23.5%), and pharmacy records (n=7, 8.6%). Different versions of the Miskrey test were adapted (4-item, and 8-item). Other validated adherence questionnaires identified within the studies (with more than one occurrence) were: MAT (n=3) and MedTake (n=2). Pill counting, medical chart review, and serum drug determination were used in 4 studies each. None study used electronic monitoring of adherence.

**CONCLUSIONS:*** Data from the Italian studies indicate a variety of methods adopted by local researchers for measuring adherence to treatment. Indirect measures are more common, particularly those based on patients’ or caregivers’ perception of adherence behaviors. Most studies enrolled HIV/AIDS or hypertension patients. Other chronic conditions with long-term continuous oral therapies were underrepresented.

**PIH13**
**PROMETEX – PROMOVOZ, TOOL SUPPORT OF PHARMACEUTICAL CARE FOR THE SCOPE OF PROPER ADHESION IN COLOMBIA, 2009-2012**

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**OBJECTIVES:** To determine if the tool Prometex – Promovoz, helps in reducing the difficulty of the pharmacist to perform adherence counseling. METHODS: Prometex – Promovozis a tool for telephony (voice and text messages) you want, combined with other strategies, to maintain and increase drug compliance, remembering the exact times of taking medication. With prior consent, information is sent to all medications they are prescribed, coded for strictly personal interpretation and handling of confidential and bidirectional. A descriptive longitudinal, which includes users with at least two visits to Pharmacotherapy Monitoring, a pre and post-deployment of telephony tool. Demographic variables are analyzed and compared in an exploratory way in the same population type and amount of drug therapy use problems at the beginning and end of use of the tool. A total of 25.6% of patients had at least 1 drug therapy use problems during the first consultation of Pharmacotherapy Monitoring, a situation that changed after the use of Prometex – Promovoz, which decreased the proportion of patients with drug use problems from 16.7% to 15.9%.

A decrease between the two observations of 53.3% with a chi square (p<) of 9.56 and a p value of 0.002.

**CONCLUSIONS:** The tool Prometex – Promovoz appears to contribute to the decline in drug therapy use problems identified in the Pharmacotherapy Monitoring.

**PIH14**
**PATIENT-REPORTED OUTCOMES: ARE THEY WORTH IT? AN EXAMINATION IN PRO VALUE THROUGH CASE STUDIES**

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**OBJECTIVES:** Increasing competition, pressure from payers and greater regulatory constraints require pharmaceutical manufacturers to seek methods for product differentiation. One way of differentiating pharmaceuticals is in the generation of patient-centric value messages utilizing patient-reported-outcomes (PROs). PROs may be primary or nonprimary endpoints in clinical trials, and commercial use is typically dependent on PROs that support key endpoints and appear in labeling (US) or support product characteristics (EU) to support reimbursement. However, despite this obvious utility, the cost and logistical complexity of including PROs may deter clinical teams. The purpose of this research is to better understand the value of PROs to clinicians and to identify gaps in current labeling. METHODS: A detailed case study was conducted of three marketed products: ivacaftor, mirabegron, and botulinum type A. Selection of these products represents a range of therapeutic areas and may provide insight into the differing roles of PROs. For each product available US and EU labeling, a full text review of PROs, and review documents were analyzed. RESULTS: PROs were included in all three submissions. A PRO labeling claim was granted for a primary endpoint for mirabegron, and while claims for nonprimary PROs were denied, the review documents indicate that the decision for drug approval was supported by results of the nonprimary endpoints. Ivacaftor was granted a claim based on a nonprimary PRO endpoint, though the tool did not meet the specifications of the FDA’s PRO guidance.

Finally, health authorities recognized the impact on the health-related quality of life for botulinum type A for migraine in support of a positive appraisal.

**CONCLUSIONS:** The results of this review indicate that PROs included in clinical trials may have a strong influence on the drug approval process, regardless of whether a PRO labeling claim is ultimately granted. Further research is warranted.

**PIH15**
**THE PATIENT-REPORTED OUTCOMES MEASUREMENT INFORMATION SYSTEM IN SPANISH**

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**OBJECTIVES:** The Patient-Reported Outcomes Measurement Information System (PROMIS®) provides accurate and efficient measurement of patient-reported outcomes. The adapted or translated formats of the PROMIS® tool can be translated into Spanish using methods that would ensure linguistic equivalence and cultural appropriateness. The Spanish translation of 825 adult and 156 pediatric items was obtained through the FACIT Multilingual Translation Methodology which consists of the following 6 steps: 1) creation of the item definitions; 2) two simultaneous forward translations; 3) reconciliation of forward translations; 4) back-translation of reconciliation; 5) expert review of back-translation and previous steps; 6) preliminary validation for pilot-testing; 7) cross-cultural harmonization; 8) quality assurance; 9) cognitive testing with native speakers of Spanish, and 10) finalization of translations based on analysis of qualitative data collected during pilot-testing.

It was important to create a universal Spanish version, linguists from various Spanish-speaking countries were recruited to achieve a translation that could be used in all regions in which Spanish is spoken. RESULTS: After the translation phase was completed, psychometric testing was carried out. 485 adult items and 139 pediatric items were analyzed. RESULTS: Sensitivity analysis for the adult data indicated that the final dataset included 11 subdomains were selected for the Spanish PROMIS banks (4 adults and 1,200 children) from an online general population database. Different item banks exhibited various levels of differential item functioning (DIF) across Spanish and English speaking population. In order to retain all items in each bank, a hybrid approach was used in which English calibration metrics were used for non-DIF items and Spanish calibrations were used for items exhibiting DIF.

**CONCLUSIONS:** Computer Adaptive Tests (CATs) for Anxiety, Depression, Fatigue, Physical Functioning and Sleep Disturbance are currently available in Assessment Center (www.assessmentcenter.net).

**PIH17**
**PRELIMINARY RESULTS QUALITY OF LIFE, PHYSICAL ACTIVITY, AND SEDENTARY BEHAVIOR IN COLLEGE STUDENTS**

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**OBJECTIVES:** Being physically active is associated with reduced risk of chronic diseases. In this study we examined the associations of physical activity and sedentary behavior with perceived quality of life (QoL) in college students in Venezuela.

**METHODS:** A convenience sample of 64 students at Central University of Venezuela, ranging in age from 17 to 43 years was surveyed using a written questionnaire. Quality of life was measured using a single-item from the Health Survey on the QoL scale (SQoL) (13.0). Physical activity was assessed by the Spanish version of the International Physical Activity Questionnaire (IPAQ) and a visual analogue scale (VA-Q). The relationships between health status, physical activity, and sedentary behavior were estimated using Kendall’s τ correlation coefficients. RESULTS: The sample consisted of 41 females and 22 males. The sample had a mean age of 20.54 years (s.d. 3.99 years). Two subjects (3.2%) reported some problems with mobility; 9 subjects (4.8%) reported some problems with usual activity; 9 subjects (15.5%) reported some problems with pain. One subject (1.6%) reported extreme problems and 10 reported some problems with anxiety. Three subjects (4.8%) rated health status as fair or poor. Subjects reported doing vigorous physical activities on a mean of 2 days during the past week. Subjects reported spending a mean of 93.49 minutes during the past month. Subjects reported spending a mean of 301.31 minutes sitting during the past week. Neither physical activity nor sedentary behavior was associated with quality of life in our population.

**CONCLUSIONS:** Study limitations include the sample size and the use of a convenient sample. Overall, this exploratory study demonstrates that the quality of life of college students in Venezuela was good.

**INDIVIDUAL’S HEALTH – Health Care Use & Policy Studies**

**PIH18**
**COMPARISON ANALYSIS OF INEQUALITIES IN HEALTH AND INFLUENCE OF SOCIAL DETERMINANTS OF HEALTH IN CUBA AND USA**

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**OBJECTIVES:** Equity is a desirable goal for health systems performance and the potential to learn lessons from one another. The purpose of this study was to analyze comparably inequalities in health and the influence of social determinants of health in two countries with different social, economical and political contexts: Cuba and USA. METHODS: A comparative analysis of the main inequalities related to the performance of health systems: maternal mortality rate (MMR), infant mortality rate (IMR) and life expectancy at birth (LEB) using geopolitical unitary information from USA and Cuba in 2008 and through the computation of inequality indexes suggested in literature and statistical analysis. Also there were comparably analyzed the effects on these health indicators of three proxy indicators of social determinants of health (PSIDHs): percent of rural population (PRP), percent of non white population (PWN) and physicians rate (PHR), through the computation of effect indexes for significantly Pearson correlations. RESULTS: Cuba showed significantly higher inequality than USA in MMR; USA showed higher inequality in LEB, the inequality in IMR was statistically not different. The PRP was a risk factor for the LEB in USA but a protector factor in Cuba; PWN was a risk factor for MMR and IMR only in USA, although with low effect index; PHR was a risk factor for MMR in USA only; perhaps by higher correlation with another PSIDH. CONCLUSIONS: These important inequalities were identified in both countries. The PSIDHs´ analyzed affected health indicators principally in USA. Another economic PSIDHs´ are required for more detailed comparative analysis in the effects of PSIDHs in health inequalities. There are few comparative analyses of health systems in the literature that employ quantitative methodology as used in this study.

**PIH19**
**ATENCIÓN INTERCULTURAL DEL PARTE VAGINAL EN MÉXICO: COSTOS ECONÓMICOS, DETERMINANTES Y RETOS DE LA IMPLEMENTACIÓN DE LAS TÉCNICAS EFECTIVAS EN EL PARTE VAGINAL DE LAS MUJERES INDÍGENAS**

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**OBJECTIVES:** Estimar los costos de atención del parto vaginal en unidades del sector público de salud de Oaxaca y Chiapas, para dos modelos asistenciales alternativos (convencional e intercultural), durante 2008-2012 e identificar los principales determinantes de la implementación efectiva y puesta a escala de modelos interculturales de atención materna en beneficio de la población indígena. Vía de acceso para crear un nuevo servicio de atención de mujeres en 33 hospitales de Oaxaca y Chiapas, desarrollado por PROVEA y la Fundación Párvulos. El objetivo del estudio es estimar los costos de atención del parto vaginal en el sector público de salud de Oaxaca y Chiapas para dos modelos asistenciales alternativos (convencional e intercultural) durante 2008-2012 e identificar los principales determinantes de la implementación efectiva y puesta a escala de modelos interculturales de atención materna en beneficio de la población indígena.
**Infection – Clinical Outcomes Studies**

**PIN1**  
**DYNAMIC MODELING OF VECTOR-BORNE DISEASES (VBD): THE EXAMPLE OF MALARIA**  
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**BACKGROUND:** Malaria remains a major public health problem, particularly in sub-Saharan Africa. The World Health Organization (WHO) estimated that 219 million cases and 445,000 deaths occurred in 2016, with most cases in Africa. In this study, we develop a dynamic modeling approach to incorporate the transmission model of malaria, focusing on the impact of interventions, such as insecticide-treated bed nets, on disease incidence. The model is used to evaluate the effectiveness and cost-effectiveness of different malaria control strategies.  
**RESULTS:** The model shows that a combination of interventions, including insecticide-treated bed nets, can significantly reduce malaria incidence and deaths. The cost-effectiveness analysis indicates that insecticide-treated bed nets are cost-effective compared to individual interventions.  
**CONCLUSIONS:** The model provides a valuable tool for policymakers to evaluate the impact of different malaria control strategies. Future research could focus on incorporating the impact of vector control measures and the dynamics of malaria management in the model.

**PIN2**  
**ALTERNATIVE HIGH LEVEL DISINFECTANTS TO PROCESSING FLEXIBLE ENDOSCOPES**  
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**OBJECTIVES:** Endoscopes are expensive equipment, complex, thermo sensitive, delicate materials and submitted to high-level disinfection (HLD). The most commonly used disinfectant is glutaraldehyde (GLU) due to its high compatibility with the materials and low cost. However, evidence of toxicity to professionals and the identification of mycobacteria tolerant to GLU caused changes in Brazilian legislation on the issue, pressuring health services to search for alternative disinfectants. Search for evidence on the effectiveness, toxicity and potential damage to endoscopes by alternative disinfectants to GLU available in the Brazilian market.  
**METHODS:** The study sample was semi-critical endoscopes flexible (digestive, respiratory and cystoscope), the intervention was HLD with peracetic acid (PA), Ortho-Phthalaldehyde (OP) and Electrolyzed Acid Water (EAW), compared to GLU, with outcomes (HLD) effectiveness, toxicity and damage to equipment.  
**RESULTS:** We identified 822 publications (2008-2013) on 13 databases, 23 studies were selected considering the best quality of available evidence. As for effectiveness, the study found no difference between the intervention groups and the control group in terms of the expected endoscope performance metrics. Regarding toxicity, all evaluated disinfectants and acquired tolerance by GLU strain of Mycobacterium massiliense which caused an outbreak of infection with more than 2000 cases in Spain, and in the same period of time, all these disinfectants caused adverse events to only (no definitive causal relationship with the germicide used) and anaphylactic reactions by OP in cystoscope. There is lack of published data on damage caused in endoscopes by the disinfectants, the few studies on the theme indicate the importance of evaluating these ten years of experience with these disinfectants.  
**CONCLUSIONS:** The studies show superior performance of the PA and OP for efficacy in HLD. Only the OP clearly had adverse event related to their use. There is insufficient evidence in literature to assert the inferiority of some disinfectants for damage to equipment.

**PIN3**  
**EVIDENCE OF VARICELLA IN LATIN AMERICA: A SYSTEMATIC REVIEW AND CRITICAL ANALYSIS**  
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**OBJECTIVES:** Varicella is a common, vaccine-preventable illness with significant public health impact in Latin America (LA). This study aimed to review the epidemiology and economic burden of varicella, and to perform a critical analysis of available data in LA.  
**METHODS:** A comprehensive literature review was conducted in major databases and government websites to identify published data on epidemiology and economic burden of varicella in LA. Study data were extracted systematically including incidence rates, lifetime prevalence, mortality, type and rates of complications, as well as use of health care resources (hospitalizations, physician office visits, others) and both direct and indirect costs associated with varicella. Critical analyses of study quality and data availability are performed for each country.  
**RESULTS:** Published evidence of varicella incidence and costs were identified from Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Uruguay, and Venezuela. Annual incidence rates ranged from 20 per 100,000 in Uruguay to 381 per 100,000 in Mexico. Incidence was highest among children <10 years of age, bearing increased utilization of health care resources. Bimodal seasonal patterns of varicella were reported in Argentina, Mexico and Uruguay. Most frequent complications among hospitalized patients were skin and soft tissue infections, respiratory infections and neurological complications. Patients hospitalized for varicella stayed generally between 1-5 days. Critical analysis suggested that most published studies had limitations including data representativeness and study design issues. Data gaps in the epidemiologic and economic burden of varicella were found on the country level.  
**CONCLUSIONS:** Currently limited information available on burden of varicella in Latin America, potentially due to the lack of mandatory reporting and active surveillance systems for varicella in the region. Long-term specific epidemiologic information and varicella-related health care resource utilization data are needed to elucidate the disease burden for developing appropriate immunization recommendations and informing decision makers about the value of varicella vaccination.

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