on the present pharmacy-selling-price, which is payed out-of-pocket. **Results:** Based on the current vaccination coverage annual savings of 37.7 million € (m€) (1st year) to 41.6 m€ (5th year) [total: 197.1 m€ over 5 years] could be achieved. Direct costs contributed between 28.7 m€ (1st year) to 31.5 m€ (5th year) [total: 149.3 m€] to total saving. The society is relieved due to a vaccination strategy. The savings in indirect costs range from 9.2 m€ (1st year) to 10.1 m€ (5th year) [total: 47.8 m€]. The costs of vaccination are partly borne by the patient (≥12 years), who make private payments of 3.7 m€ (1st year) to 4 m€ (5th year) [total: 19.3 m€]. **Conclusions:** 1€ invested in the HPV vaccine relieves the society with 10.2€ and saves 1.8€ in health-care-system.

PIN65
SOCIO-ECONOMIC BURDEN OF COVID-19 IN RUSSIAN FEDERATION

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Objectives: To assess the socio-economic burden of COVID-19 in the Russian Federation (RF). **Methods:** Identification and assessment of direct medical, direct non-medical costs, as well as indirect costs associated with the development of the coronavirus infection epidemic. When calculating the socio-economic burden, the prevalence-based calculation approach was chosen. The sources of data on the epidemiology of the disease were data from the Ministry of Health and data from the Government of the Russian Federation. **Results:** The socio-economic burden of COVID-19 in the Russian Federation will amount to 4.6 trillion rubles ($71.1 billion) or 4% of the GDP. In the cost structure, more than half of the costs are direct non-medical expenses (58.62%), indirect expenses due to GDP losses are 40.65%, direct medical expenses are only less than 1% (0.74%). The results of the sensitivity analysis showed that the extension of the self-isolation period from 1 month to 1.5 and 2 months will lead to an increase in the share of indirect expenses from 40.65% (1 month) to 56.08 (1.5 months) and 67.76% (2 months) of total expenses in connection with the COVID-19 epidemic. Concurrently, the socio-economic burden of COVID-19 will amount to 6.2 and 8.5 trillion rubles, respectively. **Conclusions:** The epidemic of the novel coronavirus infection will lead to great economic losses in the Russian Federation.

PIN66
A SCOPING REVIEW OF THE LITERATURE ON THE MULTIFACTORIAL HEALTH-ECONOMICS BURDEN CAUSED BY THE COVID-19 PANDEMIC
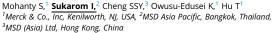
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Context: A considerable amount of evidence exists on the epidemiological features as well as on the mortality trends associated with the COVID-19 pandemic. However, much less is known about the health-economics burden. **Objectives:** To summarize the currently existing evidence and to identify evidence gaps on the quantification of the multifactorial burden caused by the COVID-19 pandemic. **Methods:** We retrieved all the articles published in English from January 1st to June 30th 2020, indexed in MEDLINE, that matched a series of combined-keyword queries. Manual curation was used to classify articles either as relevant or non-relevant to the subject. **Results:** 61 positive hits were identified. Out of those, 22 articles were deemed to be relevant. Most of the articles provided evidence on high-income countries (USA, KR, ITA, CN) and barely no evidence is available for middle and low-income countries. No COVID-19 specific data exists to quantify direct medical costs, nor to estimate COVID-19 specific utility and disability weights. Some authors have reported estimates based on health-economics extrapolations made from other respiratory tract infections, which they then apply to different hypothetical COVID-19 epidemiological scenarios. Several authors have published work on the macro-economic consequences of the pandemic. Other burden dimensions that have been explored are the impact on mental health, the increase of domestic violence because of the lockdown, and the generalized loss of confidence that might lead to a stock market crisis. **Conclusions:** Multiple evidence gaps remain to be filled on the health-economics burden caused by the COVID-19 pandemic. In the short-term, filling those gaps would be important for the decision-making process to tackle the pandemic. In the long-term, it could facilitate the definition of pandemic-preparedness policies around the world.

PIN67
HEALTH AND ECONOMIC BURDEN ASSOCIATED WITH 15-VALENT PNEUMOCOCCAL CONJUGATE VACCINE (V114) SEROTYPES IN CHILDREN IN HONG KONG

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Objectives: *Streptococcus pneumoniae* causes severe invasive pneumococcal disease (IPD). A 15-valent pneumococcal conjugate vaccine (PCV) containing the 13 serotypes in PCV13 and 2 additional serotypes (22F and 33F) is under development. This study quantifies the health and economic burden of V114-type IPD in children in
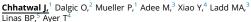
Hong Kong. **Methods:** A Markov model was developed to estimate V114-type IPD cases, and costs in a hypothetical unvaccinated birth cohort in Hong Kong over 20 years. Epidemiological inputs were obtained from the published literature. Due to the successive introduction of PCVs in Hong Kong (PCV7 in 2009, PCV10 in 2010, and PCV13 in 2011) we analyzed two periods: 1) pre-PCV7 and 2) post-PCV13. Costs were estimated from a societal perspective (2018 HK$) and discounted at 3.0% annually. **Results:** The model estimated 62 cases in the pre-PCV7 period and 46 cases in the post-PCV13 period attributable to V114 serotypes. The majority of cases (59 cases, 95%) were attributable to PCV7 serotypes in the pre-PCV7 period. Cases associated with the six additional serotypes in PCV13 increased from 3 in the pre-PCV7 period to 43 in the post-PCV13 period. The increase was due to increases in serotype 3 and 19A. Total costs for all V114 serotypes were HK$17 million in the pre-PCV7 period and HK$13 million in the post-PCV13 period. **Conclusions:** Vaccine-type serotypes continue to be associated with substantial IPD-related morbidity and costs after the introduction of PCVs. Despite PCV13 being included in the Hong Kong Childhood Immunisation Programme (HKCIP) for many years, there is still significant burden of disease due to serotypes 3 and 19A. Investigational PCVs for pediatric populations must provide sufficient protection against serotypes in currently licensed vaccines to maintain disease reductions while further reducing disease burden.

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PIN68
COVID-19 SIMULATOR: AN INTERACTIVE TOOL TO INFORM COVID-19 INTERVENTION POLICY DECISIONS IN THE UNITED STATES

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Objectives: Dynamic and fast actions are needed to suppress the coronavirus disease 2019 (COVID-19) pandemic, which has affected every sector of human life. Our objective was to develop an open-access, interactive tool for policy makers to inform timely decisions and evaluate the impact of different non-pharmaceutical interventions (of varied intensity and timing) on reducing the spread of COVID-19 in the. **Methods:** We developed a compartmental model, the COVID-19 Simulator, to simulate the trajectory of COVID-19 in 50 states, DC, and Puerto Rico. The model is defined using Susceptible, Exposed, Infectious, and Recovered compartments (SEIR model) with continuous time progression. Input data included reported state-specific daily cases, hospitalizations, and deaths; disease epidemiology parameters estimated by clinical studies, state-specific effective *reproduction numbers*, testing rates, and changes in mobility as reported by GPS location data. Unobserved parameters were calibrated using generalized simulated annealing to match the daily reported cases and deaths. We projected future cases of COVID-19, active cases of COVID-19, deaths, hospitalizations, and intensive care unit admissions under different levels of social-distancing measures (minimal restrictions, current intervention, stay-at-home orders, and lockdown). **Results:** The COVID-19 Simulator can help users to understand the implications, including deaths and hospital beds needed, of removing or adding restrictions at different time points. Under current intervention levels, new cases per day are projected to surpass 100,000 by September in the US; implementing stay at home orders again in many states is necessary to create a downward trajectory in incidence. High prevalence states may see a dramatic increase in deaths by Fall if policies do not change. **Conclusions:** The COVID-19 Simulator provides an interactive platform to inform policy decisions on controlling the spread of COVID-19. The simulator is updated on a regular basis as new data become available and will be extended to inform new policy-relevant questions.

PIN69
ECONOMIC FEASIBILITY OF SAFETY COSTS AT HEALTH CARE WORKERS WORKPLACE: THE CASE OF PRIMARY CARE NURSES IN KAZAKHSTAN

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Objectives: WHO estimates that 40-65% of HBV and HCV infections in health care workers were associated with percutaneous occupational exposure during the process of disposing of used needles and sharps instruments in the disposal bins. The objective of the study is to identify economic feasibility of safety costs at health care workers' workplace by investigating the prevalence and risk factors of needlestick injuries among Kazakhstani primary care nurses. **Methods:** The methodologies comprise both quantitative and qualitative approaches using a comparative socio-economic analysis of the costs of preventive measures aimed at the safety of health care workers of the Kazakhstan polyclinic and the costs of treating diseases of medical workers with HBV and HCV infections combined with anonymous questionnaire of 198 primary care nurses. The selection criterion for the target group was the risk of injury during procedures (injections and blood sampling) or when disposing of sharp objects. Results: Socioeconomic analysis presented in the article shows that the increase in the costs of medical institutions