Introduction. The success of the health technology assessment (HTA) implementation depends on the level of communication efficiency between all stakeholders. Taking this into consideration, the leading HTA experts of HTA Department of State Expert Center of the Ministry of Health of Ukraine launched the new educational initiative which includes training programs for pharmaceutical companies.
Methods. Comprehensive review of the first developed HTA training programs based on the HTA Guideline (Number 593) "The state health technology assessment for medicines" approved on 29 March 2021 was conducted.
Results. Leading HTA experts of the HTA Department developed a training program, which was conducted for industry representatives according to the provisions of the HTA Guideline. In 2021 over twelve training sessions and two webinars were conducted. These learning events reflect harmonized international recommendations and approaches to HTA training programs, The Professional Society for Health Economics and Outcomes Research, ISPOR short courses in particular, European Network for Health Technology Assessment (EUnetHTA), The National Institute for Health and Care Excellence (NICE), Institute for Clinical and Economic Review (ICER), Agency for Health Technology Assessment and Tariff System (AOTMiT) guidelines. Two-hour webinars were aimed at giving theoretical and practical bases for building a Markov model with the help of Excel and TreeAge Software. Training sessions titled "HTA as a tool for assessing the value of health technology" differ by duration (7-hour, 4-hour, 3-hour) and cover core topics adapted to the needs of the audience. The main program components include HTA Roadmap in Ukraine, clinical section, economic section and practical case studies of building a Markov model. All training options included questionnaires at the beginning and i end to assess the quality of each program. Questionnaires are the tool that gives presenters the possibility to trace progress and transform the training material accordingly.
Conclusions. Development of extended capacity building programs in HTA for users and doers is highly prospective for further steps in HTA institutionalization in Ukraine.

PP83 Economic Impact Of Missed Vaccinations On The Italian National Health System

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Introduction. To provide a complete picture of the economic impact of the coronavirus disease 2019 (COVID-19) emergency for the Italian National Health System (NHS), an estimate was made of the costs to the NHS of vaccination hesitation. The concept of economic impact was investigated with reference to the volume of hospitalizations and days of intensive care required for patients with COVID-19 related to missed vaccinations, considering a vaccine efficacy of less than 100 percent.
Methods. Data from the Istituto Superiore di Sanità were analyzed with respect to the number of people vaccinated in the general population, and the number of people with severe acute respiratory syndrome coronavirus 2 infection who were hospitalized or died in a one-month period stratified by vaccination status. The costs for unvaccinated patients admitted to a general hospital ward (Medical Area) or the intensive care unit were calculated.
Results. Based on the number of preventable hospitalizations among unvaccinated people, the economic impact of missed vaccinations on the NHS in the 30-day period from 13 August 2021 to 12 September 2021 was estimated. Among the unvaccinated hospitalized patients, 5,932 would have avoided hospitalization in the Medical Area and 715 would have avoided admission to the intensive care unit. Thus, each unvaccinated hospitalized patient had an average per capita cost of EUR 17,408. The total costs amounted to EUR 69,894,715, comprising EUR 51,166,079 for hospitalizations in the Medical Area and EUR 18,728,636 for hospitalizations in intensive care.
Conclusions. By evaluating the weekly incidence of hospitalizations per 100,000 people stratified by vaccination status (unvaccinated, partially vaccinated, and fully vaccinated), it is possible to see that we are facing two distinct pandemics running together.

PP84 Change Management Of Patient Associations In Italy: From Emergency Response To Organizational Learning

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Introduction. The role of associations dedicated to patient advocacy has assumed strategic importance within the most advanced health systems, including the Italian NHS. In this period of strong national and international emergency, the associations of citizens and patients have also changed their actions and have implemented others to alleviate the discomforts of sick people in Italy, collaborating with institutions and health services.
Methods. Data were collected using a semi-structured survey, with both yes / no and open questions, developed and administered by the Patient Advocacy LAB (ALTEMS- Catholic University of Sacred Heart) to 150 patient advocacy associations. The organizational changes and the initiatives adopted by patient associations during the COVID-19 emergency was investigated.
Results. The majority of the initiatives adopted by patient advocacy associations during the COVID-19 pandemic have been introduced during the first wave (March- June 2020), and that most of them have been maintained to (December 2020). These initiatives included improvements and updating of the communication tools aimed at reaching the higher number of patients. Thanks to these new approaches, the empathy and the assistance to patients have been increased. In addition, a number of training initiatives have been developed online and they have been followed by a large number of patients and caregivers. At an operative level, during the pandemic, many patient advocacy associations have provided their support to

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distribute masks, gloves, and therapies to patients. Unfortunately the fundraising activities suffered due to the lockdown, and the main problems were related to social distancing and lack of public campaigns. The institutional relationships have increased during the COVID-19 pandemic and they mainly regarded the participation in legislative interventions. Among the initiatives adopted, our sampled associations affirmed that they would like to maintain the social support provided to patients experienced during the pandemic.
Finally we calculated a resiliency score and we discovered that the majority of the sampled associations developed an intermediate level of resiliency and that it is positively correlated with their tenure.
Conclusions. Our results provide a fresh view about the role of patient advocacy associations during the pandemic indicate their important role within the NHS.

PP85 The Cost-Effectiveness Of The Anti-COVID Vaccination Campaign In The Italian Healthcare Setting

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Introduction. Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Symptoms of COVID-19 are variable, but often include fever, cough, headache, fatigue, breathing difficulties, and loss of smell and taste. Symptoms may begin one to fourteen days after exposure to the virus. COVID-19 transmits when people breathe in air contaminated by droplets and small airborne particles containing the virus. The present analysis aims to define the cost-effectiveness profile of the anti-COVID vaccination campaign in the Italian healthcare setting.
Methods. The analysis was based on the collection and analysis of data regarding the number of hospitalizations (ordinary regime and intensive care) and infections recorded by the Italian Ministry of Health in vaccinated and unvaccinated patient cohorts. The acquisition costs of the available vaccine alternatives were considered as well as the cost of the personnel involved in the vaccination campaign. The reduction in hospitalizations was considered as a measure of effectiveness. We have compared the current scenario of campaign vaccination versus a scenario in which the total of the eligible population would be vaccinated. Results are reported in terms of Incremental Cost Effectiveness Ratio (ICER). Deterministic and probabilistic sensitivity analyses were carried out in order to test the robustness of the results.
Results. The vaccination campaign allowed for savings amounting to EUR 9,398,012.10 (EUR 60,499,053.25 vs EUR 69,897,065.35) and 6,647 hospitalizations avoided (715 and 5,932 in the intensive care and ordinary regimen, respectively), thus resulting a dominant strategy as compared with the alternative (no vaccination). As the cost-effectiveness profile of the campaign improves, we should consider the period (May-July 2021), during which the daily threshold of 500,000 doses administered on a national basis was consistently exceeded.
Conclusions. The analysis underlined how the vaccination campaign represents a cost-saving alternative in the Italian healthcare setting.

PP88 Bayesian Joint Models For Cost-Effectiveness Analyses Based On Clustered Participant Data, With Implementation In Stan

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Introduction. Cost-effectiveness analyses of empirical participant data are frequently complicated by irregularly distributed and correlated observations, which are not well approximated by normal distributions. Things get even more difficult when observations are clustered within higher level units (for example, hospitals) or the participant (that is, multiple measurements at different timepoints). Therefore, we developed a flexible Bayesian approach to jointly model costs and effects of two competing interventions with a multilevel structure.
Methods. Our new model is presented in mathematical form and discussed in detail. We model costs and Quality-Adjusted Life-Years effects through Gamma and Beta distributions, and account for the dependency between costs and effects by adding the effects as a predictor for the costs. We further include hurdle models to account for costs of for the presence of zero costs and perfect health scores.
The full model is implemented in the probabilistic programming language Stan. To compare the performance of our Bayesian model to a frequentist approach (linear mixed model combined with bootstrapping), we simulate 1000 datasets consisting of 400 participants and 20 clusters. Performance of both models is assessed in terms of variance, bias and coverage probability with respect to the costs and effects defined in the simulation.
Results. We ran a preliminary simulation with high intraclass correlation, strong negative correlation for patient-level costs and effects, and positive correlation of cluster effects on both outcomes. The analysis shows that the Bayesian model exhibits a slightly larger bias for estimated costs, but smaller errors and higher coverage probability compared to the frequentist alternative. We will explore different scenarios where we vary the parameters of the simulations and assess whether the results are robust to change.
Conclusions. It is very important that economic evaluations in health care produce precise and reliable results. Our Bayesian approach is able to handle multiple statistical complexities at once and performs better than a comparable frequentist model. Whether this conclusion holds for different simulation scenarios will be explored in further stages of this study.

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