

Axon DR, Vanova J, Edel C, Slack M
University of Arizona, Tucson, AZ, USA

OBJECTIVES: To describe personal use, knowledge, and attitudes of pharmacy students toward herbal and dietary supplements and to compare students' use to general population use. **METHODS:** Paper questionnaires were administered to first, second and third year PharmD students asking students to identify dietary supplements that they had ever used, assessing their knowledge about adverse effects and indicated uses and attitudes. Ever use was compared to the 2007 National Health Interview survey findings. Logistic regression was performed to identify factors associated with dietary supplement use. **RESULTS:** There were 179 respondents (response rate 60%; 37% men; 78% aged 18-25). About half (52%) of students indicated they had ever used at least one herbal supplement; greater than the 25% use reported in the general population. The most commonly used supplement was fish oil/omega-3 (46%), followed by fiber/psyllium at 18%; use of all other listed supplements was less than 15% indicating low use of most dietary supplements among pharmacy students although about a third (38%) of students had used one or more of the other listed supplements. Students had limited knowledge about herbal and dietary supplements. The knowledge test average score was 50%; however third-year students scored significantly higher (61% correct) than first-year students (41% correct; $p < 0.001$). Students thought knowledge about herbal supplements was important, but their education was inadequate. Students generally rated dietary supplements as 'not essential for health'. Logistic regression found the variables 'knowledge' and 'recommend to family or friends' ($p < 0.04$) were associated with use. **CONCLUSIONS:** Generally, pharmacy students did not use many dietary/herbal supplements; exceptions were fish oil/omega-3 and fiber/psyllium. Students had limited knowledge of dietary supplements and suggested more education was needed. Herbal supplements were not considered essential for health. Logistic regression indicated that students with greater knowledge of herbal/dietary supplements were more likely to use them.

PHP44

THE EVALUATION OF GENERIC MANUFACTURERS' PRODUCT CHARACTERISTICS IN MAJOR MTM CHRONIC DISEASE MEDICATION CLASSES: A POTENTIAL SOURCE OF NON-ADHERENCE

Matuszewski KA, Kapusnik-Uner J, Man M, Pardini R, Suko J
First Databank, South San Francisco, CA, USA

OBJECTIVES: To characterize the variance in appearance and costs of 16 oral solid generic medications in four major chronic disease/drug management classes. **METHODS:** A commercial drug knowledge database was used to identify frequently prescribed oral solid medications that have at least 3 manufacturer sources (excluding repackagers and relabelers) for calendar year 2014. Four drugs from each of the following chronic therapeutic classes were evaluated; 1) antidiabetics (glyburide 5mg, metformin 500mg, acarbose 50mg, glipizide 10mg); 2) statins (simvastatin 40mg, pravastatin 40mg, atorvastatin 40mg, lovastatin 20mg); 3) beta blockers (metoprolol 100mg, atenolol 50mg, carvedilol 25mg, labetalol 100mg); and 4) heart failure drugs (amlodipine 10mg, losartan 50mg, lisinopril 10mg, valsartan 40mg). These classes were chosen because they are included in CMS MTM quality measures. The physical appearance (color, shape, scoring, and size), identifying imprint, and price (WAC) for each manufacturer's identical strength product was assessed as to similarity to the other generic versions. **RESULTS:** Database review obtained the following number of manufacturers per class: antidiabetics=43; statins=39; beta blockers=38; and heart failure agents=53. Overall, for all 16 drugs across all 4 disease states, there was an average of 3 different colors, 2 different shapes, 11 manufacturers, and 4 different images. Individually drugs varied from no differences to 8 differences, with color and shape equally contributing to variation ($n=8$ for >2 colors and >2 shapes). Differences in dosage scoring and size were minor. **CONCLUSIONS:** There are multiple sources of medications for four chronic conditions. With substantial appearance variation among several generically equivalent products, there is strong possibility that a patient may experience a future drug product switch that could increase the likelihood of significant non-adherence, and ultimately result in adverse disease outcomes through discontinuation of prescribed therapy. Pill appearance variation highlights a potential important focus for future chronic disease/medication therapy management.

PHP45

POTENTIALLY INAPPROPRIATE MEDICATION USE IN US OLDER ADULTS: PREVALENCE AND HEALTH CARE EXPENDITURES 2012-2013

Paliwal Y, Shah A, Slattum P
Virginia Commonwealth University, Richmond, VA, USA

OBJECTIVES: Prescribing potentially inappropriate medications (PIMs) as first-line treatment for older adults has been a major safety concern as PIMs use have been associated with negative health outcomes. Our primary objective was to determine the prevalence of PIMs among U.S. older adults. The secondary objective was to estimate the total and different types of healthcare expenditures associated with PIMs use. **METHODS:** A retrospective cohort study with patients over age 65 was conducted using Medical Expenditures Panel Survey (MEPS) data for the years 2012 ($N = 112,154$) and 2013 ($N = 110,072$). The prevalence for each year was evaluated using the updated 2015 Beer's criteria. As MEPS doesn't have sufficient details on daily drug dosage, frequency, and duration of administration, our analysis included only 21 out of the 38 listed drugs in the diagnosis-independent criteria. All our analyses accounted for the complex sampling design. **RESULTS:** The prevalence of PIMs among US older adults was 5.5% for 2012 and 4.6% for 2013. Amongst all the drug classes, PIMs prevalence was highest for the class of CNS-active drugs users (1.3% for 2012, 1% for 2013). PIMs use was found to be highest among 65-74 followed by 75-84 and 85+ age group. The average annual total healthcare expenditure per PIMs user was \$12,969 (95% CI: 11113, 14825) in 2012 and \$14,536 (95% CI: 12254, 16818) in 2013. Amongst types of expenditures, prescription, inpatient, and outpatient visits accounted for almost 80% of the total expenditures, while emergency and other expenditures were less than 20% for both years. **CONCLUSIONS:** This study found the prevalence for PIMs users

among community dwelling older adults using most updated beers criteria and for the recent years. Using this criteria, we found that prevalence decreased by almost 1% for the year 2013 in comparison to the previous year.

PHP46

FACTORS ASSOCIATED WITH HAVING PRESCRIPTION DRUG FILLS AMONG MEMBERS OF QUALIFIED HEALTH PLANS

Hunsberger JC, Pulungan Z, Parente A, Teigland C
Avalere Health - An Inovalon Company, Bowie, MD, USA

OBJECTIVES: To determine factors associated with having one or more prescription drug fills (PDFs) in members of qualified health plans (QHPs). **METHODS:** This study used a large nationally representative administrative claims database supplemented with socioeconomic and community resource data. The sample consisted of 1,823,677 members of QHPs who were enrolled for ≥ 10 months in 2014. Logistic regression was used to determine factors associated with having PDFs. **RESULTS:** A total of 1,230,981 (67.5%) members had ≥ 1 PDF during the study period. Living in a neighborhood with higher education levels (i.e., percent population with at least bachelor's degree) was associated with higher likelihood of having PDFs (OR: 1.04-1.12; reference: 0-12%). Lower median household income was associated with lower likelihood of having PDFs (OR: 0.73-0.90; reference \$100,000+). Members from neighborhoods with a higher proportion of non-white race/ethnicities were less likely to have PDFs (non-Hispanic black, OR=0.80; Hispanic, OR=0.95; Asian, OR=0.58). Compared to Silver plan members, members of Gold plans were more likely to have PDFs (OR=1.07); but members of Platinum, Bronze, and Catastrophic plans were less likely to have PDFs (OR: 0.95, 0.65 and 0.83, respectively). Individual plan enrollment was associated with higher likelihood of having PDFs (OR=1.10), while on-exchange plan enrollment was associated with lower likelihood (OR=0.87). Other factors associated with lower likelihood of having PDFs were being male (OR=0.62); younger age (OR: 0.55-0.71; reference: 31-65); and living in a non-metropolitan area (OR: 0.89-0.95). **CONCLUSIONS:** This study provides evidence that the likelihood of having PDFs varies across member and plan characteristics, even after controlling for patient severity. Assuring appropriate treatment and adherence to medications for chronic conditions is inherent to achieving good health outcomes, thus it is important that QHPs identify and understand factors associated with lower likelihood of filling prescriptions in order to develop targeted interventions to achieve the most optimal outcomes in their members.

HEALTH CARE USE & POLICY STUDIES – Equity and Access

PHP47

EXAMINATION OF EQUITY IN THE DELIVERY OF PERSONALISED MEDICINES

Martin AP, Haycox A, Downing J, Alfirevic A, Pirmohamed M
University of Liverpool, Liverpool, UK

OBJECTIVES: The remit of this review is to appraise considerations of equity in the delivery of personalised medicines. The aim of the review was to analyse evidence relating to the assessment of the effects of personalised medicines not aimed at reducing inequity but where it is important to understand the effects on equity in terms of delivery of care. **METHODS:** The scope was informed by the Campbell and Cochrane Equity Methods Group and the Cochrane Public Health Group who recommend the PROGRESS-Plus approach to analyse health inequality information. PROGRESS-Plus is an acronym for place of residence, race/ethnicity/culture/language/occupation/, gender/sex, religion, socioeconomic status and social capital and "Plus" captures other characteristics which may indicate a disadvantage, such as age and disability. The categories of focus for identification of factors which may lead to health inequalities in our analysis include income, occupation, education, gender, ethnicity and age. A total of 202 personalised medicines with differing approvals between EMA, FDA, PMDA and HCSC were considered and studies grouped according to therapeutic area. A hypothesis testing approach using a harvest plot was chosen to assess which of three competing hypotheses; positive social gradient, negative social gradient and no gradient is best supported by each study for each dimension of inequality. **RESULTS:** Findings of health inequalities will be synthesized by presenting relative and absolute differences between groups. Using a harvest plot, a positive social gradient in effectiveness was defined as a situation in which the personalised medicine was more effective in more advantaged groups whereas a negative social gradient in effectiveness was defined as a situation in which a personalised medicine was more effective in disadvantaged groups. **CONCLUSIONS:** The review aims to identify evidence of personalised medicines with a negative social gradient to inform policies to reduce inequalities in health and also highlight gaps in evidence.

PHP49

DOES SOCIETY WISH TO PLACE GREATER WEIGHT ON A UNIT OF HEALTH GAIN FOR END-OF-LIFE PATIENTS THAN ON THAT FOR OTHER TYPES OF PATIENTS?

Shah K
Office of Health Economics, London, UK

OBJECTIVES: The debate on whether health gains should be weighted differently for different patient groups has focused recently on the relative value of treatments for patients with short life expectancy. It is unclear whether society is prepared to fund end-of-life treatments that would not meet the reimbursement criteria used for other treatments. Our objective is to review the empirical evidence in the published literature relevant to the following research question: Do members of the general public wish to place greater weight on a unit of health gain for end-of-life patients than on that for other types of patients? **METHODS:** A systematic approach was used to identify and select data for the review. We conducted a keyword search of the Social Sciences Citation Index (aided by an innovative approach to 'searching for search terms'), with follow-up of references to obtain additional data. Hierarchical criteria were applied to select empirical studies reporting stated preferences relating to hypothetical health care priority-setting contexts. **RESULTS:** Seventeen studies