all the four nationwide datasets together at the end of the study period, the most common drug used in children were theophylline (ATC group J01), ophthalmologicals (S01) and drugs for obstructive airway diseases (R03). The most common individual drugs were theophylline, oxymetholone, and salbutamol. The drug consumption increased remarkably at the age of one year, decreased then by school age. Drugs were more commonly used in boys than in girls, but this difference vanished along age. The use of psychoanaleptics, methyphenidate in particular, increased in all countries during the study period. Also, new diagnoses became more common. Decrease systemic use among antiepileptic, antiinflammatory and antirheumatic drugs. No remarkable between-country differences were observed within this cohort of about 4.4 million children. We saw, however, some differences in practices to prescribe drugs used for allergic symptoms. CONCLUSIONS: The national registers in the Nordic countries have exquisite potential as data sources for high quality and cost-effective pharma-coepidemiological studies. We indicated that Nordic citizens form an outstanding large group for one common use for our future plans to aim survey of concomitantly used drugs in children.

PH77  
ANTI-DEMENTIA MEDICINE DISPENSING PATTERNS: A COMMUNITY PHARMACY DATABASE ANALYSIS  
Truter I  
Nelson Mandela Metropolitan University, Port Elizabeth, South Africa

OBJECTIVES: Studies reporting on the prescribing patterns of anti-dementia medi-cine in South Africa are scarce and most studies have been conducted on medical aid claims databases. The primary aim of this study was to determine the dispensing pattern of anti-dementia drugs that only partly use a community perspective. METHODS: A retrospective pharacoepidemiological study was con-ducted on community pharmacy dispensing records in South Africa for 2013. All products in ATC groups R03 (315706) were extracted from 12 307 products were dispensed to 2 244 patients. The average age of patients was 72.83 (SD=13.30) years. Slightly more males (53.07%) were prescribed anti-dementia products compared to females (55.68% of this study). The most common anti-dementia drug was donepezil slightly older than female patients (74.40 versus 71.05 years). Four different active ingredients were prescribed, with donepezil the most often dispensed (61.58%), followed by memantine (27.81%). Only 1 278 prescriptions for galantamine were dispensed, and 27 prescriptions for rivastigmine. Rivastigmine was on average the most expensive per prescription (R856.68), followed by galantamine (R713.22), entacapone (R552.79), and Donepezil (R303.30). Donepezil was the only active ingredi-ent with a generic equivalent (the average cost of the branded generic product was R303.58, compared to R485.72 for the originator product). Only 76.38% of products were partly or fully claimed from various medical aid schemes, the rest were paid

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0.05) and

0.001).

PH78  
INAPPROPRIATE DRUG PRESCRIPTION: STILL ON-GOING AMONG MALAYSIAN OLDER ADULTS  
Kashyap M, Rajappagari SR, Loon EK, Moon GP, Suderanjan D  
AMST University, Semeling, Malaysia

OBJECTIVES: Deviations in the healthcare system and availability of sev-eral guidelines for appropriate prescribing, inappropriate drug prescription remains a noteworthy problem among older adults. Therefore, this study designed to identify inappropriate drug prescriptions and their predictors in older adults. METHODS: Prospective cohort study included 142 outpatients aged 60 years or over, of both sexes. Identified inappropriate drug prescription using the Modified Updated AGS Beers Criteria 2012 and also identified associated predictors. RESULTS: The patients had an average age (SD) of 69.8±4.7 years and on an average (±SD) were prescribed 4.7±1.6 medications. Twenty three patients received at least one inappropriate drug prescription (16.2%). 29 potentially inappropriate drugs were identified in 142 patients. Therefore, the total inappropriate drug use was found to be 20.42% (29/142). The most common inappropriate classes/drugs according to the first list of AGS Beers criteria 2012 were aspirin, prazosin, diclofenac, methylprednisolone and dipyridamole. According to the second list were prazosin in sequence, followed by aspirin in bleeding and chlordenaramine in chronic constipation. Increased inappropriate prescription was likely to be associated with patients with a advanced age of ≥74 years (OR:2.5; p<0.05) and number of diagnosis (OR:2.38; p<0.05). CONCLUSIONS: The assessment of inappro-priate drug prescription has shown a lower prevalence (16.2%) as compared with other countries (up to 87%). Although lower prevalence, drug monitoring and educa-tion to physicians, other healthcare professionals and patients required to reduce inappropriate drug prescription to avoid any adverse effects among older patients. Deep understanding in the healthcare system and availability of several guidelines for appropriate prescribing, inappropriate drug prescription remains noteworthy problem among older adults. Therefore, this study designed to identify inappropriate drug prescriptions and their predictors in older adults.

PH79  
CHARACTERISTICS OF GERIATRIC PATIENTS DIAGNOSED WITH MULTIPLE SCLEROSIS TAKING DISEASE MODIFYING AGENTS IN THE UNITED STATES  
Greene N1, Greene M2  
1MCPH University, Medford, MA, USA, 2Georgia State University, Medford, MA, USA

OBJECTIVES: Understanding the heterogeneous characteristics of multiple sclerosis (MS) patients is not properly studied in the past. The objective of this study is to assess the characteristics of geriatric patients diagnosed with MS and taking dis-case modifying agents (DMT) in the US. METHODS: A large US administrative retrospective claims database was used to identify patients diagnosed with MS and were prescribed DMTs between January 2010 to December 2012 were included in the study. All patients were ≥ 65 years of age and continuously enrolled in the same health plan for at least one year. Descriptive and comparative analysis were performed on the data and statistical significance level was set a priori at 0.05. RESULTS: There were a total of 88,921 patients that met the study inclusion criteria, 67,335 (75.9%) were female, mean age was 68.2±5.9 years, and majority of the patients were between 65 and 75 years of age (95.4%). Thirty five percentage of the patients were from Midwest, 31.6% were from East, 22% from south and 11.4% from West of the USA. Majority (66.9%) of the patients was taking subcutaneous DMTs. The 31.2% were taking oral DMTs (p<0.001). 48.8% of the patients was under a group coverage, 58.8% of the patients was taking a DMT that was under their health plan formulary with a significant variation among the groups (p<0.001). The cost of subcutaneous DMTs was 33.6±16.1 with a significant difference between the three groups (p<0.001). Females enrolled continuously 5.5 ± 3.4 years with mean total number claims of 637±504.7 during the study period. CONCLUSIONS: Majority of the patients taking DMTs was females and was between 65 and 75 years of age. Most of the patients were taking subcutaneous injections compared to other forms of DMTs.

PH80  
ROLE OF PUPPET PLAYS IN IMPROVING CHILDREN’S KNOWLEDGE ABOUT HAND WASHING AND USING NORMAL SALINE TO RINSE NOSE AND THROAT  
Mohammadhosseini N1, Abdolghaffari AH2, Mohebi S3, Mahdaviani M4  
1National Committee on Rational Drug Use, Tehran, Iran, 2Tehran University of Medical Sciences, Tehran, Iran, 3FASA University of Medical Sciences, Fasa, Iran

OBJECTIVES: According to the IRAN NCRUIM (National Committee Rational Use of Medicine) reports, assuming each prescription as an individual patient, 45% of patients received antibiotics. Decreasing of infections in the school community by improving of hygiene lead to decrement of consumption of antibiotics in children. The present study aimed to assess the impact of the orientation of the puppet plays in improving children’s knowledge about hand washing and using normal saline to Rinse nose and throat to decrease the spread of infection and unnecessary antibiotic use. METHODS: Evaluation was undertaken with 4 grade students (120 students) in primary school of Fasa. 200 Students were divided in 5 groups which each groups contain 40 students. During the experiment, 2 puppet shows were used in one day. Then Students were required to complete identical knowledge questionnaires at two time points (before, and immediately after puppet show), to assess knowledge change. The questionnaires had 4 type questions include: group 1 about story, group 2 about hand washing, group 3 about how to use normal saline and group 4 about rational use of medicine. RESULTS: Our results demonstrated a significant improvement in students knowledge after puppet plays (P<0.0001). CONCLUSIONS: Although the puppet plays have significant improve in knowledge of the students, modifications are needed in puppet plays for more achievement.

PH81  
THE DRIVERS OF FACILITY-BASED IMMUNIZATION PERFORMANCE AND COSTS: AN APPLIcation TO MODLOVDA  
Maceira D  
Center for the Study of State and Society (CEDES), Buenos Aires, Argentina

OBJECTIVES: This paper identifies factors that affect immunization program and performance of the routine immunization program in Moldova through an analysis of facility-based data collected as part of a multi-country costing and financing study of routine immunization programs in Eastern Europe and the former Soviet Union (EPRIC). 2012 was selected as a reference year. The study was based on self-report of health care facilities (56) selected through multi-stage, stratified random sampling. Data on inputs, unit prices and facility outputs were collected during October 3rd 2012–January 14th 2013 using a pre-tested structured questionnaire. Ordinary least square (OLS) regression analysis was performed to determine factors affecting facility out-puts (number of doses administered and fully immunized children) and explaining variation in total facility costs. RESULTS: The study found that the number of working days, vaccine wastage rates, and whether or not a doctor worked at a facility (among other factors) were positively and significantly associated with output levels. In addition, the level of output, price of inputs and share of the population with university education were significantly associated with higher facility costs. A 1% increase in fully immunized child would increase total cost by 0.7%. CONCLUSIONS: Few costing studies of primary health care services in developing countries evaluate the drivers of performance and cost. This exercise attempted to fill this knowledge gap and helped to identify organizational and managerial factors at a primary care district and national level that could be addressed by improved program manage-ment aimed at improved performance.

PH82  
PSYCHIATRIC HEALTHCARE UTILIZATION AND RELATED COSTS IN NEWLY DIAGNOSED INDIVIDUALS WITH AUTISM SPECTRUM DISORDER (ASD) IN QUEBEC (CANADA)  
Perreault S1, Croteau C1, Mottron L1, Tarride J1, Doria M1  
1Université de Montréal, Montréal, QC, Canada, 2Université de Montréal, Montreal, QC, Canada, 3McMaster University, Hamilton, ON, Canada

OBJECTIVES: Characterize the temporal course of psychiatric healthcare utilization and related costs in a cohort of newly diagnosed ASD individuals. METHODS: A cohort was built using RAMQ databases. Newly diagnosed subjects with ASD were selected by applying the following criteria: (1) the diagnosis of an ASD was made between 1998 and December 2010. Cohort entry was the date of first diagnosis confirmed by absence of ASD diagnosis in previous 5 years. Participants aged ≥ 26 years, those without full RAMQ drug plan coverage for 5 years after cohort entry, or not covered in the year preceding cohort entry were excluded. Demographic and clinical characte-