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COVID-19

1. **A life cycle assessment of reprocessing face masks during the Covid-19 pandemic.** van Straten B, Ligtelijn S, Droog L, Putman E, Dankelman J, Weiland NHS, Horeman T. Sci Rep. 2021 Sep 3;11(1):17680. doi: 10.1038/s41598-021-97188-5.
https://www.nature.com/articles/s41598-021-97188-5
The Covid-19 pandemic led to threatening shortages in healthcare of medical products such as face masks. Due to this major impact on our healthcare society an initiative was conducted between March and July 2020 for reprocessing of face masks from 19 different hospitals. This exceptional opportunity was used to study the costs impact and the carbon footprint of reprocessed face masks relative to new disposable face masks. The aim of this study is to conduct a Life Cycle Assessment (LCA) to assess and compare the climate change impact of disposed versus reprocessed face masks. In total 18.166 high quality medical FFP2 face masks were reprocessed through steam sterilization between March and July 2020. Greenhouse gas emissions during production, transport, sterilization and end-of-life processes were assessed. The background life cycle inventory data were retrieved from the ecoinvent database. The life cycle impact assessment method ReCiPe was used to translate emissions into climate change impact. The cost analysis is based on actual sterilization as well as associated costs compared to the prices of new disposable face masks. A Monte Carlo sampling was used to propagate the uncertainty of different inputs to the LCA results. The carbon footprint appears to be 58% lower for face masks which were reused for five times compared to new face masks which were used for one time only. The sensitivity analysis indicated that the loading capacity of the autoclave and rejection rate of face masks has a large influence on the carbon footprint. The estimated cost price of a reprocessed mask was €1.40 against €1.55. The Life Cycle Assessment demonstrates that reprocessed FFP2 face masks from a circular economy perspective have a lower climate change impact on the carbon footprint than new face masks. For policymakers it is important to realize that the carbon footprint of medical products such as face masks may be reduced by means of circular economy strategies. This study demonstrated a lower climate

change impact and lower costs when reprocessing and reusing disposable face masks for five times. Therefore, this study may serve as an inspiration for investigating reprocessing of other medical products that may become scarce. Finally, this study advocates that circular design engineering principles should be taken into account when designing medical devices. This will lead to more sustainable products that have a lower carbon footprint and may be manufactured at lower costs.

2. **Satellite data and machine learning reveal a significant correlation between NO(2) and COVID-19 mortality.** Amoroso N, Cilli R, Maggipinto T, Monaco A, Tangaro S, Bellotti R. Environ Res. 2021 Aug 30:111970. doi: 10.1016/j.envres.2021.111970. Online ahead of print.
https://www.sciencedirect.com/science/article/pii/S0013935121012652
The Coronavirus disease 2019 (COVID-19) pandemic has officially spread all over the world since the beginning of 2020. Although huge efforts are addressed by scientists to shed light over the several questions raised by the novel SARS-CoV-2 virus, many aspects need to be clarified, yet. In particular, several studies have pointed out significant variations between countries in per-capita mortality. In this work, we investigated the association between COVID-19 mortality with climate variables and air pollution throughout European countries using the satellite remote sensing images provided by the Sentinel-5p mission. We analyzed data collected for two years of observations and extracted the concentrations of several pollutants; we used these measurements to feed a Random Forest regression. We performed a cross-validation analysis to assess the robustness of the model and compared several regression strategies. Our findings reveal a significant statistical association between air pollution (NO_2) and COVID-19 mortality and a significant role played by the socio-demographic features, like the number of nurses or the hospital beds and the gross domestic product per capita.

3. **Air pollution and the pandemic: Long-term PM(2.5) exposure and disease severity in COVID-19 patients.** Mendy A, Wu X, Keller JL, Fassler CS, Apewokin S, Mersha TB, Xie C, Pinney SM. Respirology. 2021 Aug 30. doi: 10.1111/resp.14140. Online ahead of print.
https://onlinelibrary.wiley.com/doi/10.1111/resp.14140
BACKGROUND AND OBJECTIVE: Ecological studies have suggested an association between exposure to particulate matter ≤2.5 μm ($PM_{2.5}$) and coronavirus disease 2019 (COVID-19) severity. However, these findings are yet to be validated in individual-level studies. We aimed to determine the association of long-term $PM_{2.5}$ exposure with hospitalization among individual patients infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
METHODS: We estimated the 10-year (2009-2018) $PM_{2.5}$ exposure at the residential zip code of COVID-19 patients diagnosed at the University of Cincinnati healthcare system between 13 March 2020 and 30 September 2020. Logistic regression was used to determine the odds ratio (OR) and 95% CI for COVID-19 hospitalizations associated with $PM_{2.5}$, adjusting for socioeconomic characteristics and comorbidities.
RESULTS: Among the 14,783 COVID-19 patients included in our study, 13.6% were hospitalized; the geometric mean (SD) $PM_{2.5}$ was 10.48 (1.12) μg/m3 . In adjusted analysis, 1 μg/m3 increase in 10-year annual average $PM_{2.5}$ was associated with 18% higher hospitalization (OR:

1.18, 95% CI: 1.11-1.26). Likewise, 1 μg/m3 increase in PM2.5 estimated for the year 2018 was associated with 14% higher hospitalization (OR: 1.14, 95% CI: 1.08-1.21).

CONCLUSION: Long-term PM2.5 exposure is associated with increased hospitalization in COVID-19. Therefore, more stringent COVID-19 prevention measures may be needed in areas with higher PM2.5 exposure to reduce the disease morbidity and healthcare burden.

Health Impacts of Climate Change

4. **Ambient air pollution and the risk of acute myocardial infarction and stroke: A national cohort study.** Olaniyan T, Pinault L, Li C, van Donkelaar A, Meng J, Martin RV, Hystad P, Robichaud A, Ménard R, Tjepkema M, Bai L, Kwong JC, Lavigne E, Burnett RT, Chen H. Environ Res. 2021 Aug 31;204(Pt A):111975. doi: 10.1016/j.envres.2021.111975. Online ahead of print. We used a large national cohort in Canada to assess the incidence of acute myocardial infarction (AMI) and stroke hospitalizations in association with long-term exposure to fine particulate matter (PM2.5), nitrogen dioxide (NO2), and ozone (O3). The study population comprised 2.7 million respondents from the 2006 Canadian Census Health and Environment Cohort (CanCHEC), followed for incident hospitalizations of AMI or stroke between 2006 and 2016. We estimated 10-year moving average estimates of PM2.5, NO2, and O3, annually. We used Cox proportional hazards models to examine the associations adjusting for various covariates. For AMI, each interquartile range (IQR) increase in exposure was found to be associated with a hazard ratio of 1.026 (95% CI: 1.007-1.046) for PM2.5, 1.025 (95% CI: 1.001-1.050) for NO2, and 1.062 (95% CI: 1.041-1.084) for O3, respectively. Similarly, for stroke, an IQR increase in exposure was associated with a hazard ratio of 1.078 (95% CI: 1.052-1.105) for PM2.5, 0.995 (95% CI: 0.965-1.030) for NO2, and 1.055 (95% CI: 1.028-1.082) for O3, respectively. We found consistent evidence of positive associations between long-term exposures to PM2.5, and O3, and to a lesser degree NO2, with incident AMI and stroke hospitalizations.

5. **Air pollution increased risk of reproductive system diseases: a 5-year outcome analysis of different pollutants in different seasons, ages, and genders.** Li Y, Du J, Lin S, He H, Jia R, Liu W. Environ Sci Pollut Res Int. 2021 Sep 2. doi: 10.1007/s11356-021-16238-7. Online ahead of print. Air pollution remains a serious environmental problem worldwide, and the effects of air pollutants with reproductive system diseases have already attracted extensive attention. The present study investigated the risk of air pollutants on reproductive system diseases, based on daily medical visits (DMV) of the past 5 years in central China. Data of DMV outpatients with reproductive system diseases were obtained from a general hospital in Zhengzhou, October 28, 2013 to May 31, 2018, as well as atmospheric pollutants data. Correlation of air pollutants and DMV was analyzed with distributed lag nonlinear model (DLNM), including total cases of reproductive system diseases, and in different seasons (spring, summer, autumn, and winter), genders (male and female), and age groups (<26, 26-35, and >35 years old). A total of 374,558 visits were included. NO2 was most closely relevant to incidence risk of total cases analysis with each increased interquartile ranges (IQRs) in the 6 pollutants, with 30-day lag. Relationship to pollutants was more sensitive in fall, >35 years old, and male groups than in other seasons, ages, and females, and NO2 had the highest risk on reproductive diseases. Air pollution

increased risk of reproductive system diseases, and different pollutants played different roles in different seasons, ages, and genders. The results of this study will provide evidence for effective air quality controlling and human reproductive protection.

6. **Atopic eczema is an environmental disease.** Luschkova D, Zeiser K, Ludwig A, Traidl-Hoffmann C. Allergol Select. 2021 Aug 23;5:244-250. doi: 10.5414/ALX02258E. eCollection 2021. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8383845/
It is obvious that social, biogenic, and anthropogenic environmental factors, as well as nutrition contribute to the development and course of atopic eczema. Social deprivation and stress have a negative impact on atopic eczema symptoms, and social change in recent decades has led to a "westernized" lifestyle associated with high prevalence of atopic eczema in industrialized countries. Urbanization leads to an increase in air pollution and a decrease in biodiversity, which negatively affects atopic eczema. Climate change alters the allergenicity of pollen, which increases atopic eczema symptoms in some patients during the pollen season. Protective natural and social factors for the prevention of atopic eczema and for the promotion of "climate resilience" should be given greater consideration in future research.

7. **Risk of Cardiovascular Hospital Admission After Exposure to Fine Particulate Pollution.** Zhang Y, Ma R, Ban J, Lu F, Guo M, Zhong Y, Jiang N, Chen C, Li T, Shi X. J Am Coll Cardiol. 2021 Sep 7;78(10):1015-1024. doi: 10.1016/j.jacc.2021.06.043.
https://www.clinicalkey.com/#!/content/journal/1-s2.0-S0735109721055637
BACKGROUND: Heavy fine particulate matter with an aerodynamic diameter ≤2.5 μm (PM2.5) pollution events continue to occur frequently in developing countries.
OBJECTIVES: The authors conducted a case-crossover study aimed at exploring the association between heavy PM2.5 pollution events and hospital admission for cardiovascular diseases.
METHODS: Hospital admissions for cardiovascular diseases were observed by Beijing Municipal Commission of Health and Family Planning Information Center from 2013 to 2017. Air pollution data were collected from the Beijing Municipal Environmental Monitoring Center. Distinct definitions were used to identify heavy and extremely heavy fine particulate pollution events. A conditional logistic regression model was used. The hospital admission burdens for cardiovascular disease were also estimated.
RESULTS: A total of 2,202,244 hospital admissions for cardiovascular diseases and 222 days of extremely heavy PM2.5 pollution events (PM2.5 concentration ≥150 μg/m3) were observed. The ORs associated with extremely heavy PM2.5 pollution events lasting for 3 days or more for total cardiovascular disease, angina, myocardial infarction, ischemic stroke, and heart failure were 1.085 (95% CI: 1.077-1.093), 1.112 (95% CI: 1.095-1.130), 1.068 (95% CI: 1.037-1.100), 1.071 (95% CI: 1.053-1.090), and 1.060 (95% CI: 1.021-1.101), respectively. The numbers and days of cardiovascular disease hospital admission annually related to extremely heavy PM2.5 pollution events lasting for 1 day or more were 3,311 (95% CI: 2,969-3,655) and 37,020 (95% CI: 33,196-40,866), respectively.
CONCLUSIONS: Heavy and extremely heavy PM2.5 pollution events resulted in substantial increased hospital admission risk for cardiovascular disease. With higher PM2.5 concentration and longer duration of heavy PM2.5 pollution events, a greater risk of cardiovascular hospital admission was observed.

8. **Microplastics and Nanoplastics: Emerging Contaminants in Food.** Liu Q, Chen Z, Chen Y, Yang F, Yao W, Xie Y. J Agric Food Chem. 2021 Sep 2. doi: 10.1021/acs.jafc.1c04199. Online ahead of print.

   As current concerns about food safety issues around the world are still relatively serious, more and more food safety issues have become the focus of people's attention. What's more serious is that environmental pollution and changes in human lifestyles have also led to the emergence of contaminants in food, microplastics (MPs) and nanoplastics (NPs) being typical representatives. MPs and NPs (M/NPs) in food are gradually becoming recognized by regulatory authorities and the public. Most published reviews on M/NPs have been focused on the environmental ecosystems. In those papers, it is only sporadically mentioned that M/NPs can also appear in food. As far as we know, there has not been a systematic review of the pollution and existing status of M/NPs in food. This Review focuses on the harmfulness of M/NPs, the ways in which M/NPs contaminate food, the residual amount of M/NPs in food, and the current analysis and detection methods for M/NPs in food. Current analysis and detection methods have problems such as being time-consuming, involving cumbersome operation, and giving poor accuracy. In the future, it will be necessary to increase the research on methods for efficient and sensitive separation and detection of M/NPs in food. Finally, it is hoped that this Review will arouse more people's awareness of and attention to the seriousness of M/NPs in food.

9. **Wildfire smoke impacts on indoor air quality assessed using crowdsourced data in California.** Liang Y, Sengupta D, Campmier MJ, Lunderberg DM, Apte JS, Goldstein AH. Proc Natl Acad Sci U S A. 2021 Sep 7;118(36):e2106478118. doi: 10.1073/pnas.2106478118.

   Wildfires have become an important source of particulate matter (PM2.5 < 2.5-μm diameter), leading to unhealthy air quality index occurrences in the western United States. Since people mainly shelter indoors during wildfire smoke events, the infiltration of wildfire PM2.5 into indoor environments is a key determinant of human exposure and is potentially controllable with appropriate awareness, infrastructure investment, and public education. Using time-resolved observations outside and inside more than 1,400 buildings from the crowdsourced PurpleAir sensor network in California, we found that the geometric mean infiltration ratios (indoor PM2.5 of outdoor origin/outdoor PM2.5) were reduced from 0.4 during non-fire days to 0.2 during wildfire days. Even with reduced infiltration, the mean indoor concentration of PM2.5 nearly tripled during wildfire events, with a lower infiltration in newer buildings and those utilizing air conditioning or filtration.

10. **Recent Progress and Research Trends in Microplastic Pollution and the Potential Health Risks.** Jiang Y. Bull Environ Contam Toxicol. 2021 Aug 31. doi: 10.1007/s00128-021-03367-5. Online ahead of print.
    https://link.springer.com/article/10.1007/s00128-021-03367-5

    It has been almost a century since the revolutionary invention of the first fully synthetic plastic, Bakelite, and now there are over 350,000 commercially available plastic materials worldwide. As these alternatives preserve scarce natural resources and could be molded to cater to our every whim, the Great Depression and WWII further necessitated a great expansion of the

plastics industry. Nonetheless, the unblemished fantasy about plastics became disenchanted as awareness about environmental issues spread in the late 1960s. Plastic litter has been documented since the 1960s (Bergmann et al. 2015) and early 1970s (Carpenter and Smith 1972); the increasing generation of plastic waste worldwide has posed a significant threat to ecosystems and has raised global concern. In 2018, global annual plastics production reached almost 360 million tonnes and 62 million tonnes in Europe, but only 9.4 million tonnes of plastic post-consumer waste were collected in Europe to be recycled (Plastic Europe 2020).

11. **Long-term personal air pollution exposure and risk for acute exacerbation of idiopathic pulmonary fibrosis.** Tomos I, Dimakopoulou K, Manali ED, Papiris SA, Karakatsani A. Environ Health. 2021 Aug 30;20(1):99. doi: 10.1186/s12940-021-00786-z.
https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00786-z
BACKGROUND: Urban air pollution is involved in the progress of idiopathic pulmonary fibrosis (IPF). Its potential role on the devastating event of Acute Exacerbation of IPF (AE-IPF) needs to be clarified. This study examined the association between long-term personal air pollution exposure and AE- IPF risk taking into consideration inflammatory mediators and telomere length (TL).
METHODS: All consecutive IPF-patients referred to our Hospital from October 2013-June 2019 were included. AE-IPF events were recorded and inflammatory mediators and TL measured. Long-term personal air pollution exposures were assigned to each patient retrospectively, for O_3, NO_2, $PM_{2.5}$ [and PM_{10}, based on geo-coded residential addresses. Logistic regression models assessed the association of air pollutants' levels with AE-IPF and inflammatory mediators adjusting for potential confounders.
RESULTS: 118 IPF patients (mean age 72 ± 8.3 years) were analyzed. We detected positive significant associations between AE-IPF and a 10 μg/m3 increase in previous-year mean level of NO_2 (OR = 1.52, 95%CI:1.15-2.0, p = 0.003), $PM_{2.5}$ (OR = 2.21, 95%CI:1.16-4.20, p = 0.016) and PM_{10} (OR = 2.18, 95%CI:1.15-4.15, p = 0.017) independent of age, gender, smoking, lung function and antifibrotic treatment. Introduction of TL in all models of a subgroup of 36 patients did not change the direction of the observed associations. Finally, O_3 was positively associated with %change of IL-4 (p = 0.014) whilst $PM_{2.5}$, PM_{10} and NO_2 were inversely associated with %changes of IL-4 (p = 0.003, p = 0.003, p = 0.032) and osteopontin (p = 0.013, p = 0.013, p = 0.085) respectively.
CONCLUSIONS: Long-term personal exposure to increased concentrations of air pollutants is an independent risk factor of AE-IPF. Inflammatory mediators implicated in lung repair mechanisms are involved.

12. **Characterization of Air Pollution Exposures as Risk Factors for Tuberculosis Infection.** Davis JL, Checkley W. Am J Respir Crit Care Med. 2021 Aug 30. doi: 10.1164/rccm.202107-1795ED. Online ahead of print.
https://www.atsjournals.org/doi/pdf/10.1164/rccm.202107-1795ED
One area of tuberculosis epidemiology that offers opportunities for improving prevention is enhancing our understanding of how exposure to environmental air pollutants may influence the risks of transmission and progression from latent infection to active disease. For example, occupational exposure to dust and smoke, including silica, are well-recognized risk factors for

active tuberculosis disease. Second-hand exposure to tobacco smoke is also associated with a moderately higher risk of latent tuberculosis infection and a dose-dependent risk of active tuberculosis disease, especially among children. Exposure to solid fuel smoke and kerosene for heating and cooking are other potential factors that may increase the risk of active tuberculosis disease; however, results from epidemiological studies remain mixed and better studies are needed to understand if these are important risk factors. Even less is known about other air pollutants such as fine particulate matter (PM2.5). At least one analysis of data from Beijing and Hong Kong has shown an association between seasonal concentrations of PM2.5 and active tuberculosis case notifications.

WE ACT

13. **People-watching and the environment: Looking for signs of hope while concern outpaces action.** Converse BA, Austin MMK. Curr Opin Psychol. 2021 Aug 10;43:249-253. doi: 10.1016/j.copsyc.2021.08.001. Online ahead of print.
The social landscape of climate change is shifting. As more people acknowledge the urgency of the problem and society's underwhelming response to it, climate despair threatens to become a major contributor to personal inaction. At this moment, people need a reason for hope. Recent research shows that climate hope, where it exists, is largely social: People feel hopeful when they see others taking action. 'People-watching' is therefore critical. But capitalizing on social proof is tricky as long as concern outpaces action. Other recent research elegantly responds to this conundrum by advertising improvements in social norms, setting people up to find cause for hope even when action is low. We close by nominating other possible social paths to increased hope.

14. **Climate Change and Nephrology.** Sasai F, Roncal-Jimenez C, Rogers K, Sato Y, Brown JM, Glaser J, Garcia G, Sanchez-Lozada LG, Rodriguez-Iturbe B, Dawson JB, Sorensen C, Hernando AA, Gonzalez-Quiroz M, Lanaspa M, Newman L, Johnson RJ. Nephrol Dial Transplant. 2021 Sep 2:gfab258. doi: 10.1093/ndt/gfab258. Online ahead of print.
https://academic.oup.com/ndt/advance-article/doi/10.1093/ndt/gfab258/6362903
Climate change should be of special concern for the nephrologist as the kidney has a critical role in protecting the host from dehydration, but is also a favorite target of heat stress and dehydration. Here we discuss how rising temperatures and extreme heat events may affect the kidney. The most severe presentation of heat stress is heat stroke, which can result in severe electrolyte disturbance and both acute and chronic kidney disease. However, lesser levels of heat stress also have multiple effects, including exacerbating kidney disease and precipitating cardiovascular events in subjects with established kidney disease. Heat stress can also increase the risk for kidney stones, cause multiple electrolyte abnormalities, and induce both acute and chronic kidney disease. Recently there have been multiple epidemics of chronic kidney disease of uncertain etiology in various regions of the world, including Mesoamerica, Sri Lanka, India and Thailand. There is increasing evidence that climate change and heat stress may have a contributory role in these conditions, although other causes including toxins could also be involved. As climate change worsens, the nephrologist should prepare for an increase in diseases associated with heat stress and dehydration.

15. **Personal Interventions for Reducing Exposure and Risk for Outdoor Air Pollution: An Official American Thoracic Society Workshop Report.** Laumbach RJ, Cromar KR, Adamkiewicz G, Carlsten C, Charpin D, Chan WR, de Nazelle A, Forastiere F, Goldstein J, Gumy S, Hallman WK, Jerrett M, Kipen HM, Pirozzi CS, Polivka BJ, Radbel J, Shaffer RE, Sin DD, Viegi G. Ann Am Thorac Soc. 2021 Sep;18(9):1435-1443. doi: 10.1513/AnnalsATS.202104-421ST. https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.202104-421ST
Poor air quality affects the health and wellbeing of large populations around the globe. Although source controls are the most effective approaches for improving air quality and reducing health risks, individuals can also take actions to reduce their personal exposure by staying indoors, reducing physical activity, altering modes of transportation, filtering indoor air, and using respirators and other types of face masks. A synthesis of available evidence on the efficacy, effectiveness, and potential adverse effects or unintended consequences of personal interventions for air pollution is needed by clinicians to assist patients and the public in making informed decisions about use of these interventions. To address this need, the American Thoracic Society convened a workshop in May of 2018 to bring together a multidisciplinary group of international experts to review the current state of knowledge about personal interventions for air pollution and important considerations when helping patients and the general public to make decisions about how best to protect themselves. From these discussions, recommendations were made regarding when, where, how, and for whom to consider personal interventions. In addition to the efficacy and safety of the various interventions, the committee considered evidence regarding the identification of patients at greatest risk, the reliability of air quality indices, the communication challenges, and the ethical and equity considerations that arise when discussing personal interventions to reduce exposure and risk from outdoor air pollution.

16. **Carbon emission savings and short-term health care impacts from telemedicine: An evaluation in epilepsy.** Blenkinsop S, Foley A, Schneider N, Willis J, Fowler HJ, Sisodiya SM. Epilepsia. 2021 Aug 31. doi: 10.1111/epi.17046. Online ahead of print. https://onlinelibrary.wiley.com/doi/full/10.1111/epi.17046
OBJECTIVE: Health systems make a sizeable contribution to national emissions of greenhouse gases that contribute to global climate change. The UK National Health Service is committed to being a net zero emitter by 2040, and a potential contribution to this target could come from reductions in patient travel. Achieving this will require actions at many levels. We sought to determine potential savings and risks over the short term from telemedicine through virtual clinics.
METHODS: During the severe acute respiratory syndrome coronavirus 2 (SARS-2-CoV) pandemic, scheduled face-to-face epilepsy clinics at a specialist site were replaced by remote teleclinics. We used a standard methodology applying conversion factors to calculate emissions based on the total saved travel distance. A further conversion factor was used to derive emissions associated with electricity consumption to deliver remote clinics from which net savings could be calculated. Patients' records and clinicians were interrogated to identify any adverse clinical outcomes.

RESULTS: We found that enforced telemedicine delivery for over 1200 patients resulted in the saving of ~224 000 km of travel with likely avoided emissions in the range of 35 000-40 000 kg carbon dioxide equivalent (CO_2 e) over a six and half month period. Emissions arising directly from remote delivery were calculated to be <200 kg CO_2 e (~0.5% of those for travel), representing a significant net reduction of greenhouse gas emissions. Only one direct adverse outcome was identified, with some additional benefits identified anecdotally.

SIGNIFICANCE: The use of telemedicine can make a contribution toward reduced emissions in the health care sector and, in the delivery of specialized epilepsy services, had minimal adverse clinical outcomes over the short term. However, these outcomes will likely vary with clinic locations, medical specialties and conditions.

17. **From Florence to fossil fuels: Nursing has always been about environmental health.** McCauley L, Hayes R. Nurs Outlook. 2021 Aug 27:S0029-6554(21)00150-0. doi: 10.1016/j.outlook.2021.06.007. Online ahead of print.

BACKGROUND: Since its founding, professional nursing has applied an environmental lens to healing.

METHODS: This CANS 2020 Keynote article describes the history of nursing environmental science and nurses important contributions to the US Environmental Justice Movement. Starting with Florence Nightingale's Notes on Nursing, which established Environmental Theory, the paper introduces key figures throughout nursing history who have studied and advocated for environmental health and justice.

FINDINGS: The paper emphasizes that nursing has always been about environmental health and that, regardless of specialty or practice setting, all nurses are called to incorporate environmental science and translation into their research and practice.

CONCLUSION: This call to action is especially critical today in the context of urgent issues like climate change, environmental racism and racial health disparities, emerging infectious diseases like COVID-19, and chemical exposures in the home and workplace (among others).

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News & Commentary

Call for emergency action to limit global temperature increases, restore biodiversity and protect health. Atwoli L, H Baqui A, Benfield T, Bosurgi R, Godlee F, Hancocks S, Horton R, Laybourn-Langton L, Monteiro CA, Norman I, Patrick K, Praities N, Rikkert MGO, Rubin EJ, Sahni P, Smith R, Talley NJ, Turale S, Vázquez D. BMJ Open. 2021 Sep 5;11(9):e056565. doi: 10.1136/bmjopen-2021-056565.

Freak US winters linked to Arctic warming. Schiermeier Q. Nature. 2021 Sep 3. doi: 10.1038/d41586-021-02402-z. Online ahead of print.

Climate change: A call to action for the United Nations. Nadeau KC, Agache I, Jutel M, Annesi Maesano I, Akdis M, Sampath V, D'Amato G, Cecchi L, Traidl-Hoffmann C, Akdis CA. Allergy. 2021 Sep 3. doi: 10.1111/all.15079. Online ahead of print.

[Witness in US climate-change law suit tells all.](#) Higham C. Nature. 2021 Sep;597(7874):25-26. doi: 10.1038/d41586-021-02344-6.

[While the COVID-19 pandemic persists, our house is on fire.](#) Charlier P. Ethics Med Public Health. 2021 Dec;19:100711. doi: 10.1016/j.jemep.2021.100711. Epub 2021 Aug 23.

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