

with inputs from an existing budget impact model, most of which were derived from interviews with 12 hospitals in Belgium, France, Germany, and the UK. The model was applied to estimate payer costs and clinical impact associated with six PN preparation methods. Data captured were ingredients, equipment, staff-time and PN associated nutrition errors, complications, and clinical events avoided or gained. PN preparation methods were manual or automated pharmacy, ward, industry, third party outsourced compounding and a pediatric 3CB system. Compounding error rate estimates of 37%, 22%, 37%, 1%, 1.7%, and 1%, respectively were derived from Flynn 1997 and Dickson 1993. Infection rate estimates of 0.66% PN-days for manual pharmacy compounding, which we increased by 10% with ward compounding, and decreased by 10% and 19% with outsourced compounding and industry/3CBs, respectively which were calculated from Hoang 2008. **RESULTS:** Of ~145,000 premature babies annually, across Germany, France and Italy, 52% are estimated to receive PN. Estimated, overall preparation method share is 30% manual and 17% automated pharmacy, 38% ward, 3% outsourced, 8% industry compounded and 3% pediatric 3CBs. By increasing the 3CB share by 10% to 13%, leading to 27%, 15%, 35%, 3%, and 7% distribution, respectively, an estimated 152 blood stream infections, 114 severe compounding errors, and 994 significant compounding errors may be avoided. Additionally, up to 16 pharmacists, 13 pharmacy assistants, 9 physicians and 20 nurses could be transferred to other important clinical responsibilities. The overall hospital budget impact, across all three countries, would decrease by € 10 million. **CONCLUSIONS:** Providing nutritional support to pre-term babies with pediatric 3CB would have substantial cost savings and clinical benefits.

#### PIH25

##### BE AWARE OF PEDIATRIC MALNUTRITION AT ADMISSION! ECONOMIC CONSEQUENCES OF DIFFERENT HOSPITAL SCREENING AND NUTRITIONAL TREATMENT APPROACHES.

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**OBJECTIVES:** Based on real world data, this analysis aims to investigate the prevalence of undetected malnutrition among pediatric inpatients, its economic consequences, and the potential of improved screening and treatment. **METHODS:** Based on data collected during the SIGENP-SIP project, Italian Pediatric Nutrition Day (II ed.), in 43 Italian pediatric hospital structures, distributed among 12 regions, for a total of 1350 patients, the proportion of children aged 2-8 years with moderate-to-severe malnutrition receiving no form of nutrition support was identified. According to the literature, untreated malnutrition associates with increases in the hospital Length Of Stay (LOS) of 64-105%. Other sources indicate that the treatment of this condition with Oral Nutrition Supports (ONS) is associated with a LOS decrease of about 15%. The impact of better screening and treatment of pediatric malnutrition procedures is estimated using these data and costs for diagnostic evaluation, ONS, and inpatient days pertinent to Italian Clinical Practice. **RESULTS:** Moderate-to-severe malnourished patients account for 18% of the hospitalizations in 2-8 years old in Italy (180.107 annual admissions); of these, 71% doesn't receive any nutritional support (despite 43% of patients were declared to be screened at admission). Maintaining the current screening ratio, we estimate that if patients resulting severely malnourished at screening would be treated with ONS, a nation-wide saving of more than 5 million Euros is expected, mainly due to shorter hospitalization; if also moderately malnourished children identified would be treated, the saving potential increases to 8 million Euros. A full screening and treatment approach could lead to a saving of almost 19 million Euros. **CONCLUSIONS:** Increasing recourse to malnutrition identification and treatment needs a small effort in terms of resources consumption, but allows to greatly improve the clinical course of hospitalized children at reduced hospital expenses.



#### INDIVIDUAL'S HEALTH - Health Care Use Policy Studies

#### PIH26

##### PRACTICE TOWARD ANTIBIOTICS PREPARATION AMONG IRANIAN PARENTS

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**OBJECTIVES:** The outbreak of antibiotic resistance is a serious global threat to public health that presents a considerable economic burden and increases mortality and morbidity. There are several factors that lead to antibiotics resistance among which improper use of antibiotics plays a substantial role. This study was designed to assess the practice of antibiotic preparation skills among parents who are living in Tehran. **METHODS:** A cross-sectional study was carried out in Tehran, the capital city of Iran, during 2016-2017. Participants were selected from parents of ill children whom physicians had prescribed antibiotics for. Antibiotics preparation practice of parents was assessed by two methods: a) self-stated method through a questionnaire by which the practice of parents about prescriptions and drug orders was evaluated b) observational method by which the researcher assessed to what extend parents use antibiotics properly for their children. Data analyses was



performed using SPSS 22 software. **RESULTS:** The survey was performed on about 400 randomly selected parents who had taken their children to medical centers in Tehran. Results of self-stated method showed that only 49.4% of participants had appropriate practice of antibiotics preparation and they got the average score of 3.95 points out of 8. Furthermore, in observational method most of parents had acceptable practice towards antibiotics (68.4%) and they could gain the average score of 5.93 points out of 10 which can be considered moderately appropriate according to experts' opinion. Additionally, the average scores of parents' practice of antibiotics preparation were significantly correlated to insurance and economic statuses of the households. **CONCLUSIONS:** Nearly half of the parents who attended this survey had approximately inappropriate practice of antibiotics preparation. Participants could get moderate scores which in turn suggests that many measures still should be taken to improve the practice towards antibiotics.

#### PIH27

##### IRANIAN PARENTS' KNOWLEDGE ABOUT ANTIBIOTICS

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**OBJECTIVES:** Rational use of antibiotics has become a global concern since last decades. In the same manner, Iran is facing many health problems such as bacterial resistance due to irrational use of antibiotics which is more noticeable in pediatrics. Several scientists have insisted on the crucial role of public knowledge in rational use of antibiotics. Hence this study was conducted to evaluate the knowledge about antibiotics among parents in Tehran. **METHODS:** All children's parents, who had referred to both public and private clinics, participated in this questionnaire survey. Tehran is a highly populated city with a wide variety of ethnic and social groups. Parents' knowledge about antibiotics was measured through a 19-item self-designed questionnaire. The reliability and validity of the questionnaire had been proven before the study started. Then, SPSS 22 software was applied to analyze data. **RESULTS:** 401 participants (82.5% female and 17.5% male) were enrolled in this study among which 42.5% could properly identify situations where children need antibiotics. 77% of parents had proper knowledge to distinguish between antibiotics from other medicines correctly. The average score of parents' knowledge about antibiotics such as their administration, indications, Storage condition, and the concept of microbial resistance was 9.72 (SD 2.67) points out of 17. Moreover, there were significant correlations between the knowledge and some socio-demographic parameters such as educational level, occupational status, insurance status and average monthly expenditure of households. **CONCLUSIONS:** This study provided baseline information about parents' antibiotics knowledge in Tehran. It shows that there is an acceptable average knowledge about antibiotics in sample population. However, their attitude about antibiotics should be improved. So, more attention of health authorities is required to improve the rational use of antibiotics noting parents' attitude towards this category of medicines.



#### PIH28

##### ISAACUS DATA LAKE PRE-PRODUCTION PROJECT: CHILD PLACEMENT DECISION AND ITS COST DRIVERS

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**OBJECTIVES:** In the Isaacus service operator pre-production project "Well-being information on children and young people", a data lake was developed and tested. Once finalized, Isaacus service operator seeks to provide nationally-representative Finnish data on a one stop shop basis. During the pre-production, predictors for child 1) placement decisions and 2) placement costs were analysed. **METHODS:** Data included social and health care data of clients (aged 0-17 years) and their guardians who had used Kuopio (9th biggest Finnish city, 117 thousand inhabitants) family social services during 1st January 2013 – 31st August 2017. Clients with at least one request for inquiry for the social or child protective services were included (first inquiry = index event). Factors influencing child placement decisions were assessed using multivariate logistic regression models (LRM). Placement days were calculated and valued with national unit cost. Significant cost drivers for the placements were identified using generalized linear modelling (GLM). **RESULTS:** Clients (N=5554): 52.7% male, on average 8.7 years old, and 4.2% with earlier placement at the time of index event. Robust, significant influencers for placement decisions in the LRMs included inquiry reasons (child-parent disagreements, domestic violence/threat) and inquiry initiators (emergency centre, client, social worker, family caretaker). Average placement cost was 50 573 euros per placed child for the max 4.67 years follow-up. Based on the GLM, significantly higher costs were observed with earlier placement, guardian's nervous system medication use, certain reasons for inquiries (other reason, juvenile delinquency, child substance abuse/suspect, child mental wellbeing, suspected child abuse, child-parent disagreements). Significantly lower costs were associated with no significant cost driver present, child's peer relations as a reason for inquiry, new client, and two-parent family. **CONCLUSIONS:** Client characteristics and social context impacted the child placement decisions and their costs. The service operator "Isaacus" is an expected development for real-world data use in Finland.

