid. In recent years, more private not-for-profit primary care services run by Community Based Organizations (CBOs) and religious based societies have been developed in large cities and some townships. Most provide free primary medical care for the poor. Their sources of funding mostly come from local community well-wishers and local organizations. This study was to determine the total annual cost of the CBOs and the unit cost of primary care service provided by the CBOs. The study design was a cross-sectional descriptive study. Three CBOs from Mandalay region were purposively selected. For calculation of the cost of outpatient service, cost data were collected from the annual reports and financial records and grouped into two categories; direct (salaries of the labour, pharmaceuticals, medical equipment and diagnostics) and indirect cost (salaries of administrative and clerical staff, office supplies, buildings and electricity bills). The unit costs per outpatient visit were 5,255 kyat (4.38 USD), 4,211 (3.51 USD) and 2,451 (2.04 USD) for Bawa Alinn, Bramaso and Wasiya Malar CBOs respectively. The third CBO had the lowest cost because it lacked investigation services. The cost structures were also different between the three CBOs i.e., labour cost ranged from 18% to 42% of the total cost, pharmaceuticals cost from 23% to 55%, capital cost from 10% to 26% and other cost from 0.57% to 17%. Volume of the patients had the greatest influence on the change in unit cost, followed by labour cost and depreciation rate. The unit cost varied according to size of output and availability of ancillary services. Contracting to CBO needs more unit cost information of various kinds of health services in order to estimate required fund to cover these services.

Keywords: unit cost, primary care service, community based organization, Myanmar
A07

CODING ERROR IN THE IMPLEMENTATION OF MY-DRG CASEMIX SYSTEM IN UNIVERSITY KEBANGSAAN MALAYSIA MEDICAL CENTRE (UKMMC): IMPACT TO THE HOSPITAL INCOME

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Coding process is the translation of patient’s clinical activity into a coded language. This process is an error prone process where any error may lead to far-reaching consequences to the hospital income. The aim of this study is to analyze coding error in Casemix System and its impact to the hospital income. This study was conducted in UKMMC from January to December 2014. 415 cases were randomly selected from 35,090 of Patient Medical Records (PMR) in the year 2013. An independent expert coder (IC) who is not working in UKMMC was appointed to review and re-code the diagnosis and procedures of selected discharges. If the codes differed, researcher considered codes by the IC as the correct codes. The new codes were then used and the discharges were re-grouped using the MY-DRG grouper. Lastly this new MY-DRG codes were compared with the old MY-DRG code to identify the new hospital tariff. Overall it was found that 87.4% (395/415) of the discharges contained at least one difference in the procedure and diagnosis code. Coding error in the secondary diagnosis is highest with the percentage of 33.4% (357/395), followed by secondary procedure 24.6% (263/395), principal procedure 21.5% (230/395) and primary diagnosis 20.6% (220/395). From this error cases, 66.6% (257/395) has resulted changes in their DRG Codes. Out of this 259 cases, 45.2% (117/259) resulted changes in the DRG assignment, 32.8% (85/259) resulted changes in the assignment of severity level and 21.2% (55/259) resulted changes in the Casemix Group (CMG). All the affected DRG has resulted changes in the hospital tariff, where 61.0% (158/259) has resulted a lower tariff. Changes to MY-DRG codes after the re-coding process resulted in a total loss of RM625812.00 to UKMMC. Coding error in UKMMC has caused an extensive loss to the hospital. The quality of coding in UKMMC need to be monitored continuously in order to prevent the hospital to face any more loss in future.

Keywords: Coding Error, Procedure Coding, Diagnosis Coding, Casemix System
A08

CURRENT SITUATION CONCERNING UNIVERSAL HEALTH COVERAGE AND PROPOSED HEALTH CARE FINANCING MODEL IN LAO PDR

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It is a significant challenge for a low-income country to provide health services to the poor citizen at affordable costs. Lao PDR as a part of Health Vision 2020, would like to achieve the Universal Health Coverage, one such health security system for a healthy nation. The objectives of this study were to describe the current situation concerning universal health coverage in Lao PDR, to propose policy options for extending social health protection in Lao PDR and to forecast cost of each policy option for social health protection. The methodology of this study were documentary review of current situations for UHC in Lao PDR, and modelling of possible health care financing options based on data from various sources from both national and international organizations. Results of this study show that there has been a constant increase in the physical accessibility of public hospitals and rural health centres in Lao PDR. Besides, more and more health professionals - including doctors, nurses and midwives have been produced year by year. The challenging issue in Lao PDR was the very limited financial aid from the government for health care system, whereas the external funding for health was quite considerable. The health coverage of the people was 20% in the year 2012 and it kept on increasing year by year. It has reached around 30% in the year 2013. The health care utilization rates were found to be 0.059 and 0.008 for OP and IP respectively in the year 2012 and keep increasing in the following years. Modelling for several financing options is ongoing. The government should provide more public finance to the health system. As the current schemes are for different categories of people, if these schemes are combined together to form a Universal Health Coverage, it can benefit the entire population in a better way.

Keywords: financing model, universal health coverage, Lao PDR
HEALTH FINANCING & EXPENDITURE BOTTLENECKS FOR MNCH PROGRAMS IN PRIMARY HEALTH CARE SETTING: A STUDY IN EIGHT INDONESIAN DISTRICTS

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Decentralized health system such as in Indonesia has several challenges, including in health financing for primary care, where numerous fund channels exist and with its own regulations and bureaucracies. Some important health issues in Indonesia include high maternal & neonatal mortality, both highly relate to the population poor nutritional status. Indonesia severe under nutrition rate was at 19.6% (2013) with rates in worst-off provinces at more than 30%. Under-five children stunting rate is also high; national average at 37.2% with provincial rate at as high as 52%. The discrepancies between regions highlight the importance of good planning and program implementation at district level, which should be supported by sound financing system. However, previous studies show that funding delays and low budget absorption exist. The study was conducted to assess how health-financing bottlenecks impede district-level planning and program implementation, focusing on MNCH and nutrition programs. The study aimed to (1) identify main bottlenecks in the distribution of key primary health care financing sources by tracking the timing of distribution & receipt of each source through the system & comparing with the described normative processes, focusing on MNCH and nutrition programs, (2) explore main constraints in distributing & receiving key financing needs for delivering MNCH and nutrition programs by conducting multiple case study approach in 16 primary health centres across 8 districts in Indonesia and (3) identify entry points for policies/activities to reduce health financing bottlenecks that could be implemented with greatest likely impact on MNCH and nutrition service delivery improvement. The study used mixed methods to assess the planning & budgeting processes; quantitative & qualitative data were collected through budget document reviews (2011-2013) and interviews with primary health center managers, district health office & health budgeting-related institutions. Several financial bottlenecks were identified in the delivery of MNCH and Nutrition Program. Main bottleneck was the delay in financial disbursement. Other critical bottlenecks; (1) the misalignment between central-to-district fund channelling; (2) lengthy bureaucratic & administrative processes; (3) limited capacity at primary health care where program staff are expected to devote significant time for administrative duties; (4) interference from ministries on the standard budget process; & (5)lack of budget disbursement evaluation. The bottlenecks and delays did not just caused low budget absorption but also low quality of health programs for MNCH and nutrition. Late disbursement of funding to primary health centers reflected by almost 60% of MNCH & nutrition programs were delivered in the last quarter of fiscal year, leaving much of early months without significant implementation. Such bottlenecks have made it difficult to deliver adequate & quality health care services for the community. Health financing is a major health system aspect that highly affects any program success. It is shown that bottlenecks in health financing have impeded the attainment of better MNCH and nutrition status in Indonesia. Identified key policy efforts should be made to solve such systematic problems that are highly prevalent in decentralized setting such as Indonesia.

**Keywords:** MNCH and nutrition programs, Health financing bottlenecks, primary health care, Indonesia
IMPROVING MATERNAL AND CHILD HEALTH IN INDONESIA PAPUA REGION THROUGH THE IMPLEMENTATION OF EVIDENCE-BASED PLANNING AND BUDGETING

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Indonesia has experienced increase in maternal mortality ratio and stagnancy in neonatal death, signifying greater challenges in achieving MDG 4 & 5. Critical health interventions scaling-up in Indonesia’s decentralized environment poses significant challenges; low local planning capacity and health prioritization particularly for disadvantaged populations. Current effort to improve maternal and child health (MCH) is by strengthening local planning capacity, using Evidence-Based Planning and Budgeting (EBP) approach. The approach takes place in Papua, one of the most underdeveloped regions with high health inequities. This study discusses results of EBP implementation in improving MNCH local planning. Study districts; seven underdeveloped Papua districts. Through the initiative, policymakers and health staff were engaged to use best available evidence on local health problems. Planning and budgeting are based on identified systems bottlenecks with a view to increase budget allocation and prioritize health strategies for most disadvantaged populations. Planning process takes into account demand-side/community-level bottlenecks in formulating local-specific strategies. The initiative’s impact is measured based on: (1) increase in MNCH health budget allocation, (2) priorities set to reach most vulnerable populations. Reviews of 2012-2014 district health planning documents were conducted to assess changes in budget allocation and types of prioritized strategies. All study districts experienced budget increase; varying from 47% (Yapen district) to up to 93% Jayawijaya district. Prioritized evidence-based interventions; BEMOC, CEMOC, antenatal care, skilled birth attendance & under-five immunization. After EBP implementation, planning has gradually managed to address local health bottlenecks and used evidence-based interventions as basics for health planning. Investments have been made to strengthen strategies supporting local community leaders and workers’ involvement. EBP implementation has shown some impact in increasing MNCH budget allocation and increasingly better acknowledgment of patient-level constraints, evidence-based interventions in prioritizing health strategies, as well as translation research knowledge into action. Thus, EBP is one method that can be used to improve MNCH health planning.
PREVALENCE OF DEPRESSION, ANXIETY AND STRESS AND ITS ASSOCIATED FACTORS AMONG CAREGIVERS OF STROKE PATIENTS RESIDING AT HOME IN THE COMMUNITY

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Disability after stroke is a common sequelae, making most stroke patients dependent on others for assistance in their activities of daily living (ADL) during hospitalisation or at home. This caregiver role is usually entrusted to family members especially spouses. Caregiver fatigue is a known complication which may manifest as mental health illness. The lack of data on caregiver fatigue in Malaysia, underestimates the need for respite care at community level for caregivers. This study aims to determine the prevalence and level of depression, anxiety and stress among caregivers of stroke patients and its associated factors. This cross sectional study will recruit 184 primary and secondary caregivers of stroke patients from Pusat Perubatan Primer Universiti Kebangsaan Malaysia (PPUJKM, a community based primary care teaching facility) and members of KEKASIH (a community based stroke survivors’ support group). Respondents will be given a self-administered questionnaire on sociodemographic characteristics, the Multidimensional Scale of Perceived Social Support questionnaire (MSPSS) and the Depression, Anxiety and Stress Scale questionnaire (DASS). The Barthel Index of stroke patients will be obtained from medical records. Bivariate analysis will determine associations between depression; anxiety and stress with socio-demographic factors and level of independency. Information obtained from this study will be used to identify the profile of caregivers of stroke patients at high risk of developing mental health illness thus justifying the need for respite care services at the community level.

Keywords: primary care, stroke, caregiver, mental health
ECONOMIC ASPECT OF CESAREAN SECTION CASEMIX BY MEASURING AUSTRALIAN DIAGNOSIS RELATED GROUPS (DRG’S) APPLICATION ACTIVITY BASED COSTING (ABC) SYSTEM IN HOSPITALS INDONESIA

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Delivery complication in caesarean section casemix is a choice for evaluation in doing of Australian’s Diagnosis Related Group’s (DRG) based cost analysis. Problems in this research are (1) high caesarean section rate (19.3%) above national rate, (2) expensive surgery cost, (3) usage of more expensive technology, (4) inefficient procedure, long length of stay and long waiting list. Demand for cost effective service and controlled cost as well as integrated pathway in casemix may be selected alternative in doing caesarean section. The objective of this study is to identify the effect of casemix on cost activity per diagnosis related group’s (DRG’s) and midwifery service quality. Research design is non experimental analytic epidemiology study that study the association between risk factor and disease effect, with total sample of 62 respondents. Location of the research was in hospital Central Sulawesi Indonesia. Diagnosis establishment step is in operational cost component from hospital investment and asset side. Cost charging is on direct cost and indirect cost based on midwifery standard operational procedure. Result of cost calculation based on DRG’s O01 A, O01B, O01C, O01D and their cost is charged to product of each production department to determine product sale price for inpatient. Total cost per DRG’s emergency type and elective casemix was Rp 53,947,363. Average casemix distribution per DRG’s and its costing indicated the highest casemix in DRG’s O01A (dermatitis and comorbidity in placenta praevia and diabetes) with average costing of Rp 2,649,494 and DRG’s O01B (hard preeclampsia) with costing of Rp 2,719,311; DRG’s O01C (post term pregnancy) with costing of RP 2,711,229 and DRG’sO01D (premature rupture) with costing of Rp 2,534,269. Different cost variation was caused by different diagnosis establishment action and nutrition of each patient disease.

Keywords: economy, casemix, DRG’s, caesarean section
ANXIETY, DEPRESSION AND QUALITY OF LIFE AMONG TYPE 2 DIABETIC PATIENTS: CROSS-SECTIONAL SURVEY

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Anxiety and depression are common in diabetic patients. The presence of anxiety and depression symptoms in patients with type 2 diabetes has lower quality of life compared to patients without the symptoms. The aim of this study is to determine the correlation between anxiety, depression and quality of life among type 2 diabetic patients. A cross-sectional study was conducted among 200 type 2 diabetic patients from the Diabetic Clinic of Universiti Kebangsaan Malaysia Medical Centre (UKMMC). Hospital Anxiety and Depression (HAD) and Short Form 36 (SF-36) were used to measure anxiety, depression and quality of life respectively. All the data were analysed using SPSS version 20.0. Findings showed, most of the sub-domain of health related quality of life (HRQOL) has negative correlation with the sub-domain of anxiety and depression (p<0.01). This study also found that, 9.2% of anxiety and depression variation contributed to PCS domain and 21% of the variation contributed to the MCS domain of HRQOL. Present study revealed that, the presence of anxiety and depression were lower among type 2 diabetic patients suggesting high quality of life.

Keywords: diabetic, anxiety, depression, quality of life
Reform of healthcare finance in Indonesia lead to the challenge of providing a qualified maternal care. Midwife is the central in providing basic maternal care in Indonesia thus continuous education is essentially needed. This study was to investigate how far continuous education will improve maternal care quality. This was a quantitative study using data of IFLS 2007. Data of maternal care in 766 private practices and 753 puskesmas (public primary healthcare facilities) which depicting the primary health care facilities in western part of Indonesia. Variables of training, midwife employment period, facility type and remoteness were used to evaluate the midwife performance in delivering basic maternal care. In this study, midwife ability or compliance in conducting anamnesis, physical examination, basic laboratory test and making delivery plan were the outcome discovered to measure the effect of aforementioned variables. Logistic regression was used to make statistical analysis. We found that training has significant positive relation in mostly all outcomes measured. Training has significant relation to improve midwife ability in asking history of high blood pressure and surgery (OR= 1.64, p = 0.003 and OR=1.71, p= 0.01 respectively) but indicated failure in midwives’ ability to assess heart disease history (OR=0.90, p= 0.53). It showed positive effects in the rest variables investigated though statistically not significant. Midwife employment period, facility type and remoteness have minor effects in all outcome. These findings show the need of continuous education improvement to foster midwife performance.

Keywords: training, continuous education, maternal care quality
B06

SWOT ANALYSIS THE MIDWIFE’S ROLE IN CONTROLLING HIV / AIDS IN DENPASAR: ASSESSMENT OF BARRIERS AND ACHIEVEMENTS

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The epidemic of HIV / AIDS in Indonesia has entered the stage of concentrated epidemic or prevalence consistently exceeding 5%. There is a need to examine a variety of factors that are associated with the success of efforts to prevent HIV / AIDS transmission from mother to baby by midwives in health centres and in the private practice of midwives (BPM) in Denpasar, using SWOT analysis. A qualitative study was conducted among midwife coordinators of the Maternal and Child Health in four health centres in the city of Denpasar and BPM, who have obtained HIV test counselling training. Data collection instruments used were guided in-depth interview and observation. The study was conducted from April to June 2015. Data were analysed using content analysis. A total of eight midwife coordinators and 20 private practices of midwives were included in the study. Results of this study show that a major strength in controlling HIV / AIDS in Denpasar is the policy from the central to the district and the city in addition to proactive efforts of the officers. The main weakness is the lack of awareness of BPM to increase the target voluntary counselling and testing (VCT) and provider-initiated testing and counselling (PITC). The main opportunities in the form of the number of midwives who have been trained as counsellors. The cost of laboratory tests before antiretroviral therapy is expensive if the evaluation is reactive as the main threat. In conclusion, the efforts of the BPM including obstetricians need to be enhanced partnership to encompass all pregnant women conducted VCT and PITC.

Keywords: midwives, SWOT analysis, VCT and PITC
WHY THAI LONG-TERM CARE PROVIDERS IN RURAL AREA DON’T WAIT THE PATIENT AT THE HOSPITAL? : LAMSONTHI DISTRICT MODEL

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As the number of aging population grow in Thailand, Lamsonthi district has to bear a number of dependent elderly in their area. Also, most of the population in this area are poor and many family caregivers cannot bring the elderly to the community hospital. The burden of disease of each elderly are automatically ignored. Thus, the Lamsonthi health and social care providers concern in this point as they establish their own community long-term care model, and it has been found that its succession is the one of long-term care model for other area in Thailand. Objectives of this study were to compare the result of elderly health before and after establishing the long-term care system of Lamsonthi district model and to analyze the pattern of long-term care in Lamsonthi district model to be the lesson learnt for other rural areas. The elderly health data were collected from the Lamsonthi hospital’s database since 2004 to 2014 which is the time range since before and after establishing the long-term care system in Lamsonthi district. In-depth interviews with 5 providers from multidisciplinary team were investigated for analysis of the pattern of long-term care in Lamsonthi district. It has been found that there was the decreasing number of patients in the hospital but increasing numbers of dependent elderly after establishing the long-term care system in Lamsonthi district because the provider can detect the new patient at the elderly home but they don’t have to be ignored as in the past. However, the long-term care system in Lamsonthi district has to have the component of health care and social care working together. Establishing the long-term care system in Lamsonthi district can reduce the number of patients in the hospital and can detect the new patient effectively. This model is the combination of health and social care for dependent elderly.

Keywords: Long-term care, rural area, Lamsonthi district, elderly health
FOLLOW-UP OF MATERNAL AND PERINATAL DEATH REVIEW IN PUBLIC HOSPITAL (CASE STUDY IN PANEMBAHAN SENOPATI AND WONOSARI PUBLIC HOSPITAL IN DIY)

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In general, maternal and neonatal health situation in Indonesia are still of a serious concern. IDHS in 2012 indicates that Maternal Mortality Rate (MMR) increased significantly from 228 per 100,000 live births in 2007 to 359 per 100,000 live births. MMR increment also occurred in health facilities such as hospitals. The common and direct causes of maternal deaths are predominantly haemorrhage cases (post-partum and ante-partum), eclampsia, pre-eclampsia and infections. These conditions are occurring repeatedly year after year due to the failure assumption in the implementation process of AMP. It was clearly described by recommendations result in each implementation. Recommendations are frequently not implemented or delayed to follow up. This study was a qualitative study, which used case study design. The subjects consisted of 12 people who have good understanding of Maternal Perinatal Audit. They were selected by purposive sampling. This study used in-depth interview guidelines and observation checklists as instruments, additional support were tape recorder and camera for documentation. Results of this study showed that follow-up of the recommendations in AMP have not implemented all, both immediate response and planned response. Classical excuse of limited funds, lack of commitment from the obstetricians and gynaecologists, absence of strict punishment from the President Director and Medical Committee in implementing the follow up immediately as well become follow-up hassle in the process of the implementation. The audit timing in both RSUD is not in accordance with WHO guidelines and MOH, perinatal of AMP implementation in RSUD Panembahan Senopati Bantul are also never engage the external review team.

Keywords: Maternal Death Review, Policy Implementation, Follow-up, Commitment, Hospital Based
There are about 800,000 young people in Yogyakarta, aged between 15-24 years old. Lately, there are so many problems concerning the reproductive health among the young people such as HIV, sexually transmitted diseases (STI) and adolescent pregnancy. To address these problem, UNFPA and private doctors in Jogjakarta created a health service for young people, called UNALA. UNALA means “you decide, we provide”, meaning that young people could decide what to do particularly what they choose for healthy a life, and UNALA will provide what they need. It is a friendly youth-oriented service. There are ten doctors working with UNALA. This program is run by a franchise system and the young people could access these services by using vouchers. This study is a qualitative study. In-depth interview was done with 14 respondents which included doctors, young people and UNALA’s staff. The UNALA's program was promoted on social media, talk shows with students in schools and youth gatherings. All the young people who attended these events will get the UNALA vouchers for free. Total number of vouchers distributed were 730, but until now, only 35 young people had used their vouchers to visit the doctor. Utilisation of the voucher is only 5%. There are so many young people who have not yet used their vouchers to see the UNALA doctors. This program has been running for a year, maybe there are many young people who do not yet know about this program. There is an urgent need to give more information about this program to young people and a need for another way to promote this program.

Keywords: Adolescent Sexual Reproductive Health Services, UNALA, voucher.
DO ELDERLY USE COMMUNITY HEALTH CENTERS FOR OUTPATIENT CARE?

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Health care programs for elderly in community health centers were very diverse, one of which was “Posyandu” for elderly. The program showed that the government is responsible for the availability of health services for the elderly. Besides community health centers, private practitioner is also one form of health facility that exists in the society. The existence of private practitioners would lead the public, particularly the elderly to have a broad opportunity in choosing outpatient care. The purpose of this study was to analyse the outpatient utilization in community health centers by elderly in Eastern Indonesia 2012, when compared with outpatient care of private practitioners. This research was a quantitative research using secondary data - Indonesia Family Life Survey East 2012. The samples included 246 elderly, with the criteria of the elderly aged 60 years and above, as well as the elderly with categories Self Rated Health Status as “Somewhat Unhealthy” and “Unhealthy”. The data would be presented as odds-ratios. Most of the elderly in urban areas utilized outpatient care in community health centers (OR: 1.88), but the elderly in rural areas preferring to utilized outpatient care in private practitioner rather than in community health centers (OR: 1.28). In addition, the older-elderly (OR: 1.80), female elderly (OR: 4.11), elderly with the lower education level (OR: 1.74), and the elderly with the utilization of outpatient care for disease treatment (OR: 26.5), also prefer to utilized outpatient care in private practitioner, rather than in community health centers. Contrary to the expectations, the elderly especially those living in rural areas, used private practitioner rather than community health centers. In the future, the government is expected to be able to improve the quality of community health centers, and provide pro-elderly health services that can reach the elderly in rural areas, such as homecare services and “Posyandu” for elderly.

Keywords: Elderly, Outpatient utilization, Community health centers, Private practitioner.
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PREDICTING THE TOTAL INPATIENT PHARMACY COST FROM THE ELECTRONIC PRESCRIPTION SYSTEM AND CASEMIX DATABASE IN A TERTIARY HOSPITAL, MALAYSIA

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Increasing concern over the growing share of pharmacy cost and drug expenditures as a portion of the total hospital health care over the past several years has generated a broad measures to study and control costs. This study aimed to predict the total inpatient pharmacy cost in a tertiary hospital, Malaysia. A secondary analysis of a retrospective data extracted from the electronic prescription system and casemix database from 1 January to 31 December 2011 (n=13,673) at University Kebangsaan Malaysia Medical Centre and analyzed for their effect on the total inpatient pharmacy cost using t-test and analysis of variance (ANOVA) and Pearson’s correlation coefficient. Model for predicting the total inpatient pharmacy cost was tested using the multivariate linear regression modelling technique. Factors found to have a significant effect on the total inpatient pharmacy cost were gender, ethnicity, length of stay, type of cases, severity of cases, number of prescribed items of drugs and supplies. The multivariate model with demographic and clinical variables explained 32.7% of variance in total inpatient pharmacy cost, F (8, 13,664) = 829.328, P < 0.0005, R2 = 0.327. Length of stay (B = 0.349, P <0.0005) and severity level III (B = 0.253, P < 0.0005) appeared to be the strongest predictors of the total inpatient pharmacy cost; followed by the number of prescribed items of drugs and supplies (B = 0.081, P < 0.0005) and severity level II (B = 0.050, P = <0.0005). In conclusion, increase in the hospitalization period accompanied with a major complication and comorbidity had the highest influence on the total pharmacy cost.

Keywords: Casemix, Electronic prescription, Pharmacy cost, Malaysia
COST OF AMBULATORY DIABETES CARE IN VIETNAM

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Vietnam is encountering a dramatic increase in number of diabetes mellitus. As result of its chronic nature, people with the disease have more frequent and intensive encounters with health care system. Vietnam is planning to achieve universal health coverage in 2020 and to reform the current provider payment method from fee-for-service to cost-containment payment methods namely capitation and diagnosis related group (DRG). Additionally, the present practice that medical fee is reimbursed partly by health insurance while other cost components are directly financed by the government budget has been planned to change to that in which health insurance fund would cover all cost components of utilized medical services. The proposed study expects to contribute to cost analysis in diabetic care from an outpatient setting. The study is conducted to identify the average annual medical cost attributed to ambulatory diabetes care in Vietnam in 2014 and the associated factors. Data were collected from 2,081 type 2 diabetic patients who received outpatient care treatment from Thai Nguyen National General Hospital in 2014. A descriptive study methodology and micro-costing approach were used to come up with the patients’ characteristics and value medical costs from healthcare provider perspective. The proportion of male patients was close to female patients (48% vs. 52%) but there were variations by age and the utilizations. Most patients (85%) were found at age 55 and beyond. Their utilization rate was twice higher than that among patients between 15 and 55. The annual average cost per patient was 3,200,000 VND ($160). Drug cost accounted for 36% of the total cost, followed by laboratory cost (32%), image diagnosis cost (18%), and other costs (14%). In deciding the rate of ambulatory care reimbursement, age and utilization rate should be considered.

Keywords: cost of illness, cost of diabetes type 2, ambulatory care
Increment of maternal and neonatal mortality has occurred in Yogyakarta. In 2012, there were 40 cases of Maternal Mortality Rate (MMR) while neonatal mortality 400 cases. In 2013, there were 46 cases of MMR and 448 for neonatal mortality. This circumstances has occurred in five regencies in Yogyakarta, and Bantul Regency was the highest. In 2012, there were 7 cases of MMR and 116 cases of neonatal mortality. In 2013, there were 13 cases of MMR and 165 cases of neonatal mortality. Human resources, facilities, standard of operations process, infrastructure, EmOC Health Center, RSKIA, and comprehensive EmOC hospital, have been available in Bantul Regency, but they were not enough to reduce the number of mortality. The researcher wanted to evaluate the implementation of maternal and neonatal referral which is one of the government programs to reduce MMR and IMR in Bantul. This research is a qualitative research which uses case-studies with exploratory analysis and method. Subjects of this study are people who know the information about maternal and child health in Bantul, particularly in referral system. They were selected by purposive sampling. Research instruments used is in-depth interview guide with the help of electronic recording devices, cameras and notebooks. Qualitative data analysis can be described into three interrelated processes. First, data reduction; second, data presentation and third decision-making. The availability of human resources, equipment, medicines are still not standard yet. Bantul Regency already has a means of transportation in the form of the health department budget BESS. Communication tool used in health facilities is a phone. Funding used in the referral system Jamkesmas, Jamkesda and BPJS. Standard of Operations Process (SOP) related to maternal and child health services are available and already accordance with standards which established by the Department of Health/health department, governor regulation, WHO and referral guidelines. There were lack of cooperation between the levels of referrals which involves the health department. Coordination between the reference level basic EmOC, comprehensive EmOC and the health department are form of referral network handling report of cases about obstetric complications and neonatal cohort each month. Supervision was conducted by health department such as maternal and neonatal mortality but have not touched his medical techniques yet. In conclusion, the implementation of the referral system of human resources, equipment, financing, transportation, availability of tools, communication and standard of operations process have not been bused on the standards set; referral process between the reference level is not running optimally; return referral process is not going well because of time limitation, beside health workers assume the hospital has been able to solve the problem; and in the manual reference, the health department does not submit data of mothers with high complications to hospital comprehensive EmOC.

Keywords: Evaluation, referral, maternal and neonatal
There is a paucity of literature on the use of cost and service weights for laboratory services and radiology procedures. Very few studies employ activity based costing methods to estimate the costs for laboratory services and radiology procedures. The Universiti Kebangsaan Malaysia Medical Center (UKMMC) has used the Malaysian Diagnosis Related Group (MY-DRG) since 2002, as a patient classification system which stratifies disease severity and used to estimate costs per episode of care and as a tool to enhance quality and improve efficiency of its services. The actual costs of providing these laboratory services and radiology procedures are not known. A cross sectional study was conducted from January to December 2013 in all units in the Department of Diagnostic Laboratory Services and Department of Radiology in UKMMC. Activity Based Costing was used to impute the cost of all units in the department. The laboratory service weights and radiology service weights were then calculated using L3H3 method. Out of 25,754 discharges in 2011, 16,173 (62.8%) cases were non-surgical. After the trimming process, fifth MY-DRGs with the highest laboratory and radiology service weights are presented here and for laboratory services were from MY-DRG C-4-10-I (Acute Leukaemia-Mild; 0.2203) had the highest laboratory service weight, followed by MY-DRG C-4-10-III (Acute Leukaemia- Severe;0.1825), MY-DRG C-4-11- III (Lymphoma & Chronic Leukaemia -Severe; 0.1732), C-4- 10-I (Acute Leukaemia-Moderate; 0.1675) and K-4-17-III (Gastroenteritis & Abdominal Pain - Severe; 0.1675). For radiology service weights were the highest G-4-26-I (Other Nervous System Disorders-Mild), followed by MY-DRG N-4-10-I (Renal, Urinary Tract Neoplasm & Kidney Failure-Mild; 0.1642), MY-DRG G-4-25-I (Concussion -Mild; 0.1497), B-4-11- II (Hepatobiliary & Pancreas Neoplasms-Moderate; 0.1482) and U-4-15-I (Other Ear, Nose, Mouth & Throat Disorders-Mild; 0.1366). In order for the UKMMC to improve its level of efficiency, medical specialists should be informed of these findings so that they can take appropriate steps to reduce unnecessary use of laboratory services and radiology procedures in managing their patients.

Keywords: cost calculations, weight
INCENTIVE TO RAISE HEALTH EXPENDITURE FOR HEALTH IN SUB-SAHARAN AFRICAN COUNTRIES: EVIDENCE FROM PANEL ANALYSIS

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Raising sufficient funds for health especially in Sub-Saharan African (SSA) countries is demanding for adequate health service delivery, better health outcome and social risk protection. Objective is to identify factors affecting health expenditures in SSA countries. Panel data analysis technique was used to analyze data from 44 SSA countries during the period between 1995 and 2012. The study applied fixed effect model by controlling the unobservable variables: time effect and specific effect to identify factors affecting health expenditures. It explored the impact of per capita income, proportion of state residents aged 65 and older, out-of-pocket health expenditure (% of total expenditure health), state infant mortality rate, total government expenditure as a share of GDP, incidence of tuberculosis per 100,000 people, external resources for health (% of total expenditure on health), Social security funds as % of general government health expenditure on total health expenditure per capita. Income, infant mortality, demographic factors, external resources for health and social security funds affected health expenditures significantly (p<0.05). Income elasticity of health expenditure per capita and demand of healthcare were 0.85 and -0.92 respectively; and were elastic (greater than 1) in poorer countries. Fiscal space, out-of-pocket payment and incidence of tuberculosis per 100,000 people did not significantly affect health expenditure (p>0.05). Health status, technological progress, per capita health expenditure, fiscal space and social health insurance contribution, grew as the countries became richer. External resources for health and financial risk increased as the country became poorer. Income and demand elasticity of health expenditure remained higher in general and greater than one in low-income SSA countries. Population, income and health status were major driving factors affecting health expenditure.

Keywords: government health expenditure, elasticity, Sub-Saharan Africa
Professional management and bureaucracy reform is urgently needed to strengthen the health systems. However, responsiveness and quality of service of the government hospital in peripheral areas are still poor. Could government hospitals perform for the need of their customers and surrounding markets? We studied these dynamics in the RS area in Pasaman, with 234 employees, which became the reference of the 16 health centers in Pasaman. The research studies the gaps between what was expected to happen and what actually happened related to the functions of manager in the hospital. We further assess the managerial capacity in terms of management education managers have experienced. We conduct in-depth-interviews with 14 managers - head of the hospital, the head department, heads of sub-departments, and heads programs from structural positions in the hospital. We reported three things that show management capacity does not match with the demands of our times. First, the simple and basic organizing practices is not implemented in this hospital. Second, managers fail to manage all employees at various levels in order to learn problems and correct them in all fields. Third, despite having the good vision, mission and values of quality service and professionalism, managers show bureaucratic behaviour that meets the needs of employers rather than to the needs of patients as customers. Managers fail to implement the works related in planning, organizing, actuating and monitoring, which are basically needed to solve problems that really face. We discuss local government bureaucracy issues and the kind of training requirements which allow managers to work more problem solving while they remain part of the current bureaucratic organization. We conclude that management practices does not fit with the needs of the operational problem solving of hospital services and are incompatible with the needs of the transformation of the bureaucracy of government agencies. Strategies to make managers be able to reform public hospitals should discuss different approaches from traditionally applied training for government officers.
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EFFECT OF COMMUNITY-BASED REHABILITATION ON DISABILITY LEVEL AMONG CHILDREN WITH DISABILITIES AND ITS IMPLEMENTATION COST

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Community-Based Rehabilitation (CBR) is a strategy which was developed to fulfil the need for comprehensive and long term rehabilitation of children with disabilities. In Malaysia, CBR has expanded well and benefited children with disabilities both in the rural and urban societies. However, after many years of implementation, little is known about the effect of CBR in reducing disability level among the disabled children and the costs for implementing the programmes. The objective of this study is to assess the effect of CBR in reducing disability level, estimate the costs of the programme and identify factors that influence these costs. This is a cross-sectional study involving CBR centres and approximately 170 children with disability age 4 to 18 years and their parents/caretakers in Pahang, Terengganu and Kelantan. Change in disability level will be assessed with the use of Barthel Index. Cost evaluation will be conducted from the perspective of society using activity based costing method. Two costing questionnaire will be used in this study, which are costing questionnaire for parents or caretakers and costing by activity performed at CBR centres. Data will be analysed using Statistical Package for Social Science (SPSS) version 22. Descriptive statistic will be used to analyse demographic and cost data, while factors which influence the cost will be identified using linear regression test. The results of this study can be used to improve rehabilitation programme for children with disabilities in the community in the near future.

Keywords: Community-Based Rehabilitation, disability level, disabled children, cost
COMMUNITY BASED HEALTH INSURANCE: A CASE STUDY IN KOH PDAO ECOTOURISM COMMUNITY K RATIE PROVINCE, CAMBODIA

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Since the adoption of the Master Plan for Social Health Insurance 2003-2005 (SHI Master Plan), Cambodia has taken the first tentative steps towards implementing unified social health protection measures and developing the systems needed to achieve universal health insurance coverage. Community based health insurance (CBHI) has been implemented in some provinces in Cambodia, except Kratie, where intensive ecotourism activities supported by international non-governmental organizations (NGOs) existed. The objective of this study was to survey household expenditure for health and to explore possibility of setting up CBHI to improve accessibility to quality of care and remove financial barriers to access. Koh Pdao community based ecotourism was purposively selected as the sites of this research. Quantitative and qualitative data collection methods (a mixed method) were used in this study. The whole 163 households in the villages were surveyed with questionnaires. Data were analyzed using Statistical Package for Social Science (SPSS). The focus group was conducted among 10 villagers, five in each group discussing on health situation and quality of health care services. In addition, in-depth interviews were taken with 2 chief villagers of the community-based ecotourism. The findings reveal that the average health care expenditure over the last 30 days for outpatient service was 95.74 USD, and for inpatient care over last 12 months was 94.40 USD. This was considered very high with poor quality of service and difficulty to access the services. The public health staff was complained of having low ethic. More members of this community reported access to private health care (80%) more than public health care (10%) and others (10%). Qualitative data show certain level of CBHI potential to improve quality of service, and to remove financial risk and barriers to access In conclusion, household health expenditure was high. CBHI has been evaluated to reach certain level of participation in this research.

Keywords: community based health insurance, ecotourism, Cambodia
DIRECT COST FROM PARENTS’ OR CARETAKERS’ PERSPECTIVE IN REHABILITATION MANAGEMENT FOR DISABLED CHILDREN IN EAST COAST REGION OF MALAYSIA: PRELIMINARY RESULT

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Increasing number of people with disabilities worldwide pose significant burden to health system, families, caregivers and the society at large. This economic burden will include of cost to provide sustainable rehabilitation services for disabled children. Caring for children with disabilities has significant economic impact on the parents or caretakers and families. Parents and families with disabled children will have to provide long term care, psychological support and may face with social difficulties. Participation in rehabilitation programme will incur direct and indirect cost the family. This is the preliminary results of a field research estimate the direct cost of Community-Based Rehabilitation (CBR) programme conducted in the East Coast region of Malaysia. The objective of the study to determine the direct cost of community-based rehabilitation programme (CBR) for management of disabled children in East Coast Region of Malaysia. This is an economic evaluation study that entails cost analysis to estimate the cost for parents or caretakers in CBR programme. Parents or caretakers who have disabled children participated in CBR programme was selected into the study using multi-staging sampling method. Self-completed questionnaire was distributed to all selected parents or caretakers. The questionnaires comprised of estimation cost involved in CBR programme and rehabilitation programme for disabled children. In this preliminary study, questionnaire from 51 respondents were analyzed. All data obtained was entered into the Statistical Package for Social Sciences (SPSS) Programme version 20. Descriptive analysis was carried out on the costing data. Mean and range of total and different cost components were imputed in the analysis. Out of 51 respondents, 31 from Pahang and the remaining 20 were from selected CBR Centre in Terengganu. For all the 51 respondents, the mean total direct for CBR programme per year is RM 3,959 (range: RM 0 - RM 13,440). The mean travelling cost is RM 2,724 (range: RM 0 - RM 13, 440). The mean cost for disabled children who received rehabilitation services in government hospital is RM 209 (range: RM 0 - RM 1,618). Those who sought the services from private hospital have to pay on average of RM 54 (range: RM 0 - RM 1,980). The mean cost for alternative treatment and supplement is RM 320 (range: RM0 - RM 3,120) and RM 650 (range: RM0 - RM 6,000). This study was identified direct cost incurred by parents or caretakers in rehabilitation management. The largest part of direct cost comprises of travelling cost and supplements. Though, the lowest cost was rehabilitation attended in private hospital. The findings observed that the presence of main part of costs increased the direct cost per parents or caretakers in long term management of rehabilitation for the disabled children. Thus, this study may help to provide costing evidence to the policy maker and further research on economic evaluation is required to evaluate the impact on parents or caretakers’ costs in rehabilitation management for disabled children.

Keywords: Cost, outcome, community-based rehabilitation programme, disabled children,
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CAN WE RELY ON CARERS TO MEDIATE REHABILITATION THERAPY FOR PEOPLE WITH STROKE? A NARRATIVE REVIEW

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Despite the emphasis that carers or family members should play a significant role in the rehabilitation of people with stroke, little is known on how effective they are in assisting or mediating therapy for the stroke survivors. The aim of this review was to determine the effectiveness of carers / family in assisting or mediating therapy for stroke survivors. A narrative review methodology was employed. Relevant research articles published between January 2004 and June 2014 were searched from ScienceDirect, Pubmed, BioMedical Central, and OvidSP databases. Search terms used were “Carer; Caregiver; Stroke; Rehabilitation; Therapy; Training program; Mediated; Assisted; Functional recovery”. References from all retrieved articles were also screened to identify other relevant papers. Non-scientific papers, study that looked into only the psychosocial factor of carers and study protocols were excluded. Seven studies were finally included in the review, with a total subjects (stroke survivors) of 1,660. All studies were randomised controlled trials. Findings from the seven RCTs suggest that carer mediated therapy is an effective solution in providing care for stroke survivors post hospital discharge. Carers could effectively facilitate stroke survivors’ rehabilitation in mobility training, transfers, personal activities of daily living and communication to promote their recovery process. Although involving carers as one of the rehabilitation providers is seen as exerting extra task and duties to carers, providing relevant education and training to them proven to significantly reduce their burden and improve both carer and stroke survivor’s quality of life.

Keywords: Carer; Functional recovery; Rehabilitation; Stroke; Training program.
POLICY OF EPIDEMIOLOGY REGION BOUNDARIES IN MALARIA CONTROL PROGRAM
(CASE STUDY IN PHC KOKAP II KULON PROGO, YOGYAKARTA)

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Kulon Progo Regency is one of regencies in Yogyakarta (DIY), which until now has not declared elimination of malaria. PHC Kokap II located in Kokap sub district, is the largest contributor of positive malaria cases in Kulon Progo regency. This study aims to produce epidemiological information that is important in the region of PHC Kokap II that affects the possibility of malaria local transmission. The study design was a descriptive study, to get an overview of the distribution and determinants of malaria. To determine the pattern of malaria transmission we use secondary data between 2009-2012 malaria cases. To determine the clusters of malaria we use clustering analysis with the data of malaria cases year 2012, to determine the spread of malaria in the cross-border area between PHC Kokap II and PHC Kaligesing we use secondary data year 2010-2012. Even more, in the year 2009 the proportion of import cases was 82% compared with all patients that were found malaria positive. Cluster of malaria is bordering to the sub district Kaligesing, Purworejo Regency. Region PHC Kokap II is an area of high vulnerability, the potential to get the risk transmission of imported cases or infective vectors. The focus of malaria transmission in the area of PHC Kokap II is at the bordering the sub district Kaligesing, Purworejo Regency, Central Java Province. Policies need to be made use of epidemiological boundaries in the malaria control program in the cross-border region.

Keywords: Vulnerability, Epidemiological boundaries, Import Case
EXAMINING HOW ISLAM SHAPES HIV PREVENTION IN MALAYSIA: NAVIGATING SENSITIVE TERRAIN

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To date there are 85,332 people living with HIV (PLHIV) in Malaysia, a country with a concentrated epidemic amongst high risk groups, such as Intravenous drug users, Men who have sex with Men, Transgender women and Sex workers. Malaysia is predominantly a Muslim majority, where Islam plays an important role in society. The objective of the study is to understand how Islam shapes HIV prevention strategies in Malaysia. Qualitative and quantitative research was employed for this study. Thirty Five in-depth semi-structured interviews were undertaken with religious leaders, Ministry of Health and PLHIV from 2013 and participants were recruited using convenience purposive sampling after ethical approval was granted. Interviews adhered to a topic guide, were audiotaped, and transcribed verbatim and analyzed using a framework analysis. In addition, 252 self-administered questionnaires assessing participants’ knowledge of HIV was collected and analyzed using SPSS. Various themes and subthemes emerged across the stakeholders including the centrality of Islam to life and health, stakeholder relationships and tensions and attitudes to HIV prevention strategies such as condom distribution, premarital screening tests and the legal system. Quantitative data highlighted differences in knowledge of HIV as well as how information about HIV was obtained. Islam has a pivotal role in shaping strategies relating to HIV prevention in Malaysia, in terms of actual policy but also with regards to process of how these policies are created and the power dynamic amongst the stakeholders, which resulted in a challenging and sensitive environment to work though and navigate.

Keywords: HIV; Islam; Malaysia
P204

STRENGTHENING REGULATION FOR PRIVATE MIDWIFERY SCHOOLS IN THE DISTRICT WITH LIMITED AVAILABILITY OF EDUCATORS

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Growing markets of midwives have spawned private midwifery schools spreading even to small towns throughout Indonesia. Private midwifery education institutions are expected to fill the needs of the professional midwife who is able to make an impact on the decline in maternal mortality and improve the quality of maternal services throughout the country. Financial motivation of these schools in recruiting many students has raised concerns in terms of how they can produce quality graduates. We do a study of a private midwifery education institution diploma located in one district town in East Java. The aim is to examine the suitability of the educational process in place with the expected professional development. We conducted in-depth interviews with (a) 16 third-year student who recently completed 2-month clinical rotation in the hospital and (b) four teachers. Evidence from this study indicate weak learning environment. Clinical instructor only has a limited time to meet with students, so that students rarely get the guidance and direct supervision. Students more often obtain “lessons” of the young staff, which many of them indifferent in providing guidance. Students feel insecure and fear in communicating with senior staff from both the nursing and medical professions. Academic lecturers provide minimum learning support. Their supervision does not allow students to reflect on their experiences. Professional development as reflected in clinical rotations in hospitals is still very limited. The government must monitor more strictly, especially for the medical school located in the district, where professional educators are very limited.

Keywords: Midwifery training, hospital based learning, learning environment, low resource setting
LOW BACK PAIN (LBP) AMONG PREGNANT WOMEN ATTENDING URBAN HEALTH CLINIC IN FEDERAL TERRITORY: ITS PREVALENCE, ASSOCIATED FACTORS AND PAIN INTENSITY

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Low back pain (LBP) among pregnant women is highly prevalent, and many studies have shown its substantial impact to productivity, work and daily activities of the sufferers. However, local data especially among primary care population is still scarce. The objective of this study is to determine the prevalence, associated factors and pain severity among pregnant women with LBP at local primary care setting. A cross-sectional study was conducted using universal sampling method. A total of 339 were approached and 335 had met the inclusion criteria, however 332 had consented for study enrolment. Structured questionnaire consisted of socio-demographic, clinical data and Numerical Rating Scale (NRS) for pain severity were used. Total of 297 had completed the questionnaires. Prevalence of LBP at any time during pregnancy was 69% (205/297). Out of this, 82.4% (169/205) had ongoing LBP at the point of data collection. Younger age, Malay ethnicity, employment status, high income status, tertiary education status, advanced gestational age, history of LBP during previous pregnancy and outside pregnancy were associated with current low back pain. From those with LBP, almost half of them (47.3%) had mild pain intensity, while 37.3% and 15.4% had moderate and severe pain intensity. This study revealed majority pregnant women suffered from mild to moderate LBP, nevertheless, quite a proportion of the pregnant women did experience severe LBP which cannot be taken lightly. Thus, early identification is essential of patients especially those who were found having the associated factors as mentioned for appropriate intervention to achieve best outcome.

Keywords: Low Back Pain, Pregnant, Antenatal
EVALUATION OF GAVI HSS PROJECT IMPLEMENTATION WITH THE PARIS DECLARATION PERSPECTIVE

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The effectiveness of international programs in supporting reform program management in recipient countries has been widely questioned and discussed. However, improvement of international programs strategy in developing countries has made remarkable progress with the Paris Declaration. This study reviews the implementation of the GAVI Health System Strengthening (GAVI HSS) program and specifically study the mechanisms that help strengthen the capacity of government institutions in the recipient country and in improving the effectiveness of the program. The objective of this study is to evaluate the implementation of the GAVI HSS project with perspective of Paris Declaration principles, namely Ownership, Alignment, Harmonization, Managing for Result and Accountability. The method used is case study research with a descriptive qualitative design. Interview done to all stakeholders related with implementation of this project: the units in the Ministry of Health, Ministry of Finance, National Board of Planning and UNICEF and WHO as a representative of GAVI in Indonesia. Analysis showed that the most influential factor in the ineffectiveness implementation of GAVI HSS is grants utilization strategy that is not maximally function. This mostly due to GAVI HSS has not been seen as an integral part of the health program, but more to complementary to programs funded from the state budget. Also the GAVI funds that seen as not predictable and this is mainly due to the uncertain disbursement schedule. It is important to improve the quality of the process and implementation of grants utilization strategy in the Ministry of Health. It also need to communicate to GAVI Alliance on the problems that arise due to the uncertain disbursement schedule.

Keywords: Aid Effectiveness, GAVI HSS, Paris Declaration, GAVI Alliance, Ministry of Health Republic Indonesia.
BARRIERS TO HELP SEEKING IN ELDERLY MEN WITH LOWER URINARY TRACT SYMPTOMS (LUTS) AT KLINIK KESIHATAN RASAH, SEREMBAN

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Lower urinary tract symptoms (LUTS) increases with aging. Despite the high prevalence worldwide and causing significant health problems among elderly men, the rate of seeking medical advice is consistently low and mostly in advanced stage. Simple and effective treatments are available in primary care when detected early. There is a clear need to identify barriers to help seeking and identify ways to overcome these barriers. This study aims to explore help seeking behaviour among elderly men with LUTS and to identify barriers to seeking early medical advice. A cross sectional study will be conducted at Klinik Kesihatan Rasah, an urban based public health centre. A sample size of 381 male patients aged 60 years and more will be recruited from among male patients attending the health centre. A self-administered questionnaire inclusive of International Prostate Symptoms Scoring (IPSS), sociodemographic profile and treatment seeking behaviour will be used. Bivariate analysis using chi-square test and t-test will be used to determine the association between symptom severity, sociodemographic profiles and help seeking behaviour. Descriptive analysis will summarize barriers to help seeking. This study will identify combination of associated personal attitudes and practical barriers preventing elderly men with LUTS from seeking treatment. By identifying the patients’ profile, the primary healthcare providers will be able to assume a more proactive role targeting specific patients: (1) for health promotion and educational activities to increase awareness among and (2) to seek early treatment for LUTS.

Keywords: elderly men, help seeking barriers, lower urinary tract symptoms.
CONTRIBUTION OF NUTRITIONISTS FOR REDUCING MALNUTRITION IN RURAL AREA

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Malnutrition in rural areas remains a major problem in Indonesia. The prevalence of malnutrition in children under five (BB/U<-2SD) fluctuated. It decreased from 18.4% (2007) to 17.9% (2010) and then increased to 19.6% (2013). The government has put nutritionists in the area to manage nutrition programs. Assuming that health professionals are responsible for specific fields. The absence of definite program in health center will contribute to the problems associated with the field. This study put forward hypothesis that nutritionists in health center will have a positive impact in reduction of malnutrition status in rural Indonesia. The objective of this study was to acknowledge the contribution of nutritionists in health centers in order to diminish the prevalence of underweight in rural Indonesia. The study was a quantitative observation using secondary data results from Indonesia Family Life Survey East (IFLS) East 2012 and utilized STATA version 12 for analyzing. This study showed that the presence of nutritionists is not related to the nutritional status of children in the countryside. Providing nutritionists in remote areas may not guarantee children having better nutrition compared to the other area without nutrition workers. This study invites more in-depth discussion on the nutritionist management capacity in the health center. Reviewing the competency of the nutritionists is prioritized in order to support nutrition programs in secluded areas by developing a good educational curriculum. Moreover, we are concerned that the nutritional health workers are keen on receiving assignment outside their expertise so that nutrition programs are neglected. Health centers and health authorities should prioritize that health workers are employed based on their competency to underpin primary issues. Improved management nutritionists in rural areas are expected to have a positive impact on the improvement of nutritional status.

Keywords: children nutrition status, nutritionists
CLINICAL PATHWAY FOR MANAGING GENERALIZED CHRONIC PERIODONTITIS

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Periodontitis is an infectious and inflammatory disease of the periodontium i.e. tooth supporting structures including gums and dental alveolar bones. It is characterized by destruction of periodontal tissue attachments to the tooth root surface and eventually loss of tooth due to lack of support. The recent national oral health survey found that 94% of dentate Malaysians adults have some form of periodontal disease varying from a mild gingivitis involving only the soft tissues of the gums to severe form of periodontitis where there is extensive amount of tissue loss around the tooth. More worrying, the prevalence of the severe form of disease has shown an increased in the last decade especially amongst the younger adults from 7.2% in 1990 to 25.3% in 2010. It is well acknowledged that periodontitis is a multifactorial disease and the best strategy in managing it is to identify the major contributing factor(s) and risk level of patients before controlling the bacterial infection and inflammatory state that follows. Nonetheless the challenge lies in formulating the most cost effective approach in decision making, therapy and assessment of treatment outcomes as clinicians vary in opinions and employment of treatment regimes. Hence, formulating a clinical pathway (CP) for managing generalised severe chronic periodontitis would benefit decision making and at the same time provide a range of evidence-based treatment care pathways that can prognosticate treatment outcomes. This paper will discuss the evidence for supporting the development of a CP for managing young adults with generalised severe chronic periodontitis.

Keywords: clinical care, periodontal disease
INTERNAL AND EXTERNAL FACTORS THAT CONSTRAIN BETTER LEARNING PROCESSES IN PRIVATE NURSING COLLEGES IN YOGYAKARTA

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Indonesia currently has 832 private nursing colleges, 21 of them are in Yogyakarta. Variations in the quality of graduates and their teacher capacity have raised many questions in terms of how the Ministry Of Health provides licence to private institutions in training health workers. Questions are also asked on the roles of Kopertis, as a government agency that oversees private colleges. This research examines the current status of the professional capacity of teachers and the role of government agencies in monitoring the quality of education in private nursing colleges. We study 324 teachers in 21 private nursing college in Yogyakarta, based on the latest data-base on college teachers available in government’s private higher education supervisory body. We find that the financial interests of organization is a very powerful internal factor that weakens the priority in implementing quality education. We also find conditions that do not comply with the rules but they are escaped by external supervisors. College administrators provide unofficial fees to prevent from “bad” findings and sanctions. We discuss the challenges of providing good quality education in private nursing colleges, where most students come from lower and middle class groups. The lack of effective regulatory enforcement mechanisms is a major point in explaining the poor learning processes in private nursing colleges. Stronger sanctions to college administrators who fail to develop educational capacity are needed.
P301

PREVALENCE OF NON-DENGUE THROMBOCYTOPENIA (NDT) IN ACUTE FEBRILE ILLNESS (AFI): ITS CLINICAL PRESENTATION AND PLATELET TREND AT A SUBURBAN HEALTH CLINIC IN FEDERAL TERRITORY, MALAYSIA

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Acute Febrile Illness (AFI) is one of the commonest presentations to health clinic. A febrile thrombocytopenic patient is frequently diagnosed with “suspected” dengue fever. Unlike dengue thrombocytopenia, NDT is still understudied. The aim of this study was to determine the prevalence of NDT among AFI patients, the clinical presentation and platelet trend. A cross sectional study was conducted using universal sampling method. A total of 298 patients with AFI were recruited during the study duration. Associated clinical symptoms were documented and blood was drawn for Full blood count (FBC) analysis. Patients with thrombocytopenia (platelets ≤150x10\(^9\)/L) were subjected to dengue screening test using SD BIOLINE Dengue Duo (NS1 antigen and IgG/IgM) kit with daily FBC as per Malaysian Dengue clinical practice guidelines. Response rate was 97.7%. Prevalence of NDT among general AFI patients was 15.1\% and 35.5\% among AFI patients with thrombocytopenia. Diagnosis of NDT was unlikely with presence of nausea / vomiting (p=0.028, OR 0.206 (0.05-0.95, 95\% CI)). The platelet trend in NDT was found to have three characteristics: (i) the lowest platelet decline was not below 75 x 10\(^9\)/L (ii) the trend of low platelet stabilised by day 5 of illness, with steady incremental rise and (iii) platelets in NDT normalised earlier (day 7-8) compared to dengue (day 9). In clinical settings without screening tests for dengue fever, presence of nausea and/or vomiting and platelet trends may be helpful to differentiate non-dengue and dengue infection.

Keywords: non-dengue, dengue, fever, thrombocytopenia
P302

CONTRACTING FOR PRIMARY HEALTH CARE BETWEEN SOCIAL SECURITY BOARD AND THE PRIVATE PROVIDER IN MYANMAR

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The Social Security Board (SSB) under the Myanmar Ministry of Labour - Employment and Social Security has implemented the 1954 Social Security Act since 1956. The SSB acts as both purchaser and provider of health care. New Social Security Law (2012) came into force on 1st April 2014 will increase the number of enrollees and health care demand. Contracting is an exclusive purchaser role for the SSB to consider to improve quality, increase efficiency, expand coverage and increase accessibility for underserved enrollees and areas. The aims of this study are to explore the best form of contracting for primary health care between the SSB and the private provider and to explore the possibility for the SSB to include other public and private health care providers into the network. This was a qualitative research. Fourteen key informants were purposively selected from their possible key roles in contracting processes. They were interviewed using open-ended/semi structured questions. Content analysis was utilised for data analysis. A ‘contract’ between a social health insurance organisation and a private provider to provide services for insured people would be a legal binding enforcing behaviours of two parties. SSB would stand as a purchaser and the contract would allow for ensuring a greater focus on the achievement of measurable results. Purchaser cautioned that contracting would be more expensive than the social health insurance organization provided the same services, partly because of greater transaction costs. Moreover, purchaser should build up incremental capacity to manage contracts effectively then expand to include wider public and private network. There is a need to develop a framework with a clear legal and administrative separation between provider and purchaser. SSB’s capacity to manage the contract will be a challenging contracting strategy for success. After successful implementation of first contract, the possibility for the SSB to include other public and private health care providers into the network will be explored.

Keywords: contracting, primary health care, Social Security Board, private provider, Myanmar
P303

MERCURY-ADDED PRODUCTS MANAGEMENT: CHALLENGES IN DEVELOPING COUNTRIES AND LESSONS LEARNED FROM MEDICAL FACILITY

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The risks of mercury use had prompted the establishment of Minamata Convention on Mercury which strongly emphasizes the management of mercury-added products. This convention aims to reduce and phase out the use, manufacturing and trade of mercury-added products including batteries, switches and lamps. This commitment will cause significant impacts especially in the developing countries in designing the right approach for it. This is also true for medical industry which is known for the utilization of mercury-added devices and dental amalgam in its services but had embarked on ongoing efforts for eliminating mercury for many years. The experiences learned within medical facility can be useful in meeting this global ambition on mercury. This paper provides conceptual discussion on the challenges faced by developing countries and lessons learned from medical facility that can help the formulation of appropriate approaches in managing mercury-added products. This paper proposes a mercury management framework in medical facility and discusses the recommended practices based on analysis of previous studies. Main challenges identified for developing countries include lacks of capacity, funding, data availability and newer technologies. Further analysis of the recommended practices has led to four main approaches that could enhance mercury management in medical facility, namely technological application, policy instrument, capacity building and guidelines development. These identified approaches are found to have specific relationships with cost and potential impacts, hence giving more flexibility for adoption based on available resources in promoting better mercury management system.

Keywords: Mercury-added product; medical facility; mercury management; developing countries
RETENTION OF THE CONTRACT MIDWIFE IN A REMOTE AND VERY REMOTE AREA IN EAST KUTAI: HEALTH SYSTEM OR SOCIAL FACTORS?

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East Kutai has 66% remote and very remote areas of 21 regions there. To provide quality health care, a good retention strategy for sustainability retention of midwives contract in East Kutai is required. Of the 163 midwives who sign up, only 65% of were on active duty and 35% failed. This study aims to determine the factors that influence the retention of midwives contract, between the health system and social factors. We interviewed eight midwives who lived in remote and very remote areas according to the contract of 3 years. We further explored the causes of removals, and we interviewed four midwives who moved. Apart from contract midwives, 9 people involved directly with the retention of midwives contract were interviewed. We also observed to see the social issues and the existing management. The results showed that the barriers to retention are divided into two, which are the social issues (safety and comfort to stay) and the health system—which is still lacking in guidance, supervision, and supporting facilities in health care. Even though the social factors (communities and individuals) were a problem, we assumed that the management of the health system is more important to determine the retention of midwives in remote and very remote areas. Strengthening health systems may increase retention of midwives contract.

Keywords: Midwives contracts, remote and very remote areas, retention.
P305

ASSESSMENT OF NEEDS IN LONG-TERM CARE SYSTEM AND ITS REIMBURSEMENT METHODS IN 19 COUNTRIES

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Each country has a different long-term care system, based on the context. As every country has limited budget for spending in long-term care system, it has to have the system of assessment of needs in long-term care system to define and serve to the right target. Also, reimbursement methods to dealing with the target of long-term care system are different among 19 countries. As these aspects shape the system of long-term care in each country, the long-term care budgeting and impact to health and social service system in each country can be the lessons learnt for developing countries. The objective of the study was to analyze the type of assessment of needs and its reimbursement in long-term care system in 19 countries, to find the reasons affecting the assessment of needs and its reimbursement in long-term care system in 19 countries and to raise the concerning factors for other developing countries which would like to develop their own long-term care system. The literature review from electronic databases and research documents on the long term care from the European Union, ANCIEN, and the OECD Health Project. Then, we synthesize and categorize types of assessment of needs and its reimbursement in long-term care system in each country. There are two parts of the assessment of needs in long-term care system. The first part is the assessment of the responsible unit for finding the fit benefit package for the target. The second part is to establish care plans for the target. Also the level of the severity is the factor determining types of reimbursement basing on the service provided. Assessment of needs in long-term care system affect to the reimbursement methods in 19 countries. Each method of reimbursement are determined by the unit of responsibility for the target that cost differently.

Keywords: Long-term care, Assessment of needs, reimbursement methods
P306

INTERVENTIONS TO ENHANCE MOTOR PERFORMANCE IN CHILDREN WITH DEVELOPMENT COORDINATION DISORDER: A REVIEW OF LITERATURE

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Developmental Coordination Disorder (DCD) require physiotherapy management for thorough gross motor assessment and intervention to address their motor coordination skill incompetency. Children with DCD exhibit difficulties to perform several motor skills such as catching, throwing, running, jumping, hopping, cutting, scissoring and handwriting. Furthermore, many of them have poor balance and clumsiness that complicate dual motor tasks involving inter-limbs and intra-limbs coordination. Literature has shown that without timely intervention, the children’s problem of motor deficits, poor academic performance and social skills, and decreased physical strength could persist into adulthood. However, researchers are still looking for the most effective intervention to help children with DCD to improve their motor competency, which is vital to meet the various demands of activity of daily livings and school performance, both in and outside classrooms. Several approaches had been reported in the literature, with most training emphasis on balance related skills, neuro-motor tasks, dual motor task, obstacles task, functional strength and fitness exercise. Recently, there is also increasing interest in the use of virtual reality technology being a newer intervention. Nevertheless, outcomes of these studies shown that no intervention is superior than another due to small sample size, short duration of interventions and several other methodological flaws.

Keywords: developmental coordination disorder, motor skills, motor competency, rehabilitation
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REVISITING THE ROLES OF VILLAGE ADMINISTRATION INSTITUTIONS AND PUBLIC HEALTH CENTERS IN PRIMARY HEALTH CARE POLICY: A PORTRAIT OF COMMUNITY-ORGANIZED HEALTH POSTS IN RURAL AREAS BASED ON 2007 INDONESIAN FAMILY LIFE SURVEY

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Community-organized health posts (Posyandu) is the backbone of primary health care services for people who live far from health facility in Indonesian villages. However, roles of Posyandu in rural health system attract little attention of policy makers. The aim of this study is to show the capacity and function of Posyandu in rural areas of Indonesia and to examine its relation to health facility and village institution factors. We analyzed 581 Posyandu in 13 provinces of Indonesia, reported in the Indonesian Family Life Survey (IFLS) 2007. We define sufficient capacity if the Posyandu have periodic service of more than 8 times in one year, the average number of cadres in charge of five people or more, has a program coverage of more than 50%, and has a program management capabilities that reach more than 50% of families and the surrounding communities. We examine the factors cadres, the role of community health centers, and village institutions in supporting the functional capacity of the Posyandu. The function of community services in villages is lower than in the city. The weakness of this function is affected both by factors cadres and support rural administrative agencies. Community health cadres with better education are not able to push the Posyandu more functional as they are in urban areas. Some money contributed by village administrator and health centers are not able to push the capacity of Posyandu. We discuss several strategies to structure Posyandu more formally into rural health system and who should be responsible for health workers capacity development and its funding. Posyandu in rural areas has lower primary health care capacity as compared to those in urban areas. There is an urgent to revisit roles of health centers and new funding sources for Posyandu in an effort to strengthen rural health system.

Keywords: community-organized primary health care, Posyandu, village administration body, community health center
IMPACT OF FUNCTIONAL TASKS ON LUMBAR CURVATURE AMONG ADULTS WITH LOW BACK PAIN


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Lumbar curvature (LC) alterations have been demonstrated among adults in different postures. Effects of repeated functional tasks on LC among adults with low back pain (LBP) are not known. The objective of the study was to examine the impact of functional tasks on LC among adults with acute (ALBP) and chronic (CLBP) LBP. Sixty four adults with ALBP (n= 21), CLBP (n=21) and non LBP (n=22) aged 20-45 participated in this study. Measurements were performed using two inertial sensors attached on first lumbar and second sacrum vertebral levels in standing. These measurements were recorded before and after two hours of performing functional tasks that include standing, walking on flat surface, climbing stairs, lifting a 3kg basket, and sit to stand/stand to sit on a couch and office chair. LC was compared using split-plot ANOVA. A significant between group main effect was found in LC minimum F (1, 59) = 3.33, p < .05; LC maximum (F (1, 59) = 3.72, p < 0.05. There was a larger percentage change in minimum and maximum LC following 2 hours of repeated functional activities among adults with ALBP (56.79%, 23.02%) and CLBP (30.41%, 75.65%) compared to NLBP (8.26%, 10.96%). This may a compensatory mechanism to pain, fatigue or lumbar muscle dysfunction that has been reported among adults with LBP. Further comprehensive analysis of spino-pelvic girdle alignment and trunk muscle function following prolonged functional tasks among adults with LBP may be empirical.

Keywords: Low Back Pain, Lumbar Curvature, Postures, Functional tasks
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Methodology: Describe your selection of the observational or experimental subjects. Identify the methods, tools and apparatus (manufacturer’s name and address) and procedures in sufficient detail to allow other researchers to repeat the study. Identify all drugs and chemicals used including generic name(s), dosage(s) and route(s) of administration. Statistical tests used should be given in sufficient detail and the use of any computer software should also be mentioned. For studies with ethical consideration such as clinical trials, studies done among minorities etc. the statement of approval from relevant ethical committee has to be mentioned as set out by the Helsinki Declaration.

Results: Present your results in logical sequence. If necessary, use appropriate tables or illustrations. Check the readability and accuracy of the statistical tests calculation.

Discussion: Emphasise new and important aspects of the study. Discuss the implications of the findings, their limitations and relate the observations to other relevant studies.

Conclusions: Relate the conclusions with the objectives of the study but avoid conclusions not supported by the data.
Acknowledgements: Acknowledge grant awarded in aid of the study (state the number of the grant, name and location of the institution or organisation), as well as persons who have contributed significantly to the study.

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Abbreviations: Use only standard abbreviations. The full term for which an abbreviation stands should precede its first use in the text, unless it is a standard unit of measurement.

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