

the ACTs were the most dominant categories accounting for over 70% of market volume. SPs were the cheaper and most popular agents particularly in PMVs while the ACTs were the most prescribed agents dominant in retail pharmacies. Prices of the drugs ranged from \$0.13 to \$8.17 per adult oral dose. ACTs were the most expensive antimalarials with a median price of \$5.23 (\$1.83 - \$8.17) in a country where over 50% of the population lives below \$2 a day, making them unaffordable for majority of the low-income population. **CONCLUSIONS:** The use of ACTs has become very significant, but still below the required policy level as the drugs of choice in malaria treatment, limited by high prices and inadequate information. Results confirm that in many countries access to ACTs is hindered by unaffordable prices for majority of the population in addition to limited information on their relative efficiency in malaria treatment. Procurement is the most determinant of high cost, making it the key policy target for price reduction for improved affordability. Hence the expected impact of the AmFm will certainly boost access to the ACTs and would significantly change study findings

## PIN94

## VACCINATION COVERAGE IN COLOMBIA, OPPORTUNITY AND FACTORS ASSOCIATED: RESULTS FROM A NATIONAL SURVEY

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**OBJECTIVES:** To estimate the coverage of the Expanded Programme on Immunization among children  $\leq 5$  years old in Colombia, to evaluate the opportunity of vaccination, and to identify factors associated with low coverage. **METHODS:** We conducted a cross-sectional survey in 80 municipalities of Colombia, with census block groups as primary sampling units, and blocks as secondary units. We identified all children in the targeted age group living in the sampled blocks, and asked their caregivers to provide children's immunization record cards, when available. We also collected basic socio-demographic information. All procedures adhered to international guidelines on ethical conduct of research, and were approved by the IRB at the National University of Colombia, School of Medicine. **RESULTS:** Estimated coverage was good for vaccines scheduled during the first 15 months of life: BCG 93.2% (95%CI: 92-94.4), DTP/Hib/HepB 89.6% (87.8-91.5), MMR 92.5% (90.8-94.2), yellow fever 89.5% (87.1-91.8); but was lower among older children: DTP first booster dose 85.1% (83.4-86.7), second booster dose 63.7% (57.3-70.2); MMR booster dose 52.9% (46.4-59.4). Opportunity of vaccination showed poorer results: for instance, timely administration of DTP/Hib/HepB occurred in only 44.2% of the children evaluated (41.4-47.1), and MMR in 71.2% (68.9-73.4). Higher socioeconomic status, time living in the municipality, mother's years of school completed, and affiliation to social security were associated with better vaccine coverage ( $p < 0.001$ ); children of internally displaced families, children pertaining to a minority, and those coming from families with greater number of siblings had lower coverage. **CONCLUSIONS:** Vaccination coverage in children  $< 15$  months meets the WHO goal of 90%, or is very close to it, though coverage in older children falls below that goal. Delayed immunization is a common problem in Colombia, which may result in reduced protection. There are few modifiable factors associated with low coverage, though the identification of vulnerable populations may help to improve the reach of immunization programs.

## PIN95

## INVESTIGATING RATIONAL USE OF PRESCRIPTION DRUGS IN SAUDI MINISTRY OF HEALTH HOSPITALS USING WORLD HEALTH ORGANIZATION LEVEL-II INDICATORS; DOES THE PHARMACY AND THERAPEUTICS COMMITTEE HAVE AN IMPACT?

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**OBJECTIVES:** Investigate rational use of prescription drugs in Ministry of Health (MOH) in Saudi Arabia, using WHO level II indicators, and whether these measures are related to Pharmacy and Therapeutics Committee (P&TC) development level. **METHODS:** The study used retrospective data collected during 2003 from cross-sectional survey and prescriptions audit of 19 different outpatient settings of MOH hospitals in rural and urban areas; because of the scope of the study, we tested only 1 out of 12 indicators of WHO core drug use level II indicators (WHO/DAP/93.1); namely, the number of encounters with antibiotic prescribed. Binary logistic regression technique was used to test the likelihood of antibiotics prescribing across hospital and patient characteristics. **RESULTS:** Of 2850 patients, the average number of drugs prescribed per encounter was 2.41 higher than recommended target of WHO ( $< 2$ ); In hospitals serving urban areas, the antibiotics prescribing rates were 21.5% and 37.5% of total encounters in urban and rural hospitals respectively (WHO recommended target ( $< 30\%$ )). Antibiotics utilization was significantly higher in rural areas and in hospitals with undeveloped P&TC. The likelihood of antibiotics prescribing was 1.298 in hospitals with undeveloped P&TC compared to developed P&TC, 2.550 for rural compared to urban areas, 1.390 for male patients, 4.462 for patient from ( $\leq 1$ ) year, 5.412 for patients (2-4) years, 4.015 for patients (5-14) years, 1.439 for patients (15-44) years. **CONCLUSIONS:** The data demonstrated that irrational use of medicines might exist in MOH hospitals, antibiotics overutilization in rural hospitals is an indication of it. The irrational prescribing might be associated with geographic areas, particularly, at hospitals serving rural areas. Furthermore, lack of effective P&TC might contribute to irrational prescribing in hospitals serving both urban and rural areas. Adoption of effective formulary system is recommended including adopting effective P&TC and strict guidelines and monitoring of antibiotic use to mitigate the risk of antibiotics resistance.

## PIN96

## THE IMPACT OF PSYCHIATRIC COMORBIDITIES ON THE TREATMENT OF HEPATITIS C VIRUS

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**OBJECTIVES:** The potential for neuropsychiatric side effects may be a treatment barrier for hepatitis C virus (HCV) patients with psychiatric comorbidities. This study's primary objective was to compare medication treatment rates among HCV patients with and without psychiatric comorbidities. A secondary objective was assessing the impact of selection criteria on results. **METHODS:** Adult Medicaid beneficiaries with HCV (ICD-9-CM 070.44, 070.54) from July 1, 2009 through June 30, 2011 and no interferon alpha (INF- $\alpha$ ) treatment 6 months prior were identified using Truven Health MarketScan<sup>®</sup> Treatment Pathways. Patients without 6 months pre/post enrollment and a confirmatory HCV diagnosis were excluded. Post-index treatment rates given pre-index psychiatric comorbidity were calculated. Sensitivity analyses were performed, dropping the confirmatory diagnosis requirement and using a broader HCV diagnosis list (070.41, 070.44, 070.51, 070.54, 070.7x). **RESULTS:** Psychiatric comorbidities measured in the sample ( $n=5,083$ ) were alcohol abuse (16.6%), anxiety (20.3%), mood disorders (38.0%), schizophrenia (8.0%), and substance abuse (21.1%). Overall, 13.8% were treated with conventional or pegylated INF- $\alpha$ , most along with ribavirin. Protease inhibitor utilization (approved for HCV in 2011) was  $< 1\%$ . Alcohol abuse was associated with lower INF- $\alpha$  treatment rates (9.5% vs. 14.6%,  $p < 0.001$ ). Anxiety (15.9% vs. 13.2%,  $p = 0.025$ ) and mood disorder (15.1% vs. 13.0%,  $p = 0.038$ ) patients had higher rates, compared to patients without these comorbidities. Alcohol abuse and anxiety trends were similar after dropping the confirmatory diagnosis requirement ( $n = 10,335$ ), but mood disorder was no longer significant. Using the broader diagnosis list ( $n = 9,004$ ), alcohol abuse (5.4% vs. 8.1%,  $p < 0.001$ ), schizophrenia (5.5% vs. 7.9%,  $p = 0.017$ ), and substance abuse (6.3% vs. 8.1%,  $p = 0.009$ ) were associated with lower treatment rates; anxiety and mood disorder had no significant effect. **CONCLUSIONS:** Psychiatric comorbidities were prevalent among HCV patients. Some comorbidities were associated with increased INF- $\alpha$  treatment rates, contrary to expectations. Minor sample selection changes impacted results, suggesting a need to carefully consider inclusion/exclusion criteria.

## PIN97

## COMORBID RISK AND CORRELATES OF PNEUMOCOCCAL VACCINATION AMONG LATENT CLASSES OF OLDER ADULTS IN THE CROSS-SECTIONAL NATIONAL HEALTH AND WELLNESS SURVEY IN BRAZIL

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**OBJECTIVES:** To investigate predictors of pneumococcal polysaccharide vaccine (PPV) use across latent classes of older Brazilian adults, to understand characteristics associated with use in subpopulations with varying characteristics. **METHODS:** Data from the patient-reported, Internet-based 2011 National Health and Wellness Survey in Brazil ( $n=12,000$  adults) were used. Mixture modeling was applied to identify latent classes among respondents aged  $\geq 50$  based on sociodemographics, health attitudes and behaviors, and health care resource use. Logistic regressions predicted PPV use (ever vs. never) within classes, from covariates including moderate-risk comorbidities (chronic disease, immunocompetent), high risk status (immunocompromised), flu vaccination in past year, and parent/caregiver of a child receiving pneumococcal vaccination. **RESULTS:** Among 3,195 respondents  $\geq 50$ , two latent classes emerged. Class 1 (assigned  $n=1,981$ ) versus 2 ( $n=1,214$ ) respondents had higher adjusted odds of being educated beyond high school (OR=26.75), partnered (OR=2.29), insured (OR=2.08), male (OR=1.80), exercising (OR=1.09), overweight/obese (OR $\geq 1.18$ ), and wealthier (OR $\geq 1.81$ ), all  $p < 0.001$ ; they were also younger (Mean=56.2 vs. 72.5 years, respectively), visited traditional providers and the emergency room more frequently, and had higher physician-contact and lower prescription-avoidant attitudes, all  $p < 0.05$ . Class 1 (9.9%) versus 2 (6.9%) PPV use was higher, as were rates of heart and lung disease, smoking, and child vaccination, while flu vaccination was lower, all  $p < 0.05$ . In Class 1, child pneumococcal vaccination (OR=6.82), flu vaccination (OR=2.49), and chronic heart disease (OR=1.60) predicted PPV use, all  $p < 0.015$ . In Class 2, only child vaccination (OR=5.61) was significant,  $p = 0.029$ . **CONCLUSIONS:** In Brazil, child vaccination may be a population-wide predictor of adult PPV uptake. Among younger, more affluent respondents with better health care access and attitudes, higher PPV use was associated with flu vaccination and heart disease. Among remaining elderly respondents, PPV uptake was lower and not significantly associated with risk factors, suggesting the need for better risk-based access.

## PIN98

## DISPARITIES IN INITIATION OF HAART AND IN VIROLOGIC SUPPRESSION AMONG PATIENTS IN THE HIV OUTPATIENT STUDY (HOPS), 2000-2010

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**OBJECTIVES:** Improving and reducing disparities in time to HAART initiation and virologic suppression (VS) can assist in reducing U.S. human immunodeficiency virus (HIV) incidence. **METHODS:** Using data from ARV-naïve patients who enrolled in HOPS in 2000-2010  $\leq 6$  months of HIV diagnosis and attended  $\geq 2$  visits, we assessed temporal trends and correlates of initiating HAART and achieving VS ( $< 500$  copies/mL) via Kaplan-Meier curves and Cox proportional hazards models. **RESULTS:** Among 1,112 patients included in our analysis, patients were less likely to start HAART and achieve VS  $\leq 1$  year of diagnosis if they were