Food and COVID-19 Lit Review: Weeks ending 01/21/2022 and 1/28/2022

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- Implementing healthy food environment policies in New Zealand: nine years of inaction. https://dx.doi.org/10.1186/s12961-021-00809-8
- Micronutrient Deficiency as a Confounder in Ascertaining the Role of Obesity in Severe COVID-19 Infection https://doi.org/10.3390/ijerph19031125
- Changes in Total Energy, Nutrients and Food Group Intake among Children and Adolescents during the COVID-19 Pandemic—Results of the DONALD Study https://doi.org/10.3390/nu14020297
- EatLOCAL: a platform that connects local farmers, consumers, municipalities and non-governmental organisations
- A trade war and a pandemic: Disruption and resilience in the food bank supply chain https://doi.org/10.1016/j.indmarman.2022.01.002

DFWED

- Review on irradiation effects on quality of frozen meat food https://doi.org/10.11889/j.0253-3219.2022.hjs.45.010002
- Water safety management during the initial phase of the Covid-19 pandemic: challenges, responses and guidance https://doi.org/10.1080/07900627.2021.2016378
- Factors influencing SARS-CoV-2 RNA concentrations in wastewater up to the sampling stage: A systematic review. https://dx.doi.org/10.1016/j.scitotenv.2022.153290
- Respiratory Syncytial Virus (RSV) RNA in Wastewater Settled Solids Reflects RSV Clinical Positivity Rates https://doi.org/10.1021/acs.estlett.1c00963

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- Historical Rice Farming Explains Faster Mask Use During Early Days of China's COVID-19 Outbreak https://doi.org/10.1016/j.cresp.2022.100034

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- COVID-19 prevention and control measures and infection risks in a boarding school https://doi.org/10.11918/202103108
- Key factors driving customers' restaurant dining behavior during the COVID-19 pandemic https://doi.org/10.1108/IJCHM-07-2021-0831
- Environmental Surveillance for SARS-CoV-2 in Two Restaurants from a Mid-scale City that Followed U.S. CDC Reopening Guidance. https://dx.doi.org/10.4209/aaqr.210304

Essential Workers/Food/Farm/Ag/Migrant

- Health Inequalities amongst Refugees and Migrant Workers in the Midst of the COVID-19 Pandemic: a Report of Two Cases. https://dx.doi.org/10.1007/s41649-021-00198-8
- Testing strategies to contain COVID-19 in migrant worker dormitories https://doi.org/10.1016/j.jmh.2022.100079
- Risk of SARS-CoV-2 infection in migrants and ethnic minorities compared with the general population in the European WHO region during the first year of the pandemic: a systematic review. https://dx.doi.org/10.1186/s12889-021-12466-1

Other

- Sustainability and authenticity: are they food risk relievers during the COVID-19 pandemic? https://doi.org/10.1108/BFJ-05-2021-0495

- Recover the food-energy-water nexus from COVID-19 under Sustainable Development Goals acceleration actions. https://dx.doi.org/10.1016/j.scitotenv.2022.153013
- Summer crowds: An analysis of USFS campground reservations during the COVID-19 pandemic. https://dx.doi.org/10.1371/journal.pone.0261833
- Is restaurant crowdfunding immune to the COVID-19 pandemic? https://doi.org/10.1108/IJCHM-06-2021-0817
- Prevalence of risk behaviors and correlates of SARS-CoV-2 positivity among in-school contacts of confirmed cases in a Georgia school district in the pre-vaccine era, December 2020-January 2021. https://dx.doi.org/10.1186/s12889-021-12347-7
- Agricultural commodity supply chain during the covid-19 pandemic https://doi.org/10.1088/1755-1315/951/1/012109
- Sustainability Recommendations and Practices in School Feeding: A Systematic Review. https://dx.doi.org/10.3390/foods11020176

DNPAO

Implementing healthy food environment policies in New Zealand: nine years of inaction. https://dx.doi.org/10.1186/s12961-021-00809-8

BACKGROUND: The INFORMAS [International Network for Food and Obesity/Non-communicable Diseases (NCDs) Research, Monitoring and Action Support] Healthy Food Environment Policy Index (Food-EPI) was developed to evaluate the degree of implementation of widely recommended food environment policies by national governments against international best practice, and has been applied in New Zealand in 2014, 2017 and 2020. This paper outlines the 2020 Food-EPI process and compares policy implementation and recommendations with the 2014 and 2017 Food-EPI. METHODS: In March-April 2020, a national panel of over 50 public health experts participated in Food-EPI. Experts rated the extent of implementation of 47 "good practice" policy and infrastructure support indicators compared to international best practice, using an extensive evidence document verified by government officials. Experts then proposed and prioritized concrete actions needed to address the critical implementation gaps identified. Progress on policy implementation and recommendations made over the three Food-EPIs was compared. RESULTS: In 2020, 60% of the indicators were rated as having "low" or "very little, if any" implementation compared to international benchmarks: less progress than 2017 (47%) and similar to 2014 (61%). Of the nine priority actions proposed in 2014, there was only noticeable action on one (Health Star Ratings). The majority of actions were therefore proposed again in 2017 and 2020. In 2020 the proposed actions were broader, reflecting the need for multisectoral action to improve the food environment, and the need for a mandatory approach in all policy areas. CONCLUSIONS: There has been little to no progress in the past three terms of government (9 years) on the implementation of policies and infrastructure support for healthy food environments, with implementation overall regressing between 2017 and 2020. The proposed actions in 2020 have reflected a growing movement to locate nutrition within the wider context of planetary health and with recognition of the social determinants of health and nutrition, resulting in recommendations that will require the involvement of many government entities to overcome the existing policy inertia. The increase in food insecurity due to COVID-19 lockdowns may provide the impetus to stimulate action on food polices.

Micronutrient Deficiency as a Confounder in Ascertaining the Role of Obesity in Severe COVID-19 Infection https://doi.org/10.3390/ijerph19031125

Food insecurity in the United States has been exacerbated due to the socioeconomic strain of the coronavirus disease 2019 (COVID-19) pandemic. Populations experiencing poverty and, as a

consequence, food insecurity in the United States are disproportionately affected by obesity, which was identified early in the pandemic as a major risk factor for increased susceptibility to COVID-19 infection and mortality. Given the focus on obesity and its role in immune dysregulation, it is also important to note the role of micronutrient deficiency, another sequalae of food insecurity. Micronutrients play an important role in the ability of the immune system to mount an appropriate response. Moreover, OBESE individuals are more likely to be micronutrient deficient. This review will explore the role of micronutrients, vitamin A, vitamin D, vitamin C, and zinc in respiratory immunity and COVID-19 and how micronutrient deficiency may be a possible confounder in obesity's association with severe outcomes. By illuminating the role of micronutrients in COVID-19, this paper expands the discussion from food insecurity and obesity to include micronutrient deficiency and how all of these interact in respiratory illnesses such as COVID-19.

Changes in Total Energy, Nutrients and Food Group Intake among Children and Adolescents during the COVID-19 Pandemic—Results of the DONALD Study https://doi.org/10.3390/nu14020297

The COVID-19 pandemic may have changed the habitual lifestyles of children and adolescents, in particular, due to the closure of kindergartens and schools. To investigate the impact of the pandemic on nutrients and food intake of children and adolescents in Germany, we analyzed repeated 3-day weighed dietary records from 108 participants (3–18 years;females: n = 45, males: n = 63) of the Dortmund Nutritional and Anthropometric Longitudinally Designed (DONALD) study. Polynomial mixed-effects regression models were used to identify prospective changes in dietary intake (total energy (TEI), carbohydrates, fat, protein, free sugar, ultra-processed foods, fruits and vegetables, sugar sweetened beverages and juices) before and during the first months of the COVID-19 pandemic. For the current analysis, we have chosen the first months of the pandemic (March 2020–August 2020), as this was the period with the most restrictions in Germany so far (kindergarten, school and restaurant closures;contact and outdoor activity restrictions). No significant changes in either the selected nutrients or food groups were observed. However, children and adolescents recorded a significantly lower TEI during the pandemic ($\beta = -109.65$, $p = 0.0062$). Results remained significant after the exclusion of participants with under-reported records ($\beta = -95.77$, $p = 0.0063$). While macronutrient intake did not change, descriptive data indicate a non-significant de-crease in sugar sweetened beverages and ultra-processed foods intake. We suggest that children and adolescents from high socioeconomic families may have adapted lifestyle changes during the pandemic.

EatLOCAL: a platform that connects local farmers, consumers, municipalities and non-governmental organisations

The COVID-19 pandemic has brought unprecedented challenges to public health and supply chain systems around the globe. Local farmers businesses were impacted by the lockdowns and they still face difficulties in commercializing their production while requests for social, economic and food support pile up at municipalities and non-governmental organisations (NGOs). Meanwhile, working from home, constraints to workout, business and social life, are impacting citizens' work-life balance, eating habits and impacting populations' physical and mental health globally. EatLOCAL proposes to address this issue by providing a service that is supported in an innovative digital platform that strengthens connections between suppliers, consumers, municipalities and NGOs working on food privation issues. Besides maximizing the opportunities for business to local farmers, this platform also creates a facilitated channel that promotes de access to fresh food by citizens and minimizes the social impact of the pandemic in most vulnerable groups.

A trade war and a pandemic: Disruption and resilience in the food bank supply chain https://doi.org/10.1016/j.indmarman.2022.01.002

Supply chain turbulence has become the new normal – and understanding supply chain resilience is essential for business-to-business firms. Dynamic capabilities theory provides the foundation for examining three literature gaps on supply chain resilience: resource reconfiguration during high impact disruptions;resilience across multiple supply chain levels;and resilience when government is involved. The food bank supply chain is examined during the turbulence of 2018–2020 from the U.S.-China trade war and the COVID-19 pandemic. Due to the trade war, the U.S. Department of Agriculture (USDA) shifted agricultural commodities intended for export to food banks, creating scale and scope supply shocks, and this was followed by food demand and supply shocks from the pandemic. In-depth interviews were conducted with supply chain members, from farmers to processing firms to food banks. Qualitative analysis provides detailed perspectives on three stages of supply chain resilience: anticipating, adapting and responding, and recovery and learning. The trade war responses built resilience during the pandemic by leveraging dynamic capabilities and frugal innovation, and by building social capital and public/private partnerships. From the specific insights for food banks emerged broader insights for business-to-business firms, in the form of twelve propositions for building supply chain resilience to high impact disruptions.

DFWED

Review on irradiation effects on quality of frozen meat food https://doi.org/10.11889/j.0253-3219.2022.hjs.45.010002

Irradiation technology has been widely used in the field of food processing. It is urgent to figure out whether the quality of frozen meat food would change after irradiation, when the SARS-CoV-2 was detected in the imported cold-chain meat. The effects of irradiation on the quality of frozen meat are summarized from the aspects of food sensory, protein decomposition, fat oxidation, vitamin content and so on, providing reference for the formulation of irradiation for the elimination of SARS-CoV-2 and other viruses on frozen food, as well as the study of irradiated frozen meat and the industrial development of irradiated frozen food.

Water safety management during the initial phase of the Covid-19 pandemic: challenges, responses and guidance https://doi.org/10.1080/07900627.2021.2016378

Water safety plans address both routine operations and incident responses to support risk management in drinking water utilities. Their use and relevance in facing the challenges of the Covid-19 crisis were investigated via a survey distributed to water utilities and health or environmental agencies across the globe. Responses from 86 respondents from 38 countries were analysed to identify the water safety challenges faced and responses. Water safety plans appear to provide some preparedness and organizational advantages to utilities in facing the Covid-19 crisis, including stronger communication links between utilities and governing agencies. Guidance for future water safety planning is provided. [FROM AUTHOR]

Factors influencing SARS-CoV-2 RNA concentrations in wastewater up to the sampling stage: A systematic review. https://dx.doi.org/10.1016/j.scitotenv.2022.153290

Wastewater-based surveillance (WBS) for SARS-CoV-2 RNA is a promising complementary approach to monitor community viral circulation. A myriad of factors, however, can influence RNA concentrations in wastewater, impeding its epidemiological value. This article aims to provide an overview and discussion of factors up to the sampling stage that impact SARS-CoV-2 RNA concentration estimates in wastewater.

To this end, a systematic review was performed in three databases (MEDLINE, Web of Science and Embase) and two preprint servers (MedRxiv and BioRxiv). Two authors independently screened and selected articles published between January 1, 2019 and May 4, 2021. A total of 22 eligible articles were included in this systematic review. The following factors up to sampling were identified to have an influence on SARS-CoV-2 RNA concentrations in wastewater and its interpretation: (i) shedding-related factors, including faecal shedding parameters (i.e. shedding pattern, recovery, rate, and load distribution), (ii) population size, (iii) in-sewer factors, including solid particles, organic load, travel time, flow rate, wastewater pH and temperature, and (iv) sampling strategy. In conclusion, factors influencing SARS-CoV-2 RNA concentration estimates in wastewater were identified and research gaps were discussed. The identification of these factors supports the need for further research on WBS for COVID-19.

Respiratory Syncytial Virus (RSV) RNA in Wastewater Settled Solids Reflects RSV Clinical Positivity Rates https://doi.org/10.1021/acs.estlett.1c00963
Wastewater-based epidemiology (WBE) uses concentrations of infectious agent targets in wastewater to infer infection trends in the contributing community. To date, WBE has been used to gain insight into infection trends of gastrointestinal diseases, but its application to respiratory diseases has been limited. Here, we report that respiratory syncytial virus (RSV) genomic ribonucleic acid can be detected in wastewater settled solids at two publicly owned treatment works. We further show that its concentration in settled solids is strongly associated (Kendalls tau = 0.65-0.77, p < 10(-7)) with clinical positivity rates for RSV at sentinel laboratories across the state in 2021, a year with anomalous seasonal trends of RSV disease. Given that RSV infections have similar clinical presentations to COVID-19, can be life threatening for some, and immunoprophylaxis distribution for vulnerable people is based on outbreak identification, WBE represents an important tool to augment current RSV surveillance and public health response efforts.

NIOSH

Historical Rice Farming Explains Faster Mask Use During Early Days of China's COVID-19 Outbreak https://doi.org/10.1016/j.cresp.2022.100034
In the early days of the coronavirus outbreak, we observed mask use in public among 1,330 people across China. People in regions with a history of farming rice wore masks more often than people in wheat regions. Cultural differences persisted after taking into account objective risk factors such as local COVID cases. The differences fit with the emerging theory that rice farming's labor and irrigation demands made societies more interdependent, with tighter social norms. Cultural differences were strongest in the ambiguous, early days of the pandemic, then shrank as masks became nearly universal (94%). Separate survey and internet search data replicated this pattern. Although strong cultural differences lasted only a few days, research suggests that acting just a few days earlier can reduce deaths substantially.

NCEH

COVID-19 prevention and control measures and infection risks in a boarding school https://doi.org/10.11918/202103108
Boarding school is one of the places where people usually live in densely crowed conditions. In order to control the risk of COVID-19 epidemic in boarding schools, five levels of practicable pandemic prevention measures and their effects on infection risks in five typical campus living scenes, including going to washroom, going out, going to class, having meal, and returning to dormitory were proposed, and the susceptible-infective (SI) model based on statistics and probability hypotheses was developed.

Then the SARS-CoV-2 infection rates among students in 14 days were simulated in two typical apartment types: four-person dormitory with two public washrooms on each floor (apartment A) and six-person dormitory with a private washroom (apartment B). Results show that for apartment A, once there was an infected person, the epidemic spread rapidly in the whole building even under the most stringent prevention and control measures (level Ⅴ). While for apartment B, when the most stringent prevention and control measures (level Ⅴ) were taken, the epidemic could be controlled within the range of less than 10 people in two weeks. In addition, full vaccination would significantly inhibit the infection rate, and the number of washrooms would no longer be a significant factor. Even if no prevention and control measures were taken, the number of infected people would decrease significantly, and the number of persons in one dormitory became the main factor affecting the spread of the virus. The research results can provide information support for campus epidemic prevention and control.

Key factors driving customers' restaurant dining behavior during the COVID-19 pandemic https://doi.org/10.1108/IJCHM-07-2021-0831

PurposeThis study aims to identify key factors that affected US respondents' dining behavior at restaurants during the midst of the COVID-19 pandemic.Design/methodology/approachDue to the lack of a prior framework or model to test customers' perceptions of dining-out behavior during this unprecedented time, this study used a mixed-methods approach, conducting two focus group discussions to generate potential restaurant attributes, followed by a US-based survey using an online panel. Using structural equation modeling, this study tested eight developed propositions.FindingsThe findings of this study indicated that the three key factors (i.e. restaurant dining environment, communication and hygiene and contactless features) made customers feel comfortable dining in the restaurant during the pandemic. Out of these three factors, only the restaurant dining environment and communication and hygiene were essential predictors for customers' perceived trust toward the restaurant, leading to their willingness to pay more. This study used two moderators, customers' perceived risk and support for restaurants to examine how they affected customers' perceived trust and willingness to pay, respectively.Practical implicationsThis study provides both theoretical and practical implications to the current body of knowledge in customers' dining-out behavior and the development of operational strategies for restaurants to accommodate customers' changing dining-out behavior due to the COVID-19 pandemic. To develop a holistic conceptual framework, this study incorporates two COVID-19-focused measurement items, perceived risk and support of the restaurant, to identify their moderating roles in the relationships among the five proposed measurement items. This study provides restaurant operators with insights into the altered dining-out behavior of their customers due to the COVID-19 pandemic and prepares them for the post pandemic environment.Originality/valueDuring the unprecedented pandemic situation, few customers are willing to dine in restaurants. As local and national governments lifted the mandated COVID-19 protocols, restaurants opened their business slowly to cater to customers in compliance with the centers for disease control's health and safety regulations. It is of utmost importance for restaurant operators to accommodate their customers' needs when they dine in the middle of the COVID-19 pandemic. There is a paucity of research that has examined customers' comfort level when dining in restaurants and customers' preferred dining environment during the pandemic.

Environmental Surveillance for SARS-CoV-2 in Two Restaurants from a Mid-scale City that Followed U.S. CDC Reopening Guidance. https://dx.doi.org/10.4209/aaqr.210304

Since mask use and physical distancing are difficult to maintain when people dine indoors, restaurants are perceived as high risk for acquiring COVID-19. The air and environmental surfaces in two restaurants in a mid-scale city located in north central Florida that followed the Centers for Disease Control and

Prevention (CDC) reopening guidance were sampled three times from July 2020 to February 2021. Sixteen air samples were collected for 2 hours using air samplers, and 20 surface samples by using moistened swabs. The samples were analyzed by real-time reverse transcriptase-polymerase chain reaction (RT-PCR) for the presence of SARS-CoV-2 genomic RNA. A total of ~550 patrons dined in the restaurants during our samplings. SARS-CoV-2 genomic RNA was not detected in any of the air samples. One of the 20 surface samples (5%) was positive. That sample had been collected from a plastic tablecloth immediately after guests left the restaurant. Virus was not isolated in cell cultures inoculated with aliquots of the RT-PCR-positive sample. The likelihood that patrons and staff acquire SARS-CoV-2 infections may be low in restaurants in a mid-scale city that adopt CDC restaurant reopening guidelines, such as operation at 50% capacity so that tables can be spaced at least 6 feet apart, establishment of adequate mechanical ventilation, use of a face covering except while eating or drinking, and implementation of disinfection measures.

Essential Workers/Food/Farm/Ag/Migrant

Health Inequalities amongst Refugees and Migrant Workers in the Midst of the COVID-19 Pandemic: a Report of Two Cases. https://dx.doi.org/10.1007/s41649-021-00198-8

Malaysia hosts a significant number of refugees, asylum-seekers and migrant workers. Healthcare access for these individuals has always proved a challenge: language barriers, financial constraints and mobility restrictions are some of the frequently cited hurdles. The COVID-19 pandemic has exacerbated these existing inequalities, with migrants and refugees bearing the brunt of chronic systemic injustices. Providing equitable healthcare access for all, regardless of their citizenship and social status remains an ethical challenge for healthcare providers, particularly within the framework of a resource-limited healthcare system. Inclusive healthcare and socio-economic policies are necessary to ensure every individual's equal opportunity to attain good health. The collective experiences of refugees and migrants in the pursuit of healthcare, as highlighted by the two cases described, showcases the importance of equity in healthcare access and the detrimental implications of non-inclusive healthcare and socio-economic policies.

Testing strategies to contain COVID-19 in migrant worker dormitories
https://doi.org/10.1016/j.jmh.2022.100079

Introduction COVID-19 transmission within overcrowded migrant worker dormitories is an ongoing global issue. Many countries have implemented extensive control measures to prevent the entire migrant worker population from becoming infected. Here, we explore case count outcomes when utilising lockdown and testing under different testing measures and transmissibility settings. Methods We built a mathematical model which estimates transmission across 10 different blocks with 1000 individuals per block under different parameter combinations and testing conditions over the period of 1 month. We vary parameters including differences in block connectivity, underlying recovered proportion at the time of intervention, case importation rates and testing protocols using either PCR or rapid antigen testing. Results We estimate that in a relatively transmissible environment, fortnightly PCR testing at a relatively low initial recovered proportion at 40%, low connectivity where 10% of contacts occurred outside of the infected individuals' block and high importation rate of 1100000 per day, results in an average of 39 (95%Interval: 9–121) new COVID-19 cases after one month of observation. Similar results were observed for weekly rapid antigen testing at 33 (9–95) cases. Interpretation Our findings support the need for either fortnightly PCR testing or weekly rapid antigen testing in high population density environments such as migrant worker dormitories. Repeated mass testing is highly effective, preventing localized site outbreaks and reducing the need for site wide lockdowns or other extensive social distancing measures within and outside of dormitories. Funding This research is supported by

DEMOS funding from Saw Swee Hock School of Public Health, National University of Singapore, the COVID-19 grant under Singapore's National Medical Research Council Centre Grant Programme – the Singapore Population Health Improvement Centre (NMRC/CG/C026/2017_NUHS) and COVID-19 Research Fund (COVID19RF-004).

Risk of SARS-CoV-2 infection in migrants and ethnic minorities compared with the general population in the European WHO region during the first year of the pandemic: a systematic review.
https://dx.doi.org/10.1186/s12889-021-12466-1
BACKGROUND: Migrants and ethnic minorities have suffered a disproportionate impact of the COVID-19 pandemic compared to the general population from different perspectives. Our aim was to assess specifically their risk of infection in the 53 countries belonging to the World Health Organization European Region, during the first year of the pandemic. METHODS: We conducted a systematic review following Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PROSPERO CRD42021247326). We searched multiple databases for peer-reviewed literature, published on Medline, Embase, Scisearch, Biosis and Esbiobase in 2020 and preprints from PubMed up to 29/03/2021. We included cross-sectional, case-control, cohort, intervention, case-series, prevalence or ecological studies, reporting the risk of SARS-CoV-2 infection among migrants, refugees, and ethnic minorities. RESULTS: Among the 1905 records screened, 25 met our inclusion criteria and were included in the final analysis. We found that migrants and ethnic minorities during the first wave of the pandemic were at increased exposure and risk of infection and were disproportionately represented among COVID-19 cases. However, the impact of COVID-19 on minorities does not seem homogeneous, since some ethnic groups seem to be more at risk than others. Risk factors include high-risk occupations, overcrowded accommodations, geographic distribution, social deprivation, barriers to access to information concerning preventive measures (due to the language barrier or to their marginality), together with biological and genetic susceptibilities. CONCLUSIONS: Although mixed methods studies will be required to fully understand the complex interplay between the various biological, social, and cultural factors underlying these findings, the impact of structural determinants of health is evident. Our findings corroborate the need to collect migration and ethnicity-disaggregated data and contribute to advocacy for inclusive policies and programmatic actions tailored to reach migrants and ethnic minorities.

Other

Sustainability and authenticity: are they food risk relievers during the COVID-19 pandemic?
https://doi.org/10.1108/BFJ-05-2021-0495
Purpose: The study jointly investigates sustainability and authenticity concepts in the food context during the COVID-19 outbreak with a fourfold objective: (1) understanding whether sustainability and authenticity are equivalent concepts in consumers' perceptions;(2) advancing knowledge on the role played by them about food frauds' perception;(3) investigating whether these concepts are considered as “risk relievers” by consumers, (4) comparing the concepts to understand which one has a greater weight on the consumer's perception. Design/methodology/approach: The study adopts a Combination of a Uniform and a shifted Binomial distribution (CUB models) on data gathered in Spain between June and August 2020 through an online questionnaire. Findings: The findings reveal that: (1) consumers perceive sustainability and authenticity as different concepts in the food context and (2) as two important indicators of fraud protection of a product for consumers;(3) besides, authenticity is seen as a “risk reliever” in buying a food product, as well as sustainability, (4) although results underline high uncertainty in the latter case. Originality/value: By considering that the COVID-19 outbreak seriously threatens food safety, security and nutrition, this research elucidates the relevant role of food

sustainability and authenticity concepts as “risk relievers” in terms of food frauds and negative issues related to COVID-19. © 2021, Emerald Publishing Limited.

Recover the food-energy-water nexus from COVID-19 under Sustainable Development Goals acceleration actions. https://dx.doi.org/10.1016/j.scitotenv.2022.153013
The interwoven relationship between food, energy, and water (FEW) is described as the FEW nexus. The COVID-19 pandemic has interrupted the FEW nexus and impeded the progress of FEW-related Sustainable Development Goals (SDGs) (SDG 2: Zero Hunger; 6: Clean Water and Sanitation; 7: Affordable and Clean Energy). We aim to find solutions to recover the FEW nexus from COVID-19. First, we discussed the challenges faced by FEW amid COVID-19. Second, we observed responses of the FEW nexus under COVID-19's interference. Finally, we proposed the solutions that guide the FEW nexus in recovery from the pandemic by mining 164 FEW-related SDG Acceleration Actions. The key solutions include 1) building or upgrading FEW facilities and infrastructure, 2) improving nature's contribution to the FEW nexus, 3) developing digital technologies, 4) innovating the source and production of FEW, and 5) promoting community production and transforming the lifestyle. Our work highlights the importance of feasible and accelerated actions that recover the FEW nexus in the post-pandemic era.

Summer crowds: An analysis of USFS campground reservations during the COVID-19 pandemic. https://dx.doi.org/10.1371/journal.pone.0261833
During the COVID-19 pandemic, US public land managers faced the challenge of catering to large increases in camping demand, while maintaining social distancing guidelines. In this paper, we use multivariate linear regression to analyze weekly changes in reservations to US Forest Service (USFS) campgrounds between 2019 and 2020. The regression models estimate the impact of local COVID infection rates, public health restrictions, and spatial spillovers from proximity to National Parks (NPs), metropolitan areas and wildfire on camping demand. Our sample includes 1,688 individual USFS campgrounds from across the contiguous US. The results illustrate the dramatic increases in camping on USFS land that occurred in the summer of 2020 and demonstrate that increases in local infection rates led to significant increases in camping nights reserved in the summer. The results also illustrate that the increase in camping nights reserved at USFS campgrounds was particularly dramatic for campgrounds located near large metropolitan areas and near NPs that saw increases in overall recreational visits. These results point to the important role that public lands played during the pandemic and can help guide public land resource allocations for campground maintenance and operation.

Is restaurant crowdfunding immune to the COVID-19 pandemic? https://doi.org/10.1108/IJCHM-06-2021-0817
Purpose: In 2020, the COVID-19 pandemic had a devastating impact on global health care and the economy. The restaurant industry has been especially hit hard by the statewide “stay-at-home” orders. To get back on track, many of these businesses need capital. A new and effective form of fundraising for business startups is crowdfunding (CF). However, there has been little research on the pandemic impact on CF. This study aims to fill this gap by investigating the pandemic-related impact on restaurant CF. Design/methodology/approach: This study extracted all 2,686 restaurant CF projects in the USA from the Kickstarter platform from April 2010 to January 2021. By conducting descriptive analyses and multiple logistic regression models, this study examined the pandemic impact on CF success. Findings: This study finds that, while controlling the effects of other determinants, businesses in the midst of the pandemic are more likely to be successfully funded than businesses unaffected by the pandemic. Findings also reveal that restaurant startups lowered their funding goals and posted more updates/comments/pledge levels during the pandemic, which made projects more likely to be selected

as a “Project We Love” and increased the odds of funding success. However, mentioning COVID-19-related information or locating projects in “red zones” are not found to have any significant direct or moderating impact on the funding success. Research limitations/implications: This study pioneers the research topic restaurant CF and attempts to raise the research attention of small- and medium-sized enterprises and entrepreneurial financing. Using quantitative methods, it provides a new perspective on pandemic-impact research. Social exchange theory is extended to the context of reward-based CF under crisis. Finally, to the best of the authors’ knowledge, this is the first investigation of the possible moderating effect of project location on the relationship between restaurant CF characteristics and success. Practical implications: The findings of this study suggest restaurateurs to be confident about the fundraising of their startup business through reward-based CF, even when located within so-called pandemic red zones, and perform appropriate communication strategies while using the reward-based CF. Originality/value: This study is one of the earliest to examine the main and moderating effects of the pandemic-related factors on business CF in the hospitality realm. The findings are reference for researchers and restaurateurs on fundraising in a crisis context. © 2021, Emerald Publishing Limited.

Prevalence of risk behaviors and correlates of SARS-CoV-2 positivity among in-school contacts of confirmed cases in a Georgia school district in the pre-vaccine era, December 2020-January 2021. https://dx.doi.org/10.1186/s12889-021-12347-7

BACKGROUND: There is a continuing risk for COVID-19 transmission in school settings while transmission is ongoing in the community, particularly among unvaccinated populations. To ensure that schools continue to operate safely and to inform implementation of prevention strategies, it is imperative to gain better understanding of the risk behaviors of staff and students. This secondary analysis describes the prevalence of COVID-19 risk behaviors in an exposed population of students and school staff in the pre-vaccine era and identifies associations between these behaviors and testing positive for SARS-CoV-2. METHODS: From December 2020-January 2021, school staff and students exposed to confirmed COVID-19 cases in a Georgia school district were tested for SARS-CoV-2 and surveyed regarding risk behaviors in and out of school. Prevalence of risk behaviors was described by age group and school level, and associations with SARS-CoV-2 positivity were identified using chi squared tests. RESULTS: Overall, 717 students and 79 school staff participated in the investigation; SARS-CoV-2 positivity was 9.2%. In the 2 weeks prior to COVID-19 exposure, 24% of participants reported unmasked indoor time at school, 40% attended social gatherings with non-household members, and 71% visited out-of-school indoor locations, including 19% who ate indoors in restaurants. Frequencies of risk behaviors increased by age. Among students, 17% participated in school sports, of whom 86% participated without a mask. SARS-CoV-2 positivity was significantly associated with school sports and unmasked time in sports. Among K-5 students, positivity was associated with exposure to a teacher index case. CONCLUSIONS: This analysis highlights the high prevalence of risk behaviors in an unvaccinated population exposed to COVID-19 in school and identifies an association between student sports participation and SARS-CoV-2 positivity. These findings illustrate the importance of school-level prevention measures to reduce SARS-CoV-2 transmission, including limiting close-contact indoor sports and promoting consistent mask use in unvaccinated individuals. Future research could explore the role of community vaccination programs as a strategy to reduce COVID-19 transmission and introductions into school settings.

Agricultural commodity supply chain during the covid-19 pandemic https://doi.org/10.1088/1755-1315/951/1/012109

This study aims to analyze the agricultural commodity supply chain during the Covid-19 pandemic. The data used in this paper is secondary data and analyzed descriptively. The effects of Covid-19 pandemic on agricultural supply chains are discussed, including transportation barriers during the pandemic and

government programs to find a way out. Finally, this study showed the policy formula from government to maintain the national food security chain especially agricultural commodity such as guarantee transportation and distribution of food from surplus provinces to deficit provinces to achieve adequate food availability in each province, innovation strategies in the distribution of agricultural products, and create an intelligent and accurate information system.

Sustainability Recommendations and Practices in School Feeding: A Systematic Review.
https://dx.doi.org/10.3390/foods11020176
Considering the importance of schools for sustainable food offers and the formation of conscientious citizens on sustainability, this systematic review aimed to verify the recommendations on sustainability in school feeding policies and the sustainability practices adopted in schools. The research question that guided this study is "what are the recommendations on sustainability in school feeding policies and the sustainability practices adopted in schools?". This systematic review was prepared according to PRISMA, and its checklist was registered in PROSPERO. Specific search strategies for Scopus, Web of Science, Pubmed, Lilacs, Google Scholar, and ProQuest Dissertations & Theses Global were developed. The included studies' methodological quality was evaluated using the Meta-Analysis Statistical Assessment and Review Instrument (MASTARI). A total of 134 studies were selected for a full reading. Of these, 50 met the eligibility criteria and were included in the systematic review. Several sustainability practices were described. The most cited are school gardens and education activities for sustainability. However, actions carried out in food services were also mentioned, from the planning of menus and the purchase of raw materials (mainly local and organic foods, vegetarian/vegan menus) to the distribution of meals (reduction of organic and inorganic waste: composting, recycling, donating food, and portion sizes). Recommendations for purchasing sustainable food (organic, local, and seasonal), nutrition education focused on sustainability, and reducing food waste were frequent; this reinforces the need to stimulate managers' view, in their most varied spheres, for the priority that should be given to this theme, so that education for sustainability is universally part of the curricula. The importance of education in enabling individuals to promote sustainable development is reaffirmed in Sustainable Development Goal 4 (SDG 4). The development of assessment instruments can help monitor the evolution of sustainable strategies at schools and the main barriers and potentialities related to their implementation.

Food and COVID-19 Lit Review: Week ending 01/07/2022

DNPAO

- Why should obese youth be prioritized in COVID-19 vaccination programs? A nationwide retrospective study https://doi.org/10.1016/j.lana.2021.100167
- Impact of Consumer Health Awareness on Dairy Product Purchase Behavior during the COVID-19 Pandemic https://doi.org/10.3390/su14010314

DFWED/food safety

- SARS-CoV-2 circulation in Croatian wastewaters and the absence of SARS-CoV-2 in bivalve molluscan shellfish https://doi.org/10.1016/j.envres.2021.112638
- Assessing the Impact of COVID-19 on Sustainable Food Supply Chains https://doi.org/10.3390/su14010143

NIOSH/worker-Safety

- Mental Health Impacts of Wildfire, Flooding and COVID-19 on Fort McMurray School Board Staff and Other Employees: A Comparative Study https://doi.org/10.3390/ijerph19010435
- A descriptive analysis of 2020 California Occupational Safety and Health Administration covid-19-related complaints. https://dx.doi.org/10.1016/j.ssmph.2021.101016

NCEH

- Social distancing and store choice in times of a pandemic https://doi.org/10.1016/j.jretconser.2021.102860
- Covid-19, urban economic resilience and the pandemic pivot: Toronto's restaurant scene https://doi.org/10.1080/21681376.2021.2013732
- The Sustainable Innovation Design in Catering Service https://doi.org/10.3390/su14010278

Essential Workers/Food/Farm/Ag/Migrant

- Covid is Background for Strike https://doi.org/10.1002/mare.30795
- Essential Farmworkers and the Pandemic Crisis: Migrant Labour Conditions, and Legal and Political Responses in Italy and Spain https://doi.org/10.1007/978-3-030-81210-2_8

Other

- Effect of the COVID-19 pandemic on Social Determinants of Health in Non-Hispanic Black pregnant women https://doi.org/10.1016/j.ajog.2021.11.814
- Elementary schools' response to student wellness needs during the COVID-19 shutdown: A qualitative exploration using the R = MC2 readiness heuristic https://doi.org/10.3390/ijerph19010279
- Plant Health in a One Health context Special Issue https://doi.org/10.1111/ppa.13487

DNPAO

- **Why should obese youth be prioritized in COVID-19 vaccination programs? A nationwide retrospective study https://doi.org/10.1016/j.lana.2021.100167**
  Summary Background The dominant effect of age on COVID-19 mortality obscures the impact of other risk factors. Although the elderly is at a greater risk of severe disease and death due to COVID-19, the interaction of obesity and age was not carefully assessed. This analysis is especially critical for prioritizing groups to receive COVID-19 vaccination. Methods Starting with 1,120,767 unvaccinated individuals registered in a Brazilian surveillance system, we selected 313,898 hospitalized COVID-19 patients aged 20 to 89 who had a BMI ≥ 25 kg/m2 and cardiovascular diseases (CVD) or diabetes, as well as individuals with no risk factors associated with severe COVID-19. Patient data were stratified by age, obesity, BMI, and comorbidities, and subsequently, subjected to crude and adjusted odds ratio, hazard ratio, and Kaplan–Meier curves. Disease outcomes were invasive and non-invasive ventilatory support, intensive care unit (ICU) admission, and death. Findings Obesity alone is a risk factor for in-hospital mortality and is more significant than cardiovascular disease and diabetes. Furthermore, obesity, cardiovascular disease, and diabetes increase the risk of severity and death by COVID-19 more significantly in young adults than in the elderly. When categorizing patients by obesity classes, the severity of obesity was found to be associated with a higher risk of admission to the ICU and death from COVID-19 than the non-obese young adults or elderly population. Interpretation Our findings highlight the increased risk of severe COVID-19 on the Brazilian obese youth. As SARS-

CoV-2 may become a recurrent seasonal infection, future vaccination campaigns against COVID-19 should prioritize obese young individuals.

- **Impact of Consumer Health Awareness on Dairy Product Purchase Behavior during the COVID-19 Pandemic** https://doi.org/10.3390/su14010314
  Corona Virus Disease 2019 (COVID-19) has led to a reduction in the overall consumption of dairy products in China. How to restore the consumption potential of dairy products and alleviate the serious impact on the dairy market in the post-epidemic period is an urgent problem that needs to be resolved. Based on the survey data of 1780 consumers in 31 provinces (municipalities and autonomous regions) of China, the Heckman two-stage model was used to empirically test the impact of consumer health awareness on dairy product purchase behavior during the COVID-19 pandemic and to further analyze the differences in factors affecting dairy product purchase behavior with the restriction of consumer health awareness. The results showed that the overall level of consumer health awareness after the outbreak of COVID-19 was relatively high. A total of 79% of consumers preferred to buy dairy products after the COVID-19 outbreak, and the proportion of purchased dairy products increased by an average of 17.49%, compared with that before the COVID-19 outbreak. Health change perception, health concern degree, and health habit development in consumer health awareness all have important impacts on the purchase behavior of dairy products. Among them, health change perception and health habit development both positively and significantly affected the purchase intention. Moreover, all three aspects of consumer health awareness positively increased the proportion of dairy product purchases. Difference analysis showed that there were obvious differences among consumer groups with different health awareness in dairy product purchase decisions. Component factor analysis found that, overall, consumer health awareness directly affected the purchase intention and increased the purchase proportion of dairy products. Therefore, policy recommendations are proposed to increase the consumption momentum of dairy products by raising consumer health awareness in the post-epidemic period.

DFWED/food safety

- **SARS-CoV-2 circulation in Croatian wastewaters and the absence of SARS-CoV-2 in bivalve molluscan shellfish** https://doi.org/10.1016/j.envres.2021.112638
  The circulation of SARS-CoV-2 in the environment has been confirmed numerous times, whilst research on the bioaccumulation in bivalve molluscan shellfish (BMS) has been rather scarce. The present study aimed to fulfil the knowledge gap on SARS-CoV-2 circulation in wastewaters and surface waters in this region and to extend the current knowledge on potential presence of SARS-CoV-2 contamination in BMS. The study included 13 archive wastewater and surface water samples from the start of epidemic and 17 influents and effluents from nine wastewater treatment plants (WWTP) of different capacity and treatment stage, sampled during the second epidemic wave. From that period are the most of 77 collected BMS samples, represented by mussels, oysters and warty venus clams harvested along the Dalmatian coast. All samples were processed according to EN ISO 15216-1 2017 using Mengovirus as a whole process control. SARS-CoV-2 detection was performed by real-time and conventional RT-PCR assays targeting E, N and nsp14 protein genes complemented with nsp14 partial sequencing. Rotavirus A (RVA) real-time RT-PCR assay was implemented as an additional evaluation criterion of virus concentration techniques. The results revealed the circulation of SARS-CoV-2 in nine influents and two secondary treatment effluents from eight WWTPs, while all samples from the start of epidemic (wastewaters, surface waters) were negative which was influenced by sampling strategy. All tertiary effluents and BMS were SARS-CoV-2 negative. The results of RVA amplification were beneficial in evaluating virus concentration techniques and provided insights

into RVA dynamics within the environment and community. In conclusion, the results of the present study confirm SARS-CoV-2 circulation in Croatian wastewaters during the second epidemic wave while extending the knowledge on wastewater treatment potential in SARS-CoV-2 removal. Our findings represent a significant contribution to the current state of knowledge that considers BMS of a very low food safety risk regarding SARS-CoV-2.

- **Assessing the Impact of COVID-19 on Sustainable Food Supply Chains** https://doi.org/10.3390/su14010143
  Recently, it has become an important issue to ensure sustainability, especially in food supply chains, against the rapidly growing population, increasing demand, and sudden disruptions caused by uncertain times such as that caused by COVID-19. Since food supply chains has vulnerable products and processes, it is critical to understand the sustainability factors of food supply chains especially in uncertain times such during the COVID-19 pandemic. This study aims to determine sustainability factors of food supply chains. An Interpretive Structural Modelling method is used to state the relations between sustainability factors of food supply chains. As a result of the study, Information Sharing and Managerial Approaches are classified as driving factors;Food Safety and Security, Know-How Transfer, Logistics Networking, Risk Mitigation, Employee Commitment, Innovation, Traceability and Responsiveness are categorized as linkage factors. This article will be beneficial for managers in helping them develop sustainable food supply chains during uncertain times by focusing on traceability, information sharing, know-how transfer, food safety and security.

NIOSH/worker-Safety

- **Mental Health Impacts of Wildfire, Flooding and COVID-19 on Fort McMurray School Board Staff and Other Employees: A Comparative Study** https://doi.org/10.3390/ijerph19010435
  Background: Fort McMurray, a city in northern Alberta, Canada, has experienced multiple traumas in the last five years, including the 2016 wildfire, the 2020 floods, and the COVID-19 pandemic. Eighteen months after the wildfire, major depressive disorder (MDD), generalized anxiety disorder (GAD), and Post Traumatic Stress Disorder (PTSD) symptoms were elevated among school board employees in the city. Objective: This study aimed to compare employees of the school board and other employees of Fort McMurray in respect to the impact the 2016 wildfires, the 2019 COVID pandemic, and the 2020 floods had on their mental health. Methodology: A quantitative cross-sectional survey was conducted in Fort McMurray from 24 April to 2 June 2021. Online questionnaires were administered through REDCap and were designed to capture socio-demographic characteristics, clinical as well as wildfire, COVID-19, and flooding-related variables. Mental health outcome variables were captured using self-reported standardized assessment scales. Data were analysed with descriptive statistics, Chi-square/Fisher’s Exact tests, and binary regression analysis. Results: Of the 249 residents who accessed the online survey, 186 completed the survey, giving a response rate of 74.7%. Of these respondents, 93.5% (174) indicated their employment status and were included in the Chi-square analysis. Most of the respondents were female (86.2%, (150)), above 40 years (53.4%, (93)), and were in a relationship (71.3%, (124)). The prevalence values for MDD, GAD and PTSD among respondents were 42.4%, 41.0, and 36.8%, respectively. There was a statistically significant difference between employees of the school board and other employees with respect to likely PTSD prevalence (28% vs. 45%, respectively, p < 0.05), although with other factors controlled for, in a binary logistic regression model, employer type did not significantly predict likely PTSD. Conclusions: The study has established that likely PTSD symptoms were significantly higher in other employees compared to those of school board employees. Greater exposure to

the traumatic events and a greater perceived lack of support from other employers might have contributed to the significantly higher prevalence of PTSD in other employees.

- **A descriptive analysis of 2020 California Occupational Safety and Health Administration covid-19-related complaints.** https://dx.doi.org/10.1016/j.ssmph.2021.101016
  COVID-19 mortality has disproportionately affected specific occupations and industries. The Occupational Safety and Health Administration (OSHA) protects the health and safety of workers by setting and enforcing standards for working conditions. Workers may file OSHA complaints about unsafe conditions. Complaints may indicate poor workplace safety during the pandemic. We evaluated COVID-19-related complaints filed with California (Cal)/OSHA between January 1, 2020 and December 14, 2020 across seven industries. To assess whether workers in occupations with high COVID-19-related mortality were also most likely to file Cal/OSHA complaints, we compared industry-specific per-capita COVID-19 confirmed deaths from the California Department of Public Health with COVID-19-related complaints. Although 7820 COVID-19-related complaints were deemed valid by Cal/OSHA, only 627 onsite inspections occurred, and 32 citations were issued. Agricultural workers had the highest per-capita COVID-19 death rates (402 per 100,000 workers) but were least represented among workplace complaints (44 per 100,000 workers). Health Care workers had the highest complaint rates (81 per 100,000 workers) but the second lowest COVID-19 death rate (81 per 100,000 workers). Industries with the highest inspection rates also had high COVID-19 mortality. Our findings suggest complaints are not proportional to COVID-19 risk. Instead, higher complaint rates may reflect worker groups with greater empowerment, resources, or capacity to advocate for better protections. This capacity to advocate for safe workplaces may account for relatively low mortality rates in potentially high-risk occupations. Future research should examine factors determining worker complaints and complaint systems to promote participation of those with the greatest need of protection.

NCEH

- **Social distancing and store choice in times of a pandemic**
  https://doi.org/10.1016/j.jretconser.2021.102860
  Public health officials enforced several measures to contain the COVID-19 pandemic that affected grocery stores, such as limits on store capacities and enforcement of masks and physical distancing among customers. Nevertheless, these measures can provoke queues, which could drive customers away from stores. In this study, we investigate how customers trade off between social distancing measures and increased waiting times during the peak of the COVID-19 pandemic. Our data comes from an online survey applied in New York City in May 2020. This survey included a set of discrete choice experiments framed in virtual stores, as well as a set of psychometric indicators regarding the pandemic. With this data, we estimated a latent class conditional logit model where assignment to classes is correlated with COVID-19 latent variables. We identified three latent classes with preference structures that valued social distancing to varying degrees. In spite of this heterogeneity in preferences, we found that customers were willing to wait longer to access stores with better social distancing measures. This result suggests that stores could increase, rather than decrease, their sales if they enforce public health measures at the expense of longer waiting times.
- **Covid-19, urban economic resilience and the pandemic pivot: Toronto's restaurant scene**
  https://doi.org/10.1080/21681376.2021.2013732
  Restaurants, fundamental to Toronto's urban and cultural economy, experienced significant disruption because of extended closures during the Covid-19 pandemic. We examine data harvested from Yelp Business Search Endpoint on restaurant openings and closures in Toronto

between May 2020 and May 2021. Our analysis shows that, despite expectations to the contrary, more restaurants opened than closed during this time. Geographically, similar numbers of restaurants both opened and closed in the city's downtown core, demonstrating that early pandemic predictions suggesting the end of concentration are exaggerated. Overall, restaurants and restaurateurs exhibited resilience during the pandemic. We attribute this resilience, in part, to an ability to pivot to takeout-friendly foods, digital ordering and delivery and because of government funding supports.

- **The Sustainable Innovation Design in Catering Service** https://doi.org/10.3390/su14010278
  COVID-19 has impacted the whole world since 2019, especially the dietary patterns of customers. Before the pandemic, some companies had been monitoring the operation data for health and food safety situations. It has become a vital mission to improve the food production and service process if the companies wish to pursue the sustainability of their businesses due to the general environment being changed by the epidemic. The sustainability of food systems inherently implies not only customer satisfaction but also the saving of costs. The catering service must find new ways to increase customer loyalty and satisfaction while implementing improved practices for building their brand image and modern decoration. The objective of this article is to discuss the service innovation process in order to investigate the interrelationships of catering environmental policy and psychological effects in the service function. The data were collected from a DINESERV questionnaire, comprised service quality standards, to increase the customer satisfaction for a mobile dining car. Finally, the TRIZ or Kano is a standardized measure designed to improve the idealization of strategy for selecting the most appropriate service quality model. This study presents the results from the survey and discusses future perspectives of increasing the sustainability of service within a catering information system.

Essential Workers/Food/Farm/Ag/Migrant

- **Covid is Background for Strike** https://doi.org/10.1002/mare.30795
  Members of UFC Local 555 staged a one week strike through December 24 at Fred Meyer and Quality Food Centers stores across Oregon. They allege that the grocery chains are unlawfully withholding information at the bargaining table. The strike was intended to squeeze the grocery chains through the end of the year's busiest shopping season. Fred Meyer and QFC are owned by Kroger, the nation's largest supermarket chain. Stores will remain open, the company said.
- **Essential Farmworkers and the Pandemic Crisis: Migrant Labour Conditions, and Legal and Political Responses in Italy and Spain** https://doi.org/10.1007/978-3-030-81210-2_8
  The agri-food system across Europe relies heavily on migrant labour. Border lockdowns during the Covid-19 pandemic immobilised thousands of foreign farmworkers, giving rise to fears of labour shortages and food production losses in EU countries. Farmers' organisations sought institutional interventions to address this labour demand. Although migrant workers have become a fundamental component of core sectors in recent decades, it is only in the current health emergency that they were recognised as 'essential' workers. The chapter analyses the working conditions of migrant farmworkers alongside national debates and institutional interventions in Italy and Spain during the pandemic. It provides a critical comparative analysis of legal and policy interventions to address migrants' situations of vulnerability. Both countries depend on important contingents of EU and non-EU migrant farmworkers, especially in fruit and vegetable production;moreover, they present common aspects in supply chain dynamics and labour market policies, but also specific differences in labour, migration and social policies. Both adopted measures to face the condition of irregularity of migrant workers in order to respond to labour demand in the agri-food sector and to provide these workers with safe working and living conditions during the pandemic. However, these interventions reveal shortcomings that

significantly limit their impact and outcomes, calling into question to what extent migrant workers are really considered as 'essential' in a long-term perspective and, therefore, to what extent the current pandemic constitutes an opportunity for a new push to enforce labour and migrant rights.

Other

- **Effect of the COVID-19 pandemic on Social Determinants of Health in Non-Hispanic Black pregnant women** https://doi.org/10.1016/j.ajog.2021.11.814
  Objective: To examine the difference in social determinants of health (SDH) for non-Hispanic Black pregnant women during the COVID-19 pandemic compared to pre-pandemic. Study Design: Retrospective cohort analyzing SDH in postpartum Black women in Hamilton County, OH. Women were considered to experience pregnancy during the COVID-19 pandemic if delivery occurred after March 30, 2020. The referent group were postpartum Black women who delivered from 2011-March 29, 2020. Sociodemographic, pregnancy, and infant data were collected from participants' medical records. Structured interviews measured participants' social determinants of health. Generalized linear regression estimated the association between birth during the pandemic and SDH. Results: 285 Non-Hispanic Black mothers were enrolled in the study. Of these, 239 (84%) delivered prior to the pandemic and 46 (16%) delivered during the pandemic. Baseline characteristics were similar between groups with few differences noted in Table 1. Black mothers who delivered during the pandemic were more likely to have access to transportation and had more frequent and earlier onset prenatal visits. They were also less likely to use food stamps during the pandemic. Women with pregnancies during the pandemic had more job opportunities and worked more hours during the week. However, Black women who delivered during the pandemic felt less safe in their neighborhood and faced more discrimination based upon their race (Table 2). No mothers in this cohort received the COVID-19 vaccine during pregnancy. Conclusion: Non-Hispanic Black women who experienced pregnancies during the pandemic had more job opportunities and more prenatal care than prior to the pandemic, yet they experienced more race-based discrimination and felt less safe in their neighborhoods. 2020 saw the lowest Black infant mortality on record in Hamilton County. Initiatives during the pandemic may have helped mothers achieve more optimal prenatal care and it is critical we examine the initiatives which mitigated SDH for this population. However, more needs to be done to improve vaccination and neighborhood safety.
- **Elementary schools' response to student wellness needs during the COVID-19 shutdown: A qualitative exploration using the R = MC2 readiness heuristic**
  https://doi.org/10.3390/ijerph19010279
  During spring of 2020, the COVID-19 pandemic and accompanying public health adviso-ries forced K-12 schools throughout the United States to suspend in-person instruction. School personnel rapidly transitioned to remote provision of academic instruction and wellness services such as school meals and counseling services. The aim of this study was to investigate how schools responded to the transition to remote supports, including assessment of what readiness characteristics schools leveraged or developed to facilitate those transitions. Semi-structured interviews informed by school wellness implementation literature were conducted in the spring of 2020. Personnel (n = 50) from 39 urban and rural elementary schools nationwide participated. The readiness = motivation capacity2 (R = MC2) heuristic, developed by Scaccia and colleagues, guided coding to determine themes related to schools' readiness to support student wellness in innovative ways during the pandemic closure. Two distinct code sets emerged, defined according to the R = MC2 heuristic (1) Innovations: roles that schools took on during the pandemic response, and (2) Readiness: factors influencing schools' motivation and

capacity to carry out those roles. Schools demonstrated unprecedented capacity and motivation to provide crucial wellness support to students and families early in the COVID-19 pandemic. These efforts can inform future resource allocation and new strategies to implement school wellness practices when schools resume normal operations.

- **Plant Health in a One Health context Special Issue** **https://doi.org/10.1111/ppa.13487**
  This issue encompasses how the health of plants influences wider elements of ecosystems, including our own food and health, while at the same time being affected by broad factors such as climate, pollution, and agricultural practices.

Food and COVID-19 Lit Review: Weeks ending 12/10/21 and 12/17/21

DNPAO

- Brief Research Commentary: The US Indigenous Food Sovereignty Movement's Impact on Understandings of COVID-19 in Indian Country https://doi.org/10.1111/cuag.12280
- The Social Practices of Food Bank Volunteer Work https://doi.org/10.1017/S1474746421000555
- Digital Interventions to Promote Healthy Eating in Children: Umbrella Review. https://dx.doi.org/10.2196/30160
- Approaches of Landscape Architects to Applications for the Use of Open and Green Spaces in Conditions of Covid-19 Pandemic https://doi.org/10.14744/megaron.2021.90699
- Community-oriented actions by food retailers to support community well-being: a systematic scoping review https://doi.org/10.1016/j.puhe.2021.09.029
- Older Adults With Chronic Disease and Food Insecurity in the United States. https://dx.doi.org/10.3928/00989134-20211109-02
- Older Adults With Chronic Disease and Food Insecurity in the United States. https://dx.doi.org/10.3928/00989134-20211109-02
- COVID-19 Pandemic as Risk Factors for Excessive Weight Gain in Pediatrics: The Role of Changes in Nutrition Behavior. A Narrative Review https://doi.org/10.3390/nu13124255
- Shifts in Sources of Food but Stable Nutritional Outcomes among Children in the Early Months of the COVID-19 Pandemic https://doi.org/10.3390/ijerph182312626
- Physical activity and COVID-19. The basis for an efficient intervention in times of COVID-19 pandemic https://doi.org/10.1016/j.physbeh.2021.113667
- Lessons learned from implementing SNAP-Ed in a nursing/K-8 partnership school during the pandemic https://doi.org/10.1111/phn.13031
- The National Health and Nutrition Examination Survey (NHANES), 2021–2022: Adapting Data Collection in a COVID-19 Environment https://doi.org/10.2105/AJPH.2021.306517
- The Impact of COVID-19 on Breastfeeding Rates in a Low-Income Population https://doi.org/10.1089/bfm.2021.0238
- Experiences of increased food insecurity, economic, and psychological distress during the COVID-19 pandemic among SNAP-enrolled food pantry clients https://doi.org/10.1017/S1368980021004717
- Food Insecurity in the Households of Children with Autism Spectrum Disorders and Intellectual Disabilities in the U.S.: Analysis of the National Survey of Children's Health Data 2016 – 2018 https://doi.org/10.1101/2021.03.29.21254546

DFWED

- COVID-19 abatement measures and declines in food-borne illnesses: what is the evidence?
- 2020 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 38th Annual Report https://doi.org/10.1080/15563650.2021.1989785
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NIOSH/Worker-safety health

- COVID-19 policies and recommendations for foodservice reopening: An integrative review https://doi.org/10.1080/15378020.2021.2006035
- Impact of natural ventilation on exposure to SARS-CoV 2 in indoor/semi-indoor terraces using CO2 concentrations as a proxy https://doi.org/10.1016/j.jobe.2021.103725

- Burnout and workplace dehumanization at the supermarket: A field study during the COVID-19 outbreak in Italy https://doi.org/10.1002/casp.2588
- Surviving the hectic early phase of the COVID-19 pandemic: a qualitative study to the supply chain strategies of food service firms in times of a crisis https://doi.org/10.1108/ijlm-01-2021-0013
- The Achilles Heel of the U.S. Food Industries: Exposure to Labor and Upstream Industries in the Supply Chain https://doi.org/10.2139/ssrn.3957604

NCEH

- Food allergen ladders: A need for standardization? https://doi.org/10.1111/pai.13714
- Restaurant patronage during the COVID-19 pandemic and the protection motivation theory: influence of consumers' socio-demographic, situational, and psychographic factors https://doi.org/10.1080/15378020.2021.2006036

Other

- The Association of Social Factors and Health Insurance Coverage with COVID-19 Vaccinations and Hesitancy, July 2021. https://dx.doi.org/10.1007/s11606-021-07213-6
- The Role of the California Tier System in Controlling Population Mobility During the COVID-19 Pandemic (preprint) https://doi.org/10.21203/rs.3.rs-1072338/v1
- Are we approaching peak meat consumption? Analysis of meat consumption from 2000 to 2019 in 35 countries and its relationship to gross domestic product https://doi.org/10.3390/ani11123466
- School Districts Have Expanded Their Nonacademic Services for 2021-2022, While Academic Offerings Remain Much the Same: Selected Findings from the Third American School District Panel Survey. Data Note: Insights from the American Educator Panels. Research Report. RR-A956-4 https://doi.org/10.7249/RRA956-4
- Impact of the COVID-19 pandemic on food production and animal health https://doi.org/10.1016/j.tifs.2021.12.003
- Overstocked Agricultural Produce and Emergency Supply System in the COVID-19 Pandemic: Responses from China https://doi.org/10.3390/foods10123027

DNPAO

- **Brief Research Commentary: The US Indigenous Food Sovereignty Movement's Impact on Understandings of COVID-19 in Indian Country https://doi.org/10.1111/cuag.12280**
  This research commentary provides an overview of contemporary anthropological research regarding the US Indigenous food sovereignty movement and demonstrates how it informs the impacts of COVID-19 on Indian Country. Past anthropological research on US Indigenous foodways, while useful, has lacked US Indigenous voices and in-depth political context. Alternatively, many current Indigenous scholars prioritize integration of this crucial political landscape, thus increasing the relevancy and application of this work. For this review, I begin by coalescing a selection of these recent research developments, primarily focusing on research undertaken by Indigenous scholars currently in, and affiliated with, anthropology. I then connect the ways in which their ethnographic and community-based findings shed insight into challenges that arose during the Covid-19 pandemic in 2020. Finally, I critique anthropology's lack of support for these research projects and offer suggestions regarding future US Indigenous food sovereignty research directions.

- **The Social Practices of Food Bank Volunteer Work**
  https://doi.org/10.1017/S1474746421000555
  The on-going rise in demand experienced by voluntary and community organisations (VCOs) providing emergency food aid has been described as a sign of a social and public health crisis in the UK (Loopstra, 2018;Lambie-Mumford, 2019), compounded since 2020 by the impact of (and responses to) Covid 19 (Power et al.2020). In this article we adopted a social practice approach to understanding the work of food bank volunteering. We identify how 'helping others', 'deploying coping strategies' and 'creating atmospheres' are key specific (and connected) forms of shared social practice. Further, these practices are sometimes suffused by faith-based practice. The analysis offers insights into how such spaces of care and encounter (Williams et al.2016;Cloke et al.2017) function, considers the implications for these distinctive organisational forms (the growth of which has been subject to justified critique) and suggests avenues for future research.
- **Digital Interventions to Promote Healthy Eating in Children: Umbrella Review.**
  https://dx.doi.org/10.2196/30160
  BACKGROUND: eHealth and web-based service delivery have become increasingly common during the COVID-19 pandemic. Digital interventions may be highly appealing to young people; however, their effectiveness compared with that of the usual face-to-face interventions is unknown. As nutrition interventions merge with the digital world, there is a need to determine the best practices for digital interventions for children. OBJECTIVE: The aim of this study is to examine the effectiveness of digital nutrition interventions for children on dietary outcomes compared with status quo interventions (eg, conventional face-to-face programming or nondigital support). METHODS: We conducted an umbrella review of systematic reviews of studies assessing primary research on digital interventions aimed at improving food and nutrition outcomes for children aged <18 years compared with conventional nutrition education were eligible for inclusion. RESULTS: In total, 11 systematic reviews published since 2015 were included (7/11, 64%, were of moderate quality). Digital interventions ranged from internet, computer, or mobile interventions to websites, programs, apps, email, videos, CD-ROMs, games, telehealth, SMS text messages, and social media, or a combination thereof. The dose and duration of the interventions varied widely (single to multiple exposures; 1-60 minutes). Many studies have been informed by theory or used behavior change techniques (eg, feedback, goal-setting, and tailoring). The effect of digital nutrition interventions for children on dietary outcomes is small and inconsistent. Digital interventions seemed to be the most promising for improving fruit and vegetable intake compared with other nutrition outcomes; however, reviews have found mixed results. CONCLUSIONS: Owing to the heterogeneity and duration of digital interventions, follow-up evaluations, comparison groups, and outcomes measured, the effectiveness of these interventions remains unclear. High-quality evidence with common definitions for digital intervention types evaluated with validated measures is needed to improve the state of evidence, to inform policy and program decisions for health promotion in children. Now is the time for critical, robust evaluation of the adopted digital interventions during and after the COVID-19 pandemic to establish best practices for nutrition interventions for children.
- **Approaches of Landscape Architects to Applications for the Use of Open and Green Spaces in Conditions of Covid-19 Pandemic** **https://doi.org/10.14744/megaron.2021.90699**
  Open and green areas, including areas such as parks, urban forests, daily recreation areas, residential gardens, can take on the task of changing the spatial system. Especially during epidemic/pandemic periods, people's longing for nature gradually increases and this situation can lead to the emergence of various social problems. This study tried to put forward the views

of Landscape Architects, who undertake important duties in the planning, design, implementation and sustainability of open and green spaces offered to the public, on the use of open and green spaces during the pandemic process and applications made in this regard through a survey. As a result of the survey conducted with 400 Landscape Architects, it was emphasized that the use of open and green areas is necessary in order to support public health during the pandemic period, but the necessity of various measures such as disinfection, physical distance, and re-handling of the use of urban furniture has been acknowledged. Understanding the socio-spatial consequences of the measures taken to prevent the spread of the epidemic and determining new concepts related to lifestyles that combine working and life patterns and arising from new spatial environments are among the benefits to be gained from the study. Based on the findings obtained through this study, it can be stated that Landscape Architects need to gain experience in nature, natural factors and health relations in order to be able to design urban green spaces in harmony with nature and with consideration to public health.

- **Community-oriented actions by food retailers to support community well-being: a systematic scoping review** https://doi.org/10.1016/j.puhe.2021.09.029
  Objectives Growing inequalities, austerity public funding, and the COVID-19 pandemic have contributed to heightened interest in mobilising the assets and resources within communities to support health and well-being. We aimed to identify the type of actions or initiatives by food retail stores intended to support local communities and contribute to well-being. Study design A Scoping Review. Method A scoping review was conducted in Scopus, Web of Science, and of grey literature to identify the extent of study of food retail stores in supporting community well-being, types and outcomes recorded from community-oriented actions. Data extraction included: population targeted, the content of initiative/action, outcomes recorded and key insights. Studies were grouped into broad categories relating to their actions and objectives. Results Actions were associated with either strengthening communities or public health prevention or promotion. Few studies reported clearly on impact, and most accounts of impact on well-being and broader community outcomes were narrative accounts rather than objectively measured. Although rigorous capture of outcomes was absent, there were consistent themes around partnership and community insights that are relevant to the development and implementation of future actions in communities. Conclusions This is an under-researched area that may nevertheless hold potential to support the broader public health effort in communities. To provide clear recommendations for specific investments, there is merit in identifying a subset of health and well-being outcomes most likely to be associated with food retailer community actions in order to assess and capture impact in future. We propose that the theoretical underpinning associated with asset-based approaches, which take account of context and community conditions, would be a useful framework for future study.
- **Older Adults With Chronic Disease and Food Insecurity in the United States.** https://dx.doi.org/10.3928/00989134-20211109-02
  Food insecurity has emerged as a significant problem for older adults in the United States. Older adults with chronic conditions are particularly vulnerable, as they face a number of physical, psychological, social, and economic barriers related to food purchasing options. The purpose of the current article is to examine the significance of food insecurity in older adults with chronic disease, highlight the barriers and determinates that contribute to the problem, and offer interventions to impact the disparity of food insecurity in this population.
- **The Impact of the COVID-19 Pandemic on Food Distribution at Emergency Food Assistance Organizations in the Southwestern United States: A Qualitative Investigation** https://doi.org/10.3390/nu13124267

This study aimed to identify changes in food distribution operations at emergency food assistance organizations (EFAOs) during the COVID-19 pandemic. EFAOs across the Houston metro area, TX (human service centers and food pantries) as well as the Houston Food Bank (HFB) participated in the qualitative study. Data were collected via individual semi-structured interviews and focus group (December 2020–February 2021), and coded using semi-structured thematic analysis. Categories were pre-identified based on the interview questions. Direct quotes supported subcategories. Directors from 18 EFAOs were interviewed;8 HFB leadership staff participated in a focus group. Four major categories of change due to COVID-19 included new safety measures, changes in food distribution process, changes in volunteerism and staffing, and changes in amounts of food distributed. This study helps identify susceptibilities in EFAOs;food distribution chain should be addressed to manage future emergency food insecurity crises more effectively. An understanding of the changes/challenges incurred by EFAOs during the COVID-19 pandemic can inform policymakers to ensure local food distribution organizations are prepared to fill the needs during future a crisis of food insecurity.

- **COVID-19 Pandemic as Risk Factors for Excessive Weight Gain in Pediatrics: The Role of Changes in Nutrition Behavior. A Narrative Review** https://doi.org/10.3390/nu13124255
  During the coronavirus disease 2019 (COVID-19) pandemic, social isolation, semi-lockdown, and stay at home orders were imposed upon the population in the interest of infection control. This dramatically changes the daily routine of children and adolescents, with a large impact on lifestyle and wellbeing. Children with obesity have been shown to be at a higher risk of negative lifestyle changes and weight gain during lockdown. Obesity and COVID-19 negatively affect children and adolescents; wellbeing, with adverse effects on psychophysical health, due in large part to food choices, snacking between meals, and comfort eating. Moreover, a markable decrease in physical activity levels and an increase in sedentary behavior is associated with weight gain, especially in children with excessive weight. In addition, obesity is the most common comorbidity in severe cases of COVID-19, suggesting that immune dysregulation, metabolic unbalance, inadequate nutritional status, and dysbiosis are key factors in the complex mechanistic and clinical interplay between obesity and COVID-19. This narrative review aims to describe the most up-to-date evidence on the clinical characteristics of COVID-19 in children and adolescents, focusing on the role of excessive weight and weight gain in pediatrics. The COVID-19 pandemic has taught us that nutrition education interventions, access to healthy food, as well as family nutrition counselling should be covered by pediatric services to prevent obesity, which worsens disease outcomes related to COVID-19 infection.
- **Shifts in Sources of Food but Stable Nutritional Outcomes among Children in the Early Months of the COVID-19 Pandemic** https://doi.org/10.3390/ijerph182312626
  Early in the COVID-19 pandemic, the U.S. Department of Agriculture (USDA), State governments, and school districts took unprecedented steps to mitigate the pandemic impact on students; nutrition. To examine the effect of emergency responses on 6-year-old children nutritional outcomes, this study analyzed longitudinal data from a national study of childrens feeding practices, the Special Supplemental Nutrition Program for Women, Infants, and Children; Infant and Toddler Feeding Practices Study-2 (WIC ITFPS-2). Findings include no differences in food insecurity prevalence; however, there were shifts in sources of food, with children in the post-COVID-emergency-declaration (post-ED) group consuming more dietary energy from stores and community food programs and less from restaurants and schools than children in the pre-COVID-emergency-declaration (pre-ED) group (p < 0.01 for all comparisons). Examination of within-person mean differences in 2015 Healthy Eating Index scores and nutrient intakes between ages 5 and 6 years revealed few statistically significant differences between the two groups: children in the post-ED group consumed slightly fewer vegetables (p = 0.02) and less

sodium (p = 0.01) than their pre-ED peers. Findings suggest emergency efforts to maintain childrens nutrition were largely successful in the early months of the pandemic. Research is needed to understand the mechanisms by which emergency efforts contributed to these findings.

- **Physical activity and COVID-19. The basis for an efficient intervention in times of COVID-19 pandemic** https://doi.org/10.1016/j.physbeh.2021.113667
  The Coronavirus Disease 2019 (COVID-19) pandemic has shocked world health authorities generating a global health crisis. The present study aimed to analyze the different factors associated with physical activity that could have an impact in the COVID-19, providing a practical recommendation based on actual scientific knowledge. We conducted a consensus critical review using primary sources, scientific articles, and secondary bibliographic indexes, databases, and web pages. The method was a narrative literature review of the available literature regarding physical activity and physical activity related factors during the COVID-19 pandemic. The main online database used in the present research were PubMed, SciELO, and Google Scholar. COVID-19 has negatively influenced motor behavior, levels of regular exercise practice, eating and nutritional patterns, and the psychological status of citizens. These factors feed into each other, worsening COVID-19 symptoms, the risk of death from SARS-CoV-2, and the symptoms and effectiveness of the vaccine. The characteristics and symptoms related with the actual COVID-19 pandemic made the physical activity interventions a valuable prevention and treatment factor. Physical activity improves body composition, the cardiorespiratory, metabolic, and mental health of patients and enhancing antibody responses in vaccination.
- **Lessons learned from implementing SNAP-Ed in a nursing/K-8 partnership school during the pandemic** https://doi.org/10.1111/phn.13031
  The COVID-19 pandemic had forced schools and school-based partnerships in the US to re-imagine extracurricular activities while schools were closed for in-person learning. We highlight lessons learned from implementing the Supplemental Nutrition Assistance Education Program (SNAP-Ed) virtually, a nutrition education program to improve nutrition literacy and skills among children, in a Maryland School of Nursing/K-8 Partnership school amid in-person school closures.
- **The National Health and Nutrition Examination Survey (NHANES), 2021–2022: Adapting Data Collection in a COVID-19 Environment** https://doi.org/10.2105/AJPH.2021.306517
  The National Health and Nutrition Examination Survey (NHANES) is a unique source of national data on the health and nutritional status of the US population, collecting data through interviews, standard exams, and biospecimen collection. Because of the COVID-19 pandemic, NHANES data collection was suspended, with more than a year gap in data collection. NHANES resumed operations in 2021 with the NHANES 2021–2022 survey, which will monitor the health and nutritional status of the nation while adding to the knowledge of COVID-19 in the US population. This article describes the reshaping of the NHANES program and, specifically, the planning of NHANES 2021–2022 for data collection during the COVID-19 pandemic. Details are provided on how NHANES transformed its participant recruitment and data collection plans at home and at the mobile examination center to safely collect data in a COVID-19 environment. The potential implications for data users are also discussed. (Am J Public Health. 2021;111(12):2149–2156. https://doi.org/10.2105/AJPH.2021.306517) [FROM AUTHOR]

- **The Impact of COVID-19 on Breastfeeding Rates in a Low-Income Population**
  https://doi.org/10.1089/bfm.2021.0238
  Objective: To examine the impact of the coronavirus disease 2019 (COVID-19) pandemic on breastfeeding outcomes among participants of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in Southern California. Materials and Methods: Data from the 2020 Los Angeles County triennial WIC Survey were used to examine the impact of COVID-19 on breastfeeding outcomes among WIC participants. Chi-square tests were used to explore the association between the COVID-19 pandemic and breastfeeding outcomes along with hospital-friendly practices. Results: Compared with infants born before March 2020, the percentage of infants who received any breastfeeding at 1 month decreased from 79.66% to 76.96% ($p = 0.139$). The percentage of infants who received any breastfeeding at 3 and 6 months significantly decreased from 64.57% to 56.79% ($p = 0.001$) and from 48.69% to 38.62% ($p = 0.0035$), respectively. The percentage of infants fully breastfed at 1, 3, and 6 months significantly decreased at all time points. Examining hospital practices, there were no differences between the before and during COVID-19 groups. Conclusions: The prevalence of any breastfeeding at 3 and 6 months and fully breastfeeding at 1, 3, and 6 months was significantly lower among mothers who gave birth during the pandemic compared with mothers who gave birth before the pandemic. The shift to remote services delivery and the corresponding reduction in live support of WIC services owing to the pandemic may explain the decline in the breastfeeding rate. As the nation and the WIC program prepare for the postpandemic life, it is critical to ensure that breastfeeding support is met in a hybrid of remote and face-to-face settings.
- **Experiences of increased food insecurity, economic, and psychological distress during the COVID-19 pandemic among SNAP-enrolled food pantry clients**
  https://doi.org/10.1017/S1368980021004717
  OBJECTIVE: The COVID-19 pandemic initially doubled the rates of food insecurity across the United States, and tripled rates among households with children. Despite the association among food insecurity, chronic disease and psychological distress, narratives depicting the experiences of already-food insecure populations are notably underrepresented in the literature. This study assessed the impact of COVID-19 on clients of a food pantry who were also enrolled in the Supplemental Nutrition Assistance Program (SNAP). DESIGN: A qualitative study probing the effects of the pandemic on daily living, food needs, food buying, and food insecurity. Interview transcripts were analyzed using a combined deductive and inductive approach. SETTING: Interviews were conducted via telephone between May-June of 2020. PARTICIPANTS: Equal numbers of English- and Spanish-speaking clients (n=40 total). RESULTS: Three main findings emerged: (1) The pandemic increased economic distress, such as from job loss or increased utility bills due to sustained home occupancy;(2) The pandemic increased food needs, food prices and food shortages. In combination with economic stressors, this led to greater food insecurity;(3) Increased economic stress and food insecurity contributed to increased psychological stress, such as from fear of infection, isolation, and children being confined at home. CONCLUSIONS: Despite federal legislation and state and local programs to alleviate food insecurity, COVID-19 exacerbated economic hardship, food insecurity, and psychological distress among urban SNAP and food pantry clients. Additional research is needed to identify the most effective policies and programs to ameliorate the short- and long-term health and economic inequities exacerbated by the pandemic.
- **Food Insecurity in the Households of Children with Autism Spectrum Disorders and Intellectual Disabilities in the U.S.: Analysis of the National Survey of Children's Health Data 2016 – 2018**
  https://doi.org/10.1101/2021.03.29.21254546

Individuals with Autism Spectrum Disorder and co-occurring Intellectual Disabilities (ASD + ID) experience substantial challenges in accessing needed supports. This research aimed to understand the prevalence and factors associated with food insecurity among families of children with ASD + ID. Utilizing the National Survey of Children's Health (2016-18) data, this paper illustrated that the households of children with ASD + ID were about two times more likely to be food insecure than the households of children without disabilities. Further, the households of children with ASD were 1.5 times more likely, and those with other disabilities were 1.3 times more likely to be food insecure than the households of children without disabilities. Implications of these findings in the context of the COVID19 pandemic are discussed. Lay Abstract Families of children with ASD are more likely to experience financial strain and resulting food insecurity due to additional cost of care, disparate access to needed services, and loss of income resulting from job loss. Utilizing nationally representative data, this analysis indicates that the families of children with ASD + ID are twice as likely to experience food insecurity than families of children without disabilities after adjusting for various factors. Several factors, ranging from state-level policies such as Medicaid expansion to individual-level factors such as higher utilization of emergency room services, were associated with the higher prevalence of food insecurity in families of children with ASD + ID. Implications of these findings on programs and policies supporting families in the COVID19 pandemic are discussed.

DFWED

- **COVID-19 abatement measures and declines in food-borne illnesses: what is the evidence?** Coronavirus Disease 2019 (COVID-19) is a current pandemic infection caused by a positive-sense RNA virus named the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) which is quickly spread through the air that has fueled the current pandemic. Public health government agencies in various countries have made dramatic measures, such as a full lockout. Nevertheless, limited consideration has been devoted to food safety and security, and its possible association with the coronavirus (COVID-19) pandemic. The COVID-19 outbreak has given birth to a new age throughout the world, though we already see the implications of various facets of our everyday lives. The agricultural manufacturing process and the food processing industry do not form the exception. For the time being, the risk of transmission via the food industry is considered marginal and the detection of SARS-CoV-2 in the working setting is not perceived to be a problem for government authorities. Nevertheless, the adverse impacts on the climate, food processes and individuals in the food industry are also clear. Reducing contamination during food production, processing, and preparation will require more widespread implementation of known prevention measures and of new strategies that target particular pathogens and serotypes. The health agency suggests that the safety and health programs that have already been placed in motion since the pandemic may play an important role in the prevention of foodborne disease outbreaks. The aim of this review article is to discuss an indirect evidence about the decline in food-borne outbreaks during the COVID-19 pandemic.
- **2020 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 38th Annual Report** https://doi.org/10.1080/15563650.2021.1989785 INTRODUCTION: This is the 38(th) Annual Report of the American Association of Poison Control Centers' (AAPCC) National Poison Data System (NPDS). As of 1 January, 2020, all 55 of the nation's poison centers (PCs) uploaded case data automatically to NPDS. The upload interval was 6.15 [4.60, 8.62] (median [25%, 75%]) minutes, effectuating a near real-time national exposure and information database and surveillance system. METHODS: We analyzed the case data tabulating specific indices from NPDS. The methodology was similar to that of previous years. Where changes were introduced, the differences are identified. Cases with medical

outcomes of death were evaluated by a team of medical and clinical toxicologist reviewers using an ordinal scale of 1-6 to assess the Relative Contribution to Fatality (RCF) of the exposure. RESULTS: In 2020, 3,316,738 closed encounters were logged by NPDS: 2,128,198 human exposures, 66,745 animal exposures, 1,116,568 information requests, and 5,160 human confirmed nonexposures. Total encounters showed a 28.9% increase from 2019, while health care facility (HCF) human exposure cases decreased by 10.6%. While all information requests increased by 218.0%, medication identification (Drug ID) requests decreased by 31.5%, and human exposure cases decreased by 0.928%. Medical Information requests showed a 32.6-fold increase, reflecting COVID-19 pandemic calls to PCs. Human exposures with less serious outcomes have decreased 1.90% per year since 2008, while those with more serious outcomes (moderate, major or death) have increased 4.59% per year since 2000.Consistent with the previous year, the top 5 substance classes most frequently involved in all human exposures were analgesics (10.3%), household cleaning substances (8.37%), cosmetics/personal care products (6.53%), antidepressants (5.30%), and sedatives/hypnotics/antipsychotics (4.92%). As a class, antidepressant exposures increased most rapidly, by 1,793 cases/year (5.84%/year) over the past 10 years for cases with more serious outcomes .The top 5 most common exposures in children age 5 years or less were cosmetics/personal care products (11.8%), household cleaning substances (11.3%), analgesics (7.57%), foreign bodies/toys/miscellaneous (6.71%), and dietary supplements/herbals/homeopathic (6.44%). Drug identification requests comprised 2.89% of all information contacts. NPDS documented 4,488 human exposures resulting in death;3,869 (86.2%) of these were judged as related (RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory). CONCLUSIONS: These data support the continued value of PC expertise and need for specialized medical toxicology information to manage more serious exposures. Unintentional and intentional exposures continue to be a significant cause of morbidity and mortality in the US. The near real-time status of NPDS represents a national public health resource to collect and monitor US exposure cases and information contacts. The continuing mission of NPDS is to provide a nationwide infrastructure for surveillance for all types of exposures (e.g., foreign body, infectious, venomous, chemical agent, or commercial product), and the identification and tracking of significant public health events. NPDS is a model system for the near real-time surveillance of national and global public health.

NIOSH/Worker-safety health

- **COVID-19 policies and recommendations for foodservice reopening: An integrative review**
  https://doi.org/10.1080/15378020.2021.2006035
  This study aims to present and discuss the different COVID-19 policies and recommendations for food service reopening. We aimed to understand each plan's profile, showing the most prominent concerns and summarizing the strategies. This study was carried out using an integrative review strategy of documents written in English, Spanish, Portuguese, Italian, French, and German. We found 17 guides, 15 from the countries' health departments and institutions. The findings suggested four main categories reflecting the main concerns about safety regarding the resumption of food services during the pandemic: 1. Physical distancing;2. evironmental aspects and safety;3. personal hygiene and occupational health;and 4. educational and legal measures. Because COVID-19 is a new disease, the measures were designed and adapted to a scenario full of uncertainties and improved information for each discovery. All the categories are grounded on recent or late biomedical literature. Some minor recommendations are based on the precautionary principle. The practical and policy implications are discussed. Health agencies

in countries that do not yet have their regulations or guidelines for operating food services can use the categories described here as a basis for suggestions

- **Impact of natural ventilation on exposure to SARS-CoV 2 in indoor/semi-indoor terraces using CO2 concentrations as a proxy** https://doi.org/10.1016/j.jobe.2021.103725
  Nowadays, it is necessary a better airborne transmission understanding of respiratory diseases in shared indoor and semi-indoor environments with natural ventilation in order to adopt effective people's health protection measures. The aim of this work is to evaluate the relative exposure to SARS-CoV 2 in a set of virtual scenarios representing enclosed and semi-enclosed terraces under different outdoor meteorological conditions. For this purpose, indoor CO2 concentration is used as a proxy for the risk assessment. Airflow and people exhaled CO2 in different scenarios are simulated through Computational Fluid Dynamics (CFD) modelling with Unsteady Reynolds-Averaged Navier-Stokes (URANS) approach. Both spatial average concentrations and local concentrations are analyzed. In general, spatial average concentrations decrease as ventilation increases, however, depending on the people arrangement inside the terrace, spatial average concentrations and local concentrations can be very different. Therefore, for assessing the relative exposure to SARS-CoV 2 it is necessary to consider the indoor flow patterns between infectors and susceptibles. This research provides detailed information about CO2 dispersion in enclosed/semi-enclosed scenarios, which can be very useful for reducing the transmission risk through better natural ventilation designs and improving the classic risk models since it allows to check their hypotheses in real-world scenarios. Although CFD ventilation studies in indoor/semi-indoor environments have been already addressed in the literature, this research is focused on restaurant terraces, scenarios scarcely investigated. Likewise, one of the novelties of this study is to take into account the outdoor meteorological conditions to appropriately simulate natural ventilation.
- **Burnout and workplace dehumanization at the supermarket: A field study during the COVID-19 outbreak in Italy** https://doi.org/10.1002/casp.2588
  This study explores the psychological effects of the COVID-19 emergency on workers employed in the supermarket sector by analysing their levels of burnout and the relationship between the burnout syndrome and employees' workplace experiences. A sample of 422 Italian workers answered a survey addressing the burnout dimensions (i.e., exhaustion, cynicism, and professional inefficacy) along with perceived organizational factors and dehumanizing representations. Results showed that 32% of the respondents had symptoms of severe burnout, and 41% had symptoms of exhaustion and cynicism. More specifically, through cluster analysis, four burnout profiles were identified: “burnout” (high on all three dimensions), “engagement” (low on all three dimensions), “overextended” (high on exhaustion), and “disengaged” (moderate on exhaustion and cynicism). Each cluster showed a different pattern of correlates with the organizational and dehumanizing perceptions. Our findings contribute to the knowledge gaps of burnout and workplace experiences by providing insights into the ongoing health emergency among supermarket clerks. Please refer to the Supplementary Material section to find this article's Community and Social Impact Statement
- **Surviving the hectic early phase of the COVID-19 pandemic: a qualitative study to the supply chain strategies of food service firms in times of a crisis** https://doi.org/10.1108/ijlm-01-2021-0013
  Purpose The COVID-19 pandemic and the subsequent lockdown have hit the food service industry very hard. The COVID-19 outbreak has created a sharp downturn for firms in the food service industry, compelling actors across the whole food service supply chain to rethink their strategies. The purpose of this paper is to document the impact of COVID-19 on the food service supply chain, as well as to identify crisis management strategies food service firms use during

the hectic early phase of the COVID-19 pandemic to survive the current and prepare for future pandemics. Design/methodology/approach We performed a qualitative descriptive study using 21 semi-structured interviews with actors across the food service supply chain (i.e. farmers, wholesalers and food service providers). Data were collected to shed light on food service firms' decision making during the hectic early phase of the COVID-19 pandemic to uncover various crisis management strategies used. Findings By integrating the disaster and crisis pyramid and resilience theory, four core crisis management strategies to respond to the COVID-19 pandemic are conceptualized, i.e. (1) managing resources, (2) diversifying strategically, (3) prioritizing long-term outcomes and (4) bonding socially. Originality/value The theoretical contributions include documenting the performance impact of the COVID-19 pandemic on the food service supply chain and exploring crisis management strategies food service firms employed during the hectic early phase of the COVID-19 pandemic. Thus, functioning and survival during a pandemic, an emerging field in literature, are central to this study. Additionally, while recent research suggests that integrating crisis management and resilience literature may provide a more complete understanding of the organization-crisis relationship, these literature streams mainly developed in isolation. By integrating the literature streams of crisis management and resilience and applying these theories to the COVID-19 crisis, our study provides specific managerial guidelines.

- **The Achilles Heel of the U.S. Food Industries: Exposure to Labor and Upstream Industries in the Supply Chain** https://doi.org/10.2139/ssrn.3957604
  The modern day food industries are part of a complex agri-food supply chain, where food production has become efficient, yet potentially vulnerable to supply chain risks. The COVID-19 pandemic is a testament to that end. This article measures and identifies the U.S. food manufacturing industries' vulnerability to upstream industries and labor occupations by (i) calculating a food industry's diversification of intermediate input purchases across upstream industries, (ii) quantifying the relative exposure of food manufacturing in a given industry and location to upstream input suppliers and labor occupations, and (iii) estimating each food industry's gross output elasticity of inputs. Among our results, we find the evidence that the animal processing industry's output is relatively vulnerable to production labor which is consistent with the observed disruptions to the meat packing sector during COVID19, which were largely caused by labor issues. Our results may help academics and practitioners to understand food industries' vulnerabilities to upstream industries and labor occupations.

NCEH

- **Food allergen ladders: A need for standardization?** https://doi.org/10.1111/pai.13714
  INTRODUCTION: The process of gradually reintroducing food allergens into an individual's diet is referred to as food allergen "ladders". There remain many questions regarding the foods chosen, structure and composition of the ladder, and medical and safety considerations. The COVID-19 pandemic has propelled us into an era where medicine is increasingly practiced via online platforms, highlighting the need for standardized food allergen ladder approaches for successful and safe introduction of food allergens. METHODS: We performed a search of currently published food allergen ladders and obtained published information and clinical expertise to summarize current knowledge and suggest future standardized approaches for using food allergen ladders. RESULTS: There are currently a limited number of published milk, egg, wheat and soy ladders. We suggest the following points should be considered when developing food ladders: 1) Food allergen: dose, time and temperature of heating of the food allergen, simplicity of the ladder and recipes, the possible role of the wheat matrix and testing for allergenic protein levels to standardize doses;2) Nutritional factors: health and nutritional

value of the foods in the ladder, taste, texture and cultural appropriateness of foods should be considered;3) Medical aspects: consideration of which patients are safe to undergo ladders outside of the clinical setting, other safety aspects and risk factors for severe reactions, number of days suggested per steps and availability and provision of rescue medication. Written instructions and recipes should be provided to families who wish to use food allergen ladders. DISCUSSION: Food allergen ladders used for gradual reintroduction of food allergens into a food allergic individual's diet are increasingly being used internationally. Standardization regarding the foods included in the ladder and medical considerations are required to practice patient-centered care, best assist patients and families, and ensure safety.

- **Restaurant patronage during the COVID-19 pandemic and the protection motivation theory: influence of consumers' socio-demographic, situational, and psychographic factors** https://doi.org/10.1080/15378020.2021.2006036
  To systematically investigate factors affecting consumers' restaurant patronage decisions during the COVID-19 pandemic, this study drew on the Protection Motivation Theory (PMT) to (1) evaluate how threat and coping appraisal (i.e., PMT factors) may vary based on socio-demographics and COVID-19 situational characteristics, and (2) determine if PMT factors influence actual restaurant patronage behaviors. Furthermore, the current study examined consumers' perceptions of health-protective actions that restaurateurs could take to minimize consumer risk of contracting COVID-19. Data were collected from U.S. adults (N = 627) using an online crowdsourcing platform in early May 2020. Findings showed significant relationships between socio-demograhic factors and perceived severity and/or vulnerability to COVID-19, along with concerns of coping with the virus for in-restaurant dining. For take-out/delivery patronage, coping concerns were greater for those with lower education levels and those with more health concerns than their counterparts. Furthermore, consumers' higher levels of coping appraisal predicted their higher take-out/delivery frequency. Results also suggested actions that restaurateurs could take that would influence consumers' restaurant patronage decisions. This study provides new insights related to PMT in the context of restaurants in a pandemic situation and practical information for restaurateurs to recover and prepare for future pandemics or similar crises.

Other

- **The Association of Social Factors and Health Insurance Coverage with COVID-19 Vaccinations and Hesitancy, July 2021.** https://dx.doi.org/10.1007/s11606-021-07213-6
  BACKGROUND: There are racial differences in COVID-19 vaccination rates, but social factors, such as lack of health insurance or food insecurity, may explain some of the racial disparities. OBJECTIVE: To assess social factors, including insurance coverage, that may affect COVID-19 vaccination as of June-July 2021 and vaccine hesitancy among those not yet vaccinated, and how these may affect racial equity in vaccinations. DESIGN: Cross-sectional analysis of nationally representative survey data. PARTICIPANTS: Adults 18 to 64 participating in the Census Bureau's Household Pulse Survey for June 23 to July 5, 2021. MAIN MEASURES: Vaccination: receipt of at least one dose of a COVID-19 vaccine. Vaccine hesitancy: among those not yet vaccinated, intent to definitely or probably not get vaccinated. KEY RESULTS: In unadjusted analyses, black adults were less likely to be vaccinated than other respondents, but, after social factors were included, including health insurance status, food sufficiency, income and education, and state-level political preferences, differences between black and white adults were no longer significant and Hispanics were more likely to be vaccinated (OR = 1.87, $p < .001$). Among those not yet vaccinated, black and Hispanic adults were vaccine hesitant than white adults (ORs = .37 and .45, respectively, both $p < .001$) and insurance status and food insufficiency were not

significantly associated with vaccine hesitancy. The percent of state voters for former President Trump in 2020 was significantly associated with lower vaccination rates and with increased vaccine hesitancy. DISCUSSION: The results indicate that much of the gap in COVID vaccination rates for minority adults are due to social barriers, rather than differences in racial attitudes. Unvaccinated minority adults expressed less vaccine hesitancy than white adults. Social barriers like food insecurity and insurance coverage could have deterred prompt COVID-19 vaccinations. Reducing these problems might help increase vaccination rates.

- **The Role of the California Tier System in Controlling Population Mobility During the COVID-19 Pandemic (preprint)** https://doi.org/10.21203/rs.3.rs-1072338/v1
  Policies to restrict population mobility are a commonly used strategy to limit the transmission of contagious diseases. Among measures implemented during the COVID-19 pandemic were dynamic stay-at-home orders informed by real-time, regional-level data. California was the only state in the U.S. to implement this novel approach;however, the effectiveness of California's four-tier system on population mobility has not been quantified. Utilizing data from mobile devices and county-level demographic data, we evaluated the impact of policy changes on population mobility and explored whether demographic characteristics explained variability in responsiveness to policy changes. For each Californian county, we calculated the proportion of people staying home and the average number of daily trips taken per 100 persons, across different trip distances and compared this to pre-COVID-19 levels. We found that overall mobility decreased when counties moved to a more restrictive tier and increased when moving to a less restrictive tier, as the policy intended. When placed in a more restrictive tier, the greatest decrease in mobility was observed for shorter and medium-range trips, while there was an unexpected increase in the longer trips. The mobility response varied by geographic region, as well as county-level median income, gross domestic product, the prevalence of farms, and recent election results. This analysis provides evidence of the effectiveness of the tier-based system in decreasing overall population mobility to ultimately reduce COVID-19 transmission. Results demonstrate that economic and political indicators drive important variability in such patterns across counties.
- **Are we approaching peak meat consumption? Analysis of meat consumption from 2000 to 2019 in 35 countries and its relationship to gross domestic product** https://doi.org/10.3390/ani11123466
  Growing prosperity, but also disease outbreaks, natural disasters, and consumer preferences are changing global meat consumption. We investigated the 2000–2019 trends in 35 countries moni-tored by the Food and Agriculture Organization and the Organisation for Economic Co-operation and Development. We also tested relationships with Gross Domestic Product (GDP). Several countries appeared to be reaching peak consumption of some meats, and three (New Zealand, Canada, and Switzerland) have reached this. Poultry consumption increased over time in most countries, and beef and mutton/lamb consumption decreased in many. Using cluster analysis, we divided countries into two clusters: one in which increases in GDP per capita matched increases in meat consumption;and a second one of nine countries, for which there was no association between per capita change in GDP and meat consumption. There was evidence of a tipping point around USD 40,000 of GDP per capita, after which increases in economic well-being do not lead to increased meat consumption.
- **School Districts Have Expanded Their Nonacademic Services for 2021-2022, While Academic Offerings Remain Much the Same: Selected Findings from the Third American School District Panel Survey. Data Note: Insights from the American Educator Panels. Research Report. RR-A956-4** https://doi.org/10.7249/RRA956-4

School districts in the United States are responding to the coronavirus disease 2019 (COVID-19) pandemic in significantly different ways. The authors of this report fielded the third American School District Panel (ASDP) survey in June 2021 to discover what changes districts are making to their academic and nonacademic offerings for the upcoming 2021-2022 school year, and whether parental demand has played any role in prompting districts to make these changes. In this report, the authors summarize key ASDP findings based on the responses of 292 district leaders, after weighting their responses to make them nationally representative. Survey results suggest that while public schools are expanding their nonacademic offerings, much of their academic offerings for 2021-2022 remain the same. The authors examine differences between pre-pandemic and 2021-2022 offerings among district subgroups in the areas of summer programming, tutoring, grade retention practices, technology-related services, student health and weekend meals, academic recovery measures, and scheduling. The authors also found that most district leaders did not perceive a strong parental demand for changes to their children's schooling;however, there were some notable exceptions among leaders of urban, suburban, and majority-students of color districts, even though the correlation between perceived demand and district provision is currently weak. Parents' demands may still change public education in the long run, but the authors did not find evidence for this thus far. [This report was prepared by the RAND American Educator Panels.]

- **Impact of the COVID-19 pandemic on food production and animal health** **https://doi.org/10.1016/j.tifs.2021.12.003**
  Background The new coronavirus, named the severe acute respiratory coronavirus syndrome 2 (SARS-CoV-2) is the etiological agent of coronavirus disease 2019 (COVID-19). COVID-19 originated in China and spread to other countries and continents causing a variety of respiratory and non-respiratory symptoms that led to death in severe cases. Scope and approach In this review, we discuss and analyze the impact of the COVID-19 pandemic on animal production systems and food products including meat, dairy, eggs, and processed food, in addition to assessing the pandemic's impact on animal health care systems, animal health care quality, animal welfare, food chain sustainability, and the global economy. We also provide effective recommendations to animal producers, veterinary healthcare professionals, workers in animal products industries, and governments to alleviate the effects of the pandemic on livestock farming and production systems. Key findings and conclusions Port restrictions, border restrictions, curfews, and social distancing limitations led to reduced quality, productivity, and competitiveness of key productive sectors. The restrictions have hit the livestock sector hard by disrupting the animal feed supply chain, reducing animal farming services, limiting animal health services including delays in diagnosis and treatment of diseases, limiting access to markets and consumers, and reducing labor-force participation. The inhumane culling of animals jeopardized animal welfare. Egg smashing, milk dumping, and other animal product disruptions negatively impacted food production, consumption, and access to food originating from animals. In summary, COVID-triggered lockdowns and limitations on local and international trade have taken their toll on food production, animal production, and animal health and welfare. COVID-19 reverberations could exacerbate food insecurity, hunger, and global poverty. The effects could be massive on the most vulnerable populations and the poorest nations.
- **Overstocked Agricultural Produce and Emergency Supply System in the COVID-19 Pandemic: Responses from China** **https://doi.org/10.3390/foods10123027**
  The spread of COVID-19 has affected not only public health but also agriculture, raising global concerns regarding the food system. As an immediate impact of COVID-19, farmers around the globe have had difficulties with sales, resulting in large amounts of overstocked agricultural products and food loss. This further threatens the livelihood of rural, poor farmers and impacts

sustainable production. To provide a better understanding of the overstocking situation after the outbreak of the pandemic, this study depicts the distribution characteristics of overstocked agricultural products in China. After analyzing a nationwide data set collected from 3482 individuals/organizations by the Chinese Agri-products Marketing Association after the outbreak of the pandemic, we found that some of the initial prevention and control measures disrupted sales channels, and in turn, caused the farmers to suffer losses. The impact was more severe in perishable products and their production areas, as well as in poverty-stricken regions. Then, we identified China quick and effective actions to match the supply and demand. These findings suggest that emergency responses should coordinate the relationship between emergency actions and the necessary logistics of agricultural production. To prepare for the possibility of such shock in the future, the government should take actions to clear logistics obstacles for necessary transportation, keep enhancing the fundamental infrastructure and effective mechanism of the food supply chain, and actively include innovative techniques to build a more resilient food system.

Food and COVID-19 Lit Review: Week ending December 3 2021

DNPAO

- Effect of physical activity on COVID-19 symptoms: A narrative review https://doi.org/10.14198/jhse.2021.16.Proc4.51
- The exercise dependence at the time of COVID-19 pandemic: The role of psychological stress among adolescents https://doi.org/10.14198/jhse.2021.16.Proc4.40
- Perceived stress and emotional overeating during COVID-19 pandemic https://doi.org/10.4103/aip.aip_18_21
- The Nutritional Content of Rescued Food Conveyed by a Food Aid Organization https://doi.org/10.3390/ijerph182212212
- Accelerating Evaluation of Financial Incentives for Fruits and Vegetables: A Case for Shared Measures https://doi.org/10.3390/ijerph182212140
- Citizen Science in Vegetable Garden Cultivar Evaluation in Tennessee https://doi.org/10.3390/horticulturae7110422
- Urban Networks, Micro-agriculture, and Community Food Security https://doi.org/10.1007/S43615-021-00117-X
- Providing Food Assistance During the COVID-19 Pandemic: A Case Study of a Free Produce Market at a Health Care Center. https://dx.doi.org/10.1353/hpu.2021.0198
- Changes in body mass index (BMI) in an inner city at risk pediatric population during the COVID 19 pandemic

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- Occupational stress among farm and ranch operators in the midwestern United States. https://dx.doi.org/10.1186/s12889-021-12053-4
- COVID-19 working paper: meatpacking working conditions and the spread of COVID-19. (COVID-19 Working Paper No. AP-092.)
- The vaccination threshold for SARS-CoV-2 depends on the indoor setting and room ventilation https://doi.org/10.1186/s12879-021-06884-0

Essential Workers/Food/Farm/Ag/Migrant

- COVID-19 and systemic racism pandemics impact daily life for immigrant/refugees, Minneapolis, USA https://doi.org/10.5334/aogh.3411
- The Direct and Indirect Effects of a Global Pandemic on US Fishers and Seafood Workers (preprint) https://doi.org/10.1101/2021.11.16.21266427

Other

- Worldwide COVID-19 Vaccines Sentiment Analysis Through Twitter Content https://doi.org/10.29333/ejgm/11316
- Trust and responsibility in food systems transformation. Engaging with Big Food: marriage or mirage? https://dx.doi.org/10.1136/bmjgh-2021-007350
- Homeless people and health: vulnerability and risks during the COVID-19 pandemic. Pilot study https://doi.org/10.3306/ajhs.2021.36.04.136

DNPAO

Effect of physical activity on COVID-19 symptoms: A narrative review
https://doi.org/10.14198/jhse.2021.16.Proc4.51
In 2019, a new condition caused by the COVID-19, became a global pandemic, presenting a disparate symptomatological picture. The immune response to the virus depends on multiple factors, making the practice of physical exercise an important enhancer of the immune system, but it is unknown what effects it could have on the very different symptoms. In order to achieve and summarize the most outstanding information on the influence of the different types and parameters of physical exercise on the immune system and symptoms presented by COVID-19, it was decided to carry out a review of the literature in the databases PubMed and Medline until August 2020. The results showed that while high intensity and prolonged volume exercise produces counterproductive alterations in the immune system, increasing the possibility of contracting infections;low and moderate intensity exercise reverses these effects, increasing the benefits, providing the body with better protection against viruses. For the symptoms of COVID-19 related to cough, dyspnea, pulmonary obstruction, hypoxia, muscle pain and neuromuscular conditions, exercise at low and moderate intensity is recommended, while those people who present gastrointestinal symptoms and fatigue are recommended to exercise at low intensity. Exercise is completely contraindicated in case of fever and myocarditis.

The exercise dependence at the time of COVID-19 pandemic: The role of psychological stress among adolescents https://doi.org/10.14198/jhse.2021.16.Proc4.40
The outbreak of COVID-19 disease caused not only unprecedented concerns about public health but also critic stress-related disorders, especially in the younger population. Several studies have found a close connection between psychological stress and exercise dependence, resulting from coping strategies such as excessive perfectionism in controlling external factors, performance, controlling food intake, weight, and body image. Moderate amounts of exercise have been demonstrated to reduce psychological distress. Thus, the aim of the present study has been to analyse the relationship between psychological stress and exercise dependence symptoms in adolescent, concerning the COVID-19 period. Participants were 50 adolescents (aged 15-17) who trained twice a week for 90 minutes per session. They were randomly assigned to participate in either a highly controlled and supervised recreational physical activity program associated with theoretical lessons that were intended to provide information regarding nutritional education (EG;n = 25) or a waitlist control group (CG;n = 25). The physical activity program involved: joint mobility exercises, low-to-moderate intensity aerobic exercise, team-building activities, exercise stations, cardio workout. At baseline and after intervention programs we administered the Exercise Dependence Scale-21, a 21-items scale designed to assess exercise dependence symptoms, and the Perceived Stress Scale that measures the level at which situations in life are perceived as stressful (p < .01). The findings have suggested that after a 12-week recreational physical activity and food re-education, adolescents felt a greater sensation of psycho-physical well-being and that this phenomenon was closely linked to an improvement of the symptoms of exercise dependence.

Perceived stress and emotional overeating during COVID-19 pandemic
https://doi.org/10.4103/aip.aip_18_21
Background: Obesity due to inappropriate eating habits, including overeating, has recently been discussed during this COVID pandemic crisis in the context of stress. Emotional overeating (EOE) is sometimes considered as a strategy for emotion regulation. Considering this fact, this study used a snowball technique to analyze the prevalence of EOE caused due to stress during this pandemic situation. Methodology: The present cross-sectional online study of 607 respondents across all regions of India attempts to assess the perceived stress levels during COVID-19, evaluate their tendency to engage in emotional eating, and examine the relationship between perceived stress and emotional

eating during COVID-19 situation. Results: Stress perception is significantly associated with EOE and such phenomenon is marginally more prominent in females more than males. A negative association of age, though weak (r = -0.34, p< 0.05), has been found with both perceived stress levels and EOE, signifying that the youngsters are more prone to stress and overeating than older persons, during these COVID times. The study also evidenced that people with psychiatric conditions are significantly more affected than others. Similarly, the average EOE scores for such persons were also higher, and they may be more vulnerable to emotional eating. Conclusion: EOE is significantly associated with perceived stress;the association is more prominent in females. Younger people and people with mental illness display significantly more emotional eating behavior during stress.

The Nutritional Content of Rescued Food Conveyed by a Food Aid Organization
https://doi.org/10.3390/ijerph182212212
Background: The number of food-insecure families in the European Union has increased, resulting in an increasing number of households depending on food assistance programs. The aim in this study was to evaluate the nutrient content of food rescued by a food aid organization that rescues and redistributes fresh or freshly cooked food to low-income households. Methods: To determine the nutritional content of food hampers provided by our case study organization, we weighed all items of food hampers in three weighing rounds over a period of four months. The Food Insecurity Experience Scale (FIES) was applied to measure households' food insecurity. Results: Our results show that, at our case study food aid organization, food donations substantially contribute to energy, macro, and micronutrient dietary recommendation intake (DRI). Conclusions: When evaluating how these nutrients contribute to alleviating food insecurity of the beneficiary households, we found that the perception of food insecurity is independent of the amount of nutrients served. To the best of our knowledge, this is the first study measuring the nutritional content of fresh or freshly cooked rescued food conveyed by a food aid organization.

Accelerating Evaluation of Financial Incentives for Fruits and Vegetables: A Case for Shared Measures
https://doi.org/10.3390/ijerph182212140
Food insecurity, or lack of consistent access to enough food, is associated with low intakes of fruits and vegetables (FVs) and higher risk of chronic diseases and disproportionately affects populations with low income. Financial incentives for FVs are supported by the 2018 Farm Bill and United States (U.S.) Department of Agriculture's Gus Schumacher Nutrition Incentive Program (GusNIP) and aim to increase dietary quality and food security among households participating in the Supplemental Nutrition Assistance Program (SNAP) and with low income. Currently, there is no shared evaluation model for the hundreds of financial incentive projects across the U.S. Despite the fact that a majority of these projects are federally funded and united as a cohort of grantees through GusNIP, it is unclear which models and attributes have the greatest public health impact. We explore the evaluation of financial incentives in the U.S. to demonstrate the need for shared measurement in the future. We describe the process of the GusNIP NTAE, a federally supported initiative, to identify and develop shared measurement to be able to determine the potential impact of financial incentives in the U.S. This commentary discusses the rationale, considerations, and next steps for establishing shared evaluation measures for financial incentives for FVs, to accelerate our understanding of impact, and support evidence-based policymaking.

Citizen Science in Vegetable Garden Cultivar Evaluation in Tennessee
https://doi.org/10.3390/horticulturae7110422
Edible food production is a growing area of horticultural interest that can engage multiple generations of rural to urban residents with varying levels of experience. Residential or community garden food

production can provide many benefits, including the production of healthy produce, establishment of community or social connections, and increased physical activity. Regardless of experience, food gardeners are interested in growing crops and cultivars well-suited to their region and which provide both productivity and crop quality. This means that cultivar selection is a common question for gardeners. However, formal cultivar evaluation is relatively rare in the non-commercial food production sector due to the number of cultivars, the challenges of replicated trial management, and the scarcity of public researchers focused on consumer horticulture. This limits the information available to support new gardeners, which lowers the chances of overall success including high-quality harvests. Such crop and variety selection questions are common for Extension personnel in the United States as well as many others who work with gardeners. Even with this high level of interest, funding for consumer garden trials is limited and the cost of replicated trials across various geographical sites is high. To fill this gap in research and address the need for high-quality data to support education, University of Tennessee Extension and research faculty have developed a citizen science approach called the Home Garden Variety Trial (HGVT) program. The HGVT is a collaborative effort between Extension and research faculty and educators, who select trials, provide seeds, and compile data, and citizen scientists around the state, who conduct the trials using their usual gardening practices in their own home or community gardens. Beginning in 2017, the collaborators have conducted five years of research involving over 450 individual gardeners in more than half of the counties in Tennessee. The HGVT is a novel and effective tool to introduce gardeners to new crops and cultivars while providing previously unavailable data to researchers. Together, researchers and home gardeners collect and compile data that supports residential and community food production success while engaging new and experienced gardeners in participatory science research.

Urban Networks, Micro-agriculture, and Community Food Security https://doi.org/10.1007/S43615-021-00117-X

The white paper first outlines the state of inequity in food security/sovereignty in our area of focus, taking into account historical context as well as emerging and ongoing effects of the COVID-19 pandemic and community and policy responses to it. We then discuss a food acquisition intervention, structured as a longitudinal, collaborative research, and service-learning effort known as Everybody Eats. The white paper provides detailed discussion of competing understandings of agriculture, horticulture, and the social problem of food insecurity;the preliminary data that has led to a current collaborative effort to enhance the skillset of people previously not understood as food producers and provisioners, but only as end-user consumers;and the new iteration of the project wherein specific sets of expertise from diverse disciplines are deployed both to offer a more robust intervention, and bring new methodologies to bear in assessing the ecology of a local foodshed. We propose mobilizing existing resources and expertise of the Land Grant/Cooperative Extension system to act as a regional hub for facilitating full community food security (caloric and nutritional adequacy) and food sovereignty (participatory decision-making regarding living spaces and culturally appropriate foodways). Finally, we illustrate how a nexus of faculty, working from a service-learning advocacy perspective and embedded in a participatory action framework, provides a mechanism for bringing together and sustaining a community of intellectually diverse researchers and stakeholders.

Providing Food Assistance During the COVID-19 Pandemic: A Case Study of a Free Produce Market at a Health Care Center. https://dx.doi.org/10.1353/hpu.2021.0198

The COVID-19 pandemic has worsened economic precarity and nearly doubled food insecurity in the United States. We describe how a free produce market at a Massachusetts health center adapted to exponentially increase its reach and offerings while continuing to safely distribute food to a low-income community during the pandemic.

Changes in body mass index (BMI) in an inner city at risk pediatric population during the COVID 19 pandemic

Background: The prolonged course of the COVID 19 pandemic has numerous social, economic and health consequences. Few studies so far have evaluated the metabolic changes in pediatric populations throughout the pandemic. School provides structure and routine for children and regulates mealtimes, physical activity and sleep schedule, all of which are lifestyle factors that can contribute to obesity if poorly regulated. As per the New Jersey Childhood Obesity Study, 44.2% of children in the city of Newark, are overweight and obese, 25.2% of whom are obese and 18.3% are very obese. The Newark population in 2018 saw 2,069 violent crimes per 100,000 people, approximately twice the national average. As a result of unsafe neighborhoods, most of the physical activity for children in Newark is limited to sports or physical activity organized by institutions, primarily its school system. The switch from in-person to online school during the COVID pandemic along with, increases in screen time due to online classes and homework, as well as increased social activity through video games and virtual outlets can lead to disrupted sleep cycles and increased BMI. The lack of structure and routine in combination with increased screen time, increased snacking and consumption of processed food, as well as limited access to fresh food may have had detrimental metabolic effects particularly on an already high risk urban pediatric population. Objective: To quantify the changes in BMI among overweight and obese children and adolescents before and after the pandemic-associated lockdown. Study Design/Methods: A retrospective chart review for ages 2 to 19 years with BMI > 85th %tile seen in outpatient pediatric clinic of University Hospital located in Newark from March 2019 to April 2021 (n=84) was performed. The executive order to close schools issued on March 16th, 2020 was considered as start date of the pandemic. Visits within 9 months prior to 03/16/20 were counted as pre-pandemic. On January 2, 2021, organized sports were allowed to resume in public schools and this date was used to set the post-pandemic mark. Visits from 1/2/2021 until 4/2021 were counted as post-pandemic. Comparison of pre and post BMI was performed via paired sample t-tests with significance as p<0.05. Average pre and post pandemic BMI was compared between ethnic groups and gender using ANOVA. Results: There was a statistically significant increase in BMI from pre-pandemic visits to post-pandemic (p<0.05) across ages 5-19: ages 5-8 (n=17;average increase = 1.88;p = 0.003);ages 9-13 (n=47;average BMI increase = 2.1;p<0.0001);ages 14-19 (n=14;average BMI increase = 1.54;p =0.01). For ages 2-4 there was an increase in BMI, however it did not reach statistical significance (n=4;BMI increase = 1.69;p =0.051). There was an equal distribution of females (n=40) and males (n=44). There was no significant difference in BMI among male and female subjects pre and post pandemic. The average pre-pandemic BMI in females was 28.29 and in males was 26.74 (p=0.258). Similarly, the average post-pandemic BMI in females was 30.01 and in males was 28.86 (p=0.422). Majority of the subjects were primarily Hispanic (n=45) and African American (n=29). There were 10 subjects classified as other or unknown. There was no statistically significant difference in pre-pandemic BMI between Hispanic (mean = 27.01) and African-American (mean= 28.32) children (p=0.377) but there was a statistically significant difference in post pandemic BMI between Hispanic (mean = 28.34), and African American (mean =31.47) children (p 0.041). Conclusions: We found a statistically significant increase in BMI across all age cohorts in our pediatric population except the 2-4-year age group. The BMI increase was significantly higher among the African American as compared to the Hispanic children. These results may be attributed to the negative effects of school shut-downs and shelter-in-place orders, increased screen times, lack of physical activity and increased consumption of processed foods. The adverse effects of the COVID-19 pandemic on childhood obesity, not only demand maximum efforts to support families and children by appropriate policy changes but also increase awareness among physicians to counsel families and screen for metabolic dysfunction.

Worker-Safety/NIOSH

Occupational stress among farm and ranch operators in the midwestern United States.
https://dx.doi.org/10.1186/s12889-021-12053-4
BACKGROUND: This study used surveillance data from 2018 and 2020 to test the stability of work-related strain symptoms (high stress, sleep deprivation, exhaustion) with demographic factors, work characteristics, and musculoskeletal symptoms among farm and ranch operators in seven midwestern states of the United States. METHODS: Cross-sectional surveys were conducted among farm and ranch operators in 2018 (n = 4423) and 2020 (n = 3492). Operators were asked whether, in the past 12 months, they experienced extended work periods that resulted in high stress levels, sleep deprivation, exhaustion/fatigue, or other work-related strain symptoms. Covariates included personal and demographic factors, work characteristics, number of injuries, work-related health conditions, and exposures on the operation. Summary statistics were tabulated for explanatory and outcome variables. The classification (decision) tree approach was used to assess what variables would best separate operators with and without reported strain symptoms, based on a set of explanatory variables. Regularized regression was used to generate effect estimates between the work strain variables and explanatory variables. RESULTS: High stress level, sleep deprivation, and exhaustion were reported more frequently in 2018 than 2020. The classification tree reproduced the 2018 model using 2020 data with approximately 80% accuracy. The mean number of reported MSD symptoms increased slightly from 1.23 in 2018 to 1.41 in 2020. Older age, more time spent in farm work, higher gross farm income (GFI), and MSD symptoms in six body regions (ankles/feet, knees, lower back, neck, shoulders, wrists/hands) were associated with all three work strain symptoms. CONCLUSIONS: Musculoskeletal pain and discomfort was a strong predictor for stress, sleep deprivation, and exhaustion among farmers and ranchers. This finding indicates that reducing MSD pain and discomfort is beneficial for both physical and mental health.

COVID-19 working paper: meatpacking working conditions and the spread of COVID-19. (COVID-19 Working Paper No. AP-092.)
This preliminary analysis explores how working conditions in meatpacking plants might have contributed to the spread of the Coronavirus (COVID-19). Data from the Occupational Information Network (O*NET) was used to construct a set of industry-level working condition variables and compare meatpacking to the sample of other manufacturing industries in our comparison group. This novel approach showed that proximity to others in the meatpacking industry is likely the main factor that influenced the spread of COVID-19, nearly three standard deviations higher in meatpacking than our comparison sample of other manufacturing industries. Overall exposure to disease was also found to be 2.5 standard deviations higher in the meatpacking industry compared to other manufacturing industries. Subsequently, we performed a county-level analysis on COVID-19 spread, comparing rural counties that have a large number of meatpacking plants to other nonmetropolitan counties that were dependent on a single manufacturing industry, using the time frame of mid-March to mid-September of 2020. Data analysis begins in mid-March since confirmed cases became national in scope at this point. In mid-April 2020, COVID-19 cases in meatpacking-dependent rural counties rose to nearly 10 times the number in comparison to rural counties dependent on other single manufacturing industries. This difference disappears completely by mid-July, driven by a reduction in COVID-19 cases in the meatpacking industry rather than an increase in other industries, and holds steady through mid-September. The paper concludes by collating evidence from other studies to infer that the meatpacking industry's increased precautions to protect workers help explain why no difference was observed between meatpacking-dependent counties and our comparison group for the final 2 months of the study period. However, this

inference should be viewed as suggestive since it cannot formally test using the data referenced in the working paper.

The vaccination threshold for SARS-CoV-2 depends on the indoor setting and room ventilation
https://doi.org/10.1186/s12879-021-06884-0
BACKGROUND: Effective vaccines are now available for SARS-CoV-2 in the 2nd year of the COVID-19 pandemic, but there remains significant uncertainty surrounding the necessary vaccination rate to safely lift occupancy controls in public buildings and return to pre-pandemic norms. The aim of this paper is to estimate setting-specific vaccination thresholds for SARS-CoV-2 to prevent sustained community transmission using classical principles of airborne contagion modeling. We calculated the airborne infection risk in three settings, a classroom, prison cell block, and restaurant, at typical ventilation rates, and then the expected number of infections resulting from this risk at varying percentages of occupant immunity. RESULTS: We estimate the setting-specific immunity threshold for control of wild-type SARS-CoV-2 to range from a low of 40% for a mechanically ventilation classroom to a high of 85% for a naturally ventilated restaurant. CONCLUSIONS: If vaccination rates are limited to a theoretical minimum of approximately two-thirds of the population, enhanced ventilation above minimum standards for acceptable air quality is needed to reduce the frequency and severity of SARS-CoV-2 superspreading events in high-risk indoor environments.

Essential Workers/Food/Farm/Ag/Migrant

COVID-19 and systemic racism pandemics impact daily life for immigrant/refugees, Minneapolis, USA
https://doi.org/10.5334/aogh.3411
Background: The pandemics of COVID-19 and systemic racism have a deleterious impact on the daily life experiences and health for populations of color. The experiences are compounded for immigrant/refugee communities that may have other barriers such as English language literacy or trauma. Cumulative stress due to everyday racism is harmful for health. Objectives: This study describes the impact of day-to-day lived experiences of Karen, Somali, and Latinx communities during the COVID-19 pandemic and aftermath of the police murder of George Floyd in the Minneapolis/St. Paul metro area. Methods: In-depth interviews were conducted over three weeks in September and October 2020 to understand the daily life experiences of Karen, Somali and Latinx adults drawn from community contacts during the COVID-19 pandemic and the aftermath of the police murder of George Floyd. Interviewers were bilingual and from the communities they interviewed. Nine questions were asked, ranging from their knowledge of COVID-19, prevention practices, experiences during shelter-in-place, and the perceptions of the police murder of George Floyd. Qualitative analysis included transcript review, coding facilitated by Atlas.ti Cloud software, summaries, and validation by interviewers. Findings: Thirty-two adults were interviewed (Latinx = 10, Karen = 10, Somali = 12). One-third were in person per participant request and complying with COVID-19 precautions, and the remainder were remote. The average age recorded was 37 years (range 20–66 years), 43.8% males and 56.3% females. Respondents reported experiences of discrimination and systemic racism while engaging in daily life activities, including accessing foods and common goods, school, work, transportation, and healthcare, all of which were exacerbated by COVID-19 and the police murder of George Floyd. Conclusions: Immigrant/refugee communities of color in Minneapolis/St. Paul face daily experiences of racism that were compounded by the events of 2020. Discrimination and systemic racism contribute to the persistent health inequities among populations of color.

The Direct and Indirect Effects of a Global Pandemic on US Fishers and Seafood Workers (preprint)
https://doi.org/10.1101/2021.11.16.21266427
The United States' seafood industry experienced major shifts in consumer demand and COVID-19 social-distancing restrictions starting in March 2020, when the early stages of the pandemic were unfolding. However, the specific effects on workers across seafood value chains are less well known. According to the US Centers for Disease Control and Protection (CDC), fishers and seafood workers face an increased risk of workplace exposure to COVID-19 given the close proximity to others in processing facilities and on fishing vessels, long work hours, and communal housing, living, and transportation arrangements associated with seasonal employment. To explore this hypothesis, and given a lack of data on the sector, we reviewed news articles, scientific articles, and white papers to identify the various effects of COVID-19 on US seafood workers and to track COVID-19 cases and outbreaks. Here, we show that most COVID-19 cases among seafood workers were reported during the summer of 2020 and during the beginning of 2021 with outbreaks primarily occurring in seafood processing. COVID-19 cases were documented throughout coastal areas, with Alaska experiencing the largest number of cases and outbreaks. Based on news reports, seafood workers were about twice as likely to contract COVID-19 as workers in other parts of the overall US food system. By examining news articles and scientific literature, we also documented a number of indirect effects of the pandemic. Social-distancing restrictions limited crew size and number of workers on processing lines, resulting in longer work hours and more physical and mental taxation. Economic consequences of the pandemic were reportedly a primary concern for fishers and aquaculture businesses, including changes in markets, supply and demand, in addition to revenue loss, price fluctuations, supply chain issues, and labor shortages. Fewer outlets interviewed workers in seafood processing;however, concerns about workplace safety, contracting COVID-19, access to medical services, vaccination, and paid sick leave were all noted. We also highlight a number of inequities in COVID-19 responses within the seafood sector, both along racial and gender lines. Peer-reviewed studies and news coverage all point to diverse direct and indirect effects of the COVID-19 pandemic on workers across seafood value chains. The summary of these effects can serve as a foundation for future work on infection control and occupational outreach to workers in the seafood sector.

Other

Worldwide COVID-19 Vaccines Sentiment Analysis Through Twitter Content
https://doi.org/10.29333/ejgm/11316
One year during the pandemic of COVID 19, numerous viable possibilities have been created in worldwide efforts to create and disseminate a viable vaccine. The rapid development of numerous vaccinations is remarkable;generally, the procedure takes 8 to 15 years. The vaccination of a critical proportion of the global population, which is vital for containing the pandemic, is now facing a new set of hurdles, including hazardous new strains of the virus, worldwide competition over a shortage of doses, as well as public suspicion about the vaccinations. A safe and efficacious vaccine COVID-19 is borne fruit globally. There are presently more than a dozen vaccinations worldwide authorized;many more continue to be developed. This paper used COVID-19 vaccine related tweets to present an overview of the public's reactions on current vaccination drives by using thematic sentiment and emotional analysis, and demographics interpretation to people. Further, experiments were carried out for sentiment analysis in order to uncover fresh information about the effect of location and gender. Overall Tweets were generally negative in tone and a huge vaccination trend can be seen in global health perspectives, as evidenced by the analysis of the role of comprehensive science and research in vaccination.

Trust and responsibility in food systems transformation. Engaging with Big Food: marriage or mirage?
https://dx.doi.org/10.1136/bmjgh-2021-007350

Concentration of power among transnational 'Big Food' companies has contributed to food systems that are unsustainable, unhealthy and inequitable for people and planet. Given these commercial determinants of health, if 'food systems transformation' is to be authentic-more than a passing narrative-then leveraging Big Food is paramount. To this end, researchers, practitioners and policy-makers are increasingly encouraged to engage with these powerful entities. However, given the conflicts of interest at stake, engagement relies on trust and transparency, that all stakeholders take responsibility for their actions and demonstrate commitment to do no harm. Given Big Food's track record in influencing policy, shifting costs and responsibility for their harms-and while profit primarily drives business decision making-we question whether it is logical to expect trust.This analysis explores concepts of responsibility and trust in relation to food systems transformation involving public-private partnerships. Through short cautionary case studies-looking at the United Nations Food Systems Summit, and Big Food's plastic burden-it argues that unless such companies take responsibility for their cross-cutting effects and earn authentic trust through demonstrably doing no harm, their participation in evidence generation and policy processes should be limited to responding to information requests and adhering to regulation. Any involvement in research agenda-setting or formulating policy solutions introduces conflicts of interest, legitimises corporate irresponsibility and jeopardises scientific integrity. Big Food has dynamism and power to address food system problems, but while it contributes to so many of these problems it should follow-not formulate-transformational evidence, policies and regulations.

Homeless people and health: vulnerability and risks during the COVID-19 pandemic. Pilot study
https://doi.org/10.3306/ajhs.2021.36.04.136
Background: Homelessness is a complex phenomenon characterized by extreme vulnerability. The objective of the present study was to know the health status and use of the health system by homeless people (HP) in Palma de Mallorca, as well as to describe how the actual pandemic modified the needs of this population. Subjects and method: Descriptive cross-sectional study with 31 HP from Palma de Mallorca. A questionnaire that included sociodemographic profile, social support (SSQ-6), health problems, infectious diseases, mental health (PHQ-9), drug abuse (DAST-10) and basic needs (hygiene, food, safety, etc.) was administered. In addition, serology test for SARS-CoV-2, syphilis, hepatitis and HIV was performed, also their computerized medical records were reviewed. Results: The mean age was 52 +/- 8 years and 87% (27/31) were men. 48.4% had some chronic disease, 51.6% had some infectious disease and 42% had mood disorders. 96.8% of the HP used Primary Care services in 2020 versus 71% in 2019. The needs most affected by the pandemic were: hygiene (41.9%), access to public toilets (29%) and access to food (25.8%). Conclusions: HP have high rates of comorbidity. Our results suggest that the health status of HP may have worsened during the pandemic. In addition, vital needs have been affected and their vulnerability could increase.

Food and COVID-19 Lit Review: November 26th 2021

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    - The Influence of the COVID-19 Pandemic on the Food Supply in the Emergency Food System: A Case Study at 2 Food Pantries. https://dx.doi.org/10.1093/cdn/nzab115
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- Do social isolation and neighborhood walkability influence relationships between COVID-19 experiences and wellbeing in predominantly Black urban areas? https://doi.org/10.1016/j.lurbplan.2021.104264
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- Essential Workers/Food/Farm/Ag/Migrant
  - Vaccinations for migrants during and beyond the COVID-19 pandemic https://doi.org/10.1093/eurpub/ckab165.150
  - 'Stressed, uncomfortable, vulnerable, neglected': a qualitative study of the psychological and social impact of the COVID-19 pandemic on UK frontline keyworkers. https://dx.doi.org/10.1136/bmjopen-2021-050945
  - Impact of COVID-19 on migrant populations in high-income countries: a systematic review https://doi.org/10.1093/eurpub/ckab164.882
  - COVID-19 and systemic racism pandemics impact daily life for immigrant/refugees, Minneapolis, USA https://doi.org/10.5334/aogh.3411
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  - SARS-CoV-2 Cumulative Incidence and Period Seroprevalence: Results From a Statewide Population-Based Serosurvey in California. https://dx.doi.org/10.1093/ofid/ofab379
  - The impact of behavioural risk factors on communicable diseases: a systematic review of reviews. https://dx.doi.org/10.1186/s12889-021-12148-y
  - The effect of allergy and asthma as a comorbidity on the susceptibility and outcomes of COVID-19. https://dx.doi.org/10.1093/intimm/dxab107
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DNPAO

SNAP participation and the health and health care utilisation of low-income adults and children. https://dx.doi.org/10.1017/S1368980021003815
OBJECTIVE: This article examined whether participation in the Supplemental Nutrition Assistance Program (SNAP) produced changes to adult and child health and health care utilisation during a period of economic recession. DESIGN: Instrumental variables analysis relying on variation in state SNAP policies to isolate exogenous variation in household SNAP participation. SETTING: Nationally representative data on child and adult health from the 2008 to 2013 National Health Interview Survey. PARTICIPANTS: Participants were 92 237 adults and 45 469 children who were either eligible for SNAP based on household income and state eligibility rules or were low income but not eligible for SNAP benefits. RESULTS: For adults, SNAP participation increased the probability of reporting very good or excellent health, and for both adults and children, reduced needing but having to go without dental care or eyeglasses. The size of these benefits was especially pronounced for children. However, SNAP participation increased the probability of needing but not being able to afford prescription medicine, and increased psychological distress for adults and behavioural problems for children under age 10. CONCLUSIONS: SNAP's benefits for adult health and improved access to dental and vision care for adults and children suggest benefits from the program's expansions during the current COVID-induced crisis. Predicted negative effects of SNAP participation suggest the need for attention to program and benefit structure to avoid harm and the need for continued research to explore the causal effects of program participation.

The Influence of the COVID-19 Pandemic on the Food Supply in the Emergency Food System: A Case Study at 2 Food Pantries. https://dx.doi.org/10.1093/cdn/nzab115
Background: The onset of the coronavirus disease 2019 (COVID-19) pandemic increased demand for emergency food assistance and has caused operational shifts in the emergency food system. Objective: This research explored how the initial phase of the COVID-19 pandemic influenced the food supply of 2 food pantries. Methods: A case study approach was applied to collect data during the initial phase of the COVID-19 pandemic. Food supply data were collected weekly at 2 food pantries in southwest Montana for 17 wk in 2020. Surveys and interviews were conducted with food pantry clients and staff, respectively. Descriptive statistics and inferential statistics were applied to analyze quantitative data. Food supply data were analyzed using the Healthy Eating Index (HEI)-2015, NOVA system, and Unprocessed Pantry Project (UP3) Framework. Thematic analysis was applied to qualitative data. Results: The food boxes collected between the 2 food pantries (n = 43) had a mean (± SD) total HEI-2015 score of 76.41 ± 7.37 out of a possible score of 100. According to both the NOVA and the UP3 Framework, 23.4% of the total food distributed was ultra-processed food. Of the food distributed, 50.0% and 48.3% was fresh, unprocessed food according to NOVA and UP3 Frameworks, respectively. From staff interviews, 3 themes arose that describe the food pantry operations that experienced change during the COVID-19 pandemic, including food procurement, distribution preparation, and food distribution. Nine supporting subthemes describing the causes and consequences of the operational themes were identified. Staff perceived that the nutrient quality of the food boxes increased from food distributed previously to the COVID-19 pandemic, whereas over one-third (39.4%) of food pantry clients who responded to surveys preferred the food box model. Conclusions: The COVID-19 pandemic has caused enormous operational challenges within food pantries. Food pantries overcame these challenges by swiftly and effectively altering operations so as to continue to distribute nutritious food boxes to pantry clients.

“It Was Actually Pretty Easy": COVID-19 Compliance Cost Reductions in the WIC Program. https://dx.doi.org/10.1111/puar.13423

In recent years, scholars have examined the barriers to accessing public assistance benefits. Research identifies learning, compliance, and psychological costs as deterring program use. Compliance costs reflect the burdens of following program rules, which may entail providing documentation, responding to discretionary demands of bureaucrats, or attending appointments to maintain benefits. Studies identify one element of compliance costs-quarterly appointments-as a barrier to continued WIC participation. This article draws on 44 in-depth qualitative interviews with participants in the Special Supplemental Nutrition Assistance Program for Women, Infants, and Children (WIC). We examine how WIC participants perceive the reduction of compliance costs following the implementation of remote appointments in response to the COVID-19 pandemic. WIC participants report satisfaction with remote appointments and a reduction in the compliance costs of accessing and maintaining benefits. We conclude by recommending longer term changes to policy and practices to increase access and continuity in WIC receipt.

Race and Hispanic-origin disparities in underlying medical conditions associated with severe COVID-19 illness: U.S. adults, 2015-2018 https://doi.org/10.15620/cdc:104188
Objective - This report calculates the prevalence of selected conditions by race and Hispanic origin among U.S. adults (aged 20 and over) during 2015-2018. Methods - Interview, physical examination, and laboratory data were used from the National Health and Nutrition Examination Survey. Conditions included asthma, chronic obstructive pulmonary disease, and heart disease based on self-report;and obesity, severe obesity, diabetes, chronic kidney disease, smoking, and hypertension based on physical measurements. Estimates accounted for survey design. Results - Seventy-six percent of adults and 86.4% (95% CI: 83.5-89.0) of non-Hispanic black adults had at least one condition. Obesity and diabetes were highest among non-Hispanic black (47.9% CI: 45.0-50.8;19.2% CI: 16.7-21.8, respectively) and Hispanic adults (45.7% CI: 42.9-48.6;21.3% CI: 19.0-23.7, respectively). Conclusions - Non-Hispanic black and Hispanic adults had a disproportionate burden of some conditions, including obesity and diabetes. Understanding populations at highest risk for severe coronavirus disease 2019-related illness could help inform prevention strategies.

Racial and Ethnic Disparities in Health-Related Socioeconomic Risks During the Early COVID-19 Pandemic: A National Survey of U.S. Women. https://dx.doi.org/10.1089/jwh.2021.0230
Background: Nearly half of U.S. women experienced new or worsening health-related socioeconomic risks (HRSRs) (food, housing, utilities and transportation difficulties, and interpersonal violence) early in the COVID-19 pandemic. We sought to examine racial/ethnic disparities in pandemic-related changes in HRSRs among women. Materials and Methods: We conducted a cross-sectional survey (04/2020) of 3200 women. Pre- and early pandemic HRSRs were described by race/ethnicity. Weighted, multivariable logistic regression models generated odds of incident and worsening HRSRs by race/ethnicity. Results: The majority of Black, East or Southeast (E/SE) Asian, and Hispanic women reported ≥1 prepandemic HRSR (51%-56% vs. 38% of White women, $p < 0.001$). By April 2020, 68% of Black, E/SE Asian, and Hispanic women and 55% of White women had ≥1 HRSR ($p < 0.001$). For most HRSRs, the odds of an incident or worsening condition were similar across racial/ethnic groups, except Black, E/SE Asian and Hispanic women had 2-3.6 times the odds of incident transportation difficulties compared with White women. E/SE Asian women also had higher odds of worsening transportation difficulties compared with White women (adjusted odds ratios = 2.5, 95% confidence interval 1.1-5.6). In the early pandemic, 1/19 Hispanic, 1/28 E/SE Asian, 1/36 Black and 1/100 White women had all 5 HRSRs (extreme health-related socioeconomic vulnerability). Conclusions: Prepandemic racial/ethnic disparities in HRSRs persisted and prevalence rates increased for all groups early in the pandemic. Disparities in transportation difficulties widened. White women were much less likely than others to experience

extreme health-related socioeconomic vulnerability. An equitable COVID-19 response requires attention to persistent and widening racial/ethnic disparities in HRSRs among women.

6-10-14 for Health - as an example of an interdisciplinary model of care for a patient with obesity
https://doi.org/10.1093/eurpub/ckab165.186
Issue Overweight and obesity are public health challenges of growing importance in Poland. The fastest increase has been observed in children and adolescents. Some studies show that 22% of elementary school children are currently (2013) overweight or have obesity (IZZ), compared with no more than 15% in 1990 (WHO Europe, 2012). Description of the problem The "6-10-14 for Health" is the first comprehensive health programme implemented in Poland, focused on long-term health behaviour change both among children with obesity and their families. Screening tests are carried out at Gdańsk schools. Children who are diagnosed with excess body weight are invited to the second level of programme. Target groups are children in Gdansk, aged 6, 9-11 and 14 years, their parents and the school environment. Timeline: 2011-2021 Results effects: Approximately 400-450 new patients join the programme every year. Programme participants receive annual care from an interdisciplinary team of specialists including a paediatrician, dietitian, specialist in physical activity and a psychologist. The effect of one year's participation in the programme is the reduction of excess body weight in 75% of participants. More then 2000 patients have complieted the Programme. The programme is accredited by the European Association for the Study of Obesity and is funded by the City of Gdańsk. changes: Further implementation of the Programme depends on providing funds from the City of Gdańsk. However, it seems that the 6-10-14 for Health is one of the city's health priorities. The challenge in the field of weight reduction programs is to provide care that will not lead to stigmatization of patients Lessons The work on designing the model has already resulted in creation of network of specialists from different backgrounds and allowed sharing different scopes, how to use limited resources for the benefit of children and adolescens. Key messages The proposed care model is fully possible to implement in the care system. So far, sharing knowledge and experience, the program has been implemented in several other local governments. In the era of the COVID19 pandemic, all activities aimed at the prevention and early treatment of obesity become even more important.

Do social isolation and neighborhood walkability influence relationships between COVID-19 experiences and wellbeing in predominantly Black urban areas?
https://doi.org/10.1016/j.lurbplan.2021.104264
Black Americans have been disproportionately affected by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2 or COVID-19) pandemic. Since the pandemic's start, we have observed compounded health, social, and economic impacts for communities of color, fueled in part by profound residential segregation in the United States that, for centuries prior to the pandemic, created differences in access to opportunity and resources. Based on a longitudinal cohort of Black residents living in two racially isolated Pittsburgh neighborhoods, we sought to: 1) describe the experiences of behavioral responses to COVID-19 conditions (e.g., closures of businesses, schools, government offices) and illness experiences reported by residents within these disinvested, urban areas and 2) determine if these experiences were associated with perceptions of risk, negative mental health outcomes, and food insecurity;and 3) examine whether any of the associations were explained by social isolation or modified by neighborhood walkability. We found direct associations between residents' experience with COVID-19-related closures and with the illness, with perceived risk, and change in psychological distress, sleep quality, and food insecurity from pre-COVID-19 levels. Social isolation was a statistically significant mediator of all of these associations, most strongly mediating the pathway to psychological distress. We found neighborhood walkability to be a significant moderator of the association between closure experiences and sleep quality. The results suggest that experiences of COVID-19 closures and illness

were associated with serious threats to public health in Black, disinvested, urban neighborhoods, beyond those caused directly by the virus. Outcomes of the pandemic appear very much dependent on the extent to which social and physical resources are available to meet the demands of stress.

European food banks and COVID-19: Resilience and innovation in times of crisis
https://doi.org/10.1016/j.seps.2021.101187
This paper examines the impact of the COVID-19 crisis on the functioning of European food banks and how resilient European food banks were in coping with the pandemic in 2020. We apply a multiple case study to assess how the first year of the pandemic affected European food banks' operations and the amount of redistributed food. We further investigate innovation practices that have been developed to cope with the new situation, hoping to draw lessons for imminent future waves of the pandemic and other social crises. Our study finds that, compared to 2019, in 2020 food banks were able to redistribute a significantly higher amount of food despite numerous social restrictions and other challenges associated with the pandemic. To explain this, we delve into the organizational innovations implemented by the studied food banks and find that the introduction of new strategies and new internal structures, as well as the establishment of new types of external network relations with other firms and/or public organizations, proved to be particularly important, enabling food banks to respond quickly and effectively to the new emergency. The study thus highlights the role of food banks in food redistribution and food waste reduction in times of crisis.

Identifying Critical Thresholds for Resilient Regional Food Flows: A Case Study From the U.S. Upper Midwest https://doi.org/10.3389/fsufs.2021.684159
Improving the regional organization of food flow requires an understanding of system constraints. System transformation is necessary if the system is to include regional, independent wholesale food suppliers and to distribute food in an equitable and sustainable manner. Regional suppliers play a pivotal role in overall food system resilience, an emerging issue in wake of the numerous failures in conventional food supply chains exacerbated by COVID-19-related disruptions. Yet alternative supply chains that link local producers with towns and urban centers regionally, represent a small fraction of our nation's food suppliers. They struggle to compete with larger distribution networks that can supply products in-and out-of-season by global procurement. The upper Midwest harbors numerous local and regional food supply chains consisting of farms, processors, trucking companies, wholesalers and other firms that share a commitment to sustainability and local economic development. A constellation of challenges hamper their emergence, however, even as larger scale food supply chains flounder or fail to effectively serve communities. Informed by Donella Meadows's work on leverage points for systemic change, a collaborative, transdisciplinary and systems research effort examined conventional food supply networks and identified key opportunities for shifting food supply chain relationships. System concepts such as stock and flow, leverage points, and critical thresholds helped us to frame and identify challenges and opportunities in the current system. The second and third phase of our collaborative research effort occurred over 4 years (2013–2016) and involved twenty-six people in co-generation of knowledge as a loose-knit team. The team included farmers, supply chain practitioners, students, academic staff and faculty from multiple departments and colleges. Our primary method was to host public workshops with practitioner speakers and participants to identify dominant narratives and key concepts within discourses of different participants in distribution networks. The literature review was iterative, based on challenges, ideas and specific questions discussed at workshops. Our research exposed two meta-narratives shaping the supply chain: diversity and efficiency. In addition to these high-leverage narratives, we identified and examined five key operational thresholds in the Upper Midwest regional food system that could be leveraged to improve food flow in the region. Attention to

these areas makes it possible for businesses to operate within environmental limits and develop social structures that can meet scale efficiencies necessary for economic success. We iteratively shared this co-produced knowledge with decision-makers via local food policy councils, local government, and national policy circles with the goal of supplying actionable information. This phased action research project created the environment necessary for a group of food system entrepreneurs to emerge and collaborate, poised to improve system resilience in anticipation of food system disruptions. It forms the basis for on-going research on food flow, regional resilience, and supply chain policy.

The underlying mechanisms for severe COVID-19 progression in people with diabetes mellitus: a critical review. https://dx.doi.org/10.3934/publichealth.2021057
Diabetes mellitus (DM) has a high incidence of comorbidities among patients with severe coronavirus disease 2019 (COVID-19). The elevated prevalence of DM in the world population makes it a significant risk factor because diabetic individuals appear to be prone to clinical complications and have increased mortality rates. Here, we review the possible underlying mechanisms involved in DM that led to worse outcomes in COVID-19. The impacts of hyperglycemia side effects, secondary comorbidities, weakened innate and adaptive immunity, chronic inflammation, and poor nutritional status, commonly present in DM, are discussed. The role of the SARS-CoV-2 receptor and its polymorphic variations on higher binding affinity to facilitate viral uptake in people with DM were also considered. Clinical differences between individuals with type 1 DM and type 2 DM affected by COVID-19 and the potential diabetogenic effect of SARS-CoV-2 infection were addressed.

Worker-Safety/NIOSH

Exposure to a SARS-CoV-2 infection at work: development of an international job exposure matrix (COVID-19-JEM). https://dx.doi.org/10.5271/sjweh.3998
Objective This study aimed to construct a job exposure matrix (JEM) for risk of becoming infected with the SARS-CoV-2 virus in an occupational setting. Methods Experts in occupational epidemiology from three European countries (Denmark, The Netherlands and the United Kingdom) defined the relevant exposure and workplace characteristics with regard to possible exposure to the SARS-CoV-2 virus. In an iterative process, experts rated the different dimensions of the COVID-19-JEM for each job title within the International Standard Classification of Occupations system 2008 (ISCO-08). Agreement scores, weighted kappas, and variances were estimated. Results The COVID-19-JEM contains four determinants of transmission risk [number of people, nature of contacts, contaminated workspaces and location (indoors or outdoors)], two mitigation measures (social distancing and face covering), and two factors for precarious work (income insecurity and proportion of migrants). Agreement scores ranged from 0.27 [95% confidence interval (CI) 0.25-0.29] for 'migrants' to 0.76 (95% CI 0.74-0.78) for 'nature of contacts'. Weighted kappas indicated moderate-to-good agreement for all dimensions [ranging from 0.60 (95% CI 0.60-0.60) for 'face covering' to 0.80 (95% CI 0.80-0.80) for 'contaminated workspaces'], except for 'migrants' (0.14 (95% CI -0.07-0.36). As country differences remained after several consensus exercises, the COVID-19-JEM also has a country-axis. Conclusions The COVID-19-JEM assesses the risk at population level using eight dimensions related to SARS-COV-2 infections at work and will improve our ability to investigate work-related risk factors in epidemiological studies. The dimensions of the COVID-19-JEM could also be valuable for other future communicable diseases in the workplace.

Assessment of Environmental and Occupational Risk Factors for the Mitigation and Containment of a COVID-19 Outbreak in a Meat Processing Plant. https://dx.doi.org/10.3389/fpubh.2021.769238

Throughout the COVID-19 pandemic, meat processing plants have been vulnerable to outbreaks of SARS-CoV-2 infection. Transmission of the virus is difficult to control in these settings because of a combination of factors including environmental conditions and the specific nature of the work. This paper describes a retrospective outbreak investigation in a meat processing plant, a description of the measures taken to prevent or contain further outbreaks, and insights on how those with specific knowledge of the working environment of these plants can collaborate with public health authorities to ensure optimal outbreak control. The plant experienced 111 confirmed positive asymptomatic cases in total with an estimated attack rate of 38% during a five-week period. 4 weeks after the first case, mass screening of all workers was conducted by the public health authorities. Thirty-two workers tested positive, of which 16 (50%) worked in one particular area of the plant, the boning hall (n = 60). The research team prepared and carried out semi-structured interviews with the plant personnel who were charged with COVID control within the plant. They carried out assessments of operational risk factors and also undertook air quality monitoring in the boning hall and abattoir. The air quality measurements in the boning hall showed a gradual build-up of carbon dioxide and aerosol particles over the course of a work shift, confirming that this poorly ventilated area of the plant had an environment that was highly favorable for aerosol transmission of SARS-CoV-2. Assessment of operational conditions incorporated visual surveys of the plant during the working day. Prior to and during the first 2 weeks of the outbreak, multiple measures were introduced into the plant by management, including physical distancing, provision of educational material to workers, visitor restrictions, and environmental monitoring. After the implementation of these measures and their progressive refinement by plant management, the factory had no further linked cases (clusters) or outbreaks for the following 198 days. The tailored approach to risk mitigation adopted in this meat processing plant shows that generic risk mitigation measures, as recommended by public health authorities, can be successfully adapted and optimized by designated plant emergency response teams.

DFWED/Food Safety

Multistate Salmonella infection outbreaks in United States, 2006 to 2020
https://doi.org/10.3784/jbjc.202103260160
Foodborne and pet-borne Salmonella infectious diseases have become a major public health problem in the United States. By collecting the data and information of the epidemiological investigations of 153 Salmonella multistate foodborne disease (SMSFBD) outbreaks and 34 Salmonella multistate pet-borne disease (SMSPBD) outbreaks in the United States from 2006 to 2020, we analyzed the distribution of Salmonella serotypes, characteristics of disease burden, food attribution and the corresponding response outcomes, and descripted the trend of changes in food consumption of processed food among different groups in the United States at different social-economic development stages. We also observed that a series of lifestyle changes, such as passive reduction of food exposure risk caused by decreasing social activities and food procurement frequency and increased home stay time due to coronavirus disease 2019 (COVID-19) pandemic. New backyard poultry raising which was popular from 2018 might be potential cause of an outbreak of SMSPBD with the most extensive coverage, the largest number of cases and the most complex Salmonella serotype in the United States in 2020. The results showed that it is necessary to learn from the active surveillance strategies and experiences in the prevention and control of SMSFBD and SMSPBD outbreaks in developed countries to establish the tailored food and cultivation early warning system based on local epidemiological characteristics of the diseases, capacity of the diseases control and prevention, economic and social development level to response the rising challenges of new type salmonellosis.

Essential Workers/Food/Farm/Ag/Migrant

Vaccinations for migrants during and beyond the COVID-19 pandemic
https://doi.org/10.1093/eurpub/ckab165.150
Issue Migrants have suboptimal vaccination coverage compared to the general population in destination countries due to several factors -administrative barriers or lack of legal entitlements to health -health system barriers (language, lack of cultural sensitivity and community engagement capacity, vaccination costs) -lack of trust in the health system and misconceptions about vaccines due to misinformation or beliefs Problem Countries should develop national policies and ensure an inclusive, free of charge and proactive vaccination offer to migrants, irrespective of their legal status;and to extend this approach beyond the current pandemic and the sole COVID-19 vaccine Results To achieve COVID-19 global herd immunity all population groups, including migrants, needs to access vaccination. Tailored vaccination strategies, once devised, shall be applied to routine national vaccination plan to tackle health inequalities Lessons The following actions shall be implemented at national level Action 1. Develop tailored and equitable approaches for PH vaccination services targeting migrants through: -free of charge access -decentralization and outreach capacity of the health system -innovative service delivery models (mobile clinics, combined health services, mass vaccination) -health personnel and migrants participatory approach and engagement strategies Action 2. Increase staff engagement through: -increasing health personnel's difference sensitivity -strengthening health personnel's communication capacities Action 3. Increase migrants' health and vaccine literacy through: -establishing vaccine literacy education programmes and strategies -offering health promotion educational interventions Action 4. Monitor progress of inclusive vaccination offer by: -setting strategic goals, targets and indicators for national vaccination plans -expanding immunization information systems to monitor vaccination coverage, with appropriate disaggregation by migration status core variables Key messages Explicitly and proactively include migrants and displaced communities in vaccination plans and set up, test and implement new approaches in primary prevention and vaccination services. Extend this approach beyond the current pandemic and the sole COVID-19 vaccine in order to enhance preparedness to present and future health threats.

'Stressed, uncomfortable, vulnerable, neglected': a qualitative study of the psychological and social impact of the COVID-19 pandemic on UK frontline keyworkers. https://dx.doi.org/10.1136/bmjopen-2021-050945
OBJECTIVES: Non-healthcare keyworkers face distinct occupational vulnerabilities that have received little consideration within broader debates about 'essential' work and psychological distress during the COVID-19 pandemic. The aim of this study was therefore to explore the impact of the pandemic on the working lives and mental health and well-being of non-healthcare keyworkers in the UK. DESIGN: In-depth, qualitative interviews, analysed using a reflexive thematic analysis. SETTING: Telephone or video call interviews, conducted in the UK between September 2020 and January 2021. PARTICIPANTS: 23 participants aged 26-61 (mean age=47.2) years employed in a range of non-healthcare keyworker occupations, including transport, retail, education, postal services, the police and fire services, waste collection, finance and religious services. RESULTS: Keyworkers experienced adverse psychological effects during the COVID-19 pandemic, including fears of COVID-19 exposure, contagion and subsequent transmission to others, especially their families. These concerns were often experienced in the context of multiple exposure risks, including insufficient personal protective equipment and a lack of workplace mitigation practices. Keyworkers also described multiple work-related challenges, including increased workload, a lack of public and organisational recognition and feelings of disempowerment. CONCLUSIONS: In efforts to reduce psychosocial concerns among non-healthcare keyworkers, there is a

need for appropriate support during the COVID-19 pandemic and in preparation for other infections (eg, seasonal influenza) in the future. This includes the provision of psychological and workplace measures attending to the intersections of personal vulnerability and work conditions that cause unique risks and challenges among those in frontline keyworker occupations.

Impact of COVID-19 on migrant populations in high-income countries: a systematic review
https://doi.org/10.1093/eurpub/ckab164.882
Background Migrants in high-income countries (HICs) may have been disproportionately affected by the COVID-19 pandemic, yet the extent to which they are impacted, and their predisposing risk factors, are not clearly understood. We did a systematic review to assess clinical outcomes, indirect health and social impacts, and key risk factors in migrants. Methods Our systematic review following PRISMA guidelines (PROSPERO CRD42020222135) identified peer-reviewed and grey literature relating to migrants (foreign-born) and COVID-19 in 82 HICs. Primary outcomes were cases, hospitalisations and deaths from COVID-19 involving migrants;secondary outcomes were indirect health and social impacts and risk factors. Results 3016 data sources were screened with 158 from 15 countries included in the analysis. We found migrants are at increased risk of SARS-CoV-2 infection and are over-represented among cases (e.g. constituting 42% of cases in Norway [to 27/4/2020], 26% in Denmark [to 7/9/2020], and 32% in Sweden [to 7/5/2020]);some datasets from Europe show migrants may be over-represented in deaths with increased all-cause mortality in migrants in some countries in 2020. Undocumented migrants, migrant health and care workers, and migrants housed in camps have been especially affected, with certain nationality groups disproportionately impacted. Migrants experience a range of risk factors for COVID-19, including high-risk occupations, overcrowded accommodation, and barriers to healthcare including inadequate information, language barriers, and reduced entitlement. Conclusions Migrants in HICs are at high risk of COVID-19, with a range of specific risk factors that have not been well-considered in the public health response to date. These data are of immediate relevance to the policy response to the pandemic, with strategies urgently needed to reduce transmission. Migrant populations must also be better considered in national plans for COVID-19 vaccination roll-out. On behalf of ESGITM Key messages Migrants in high-income countries may be disproportionately represented in COVID-19 infections and deaths, with higher levels of many vulnerabilities and risk factors. Migrants must be better included in all aspects of the pandemic response, including vaccination roll-out.

COVID-19 and systemic racism pandemics impact daily life for immigrant/refugees, Minneapolis, USA
https://doi.org/10.5334/aogh.3411
Background: The pandemics of COVID-19 and systemic racism have a deleterious impact on the daily life experiences and health for populations of color. The experiences are compounded for immigrant/refugee communities that may have other barriers such as English language literacy or trauma. Cumulative stress due to everyday racism is harmful for health. Objectives: This study describes the impact of day-to-day lived experiences of Karen, Somali, and Latinx communities during the COVID-19 pandemic and aftermath of the police murder of George Floyd in the Minneapolis/St. Paul metro area. Methods: In-depth interviews were conducted over three weeks in September and October 2020 to understand the daily life experiences of Karen, Somali and Latinx adults drawn from community contacts during the COVID-19 pandemic and the aftermath of the police murder of George Floyd. Interviewers were bilingual and from the communities they interviewed. Nine questions were asked, ranging from their knowledge of COVID-19, prevention practices, experiences during shelter-in-place, and the perceptions of the police murder of George Floyd. Qualitative analysis included transcript review, coding facilitated by Atlas.ti Cloud software, summaries, and validation by interviewers. Findings: Thirty-two adults were interviewed (Latinx = 10, Karen = 10, Somali = 12). One-third were in

person per participant request and complying with COVID-19 precautions, and the remainder were remote. The average age recorded was 37 years (range 20–66 years), 43.8% males and 56.3% females. Respondents reported experiences of discrimination and systemic racism while engaging in daily life activities, including accessing foods and common goods, school, work, transportation, and healthcare, all of which were exacerbated by COVID-19 and the police murder of George Floyd. Conclusions: Immigrant/refugee communities of color in Minneapolis/St. Paul face daily experiences of racism that were compounded by the events of 2020. Discrimination and systemic racism contribute to the persistent health inequities among populations of color.

Other

How COVID-19 Exposed Water Supply Fragility in Florida, USA
https://doi.org/10.3390/urbansci5040090
Healthcare demand for liquid oxygen during the COVID-19 pandemic limited the availability of oxygen needed for ozone disinfection of drinking water in several urban areas of Florida. While the situation reduced the state's capacity to provide normal drinking water treatment for millions of people, calls for water conservation during the emergency period resulted in virtually no change in water consumption. Here, we point out that 38–40% of the potable water produced by one of the major utilities in Florida is not used for drinking water but instead is used for outdoor landscape irrigation. This suggests that emergency-level calls for reduced water use could have been made if outdoor irrigation was limited, but we present data showing that there was little change in public behavior, and the state was unable to meet necessary water use reductions during the emergency. This inability to meet short-term emergency water conservation needs foretells a long-term lack of resilience against other global change scenarios and suggests that much work is still needed to build resilience into Florida's water future. We conclude this Viewpoint paper by calling for more urgent sociohydrological research to understand the coupled human-natural drivers of how water supplies respond to global change.

SARS-CoV-2 Cumulative Incidence and Period Seroprevalence: Results From a Statewide Population-Based Serosurvey in California. https://dx.doi.org/10.1093/ofid/ofab379
Background: California has reported the largest number of coronavirus disease 2019 (COVID-19) cases of any US state, with more than 3.5 million confirmed as of March 2021. However, the full breadth of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission in California is unknown as reported cases only represent a fraction of all infections. Methods: We conducted a population-based serosurvey, utilizing mailed, home-based SARS-CoV-2 antibody testing along with a demographic and behavioral survey. We weighted data from a random sample to represent the adult California population and estimated period seroprevalence overall and by participant characteristics. Seroprevalence estimates were adjusted for waning antibodies to produce statewide estimates of cumulative incidence, the infection fatality ratio (IFR), and the reported fraction. Results: California's SARS-CoV-2 weighted seroprevalence during August-December 2020 was 4.6% (95% CI, 2.8%-7.4%). Estimated cumulative incidence as of November 2, 2020, was 8.7% (95% CrI, 6.4%-11.5%), indicating that 2 660 441 adults (95% CrI, 1 959 218-3 532 380) had been infected. The estimated IFR was 0.8% (95% CrI, 0.6%-1.0%), and the estimated percentage of infections reported to the California Department of Public Health was 31%. Disparately high risk for infection was observed among persons of Hispanic/Latinx ethnicity and people with no health insurance and who reported working outside the home. Conclusions: We present the first statewide SARS-CoV-2 cumulative incidence estimate among

adults in California. As of November 2020, ~1 in 3 SARS-CoV-2 infections in California adults had been identified by public health surveillance. When accounting for unreported SARS-CoV-2 infections, disparities by race/ethnicity seen in case-based surveillance persist.

The impact of behavioural risk factors on communicable diseases: a systematic review of reviews.
https://dx.doi.org/10.1186/s12889-021-12148-y
BACKGROUND: The coronavirus (COVID-19) pandemic has highlighted that individuals with behavioural risk factors commonly associated with non-communicable diseases (NCDs), such as smoking, harmful alcohol use, obesity, and physical inactivity, are more likely to experience severe symptoms from COVID-19. These risk factors have been shown to increase the risk of NCDs, but less is known about their broader influence on communicable diseases. Taking a wide focus on a range of common communicable diseases, this review aimed to synthesise research examining the impact of behavioural risk factors commonly associated with NCDs on risks of contracting, or having more severe outcomes from, communicable diseases. METHODS: Literature searches identified systematic reviews and meta-analyses that examined the association between behavioural risk factors (alcohol, smoking, illicit drug use, physical inactivity, obesity and poor diet) and the contraction/severity of common communicable diseases, including infection or associated pathogens. An a priori, prospectively registered protocol was followed (PROSPERO; registration number CRD42020223890). RESULTS: Fifty-three systematic reviews were included, of which 36 were also meta-analyses. Reviews focused on: tuberculosis, human immunodeficiency virus, hepatitis C virus, hepatitis B virus, invasive bacterial diseases, pneumonia, influenza, and COVID-19. Twenty-one reviews examined the association between behavioural risk factors and communicable disease contraction and 35 examined their association with communicable disease outcomes (three examined their association with both contraction and outcomes). Fifty out of 53 reviews (94%) concluded that at least one of the behavioural risk factors studied increased the risk of contracting or experiencing worse health outcomes from a communicable disease. Across all reviews, effect sizes, where calculated, ranged from 0.83 to 8.22. CONCLUSIONS: Behavioural risk factors play a significant role in the risk of contracting and experiencing more severe outcomes from communicable diseases. Prevention of communicable diseases is likely to be most successful if it involves the prevention of behavioural risk factors commonly associated with NCDs. These findings are important for understanding risks associated with communicable disease, and timely, given the COVID-19 pandemic and the need for improvements in future pandemic preparedness. Addressing behavioural risk factors should be an important part of work to build resilience against any emerging and future epidemics and pandemics.

The effect of allergy and asthma as a comorbidity on the susceptibility and outcomes of COVID-19.
https://dx.doi.org/10.1093/intimm/dxab107
The coronavirus disease 2019 (COVID-19) pandemic causes an overwhelming number of hospitalization and deaths with a significant socioeconomic impact. The vast majority of studies indicate that asthma and allergic diseases do not represent a risk factor for COVID-19 susceptibility nor cause a more severe course of disease. This raises the opportunity to investigate the underlying mechanisms of the interaction between an allergic background and SARS-CoV-2 infection. The majority of patients with asthma, atopic dermatitis, allergic rhinitis, chronic rhinosinusitis, food and drug allergies exhibit an overexpression of type 2 immune and inflammatory pathways with the contribution of epithelial cells, innate lymphoid cells (ILC), dendritic cells, T cells, eosinophils, mast cells, basophils and the type 2 cytokines interleukin (IL)-4, IL-5, IL-9, IL-13, and IL-31. The potential impact of type 2 inflammation-related allergic diseases on susceptibility to COVID-19 and severity of its course have been reported. In this review, the prevalence of asthma and other common allergic diseases in COVID-19 patients is addressed. Moreover, the impact of allergic and non-allergic asthma with different severity and control

status, currently available asthma treatments such as inhaled and oral corticosteroids, short- and long-acting ß2 agonists, leukotriene receptor antagonists and biologicals on the outcome of COVID-19 patients is reviewed. In addition, possible protective mechanisms of asthma and type 2 inflammation on COVID-19 infection, such as the expression of SARS-CoV-2 entry receptors, antiviral activity of eosinophils, cross-reactive T cell epitopes are discussed. Potential interactions of other allergic diseases with COVID-19 are postulated, including recommendations for their management.

Socio-economic disparities in self-reported, tested, and diagnosed COVID-19 status
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Backgrounds Studies in clinical settings showed a potential relationship between Socio-Economic Status (SES) and lifestyle factors with COVID-19, but it is still unknown whether this holds in the general population. In this study we investigated the associations of SES with self-reported, tested, and diagnosed COVID-19 status in the general population. Methods Participants were 49,474 men and women (46 ± 12 yrs) residing in the Northern Netherlands from the Lifelines cohort study. SES indicators and lifestyle factors (i.e., smoking status, physical activity, alcohol intake, diet quality, sleep time, and TV watching time) were assessed by questionnaire from the Lifelines Biobank. Self-reported, tested, and diagnosed COVID-19 status were obtained from the Lifelines COVID-19 questionnaire. Results There were 4,711 participants who self-reported having had a COVID-19 infection, 2,883 participants tested for COVID-19, and 123 positive cases diagnosed in this study population. After adjustment for age, sex, lifestyle factors, BMI, and ethnicity, we found that participants with low education or low income were less likely to self-report a COVID-19 infection (OR [95%CI]: low education 0.78 [0.71-0.86];low income 0.86 [0.79-0.93]), and be tested for COVID-19 (OR [95%CI]: low education 0.58 [0.52-0.66];low income 0.86 [0.78-0.95]) compared with high education or high income groups, respectively. Conclusions Our findings suggest that the low SES group was the most vulnerable population to COVID-19 infection and self-reported and tested COVID-19 status in the general population was better predicted by SES than by lifestyle factors. Key messages This study innovatively included a broader range of COVID-19 status, including self-reported and tested COVID-19 status, to better understand COVID-19 related socio-economic factors. This study added evidence to the socio-economically patterned COVID-19 status in a general population instead of in clinical settings.