Abstracts - תקצירים



Conference in honor of our colleagues, friends and teachers













The effect of health reform on health disparities

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Background: Inequity in health is a major issue affecting all relevant players within the healthcare system. Since 2015, several reforms and programs came into effect that were aimed at reinforcing public healthcare and redressing negative aspects of the public health system, and specifically the constant rise in private health expenditure.

Methods: Using descriptive statistics based on Assuta Medical Centers' database, we examined funding of elective surgeries and patient's sociodemographic characteristics comparing two time points: before (2015-2017) and after (2017-2019) the reforms came into force.

Aims: To examine the effect of the reforms on funding for surgical operations and on the mix of patients turning to the private healthcare system.

Results& Conclusions: Overall, above 1 million medical procedures were included in the study. Our findings show that due to the reforms, we observed an increase in the volume of publicly funded activities in the private health system (above 50%) while private spending on health declined. Following the reforms, an increase in patients from intermediate socioeconomic positions (ranked 5-7 in the Central Bureau of Statistics registry) was observed, accompanied by a decrease in the rate of patients from higher socioeconomic backgrounds (ranked 8-10). There was no significant difference in the volume of patients from low-income populations. The increase in publicly funded surgeries was observed in all population groups in Israel.

Our findings indicate that the patterns of the private healthcare system in Israel are becoming similar to the public healthcare system by offering access to services in Assuta to all layers of Israeli society, while weakening the relation between the ability to pay and healthcare service provision. Referring patients from low socioeconomic regions to

the private healthcare system, while eliminating financial barriers can assist in reducing health disparities.

Structural discrimination and intensified health inequalities amid COVID-19: a historical justice perspective on the Palestinian minority health in Israel

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This paper analyzes health policies that led to intensifying health inequalities among Israel's Palestinian minority citizens (20% of the population), amid Covid-19 pandemic while drawing on historical justice and health equity approach. The paper uses peer review publications, policy papers, government reports, media and grey literature, to examine trajectories for structural discrimination in health since the 1948 Nakba, using the pandemic-related inequalities as a case study. It assumes that for better understanding of trajectories for contemporary health policies and intensified heath inequalities during the Covid-19 outbreak, it is vital to make the connection between these and the historical health policies that stretch over seven decades, starting from the Nakba until today. For this, a historical narrative was constructed to relate to various health policies that have impacted Palestinian's health beginning well before this century: pre-Nakba, during the British mandate in Palestine (1917-1947); the Nakba and military rule (1948-1966); post-military rules (1967-1993); enactment of National Health Law and before Israel's OECD membership (1994-2009); and Israel membership in the EOCD until the Covid-19 Pandemic (2010 to 2021). Five intersecting trajectories were identified that intensified health inequalities over seven decades among Palestinian citizens. These include: 1. historical ethno-racial blindness to the Palestinian minority's healthcare needs and poor healthcare services (HCS) development; 2. exclusion from decision making in health and other sectors; 3. commodification of healthcare services (HCS) over two decades, which has and disproportionately negatively affected members of the Palestinian minority, who live in peripheral areas; 4. lack of culturally appropriate HCS, 5. lacking political power that intersects with ethno-national identity and class, and constrains Palestinians' socioeconomic status and health, leaving them more vulnerable. The intersections of these trajectories revealed systematic patterns of institutionalized discrimination at

work that grew from historical roots and intensified existing health inequalities during the Covid-19 outbreak. To improve the health of the Palestinian minority in Israel these systematic, historical and longstanding trajectories within the healthcare system should be changed. Different models and strategies will be discussed for closing these health gaps.

Long-Covid stories or the story of long-Covid?

Insights from Qualitative Research

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A story (narrative) is characterized by unfolding events and actions in a specific context including time and place, a "trouble", and characters, all intertwined in a series of events. In illnesses narratives, the patient is the character, and the "trouble" is the illness. Callard and Perego (2020) described long-Covid as "patient-made", amalgamated and made public by their use of social media. The authors described how online communities of long-Covid sufferers shared their experiences, raised awareness, influenced service provision and clinical guidelines, and participated in research. In this talk, I will present a review of qualitative studies including persons with long-Covid. The mapping of their illness narratives shows implications for health policymaking, pointing to the crucial role of the specific social context of each group of long-Covid patients. Taken together – do these stories compose a hegemonic narrative?

Socioeconomic disparities in cardiovascular disease risk factors and preventive care: a population-based study of adults in Israel

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Background: There are limited data regarding socio-economic (SEP) disparities in cardiovascular disease (CVD) risk factors. We aimed to assess whether sex and SEP disparities exist in CVD risk factors and preventive care, and whether SEP disparities vary by sex, in a nationwide study.

Methods: We conducted a cross-sectional study using data retrieved from the National Program for Quality Indicators in Community Healthcare. The study population included all Israeli citizens aged 20-74 in 2016 (N = 4,759,482). Variables assessed included measures regarding documentation and level of BMI, cholesterol, hypertension, and smoking. SEP was measured using the Central Bureau of Statistics' socio-economic rankings, grouped into categories, ranging from 1 (lowest) to 10 (highest). We used multivariable logistic regression models to assess the association between SEP, and sex with the various CVD risk factors and preventive care measures and assessed interactions between SEP and sex on various CVD risk factors.

Results: BMI documentation rates were inversely associated with SEP. Obesity was also inversely associated with SEP (aOR_{SEP1 vs. 10} 4.15, CI 99.999% 3.85–4.48). Women in lower SEPs had much higher rates of obesity compared to women in higher SEPs, while disparities in men were less substantial. Men at high risk for heart disease were more likely to have controlled LDL-C compared to women (aOR 5.66, CI 99% 3.10–10.32). Men were more likely to be smokers (aOR 2.59, CI 99.999% 2.56–2.62); In men, smoking rates decreased with increasing SEP, while in women, they increased.

Conclusions: Public policies directed at reducing SEP disparities in CVD risk factors are necessary in the Israeli adult population, and there is a specific need to focus on women in lower SEP in reducing obesity, and on men in low SEP in reducing smoking rates.

Regulatory Decision-Making: Use of Real-World Data in Addressing Inequities

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The use of real-world data in the health technology assessment (HTA) process is critical in informing health policy and reimbursement with the goal of achieving optimal population health. A necessary component of the HTA framework is the consideration of health inequalities. Results from two studies using data from the National Health and Wellness Surveys (NHWS) examined (1) inequalities in healthcare access (US NHWS 2015-2019 linked to Komodo Health claims 2012-2020) and (2) burden of migraine (China, Japan, South Korea, Taiwan, and US NHWS 2019; Europe 2020). Descriptive statistics and logistic regression models were used. In the first study in the US, adjusted models showed that among 11,614 respondents with ≥1 health care encounter, geography (region and urban/rural) were significant predictors of telehealth use compared to the previous year (p<0.05). In the second study of 11,008 respondents with migraine who reported current prescription migraine medication use, absenteeism (economic burden) varied by geography with a mean (standard deviation) range of 8.0%±14.0% in South Korea to 21.9%±31.5% in Germany. These results provide evidence of inequalities within a geography and across geographies that should be considered when assessing the value of new health technologies. While HTA frameworks appreciate the value of inclusive data, recognition of health disparities in the HTA process and regulatory decision-making is limited. Continued efforts by stakeholders to understand, educate, and address health inequalities are essential for reducing health inequities.

Toward Risk Adjustment in Mental Health in Israel: Calculation of Risk Adjustment Rates from Large Outpatient and Inpatient Databases

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Background: In 2015, mental health services were added to the Israeli National Health Insurance package of services. As such, these services are financed by the budget which is allocated to the Health Plans according to a risk adjustment scheme. An interministerial team suggested a formula by which the mental health budget should be allocated among the Health Plans. Our objective in this study was to develop alternative rates based on individual data, and to evaluate the ones suggested.

Methods: The derivation of the new formula is based on the study of all psychiatric inpatients in Israel in the years 2012-2013 (n=27,446), as well as outpatients in one psychiatric clinic in the same period (n=6115). Based on Ministry of Health and clinic data we identified predictors of mental health services consumption. Age, gender, marital status and diagnosis were used as risk adjusters to calculate the capitation rates for outpatient care and inpatient care, respectively. All prices of services were obtained from the Ministry of Health tariffs. These rates were modified to include non-users using restricted models.

Results: The mental health capitation scales are typically "humped" with regard to age. The rates for ambulatory care varied from a minimum 0.19 of the average consumption for males above the age of 85 to a maximum of 1.93 times the average for females between the ages of 45-54. For inpatient services the highest rate was 409.25 times the average for single, male patients with schizophrenia spectrum diagnoses, aged 45-54. The overall mental health scale ranges from 2.347 times the average for men aged 45-54, to 0.191 for women aged 85+. The modified scale for the entire post-reform package of benefits (including both mental health care and physical

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health care) is increasing with age to 4.094 times the average in men aged over 85. The scale is flatter than the pre-reform scale .

Conclusions: The risk adjustment rates calculated for outpatient care are substantially different from the ones suggested by the inter-ministerial team. The inpatient rates are new, and indicate that for patients with schizophrenia, a separate risk-sharing arrangement might be desirable. Adopting the rates developed in this analysis would decrease the budget shares of Clalit and Leumit with their relatively older populations, and increase Maccabi and Meuhedet's shares. Future research should develop a risk-adjustment scheme which covers directly both mental and physical care provided by the Israeli Health Plans, using their data.

The effect of the Covid-19 pandemic on the Israeli health insurance market

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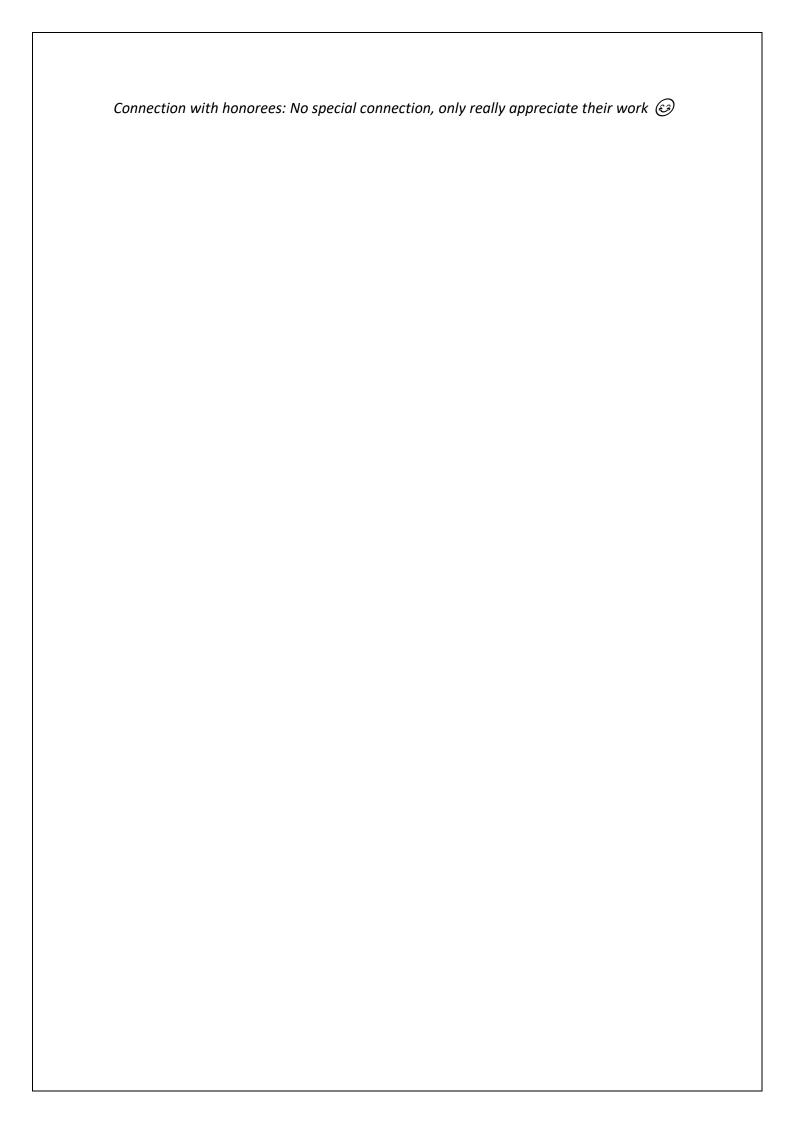
Background: The Covid-19 pandemic created an economic crisis worldwide but, at the same time revealed the significance of the healthcare system and the importance of receiving appropriate medical care. Previous studies showed that when facing an existential threat, people tend to reconsider priorities. In Israel, no data exist regarding a change in the extend of private health insurance following the pandemic.

Aims: To examine trends in household health insurance spending during Covid-19 pandemic and public perceptions regarding health insurance importance.

Methods: Online survey of a representative sample of 501 respondents (by Midgam **institute**), during October 2021.

Results: Of those surveyed, 86% reported no changes in their health insurance during the epidemic, 8.5% added insurance or components to their commercial health insurance- 5.4%, or HMO's Supplementary Insurance - 3.1%. Most respondents who froze their payments experienced at least a 40% income decrease during the pandemic. 38% reported economic considerations and 57% health status considerations for the reasons for changes. People who expanded their insurance were concerned about the Covid-19 pandemic to a great or very great extent and strongly felt that "health is the most important thing" during this period. 14% felt that those with private insurance received better health service for Covid-19 treatment or prevention, and 53% surveyed felt that privately insured patients receive better health service in general.

Conclusions This is the first study that indicates changes in the health insurance market in Israel during the Covid-19 crisis. The findings demonstrate a correlation between payment ability and health services provision. There is a need to examine the information with MOH data for better understanding of the dimensions of this phenomenon as well as to develop a plan to reduce health inequalities.



Ethnic disparities in receiving benefits for disability following postpartum mental illness during first two years after delivery: an Israeli nationwide study.

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Background: Despite relatively high rates of Postpartum Depression (PPD), little is known about the granting of social security benefits to women who are disabled as a result of postpartum mood and anxiety disorders (PMAD).

Objectives: This study aims to identify populations at risk for underutilization of social security benefits due to PMAD among Israeli women, with a focus on ethnic minorities.

Methods: This retrospective cohort study is based on the National Insurance Institute (NII) database. The study population included a simple 10% random sample of 79,391 female Israeli citizens who gave birth during 2008-2016 (these women delivered a total of 143,871 infants during the study period).

The dependent variable was receipt of Benefit Entitlement (BE) due to mental illness within two years following childbirth. Maternal age at delivery, population group, Socio-Economic Status (SES), family status, employment status of the mother and her spouse, and infant mortality were the independent variables. Left truncation Cox proportional hazard model with time-dependent variables was used, and birth number served as a time discrete variable.

Results: Bedouin and Arab women had significantly lower likelihood of BE (2.6 times and twice lower, respectively) compared with other ethnic groups (HR=0.38; 95% CI: 0.26-0.56; HR=0.47; 95% CI:0.37-0.60, respectively). The probability of divorced or widowed women to receive BE was significantly higher compared to those living with a spouse (HR=3.64; 95% CI: 2.49-5.33). Lack of employment was associated with higher

likelihood of BE (HR=1.54; 95% CI: 1.30-1.82). Income had a dose-response relationship with BE on multivariable analysis: lower income was associated with a nearly four-fold greater probability compared to the highest income quartile (HR=3.83; 95% CI: 2.89-5.07).

Conclusions: In addition to developing programs for early identification of postpartum emotional disorders among underprivileged groups, awareness regarding entitlement to a mental health disability allowance among ethnic minorities should be improved.

Connection with honorees: Prof. Orly Manor was my PhD Dissertation Advisor 2008-2014. Prof. David Chinitz and Prof. Amir Shmueli were my teachers during MPH program in 2000-2003.

Promoting a Culturally Adapted Policy to Deal with the COVID-19 Crisis in the Haredi Population in Israel

Hanni Schroeder,¹ Ronny Numa ² & Ephraim Shapiro ³.

Background: The Haredi community (HC), a religious minority, was disproportionately affected by the COVID-19 pandemic. This group has distinctive cultural, lifestyle, and demographic characteristics, which may be related to higher COVID-19 rates. The Israeli Ministry of Health undertook a unique initiative to reduce COVID-19 transmission in the HC. In August 2020, a special task force for the HC was established, the "Haredi Desk" (HD).

Aims: To promote health policies that reduce health inequities and provide a customized and culturally-sensitive response to the management of the COVID-19 outbreak.

Methods: The HD objectives were: 1.Formulating COVID-19 policy guidelines tailored to specific HC needs and strengthening mutual trust. 2.Reducing the spread of the virus. 3.Increasing adherence to the recommended preventive measures.

Results: The HD activity improved the effectiveness of COVID-19 prevention and care for the HC. Improved accessibility to PCR-tests increased the number of tests performed. Welfare-related activities tailored to HC needs, including delivery of food baskets to quarantined/sick families and recovery hotels that were culturally adapted, helped increase adherence to quarantine and reduce the spread of COVID-19. Men and women from within the Haredi community were recruited to facilitate the epidemiological investigations. This increased trust resulted in more accurate results. Crafting detailed guidelines together with the community leaders resulted in more public trust and increased compliance with recommended preventive measures. Advocacy actions included "behind the scenes" meetings with influential rabbis which led to high immunization rates in some Haredi cities.

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Conclusions: The establishment of a central headquarters that aims to promote health policy that is customized and culturally sensitive was a lever to reduce inequality and improve quality of care in the HC. This initiative demonstrated how the government can increase trust with minority groups and reduce health inequalities regarding other health issues as well.

Connection with honorees: Hanni Schroeder had the privilege of being Prof. Orly Manor, Prof. David Chinitz And Prof. Amir Shmueli's student during her MPH and PhD studies at the Braun School of Public Health and Community Medicine, Hebrew University of Jerusalem.

Monitoring equity in childhood vaccination coverage – the case of Jerusalem

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Background: Health Inequities are defined as gaps in health status, access and utilization of services among population groups. Childhood vaccinations prevent morbidity and mortality from vaccine-preventable diseases and provide a cost-effective intervention to improve health equity. Routine childhood vaccinations in Israel are included in the National Health Insurance Law. Community-based clinics provide free vaccination to all children regardless of civil status. While the national vaccination coverage is adequate, gaps between population groups exist.

Aims: We evaluated the vaccination coverage in Jerusalem, a district with recurrent vaccine-preventable diseases' outbreaks before and during the COVID-19 pandemic.

Methods: Vaccination coverage (VC) was appraised based on data from the National Immunization Registry among children (born 01/01/2018–30/06/2020, Jerusalem district). The vaccines included: Diphtheria, Tetanus, acellular Pertussis, polio, Haemophilus influenzae b (DTaP-IPV-Hib4: dose 4); pneumococcal conjugate (PCV3: dose 3) and Measles-Mumps-Rubella/Measles-Mumps-Rubella-Varicella (MMR /MMRV1), all scheduled at 12 months. Allocation into Jerusalem's main population groups (Arab, Jewish Ultra-Orthodox and Jewish traditional-secular) was based on neighborhood of residence.

Results: The study group included 71,495 children in the Jerusalem district: 28,722 were born in 2018, 28,894 in 2019 and 13,879 in the first half of 2020. The overall VC was 93.6% for MMR/MMRV, 83.2% for DTaPIPV-Hib4 and 86.7% for PCV3. The VC was higher in the 2018 cohort than in the 2019 cohort with decline among children born in 2020. The VC disparities between the cohorts were significant. Comparing VC between

population groups revealed significantly lower rates among children residing in Jewish Ultra-Orthodox communities.

Conclusions: Childhood vaccination coverage rates and timeliness among children in Jerusalem district were suboptimal. The lowest VC rates were found in children born in the first half of 2020 in Jewish Ultra-Orthodox communities. Community-based health education campaigns to advance awareness about and trust in childhood vaccines and sustainable public health programs are essential.

Connection with honorees: Prof Orly Manor - health inequalities in Israel.

Estimating the economic burden of long-COVID:

The additive cost of COVID-19 recoverees to a health plan

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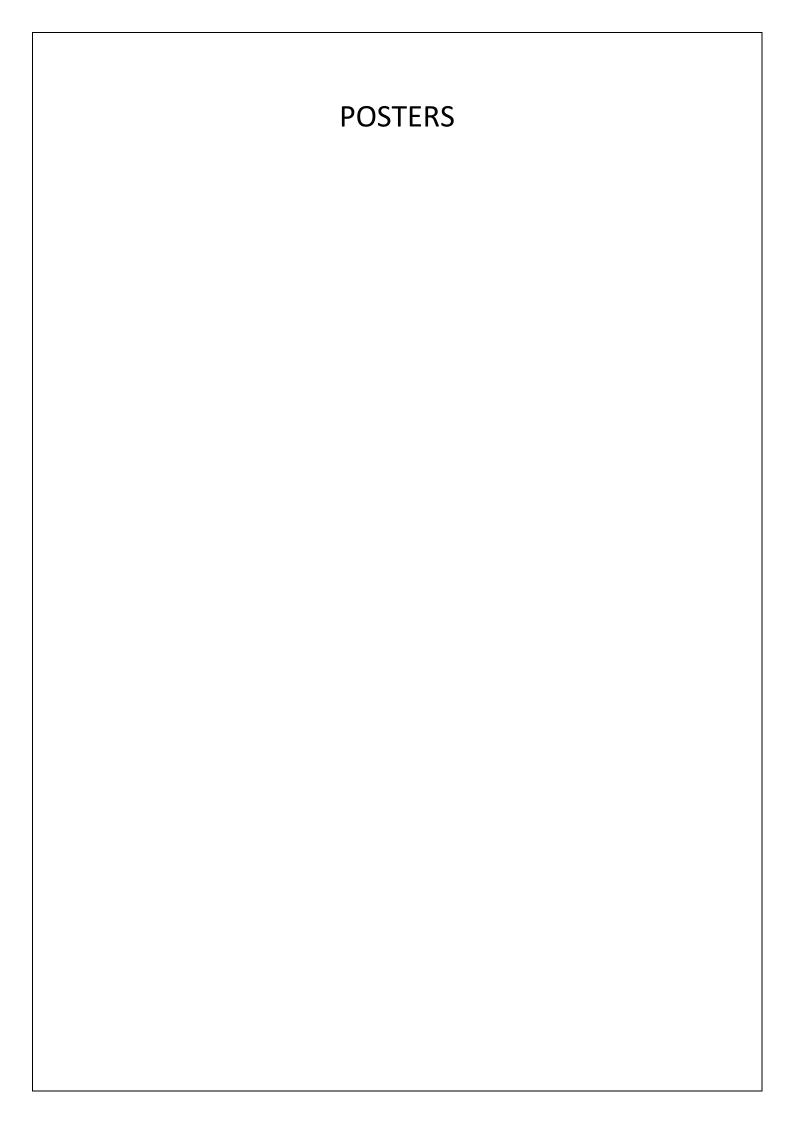
Background: Impact of COVID-19 on patients' treatment costs beyond the period of the acute disease is yet to be determined.

Aim: To evaluate the additive costs of the health-plan treatment of COVID-19 recoverees over time.

Methods: In this historical cohort study, costs of Clalit Health Services treatment of its insured COVID-19 recoverees were compared to those of matched controls. Pairs were matched by age, gender, ethnicity, socioeconomic-position, and six Adjusted-Clinical-Groups. We excluded insured members not residing in the community or with diagnoses related to extreme costs (e.g., oncology and dialysis patients). Costs were collected starting 12-months prior to the positive-SARS-COV-2 test for each pair, until August 31st 2021. Average monthly costs and differences between groups were calculated. The excess cost of cases 7-12 months prior to the positive test was subtracted from the difference between groups in the post-recoveree period (starting 30-days after the positive test or 30-days after discharge from a COVID-related hospitalization).

Results: 360,256 pairs were included and followed for 7.5 months on average. In the post-recoveree period, the average costs for cases were almost 9% higher than for controls, after subtracting the pre-COVID cost-difference. Most of the additive cost was attributable to hospital bills, accounting for 80% of the excess, and exceeding the cost in controls by 12.6%. Other services contributing to the additive cost were primary-care physician visits (8.9% higher), specialists visits (9.3% higher), and paramedical professions visits (11.3% higher). The excess cost constantly decreased over the first five months after recovery, but remained evident even after ten months. The highest

additive costs, net and relative, were observed in a subset of N=12,749 recoverees who were hospitalized during the acute phase of the COVID-19 infection. Conclusions: The additive costs related to COVID-19 in a post-recoveree period should be taken in consideration as a part of the healthcare system preparedness of healthcare systems to the effects of the pandemic.



Adherence to Quality Indicators in Diabetes Care and Health Outcomes: A Nationwide Population-Based Historical Cohort Study

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⁴Leumit Health Care Services and Tel Aviv University.

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⁶Hadassah Medical Center.

Preference: Poster

Comment: Nura Abdel-Rahman was a PhD student of Prof. Orly Manor

Background

Measuring and improving the quality of diabetes care have been the focus of several programs, however, little evidence exists on the association between implementation of such programs and clinical outcomes.

Aims

To assess the association between adherence to diabetes quality indicators and health outcomes: all-cause mortality and cardiac morbidity.

Methods

A nationwide, population-based, historical-cohort study of people aged 45-80 with pharmacologically-treated diabetes (n=222,235). Data were retrieved from the four health maintenance organizations (HMOs) in Israel. The association between degree of adherence to quality indicators (2006-2010: adherence assessment) and health outcomes (2011-2016: outcome assessment) was estimated using Cox models.

Results

1. Adherence to diabetes quality indicators and all-cause mortality

During 2,000,052 person-years of follow-up, 35.8% of participants have died. Participants who were not tested for proteinuria during the first-5-years of follow-up had a hazard ratio (HR) for mortality of 2.60 (95%CI: 2.49-2.69), compared with those who were adherent every year. Almost all indicators had inverse dose-response associations between adherence and mortality. In time-dependent analyses, not measuring HbA1c, LDL-cholesterol, or blood pressure were associated with HRs of approximately 1.5, similarly to the HRs associated with HbA1c>9% and LDL-cholesterol>100mg/dL. The association of uncontrolled blood pressure with mortality was modified by age.

2. Adherence to diabetes quality indicators and cardiac disease

The analyses included 105,656 participants who were without cardiac outcome in 2010. During 529,551 person-years of follow-up, 19,246 patients experienced cardiac disease. An inverse dose-response association between the degree of adherence and risk of cardiac morbidity was shown for most of the quality indicators. The associations were modified by age, with stronger associations among younger patients (<65 years at baseline) compared to older ones. Patients who had LDL-cholesterol> 100 mg/dl in

all first-5-years had HRs 1.60 (1.49-1.72) and 1.23 (1.14-1.32), among patients aged <65 and ≥65 years, respectively, compared with those who achieved target level.

Patients who failed to achieve target levels of HbA1c or BP had an increased risk (HRs: 1.50-1.69) for cardiac outcomes.

Conclusions Longitudinal adherence to quality indicators in diabetes care is associated with reduced risk of all-cause mortality and cardiac morbidity. Quality of care programs that increase the performance of quality indicators are probably effective in improving health outcome among people with diabetes.

Quality of health promotion programs associated with characteristics of the built environment in a multi-ethnic urban setting

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Background: Neighbourhood built environment and infrastructure influence health status. Greater walkability, bike lane spread, green spaces and healthy food accessibility can enhance healthy lifestyles. Health promotion programs (HPPs) have been shown to improve population's health.

Methods: HPPs operating in Jerusalem focusing on healthy diet and physical activities were located and evaluated for quality using the European Quality Instrument for Health Promotion (EQUIHP) in 2017. HPPs location, intervention type and characteristics of the target population were documented. Using Geographic Information System (GIS), we combined infrastructure data from the Jerusalem Municipality and socioeconomic score (1 lowest – 10 highest) from Israel's Central Bureau of Statistics. Associations between distribution and quality of HPPs and the built environment at the neighbourhood (n=115) level and municipal planning area level (7 areas) were assessed.

Aims: investigate influences of built environment and quality and distribution of HPPs across a city on each other.

Results and conclusion: Overall 93 HPPs operating in 349 locations and serving ,500 adult residents, were identified in Jerusalem. Higher HPP quality, at the 582 municipal planning area, was associated with higher density of HPPs, longer bike or walking lanes. Positive significant (p<0.05) correlations, at a neighbourhood level, were found between neighbourhood EQUIHP median scores and HPPs targeting women (0.262), participants < 60 years old (0.324) and the Arab ethnicity (0.473). Linear

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regression showed a significant (p=0.01) decrease of 0.015 in median EQUIHP score at a neighbourhood level for each increase in socioeconomic status score (p=0.036).

A comprehensive evaluation of HPP quality, spatial and sociodemographic information demonstrates an association of HPP availability and quality with the built environment. High quality with better infrastructure. Fortunately, in Jerusalem high quality programs are designed for populations at need.

Connection with the honorees: the research was part of a thesis performed under the co-guidance of prof. Orly Manor.

Pediatric Residents' Perception of Medical Education, General Wellness and Patient Care Following the Shortening of Shifts during the COVID-19 Pandemic

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Background: The effect of extended shift length on pediatric residency is controversial. Israeli residents perform shifts extending up to 26 hours, a practice leading to general dissatisfaction. In early 2020, during the coronavirus disease-2019 (COVID-19) pandemic, many Israeli hospitals transitioned from 26-hour shifts to 13-hour shifts in fixed teams (capsules) followed by a 24-hour rest period at home. The regulation changes enacted by the Israeli government during the COVID-19 pandemic provided a rare opportunity to assess perception by residents regarding length of shifts before and after the change.

Objectives: To assess perception of pediatric residency in three aspects: resident wellness, ability to deliver quality healthcare, and acquisition of medical education following the change to the shorter shifts model.

Methods: We performed a prospective observational study among pediatric residents. Residents completed an online self-assessment questionnaire before and after the COVID-19 emergency regulations changed toward shorter shifts.

Results: Sixty-seven residents answered the questionnaires before (37) and after (30) the shift changes. The average score was significantly better for the 13-hour shifts versus the 26-hour shifts, except for questions regarding available time for research. There was a positive perception regarding the shorter night shifts model among pediatric residents, with an increase in general satisfaction and improvement in perception of general wellness, ability to deliver quality healthcare, and medical education acquisition.

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residents included improvement in wellness, ability to deliver quality healthcare, and						
availability of medical education.						

Vaccine Hesitancy among Healthcare professionals HCPs

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<u>Scientific Background:</u> Healthcare professionals (HCP) are key trusted figures in addressing COVID-19 challenges. They are expected to get vaccinated and are thought through their personal example. Regardless, as decisions to influence others' suggested by previous studies prior to disseminating the vaccine, many HCPs were uncertain and doubtful regarding its effectiveness.

<u>Aim:</u> To characterize the motives and influences that contributing to HCPs' decision to decline or delay COVID vaccination.

<u>Methods:</u> We performed 12 semi-structured interviews with HCPs (5 males/7 females) who had declined or delayed vaccination against COVID-19 during February to May 2021. The interviews were recorded and transcribed and a combined top-down and bottom-up analysis was conducted by three coders.

Results: We identified four main themes shaping vaccine decision-making:(1) sources of information regarding the vaccine; (2) perceptions of necessity and risks of the vaccine, (3) individual vs. collective responsibility; (4) political climate and media influence. Most participants were worried about the lack of information supporting the long-term effectiveness and safety of the vaccines, and their rushed emergency approval. While many agreed that high-risk populations should get vaccinated, all considered their own health to be good and at low risk for serious disease. Some felt tothey should avoid taking a perceived risk by accepting a new and untested vaccine protect society. However, many felt pressured to get vaccinated by colleagues and friends. The politicization of the vaccination campaign and the way the media discussed it also contributed to increased mistrust.

<u>Conclusions:</u> This study is highly relevant with emerging challenges of vaccinations. It contributes to literature on HCPs' expected role as health promoters and the importance of programs to improve vaccination acceptance targeted to this group of professionals. The findings provide insights of HCP's inner beliefs and uncertainties about Covid 19 vaccinations.

<u>Cost-utility analysis of universal screening for common BRCA1 and</u> BRCA2 variants among Ashkenazi Jewish women in Israel

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Background: Testing for common BRCA1/BRCA2 mutations found in 2.5% of Ashkenazi Jews (AJ) fulfills the WHO criteria for disease screening, but cost-effectiveness of this policy in Israel has yet to be determined. If unaffected carriers, who face high breast/ovarian cancer (BC, OC) risks, are identified pre-symptomatically, they can experience reduced morbidity and mortality through prevention. Traditionally, the Israeli National Health Basket of Services has covered BRCA testing in unaffected women only when a known familial mutation exists. Population screening (PS) for BRCA1/BRCA2 mutations may be warranted if cost-effective.

Aim: We analyzed cost-effectiveness of *BRCA* PS in AJ, an alternative strategy to two existing strategies for identifying unaffected carriers: cascade testing (CT) (≥25% carrier probability, according to familial mutation), the traditional strategy in Israel, and international family history (IFH)-based guidelines (corresponding to ≥10% carrier probability).

Methods: A decision analytic model was performed to estimate screening and treatment costs, quality-adjusted life-years (QALY) gained, and incremental cost-effectiveness ratio (ICER) for PS vs. CT and IFH-based testing in Israel. Analysis was based on actual numbers, and was conducted from payer perspective using a lifetime time-horizon.

Results: For the entire population, the model predicted 7.9 and 2.1 days gained in lifespan for PS vs. CT and IFH-based strategies, respectively, reductions of 0.3% and 0.1% in BC incidence, and reductions of 0.4% and 0.1% in OC incidence, respectively. In

Israel, this is concordant with **prevention of 170, 35 cases of BC, OC, respectively, over**10 years.

Although PS more costly than IFH (ICERs/QALY +18,968 USD), it was highly cost-effective, and less costly than CT (ICERs/QALY -3097 USD).

Conclusions: PS was highly cost-effective, and less costly than CT. Although PS was more costly than IFH, **PS was the most effective screening strategy for BC and OC prevention**. Founder BRCA variant testing should be available to all AJ women, irrespective of family history.

Prof. Shmueli was a Health Economics consultant for this study

International knowledge exchange of quality measures in primary diabetes care: a realist synthesis

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Background: International knowledge exchange (iKE) offers opportunities for improvement in diabetes quality of care through setting comparable and evidence-informed standards. Little is known on how measurements from high-income countries (HIC) were exchanged with stakeholders in low- and middle-income countries (LMIC) despite the fact that 3 of 4 adults with diabetes live in LMIC.

Aims: To analyze the current exchange of quality measures in diabetes care between countries and provide a framework for future improvement of quality, with emphasis on LMIC.

Methods: Realist synthesis, combining literature review with in-depth interviews. Electronic data-bases were searched for peer-reviewed articles, international organizations' documents and country-level reports. The corresponding authors of relevant articles and documents were contacted and invited to a 30-60 minutes semi-structured on-line interview. 383 documents were retrieved during the process. Subsequently, 80 articles and reports from 32 countries and regions contributed to the final synthesis, and 13 informants were interviewed.

Results: Knowledge exchange of quality measures is conducted in two main pathways, namely country-to-country and through international organizations. On the country level, selection of measures is often based on literature reviews, Delphi consensus techniques and international workshops. The International Diabetes Federation and the World Health Organization have played a major role in assisting stakeholders in LMIC to estimate national diabetes prevalence and risk factors. One third of all countries still do not have satisfactory data for estimating diabetes prevalence. Use of national hospital data for measuring diabetes outcomes is practiced in about one fifth of all countries, and fewer have nationally representative data for primary care.

Conclusion: We suggest a framework for policymakers and researchers to identify which international diabetes quality initiatives are most appropriate in their context. A step-wise approach, from measuring diabetes prevalence, to measuring care in tertiary- and primary- facilities can support the reduction of quality and equity gaps, within- and between- countries.

<u>Protecting young children from tobacco smoke:</u> <u>Insights from over a decade of research on Project Zero Exposure</u>

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Background: Exposure of children to tobacco smoke is harmful and can be deadly. Worldwide, 40% of young children are exposed to tobacco smoke, mostly by their own parents. Because legislation of smoke-free homes is not currently feasible, effective approaches to help parents voluntarily protect their children are needed.

Methods:We conducted a multi-phase research project spanning over a decade. Phase I included literature reviews, consultations with experts, and a qualitative study (N=65). We then developed Project Zero Exposure (PZE), an intervention to help parents protect their children from tobacco smoke, based on tailored feedback with motivational interviewing. In Phase II, we conducted a Pilot Study (N=29 families) (NCT01335178), and in Phase III we ran a randomized controlled trial (N=159 families) (NCT02867241). Child tobacco smoke exposure was assessed by a biomarker, hair nicotine.

Aims : We describe the phases of the research, summarize key results, and highlight challenges of research and intervention.

Results & Conclusions: The intervention program changed substantially during the phases of the research. Our initial plan involved trying to convince parents to quit smoking to benefit their children. Because our systematic review showed that interventions to promote parental cessation were ineffective for most participants, we used a harm-reduction approach based on persuading parents to change smoking habits around children, and make their homes and cars smoke-free. Qualitative study findings showed that parents held misconceptions about exposure, based on personal

sensory perceptions. The Pilot Study showed significant reductions in exposure (prepost), while the RCT showed significant reductions in both intervention (p=.003) and control arms (p=.002), without a statistically significant difference between the groups (p=.635). Trial participation, which included hair nicotine monitoring, may have contributed to decreasing exposure in both groups. Biomarker monitoring warrants further investigation for reduction of child tobacco smoke exposure.

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Connection: Prof. Orly Manor was my PhD advisor

TIMNA - a comprehensive framework and platform for sharing big data for research purposes in the Israeli health system

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Background: TIMNA (Research Infrastructure for Big Data) is a national framework and platform that enables access to digital and medical databases. The service is available for researchers from the academia, health organizations and industry, to conduct groundbreaking studies in the field of health, giving researchers an equal opportunity to access national data.

Aims: TIMNA supports and encourages data sharing in the health communities to exploit the existing potential of the Israeli digital medical information for research purposes, through a neutral, virtual and secure research environment.

Methods:Researchers can access relevant databases within TIMNA virtual research environment, for conducting studies that have met the regulatory conditions. Once the protocol is approved, the relevant databases are linked and de-identified, and a secure research environment is tailored to the researcher with advanced statistical tools and a remote connection.

TIMNA provides several packages to support all stages of research, including epidemiological consulting, information security, computing power and data scientist services.

Results & Conclusions: To date, more than 50 research institutions are working over TIMNA framework, conducting research that makes a significant contribution in the national level. Currently, TIMNA provides access to the national hospitalization database, "Machsava briya" (perinatal database), the cannabis database, and some national registries. Other databases are available per request.

Thus far, researchers working in TIMNA have developed protocols that are implemented in national policies, models that are running locally in the health organization, and manuscripts published in peer reviewed journals using TIMNA's framework and platform.

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	to address COVID-	-19 health policy cha	llenges.

Sociodemographic disparities in the adoption of remote medical services in primary healthcare among Clalit Health Services members

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Background: The COVID-19 pandemic accelerated the integration of telemedicine, particularly in primary healthcare. Telemedicine may improve services availability while reducing disparities.

Aims: Identification of characteristics associated with telemedicine use in primary healthcare since the COVID-19 pandemic outbreak, and with persistence even after easing of social-distancing guidelines.

Methods: Clalit insured adults who visited primary-clinics at least once between 03/2020-07/2021 were included. Those who used telemedicine (phone/video appointment with their primary physician) at least once during the period were defined as users. Users both before and after the end of the third closure (7/2/2021) were further defined as persevering-users. Multivariate-logistical regression models for telemedicine use and for perseverance were calculated separately for the Arab and Jewish sectors, in light of the lower use of telemedicine in the Arab sector.

Results: 1,945,830 visitors to primary-care clinics were included. Both in the Jewish and Arab sectors, higher odds for telemedicine use were found in women (OR=1.385, OR=1.200, respectively) and in persons aged 85+ compared with those aged 45-65 (OR=1.394, OR=1.204, respectively). Lower use was found among those with low (OR=0.773, OR=0.303, respectively) and medium socioeconomic-position score (SEP) (OR=0.786, OR=0.414, respectively) compared to higher SEP. Increased telemedicine use was observed in families consisting of a single-adult with children compared to adults without children, particularly in the Arab sector (OR=1.241); and in persons who provided Clalit with an e-mail address (interpreted as a proxy for technological-literacy) (OR=1.779, OR=1.645, respectively). While Jews' telemedicine use was increased in the near periphery (OR=1.645) and center of the country (OR=1.897), it

was lower among Arabs in the near periphery (OR=0.740) and center (OR=0.298), compared to the far periphery. The above also characterized persistent-use, except for periphery-classification. P-values<0.001 for all coefficients. Conclusions: The identification of patients' characteristics associated with the use of telemedicine forms a basis for both outreach and improvements in service customization.

<u>Intergenerational transmission of trauma: Incidence of schizophrenia in</u> offspring of Holocaust survivors

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Background: Animal and human studies linked environmental factors acting during fetal development and early life to adult health outcomes, including psychiatric disorders. Much less is known about the role of parental trauma occurring *prior to conception* in contributing to the pathogenesis of these disorders, as well as about the separate contribution of maternal and paternal pre-conceptional exposure to trauma.

Aims: To investigate whether early-life exposure to the Holocaust is related to schizophrenia incidence in adulthood not only in survivors themselves, but also in their offspring born years after the parental exposure.

Methods: Data from the Jerusalem Perinatal Study on over 90,000 births that occurred during 1964–1976, and on their parents were linked to the National Psychiatric Registry. Parents born before 1946 in European countries controlled by the Nazis during World War II, who immigrated to Israel after the Nazi occupation, were defined as Holocaust survivors. Parents of European descent born before 1946 either in non-Nazi-occupied countries, or who immigrated to Israel *before* their country was occupied, were defined as unexposed. We validated this exposure definition using the Survey of Health, Ageing and Retirement in Europe. Survival analysis was employed to compare the risk of schizophrenia among survivors and their offspring with that among the respective unexposed groups.

Results & Conclusions: Within the parental generation, compared with the unexposed participants, those exposed to the Holocaust at age >12 years (but not at younger ages) exhibited an increased risk of schizophrenia (HR=2.5;95%CI:1.2-5.4 and

HR=6.7;95%CI:2.6-17.6 for men and women, respectively). Within the offspring, compared to children of unexposed parents, children whose parents experienced the Holocaust at age >5 years showed a higher risk of schizophrenia (HR=2.0;95%CI:1.1-3.7; HR=1.7;95%CI:1.1-2.7, for maternal and paternal exposure, respectively). These relationships were unexplained by parents' own psychiatric hospitalizations, offspring's sex, or the household's socioeconomic status. Our findings provide preliminary evidence for the role of intergenerational transmission of trauma in the pathogenesis of schizophrenia.

