cations by clinical pharmacist. We use chi-square test to examine PIM incidence before and after the whole system intervention. Logistic regression to analyzed the relationship between PIM and relative risk factors. Patients’ characteristics such as gender, age, and drug category are analyzed by descriptive statistics and chi-square test. RESULTS: After the decision supporting system implementation, Beers Criteria related improper medication prescription rate were decreased (6.42% and 5.47%). The relationship between PIMs and gender, age, prescription division, before and after decision supporting system was implemented were no significant difference. Health Care, Oncology. PIM prescriptions rate were significantly decrease in all different department after the plan was intervention. The major PIM prescription items were Metoclopramide I, Jr, Lorazepam tab, Amiodarone tab. Desoxanox tab, Spirinolactone tab. PIM decision supporting system initiative suggest alternatives for PIMs in CPOD system. There were 71.4% accepted the suggestions. Otherwise, accepted pharmacists’ suggestions and adjust PIM were 92.5%. CONCLUSIONS: Drug decision-supporting system and pharmacists’ intervention among the elderly patients in Khyber Pakhtunkhwa. The decision supporting system can decrease PIM prescriptions. The efficacy of Beers criteria medication guidelines and the decision-supporting system applied to the elderly out-patient should be confirmed by further studies.

PH312 ASSESSING THE IMPACT OF PHARMACIST MALDISTRIBUTION ON SELF-REPORTED HEALTH IN RURAL AND URBAN COUNTIES IN THE US
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OBJECTIVES: To assess the impact of pharmacist maldistribution on self-reported health in rural and urban counties in the US. METHODS: Licensed pharmacists and the urban/rural county indicator were extracted from 2011 Area Health Resource File. We used a cross-sectional cohort study to extract individual-level variables including impaired physical/mental healthy days (within last 30 days), general health status (excellent to poor), age, gender, ethnicity, employment status, marital status, and multiracial background. Logistic regression was used to estimate the relative risk of pharmacists per 10,000 population and urban/rural county residence on the general health status, controlling for individual-level predictors. To dissect the distinctive impact of pharmacist supply on physical and mental health, a second correlated regression model was employed, controlling the same predictors. RESULTS: 1,489,522 county-level observations were obtained. Nationwide, rural pharmacist supply was 35% less than in urban counties. From the MLI, residing in a rural county, relative to urban, had 1.14 times greater the risk to report poor health, increasing one pharmacist per 10,000 population reduced the risk of reporting poor health by 3%, relative to excellent (p<0.001). From the SUR, residing in rural county increased impaired physical healthy days by 0.398, and by 0.177 impaired mental healthy days. Impaired mental healthy days increases for each one pharmacist per 10,000 population reduced the impaired physical healthy days by 0.037, and by 0.018 for impaired mental healthy days (p<0.001). CONCLUSIONS: The pharmacist maldistribution exacerbates the intra-country health disparities between urban/rural counties. Findings suggested the impact was greater on physical health compared with mental health.

PH313 PERSISTENCE IN HEALTH EXPENDITURES BY THE ELDERLY IN TAIWAN: PREDICTING THE TOP 10 USERS
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OBJECTIVES: The National Health Insurance system in Taiwan has implemented a capitation program recently and its payment formulas were based on prior-year expenditure. This study seeks to determine the extent of health expenditure persistence over a 2-year period and the percentages of decedents who were high users in the year of death. METHODS: This study analyzed National Health Insurance Data for a national sample of elders 65 years and older from Taiwan’s National Health Interview Survey, 2005. High users were defined as the top 10% users and the proportion of their aggregated health expenditures to total health expenditures was determined. A transition probability matrix and logit models were estimated to predict expenditure persistence over a 2-year period. RESULTS: The top 10% users accounted for 55% of total health expenditures. Of the top 10% users in 2005, 39% retained this position in 2006. But expenditure persistence was the highest among the bottom 50% users, with 77% retained their position over 2 years. The percentage of decedents who were top 10% users was 54% in the year of death and 31% in the year preceding death. Prior expenditures and comorbidity burdens were the strongest predictors of persistence. CONCLUSIONS: Taiwan’s National Health Insurance capitation payment formulas based on prior expenditures do not reflect the fluctuation in expenditure persistence among the highest users so that cost percentile ranks should also be considered for payment adjustments.

PH314 COMMUNITY PHARMACISTS ATTITUDE AND PERCEIVED NEED TOWARDS THE PHARMACOECONOMIC ASPECT OF PHARMACY CARE SERVICES: A QUALITATIVE APPROACH
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OBJECTIVES: The main objective of this study is to assess the perception of community pharmacist regarding quality of pharmaceutical care services in Khyber Pakhtunkhwa, Pakistan. METHODS: A qualitative study design was adopted, for identifying the Quality of pharmaceutical care services and techniques used. A semi-structured interview guide was developed and face to face interviews were conducted until point of saturation has reached. Twelve community pharmacists were interviewed from December to February 2014 from different cities of Khyber Pakhtunkhwa, Pakistan. The interviews were conducted at the community pharmacy. Written consent was obtained from the participants prior to the interview. RESULTS: Among the respondents, Thematic content analysis yielded 4 major themes: (a) Lack of documentation, (b) Improper patient counseling, (c) Unavailability of pharmaceutical care guidelines, (d) Lack of collaboration with other health care providers. CONCLUSIONS: This study concludes that community pharmacists were not very familiar and in providing pharmaceutical care to the patients. Documentation and patient counseling is also very poor due to lack of enough time and no financial encouragement. There is also no effective professional relationship of community pharmacists with other health care providers.

PH335 NURSES’ PERCEPTION TOWARDS THE BENEFITS OF PHARMACEUTICAL CARE SERVICE IN TERTIARY HEALTH CARE SETTINGS: A QUALITATIVE INSIGHT
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OBJECTIVES: To explore the perception of nurses regarding quality of pharmaceutical care services in Khyber Pakhtunkhwa, Pakistan. METHODS: Qualitative method was used for the data collection. Purposive sampling technique was adopted for which a semi-structured interview guide was developed and face to face interviews were conducted. The participants were eighteen nurses who were interviewed in tertiary health care settings in Khyber Pakhtunkhwa province of Pakistan from January to February 2014. The interviews conducted were based on saturation point. Written consent was obtained from the participants prior to the interview. RESULTS: Thematic content analysis yielded 5 major themes: (a) Incongruence of pharmaceutical care, (b) Collaboration of nurses & pharmacists, (c) Improper distribution system, (d) Lack of provision of patient counseling, (e) Pharmacists reducing the prescribing errors. CONCLUSIONS: The findings suggest nurses are unaware of the term pharmaceutical care, so there is a need to arrange pharmaceutical care awareness programs for health care providers as well as patients. Moreover nurses in Pakistan have positive perception towards pharmacist involvement in direct patient care. According to majority of nurses, pharmacist should enhance their workload and can help them in improvement of their knowledge regarding drugs.

PH336 AN ECOLOGICAL ANALYSIS ON NATIONAL TRENDS AND CORRELATION BETWEEN PUBLIC FUNDING FOR PNEUMOCOCCAL VACCINATION AND PNEUMONIA DISEASE BURDEN IN THE JAPANESE ELDERLY POPULATION, 2005-2012
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OBJECTIVES: To analyze the national trends and correlation between public funding for pneumococcal vaccination and pneumonia disease burden in the Japanese elderly population over 65. METHODS: Three vaccination funding indicators were developed. They are percentage of municipalities offering subsidies; percentage of elderly population covered by subsidies; average subsidies per elderly person. From the national statistics, two disease burden indicators were age-adjusted all-cause pneumonia mortality rate and hospitalization rate. All-cause pneumonia is defined by the ICD-10 code (J12-18). The standard age distribution is the 1985 national population. National trends and the correlation coefficients between the funding and disease burden indicators were examined. The Pearson correlation coefficient performed by SAS. RESULTS: The percentages of municipalities offering vaccination subsidies and coverage rates for elderly population increased from 14.22% in 2005 to 38.3% and 22.3% in 2012 respectively. The estimated average subsidies per elderly person increased too from 7 JPY in 2005 to 900 JPY in 2012. Conversely, pneumonia related mortality rate decreased from 9.2 per 100,000 in 2005 to 273 in 2012 per 100,000 in the elderly population. Similarly the hospitalization rate decreased from 98 per 100,000 in 2005, to 91 and 86, in 2008 and 2011 respectively in elderly population. The correlation coefficients of the three vaccination funding indicators with age-adjusted all-cause pneumonia mortality rate were -0.24, -0.31 and -0.27 respectively, and hospitalization rate -0.09, -0.16 and -0.19 respectively during 2005-2012. CONCLUSIONS: Pneumococcal vaccination has played an effective role in reducing the pneumonia burden in elderly population in Japan from 2005 to 2012. For vaccination to be fully protective, adequate public funding is necessary to promote and improve vaccination uptake in the target population. Further strengthening public funding policies and resources would be an effective way to reduce future national health care burden and expenditure due to pneumococcal diseases.

PH337 COMPARATIVE STUDY ON HEALTH RELATED QUALITY OF LIFE OF FARMERS AND WORKERS
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OBJECTIVES: To compare the health related quality of life (HRQOL) between farmers and workers and to study the factors influencing the differences. METHODS: We conducted a survey in Zhejiang province in 2015 by using EQ-5D questionnaire and applied EQ-5D questionnaire to assess the HRQOL by the face-to-face interview. Chi-square test and one-way ANOVA were used to identify the main affecting factors influencing the HRQOL of farmers and workers. RESULTS: Quality of life was differed by farmers and workers. The mean of EQ-5D index and EQ-VAS scores for farmers were 0.99 and 83.59 and for workers were 0.95 and 81.11 respectively. Male, age (16 to 20 years old or 53), low education (< g 6 yr), low-income (< GNY ¥1,000) and working conditions were the significant factors. CONCLUSIONS: The perceived health status of farmers and workers focused on the dimensions of Pain/Discomfort and Anxiety/Depression separately. CONCLUSIONS: To improve the HRQOL, it is important to pay attention to people’s mental health, in particularly to those such as men, low income, divorced or widowed people.