theoretical health states, users of the Chinese labels tended to use mild wording while however were assigned to Malay response labels. When asked to describe hypo-
the Chinese response labels perceived were similar in severity of health problems.

PRM2
TESTING THE EQUIVALENCE OF THE LABEL WORDING FOR EQ-5D-5L RESPONSE OPTIONS ACROSS DIFFERENT LANGUAGES IN SINGAPORE
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OBJECTIVES: The EQ-5D-5L questionnaire describes a person’s health using five 5-point Likert scales (i.e. no/slight/moderate/severe/extreme problems), with one scale for each of its five dimensions including mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. The purpose of this study was to assess the equivalence of the response options of the EQ-5D-5L scales across the three major languages (English, Chinese and Malay) in Singapore. METHODS: Visitors to 9 government-run polyclinics were interviewed face-to-face according to partici-
pants’ language preference. Participants’ perception of the severity of health prob-
lems represented by the response labels of the EQ-5D-5L was measured using a 0 (no problems) to 100 (the worst problems) visual analog scale. The participants were asked to use the response label to describe 25 predefined scenarios of health states. Severity ratings and choice of labels were analyzed using multiple linear and logistic regression models, respectively. RESULTS: A total of 743 partic-
ipants (54% ethnic Chinese, 35.3% Malays and 6.6% Indians, age 19-83 years) were included in the study. The severity of health problems of the EQ-5D-5L response labels in English (n=257), Chi-
inese (n=250) or Malay language versions (n=236). Using English labels as reference, the Chinese response labels perceived were similar in severity of health problems. Higher severity scores of ‘slight problems’ and lower scores of ‘extreme problems’ however were assigned to Malay response labels. When asked to describe hypo-
thetical health states, users of the Chinese labels tended to use mild wording while users of the Malay labels tended to use more severe wording. CONCLUSIONS: The interpretations of the labels for some EQ-5D-5L response options differ between Malaysia and Singapore. Health research is needed to test the equivalence of the EQ-5D-5L response options so that the questionnaire can be used to compare the health status of culturally different populations in Singapore.

PRM3
DISCRIMINATIVE PROPERTIES OF SF36V2 HEALTH SURVEY IN GENERAL POPULATION OF PENANG STATE (MALAYSIA) USING NORMAL BASED SCORING ALGORITHMS
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OBJECTIVES: To obtain population norms (using norm based algorithm) of SF36v2 health survey and association of SF36v2 summary component scores with demo-
graphic and socioeconomic variables in Penang general population. This study also aimed to find out effect size difference between United States and Penang specific norm scores. METHODS: A cross-sectional survey was carried among 598 residents randomly selected from 10 grids in Penang Island during January 2011, using the official translation of SF-36v2 Health Survey questionnaire in Malay, Mandarin, Tamil and English. 0-100 scoring of questionnaire was done by scoring software version 4 for SF-36v2 and then these scores were transformed into norm based scores by using means and standard deviations derived from Penang general population. PCS and MCS scores were derived from Penang specific z-scores of eight health domains and factor coefficients derived from US standard population. Penang specific scores considered measurement equivalence, if the effect size dif-
f erence was <0.5. RESULTS: Mean (±SD) norm based scores for SF, RF, RP, GH, VT, SF, RE and MH were 49.6±10.6, 50.0±9.9, 50.0±10, 50.0±10, 50.0±9.9, 49.9±10.1, 50.0±9.9, respectively. Penang specific PCS and MCS were 49.9±9.2, 50.0±9.9, respectively. The physical health was adversely affected by gender group and level of education whereby, Malay ethnicity, un-employment and lower level of education & monthly income was associated with poor mental health. The effect size difference between US standard and Penang specific PCS and MCS scores were <0.05. Conclusions: Norm based scores for SF-36v2 health survey were not available for Malaysian population, therefore these findings can serve as a baseline for comparisons in future surveys looking at HRQol in general and diseased population. The high level of measurement equivalence of the PCS and MCS scores between US and Malaysia using population norms suggests that data pooling between two populations could be possible.

PRM4
ECONOMIC EVALUATION OF INFORMAL CARE – TASK BASED APPROACH
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OBJECTIVES: The cost of informal care is often ignored in economic evaluation. For certain conditions, such as palliation or patients with long-term chronic condi-
tions, informal care costs may be substantial. Previous studies have suggested a limited framework for valuing informal care. The aim of this study was to investi-
gate informal carers’ valuation of informal care when valued differently. METHODS: Sample: 426 informal carers were recruited from 42 general practices in South Australia, 157 informal carers were recruited from 15 specialist centers in Northern Territory. In the sample, 375/426 (88%) informal carers were recruited from general practices, 41/426 (9.6%) informal carers were recruited from specialist centers. RESULTS: The mean age was 48.5 years (SD = 16.9), 93% were female. CONCLUSIONS: Informal care costs may be substantial. Previous studies have suggested a limited framework for valuing informal care. The aim of this study was to investi-
gate informal carers’ valuation of informal care when valued differently.

PRM25
FIRST DRIVE-THROUGH PHARMACY SERVICE IN TAIWAN
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OBJECTIVES: Drive-Through is a very convenient service in many fast food restaur-
aunts. Our hospital is newly opened in the middle 2008. Due to growing numbers of drugs that need immediate and limited pharmacy service, Drive-Through was considered a con-
venient service for patient to refill their prescriptions. METHODS: We visited many hospitals of drug refill process. Several meetings were held to design the optimal system in our institution. We divided the process into two steps: first, make an appointment, second, pick up medicine. After one month constructing facilities and training related staffs and pharmacists, the first Drive-Through Pharmacy Service in Taiwan was grand opened in Taipei Medical University Shuang-Ho Hos-
pital on July 1st 2011. We assess the efficacy of this device by utility rate and patient satisfaction. RESULTS: After starting the Drive-Through service, the utility rate raised from 17% to 47.4% dramatically. More than 80% of patients were satisfied with this innovate service. Patients needn’t to park vehicles, and wait in line for payment and receiving medication. Significant time and cost-savings benefits for patients by making an appointment of prescription refill via the internet or tele-
phone and by picking up medications in three minutes on that day. Comparing with traditional method that takes at least forty minutes to complete the whole process, the new service not only save patient’s time but also the parking fee. From pharmacist prospective, pharmacists dispense those ordered medication during midnight. In the day time, usually busier than midnight, we can then create more time to provide more advanced clinical service. Consequently, both patient and pharmacist are benefit from our Drive-Through Pharmacy service. CONCLUSIONS: Our innovate service, Drive-Through Pharmacy, provide patient a much easier, convenient, and cheaper way to pick up their medication. At the same time, phar-
macist has more time to provide more valuable pharmaceutical care.

PRM26
COMPARISON OF THREE MEDICATION ADHERENCE MEASURES IN PATIENTS TAKING WARFARIN
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OBJECTIVES: Assessments of adherence to warfarin therapy help improve pa-
patients’ warfarin-taking behavior and reduce mortality. This study aimed to com-
pare three medication adherence measures, i.e., the 8-item Morisky Medication Adherence Scale (MMAS), the 100-point Visual Analogue Scale (VAS), and phar-
macy refill rates, in patients taking warfarin in Singapore. METHODS: A cross-
sectional survey was conducted in a convenient sample of 174 patients taking warfarin at an anticoagulation clinic in Singapore in 2011. Respondents completed the MMAS and the VAS in Chinese or English depending on their preference. Phar-
macy refill rates for warfarin and International Normalized Ratio (INR) values were retrieved from hospital pharmacy databases. The associations among the three measures were examined by the Spearman correlation. Their associations with INR values were examined by the Spearman correlation and Mann-Whitney U test.
RESULTS: The mean (SD) of the MMAS, the VAS and pharmacy refill rates were 7.0 (1.1), 91.9 (10.8) and 0.9 (3.3), respectively. Using an 80% refill rate as the cut-off point, 85.1% of the respondents were adherent to their warfarin therapy. The MMAS scores were associated with VAS scores and pharmacy refill rates (p = 0.27 and 0.18; p <0.01 and 0.02, respectively). No association was found between the VAS scores and pharmacy refill rates. The MMAS and pharmacy refill rates were associated with the percentage of INRs within range in the past 2 weeks (p = 0.02 and 0.03, respectively). Moreover, pharmacy refill rates were associated with the percentage of time within the therapeutic INR range in the past 3 months and 2 weeks (p = 0.01 and 0.01; p < 0.01 and 0.05, respectively). CONCLUSIONS: Most of the patients on warfarin were adherent. Pharmacy refill rate may be a better mea-
sure for assessing adherence to warfarin and shows a stronger correlation with INR control than MMAS and VAS.