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COVID-19

1. **Environmental Impact of Surgical Masks Consumption in Italy Due to COVID-19 Pandemic.** Cornelio A, Zanoletti A, Federici S, Ciacci L, Depero LE, Bontempi E. Materials (Basel). 2022 Mar 10;15(6):2046. doi: 10.3390/ma15062046.
https://www.mdpi.com/1996-1944/15/6/2046
The COVID-19 pandemic suddenly changed the lifestyle of billions of people. Face masks became indispensable to protect from the contagion providing a significant environmental impact. The aim of this work is to propose possible solutions to decrease masks' impact on the environment. For this reason, different masks (surgical and fabric) were considered, and the CO2 emissions associated with the mask materials production were calculated. Carbon Footprint (CF) for each material composing the masks was evaluated through the database Ces Selector 2019. The software Qgis (version 2.18.20) allows us to elaborate the CO2 emissions maps for each Italian region. Finally, for surgical masks, which are often imported from abroad, the CF related to transport was considered. It results that fabric masks are a sustainable solution to prevent contagion. The total CO2 emission associated with the use of fabric masks from the beginning of the pandemic (March 2020) to December 2021 resulted in about 7 kton compared to 350 kton for surgical masks.

2. **The Impact of COVID-19 Related Changes on Air Quality in Birmingham, Alabama, United States.** Jacob D, Stowe S, Babarinde I, Sharma A, Christopher A, Vilcassim MJR. Int J Environ Res Public Health. 2022 Mar 8;19(6):3168. doi: 10.3390/ijerph19063168.
https://www.mdpi.com/1660-4601/19/6/3168
Air pollution is responsible for a wide range of health effects in exposed populations. Variations in local air pollution can affect local population health outcomes. The strict regulations imposed during the peak of the COVID-19 pandemic ('lockdowns') resulted in a unique situation where human mobility was limited significantly, resulting in improved air quality in several major cities. The main goal of this study was to investigate if lockdowns during the COVID-19

pandemic significantly impacted air quality in Birmingham, Alabama-a city with a history of high air pollution levels-with a focus on PM2.5 (Particulate Matter with an aerodynamic diameter ≤2.5 μm) and NO2 (Nitrogen dioxide). Daily air pollutant and traffic data were obtained for the Birmingham Metropolitan Area for the period January to October 2020, and previous years. Mean PM2.5 and NO2 concentrations and traffic volumes during the official city/state lockdown period (24 March to 30 April 2020) were compared to pre- and post-lockdown means. The mean PM2.5 and NO2 concentrations during the lockdown did not significantly differ from that of the pre- or post-lockdown periods. However, NO2 significantly decreased even after the lockdown order was removed, with the mean decreasing significantly compared to pre-lockdown and lockdown periods. Both PM2.5 and NO2 annual means in 2020 were significantly lower than the annual means in 2019, indicating the occurrence of significant changes over the longer term that were not limited by defined lockdown periods. Traffic significantly increased after the lockdown order was removed but did not correlate with the two pollutants studied. Therefore, we conclude that the Stay at Home/lockdown regulations and other COVID-19 restrictions had an impact on the air quality of Birmingham Alabama; although these lockdown impacts varied for each pollutant and were not limited only by the official lockdown dates/periods.

Health Impacts of Climate Change

3. **Air Pollution in American Indian Versus Non-American Indian Communities, 2000-2018.** Li M et al. Am J Public Health. 2022 Apr;112(4):615-623. doi: 10.2105/AJPH.2021.306650.
This study highlights disparities in
PM2.5 trends between AI- and non-AI-populated counties over time, underscoring the need to strengthen air pollution regulations and prevention implementation in tribal territories and areas where AI populations live. (Am J Public Health. 2022;112(4): 615-623. https://doi.org/10.2105/AJPH.2021.306650).

4. **Climate Change, Environmental Disasters, and Health Inequities: The Underlying Role of Structural Inequalities.** Smith GS, Anjum E, Francis C, Deanes L, Acey C. Curr Environ Health Rep. 2022 Mar 26. doi: 10.1007/s40572-022-00336-w. Online ahead of print.
RECENT FINDINGS: Existing scholarship establishes clear linkages between climate change and increasing occurrences and severity of natural disasters across the USA. The frequency and types of disasters vary by region and impact both short and long-term health outcomes. Current research highlights health inequities affecting lower income and minoritized communities disproportionately, but data-driven studies critically examining the role of structural inequalities in climate-induced health disparities are sparse. Adding to the body of knowledge, our conceptual framework maps how long-standing structural inequalities in policy, practice, and funding shape vulnerability of lower-income, racially and ethnically marginalized individuals. Vulnerability follows three common pathways: disparities in "exposure", "sensitivity", and "resiliency" before, during, and after a climate disaster. We recommend that future research, policy, and practice shift towards solutions that unearth and address the structural biases that cause environmental disaster and health inequities.

5. **Air pollution and neurodevelopmental skills in preschool- and school-aged children: A systematic review.** Castagna A, Mascheron E, Fustinon S, Montiross R. Neurosci Biobehav Rev. 2022 Mar 21:104623. doi: 10.1016/j.neubiorev.2022.104623. Online ahead of print.
Early life exposure to air pollution has been associated with neurodevelopmental disorders. Emerging evidence are highlighting a possible impact of air pollution on typically developing children. Thirty papers were included in this review to systematically evaluate the association between air pollutants exposure in prenatal and/or postnatal periods and specific neurodevelopmental skills (i.e. intellective functioning, memory and learning, attention and executive functions, verbal language, numeric ability and motor and/or sensorimotor functions) in preschool- and school-age children. Detrimental effects of air pollutants on children's neurodevelopmental skills were observed, although they do not show clinically relevant performance deficits. The most affected domains were global intellective functioning and attention/executive functions. The pollutants that seem to represent the greatest risk are PM2.5, NO_2 and PAHs. Prenatal exposure is primarily associated with child neurodevelopment at pre-school and school ages. Early exposure to air pollutants is related to adverse neurodevelopmental outcomes in the general population of children. Further research is needed to support stronger conclusions.

6. **Theoretical Model and Actual Characteristics of Air Pollution Affecting Health Cost: A Review.** Xu X, Yang H, Li C. Int J Environ Res Public Health. 2022 Mar 16;19(6):3532. doi: 10.3390/ijerph19063532.
https://www.mdpi.com/1660-4601/19/6/3532
CONCLUSION: Our conclusion is that, while academic research on the relationship between air pollution and health costs has made some progress, there are still some shortcomings, such as insufficient consideration of individual avoidance behavior and rural-urban and international mobility. Therefore, the simple use of the original data obtained in the statistical yearbook of the health cost caused by air pollution is also the reason for the errors in the empirical results. In addition, the choice of proxy variables of environmental pollution by scholars is relatively simple, mainly focusing on air pollutants, while the impact of water quality or soil pollution safety on health costs is becoming increasingly prominent, and will become the focus of future research.

7. **The negative bidirectional interaction between climate change and the prevalence and care of liver disease: A joint BSG, BASL, EASL, and AASLD commentary.** Donnelly MC, Stableforth W, Krag A, Reuben A. J Hepatol. 2022 Mar 12:S0168-8278(22)00118-0. doi: 10.1016/j.jhep.2022.02.012. Online ahead of print.
https://www.sciencedirect.com/science/article/pii/S0168827822001180
The climate crisis is one of the biggest threats to global health of the 21st century1 because climate change is accompanied by numerous medical consequences.2 We are already seeing these negative global health impacts due to excessive ambient temperatures and air pollution. One notable episode was the extreme heatwave in Europe in summer 2003, which resulted in approximately 70,000 more deaths across Europe, of which 20% in London and 70% in Paris were attributed to human-induced or anthropogenic climate change.3 Climate change also affects the social and environmental determinants of health, such as water and food security,

mental status, and ready access to affordable health care, exercise, and other physical activity—negative changes that have deleterious effects on health globally.

8. **Indoor Carbon Dioxide, Fine Particulate Matter and Total Volatile Organic Compounds in Private Healthcare and Elderly Care Facilities.** Baudet A, Baurès E, Blanchard O, Le Cann P, Gangneux JP, Florentin A. Toxics. 2022 Mar 12;10(3):136. doi: 10.3390/toxics10030136. https://www.mdpi.com/2305-6304/10/3/136
Poor indoor air quality can have adverse effects on human health, especially in susceptible populations. The aim of this study was to measure the concentrations of dioxide carbon (CO2), fine particulate matter (PM2.5) and total volatile organic compounds (TVOCs) in situ in private healthcare and elderly care facilities. These pollutants were continuously measured in two rooms of six private healthcare facilities (general practitioner's offices, dental offices and pharmacies) and four elderly care facilities (nursing homes) in two French urban areas during two seasons: summer and winter. The mean CO2 concentrations ranged from 764 ± 443 ppm in dental offices to 624 ± 198 ppm in elderly care facilities. The mean PM2.5 concentrations ranged from 13.4 ± 14.4 µg/m3 in dental offices to 5.7 ± 4.8 µg/m3 in general practitioner offices. The mean TVOC concentrations ranged from 700 ± 641 ppb in dental offices to 143 ± 239 ppb in general practitioner offices. Dental offices presented higher levels of indoor air pollutants, associated with the dental activities. Increasing the ventilation of these facilities by opening a window is probably an appropriate method for reducing pollutant concentrations and maintaining good indoor air quality.

Different Mortality Risks of Long-Term Exposure to Particulate Matter across Different Cancer Sites. Shin M, Kim OJ, Yang S, Choe SA, Kim SY. Int J Environ Res Public Health. 2022 Mar 8;19(6):3180. doi: 10.3390/ijerph19063180. https://www.mdpi.com/1660-4601/19/6/3180
Particulate matter (PM) air pollution has challenged the global community and the International Agency for Research on Cancer (IARC) classified airborne particulate matter as carcinogenic to humans. However, while most studies of cancer examined a single cancer type using different cohorts, few studies compared the associations of PM between different cancer types. We aimed to compare the association of long-term exposure to PM (PM10 and PM2.5) and cancer mortality across 17 different types of cancer using a population-based cohort in the Seoul Metropolitan Area (SMA), South Korea; Our study population includes 87,608 subjects (mean age: 46.58 years) residing in the SMA from the National Health Insurance Services-National Sample cohort (NHIS-NSC) and followed up for 2007-2015. We used the time-dependent Cox proportional hazards model to estimate hazard ratios (HRs) and 95% confidence intervals (95% CIs) of each cancer mortality per 10 µg/m3 increase in PM concentrations, after adjusting for individual and areal characteristics. During eight years of follow-up, 1487 people died with any of 17 cancer types. Lung cancer death was the highest, followed by liver and stomach cancer. Although we did not find the association for all cancer types, possibly because of limited cancer cases, HRs of PM2.5 were relatively high for lung, stomach, pancreas, non-Hodgkin's lymphoma, prostate, esophagus, oral and pharynx, and brain cancer mortality (HRs = 1.44-7.14). High HRs for pancreas, non-Hodgkin's lymphoma, esophagus, and oral and pharynx cancer were also seen for PM10; our findings suggest PM air pollution as a potential risk factor

of cancer mortality for upper digestive tracts, mouth, pancreas, and non-Hodgkin's lymphoma in a highly urbanized population with high exposure to PM for a long time.

9. **Pediatric Exposures to Neurotoxicants: A Review of Magnetic Resonance Imaging and Spectroscopy Findings.** Cecil KM. Diagnostics (Basel). 2022 Mar 5;12(3):641. doi: 10.3390/diagnostics12030641.
   https://www.mdpi.com/2075-4418/12/3/641
   Heavy metals, including lead and manganese, air pollution, pesticides, environmental tobacco smoke, and flame retardants are among the known and suspected environmental neurotoxicant exposures examined with magnetic resonance imaging (MRI)-based studies of pediatric populations. Many studies feature morphological changes associated with the exposures while others employ magnetic resonance spectroscopy, diffusion imaging, task-based, and resting state functional magnetic resonance imaging to reveal abnormal metabolic concentrations, white matter disorganization, and atypical patterns of activation. Some studies follow pregnant women and their offspring throughout the lifespan with collection of individual specimens as exposure biomarkers. Others innovatively make use of public databases to obtain relevant exposure biomarkers while taking advantage of these studies in their efforts to monitor developmental features in large, population-based, imaging cohorts. As exposures to neurotoxicants in the womb and throughout childhood have life-long impacts on health and well-being, the importance of these innovative neuroimaging investigations is ever increasing.

10. **Health Benefits of Air Quality Improvement: Empirical Research Based on Medical Insurance Reimbursement Data.** Li D, Xiao H, Ma S, Zhang J. Front Public Health. 2022 Mar 3;10:855457. doi: 10.3389/fpubh.2022.855457. eCollection 2022.
    https://www.frontiersin.org/articles/10.3389/fpubh.2022.855457/full
    Measuring the health benefits of air quality improvement is a new perspective for evaluating government investment in pollution control. Improving air quality can reduce the burden on medical insurance funds and patients themselves; however, patients with higher reimbursement rates are more affected by air quality changes. This study calculated health benefits using medical insurance reimbursement data from a sample city in China. The results show that for every 10 μg/m3 decrease in PM2.5, patients' average medical cost will decrease by CNY 1,699 (USD 263.6), and the loss of ordinary working and living time will decrease by 1.24 days. PM2.5 has a more significant impact on patients with chronic respiratory diseases and inpatients with circulatory diseases. Suppose the city's annual PM2.5 concentration drops to the national standard of 35 μg/m3. In that case, it will bring more than CNY 1.28 billion (USD 198 million) in health benefits, accounting for 18% of the city's annual investment in environmental protection.

11. **Impact of weather and pollution on the rate of cerebrovascular events in a large metropolitan area.** Versaci F et al. Panminerva Med. 2022 Mar;64(1):17-23. doi: 10.23736/S0031-0808.21.04525-0.
    RESULTS: We included a total of 2534 days, with 1363 days having ≥1 CVE, from 2012 to 2017. Average daily rate was 1.56 (95% confidence interval: 1.49; 1.63) for CVE, with other event rates ranging between 1.42 for stroke and 0.01 for ruptured intracranial aneurysm. Significant

associations were found between CVE and temperature, pressure, CO, NO2, NOX, O3, and PM <10 µm (all P<0.05), whereas less stringent associations were found for humidity, rainfall, and PM <2.5 µm. Time series analysis exploring lag suggested that associations were stronger at same-day analysis (lag 0), but even environmental features predating several days or weeks were significantly associated with events. Multivariable analysis suggested that CO (point estimate 1.362 [1.011; 1.836], P=0.042) and NO2 (1.011 [1.005; 1.016], P<0.001) were the strongest independent predictors of CVE.
CONCLUSIONS: Environmental features are significantly associated with CVE, even several days before the actual event. Levels of CO and NO2 can be potentially leveraged for population-level interventions to reduce the burden of CVE.

12. **Associations between Acute Exposures to PM(2.5) and Carbon Dioxide Indoors and Cognitive Function in Office Workers: A Multicountry Longitudinal Prospective Observational Study.** Laurent JGC, MacNaughton P, Jones E, Young AS, Bliss M, Flanigan S, Vallarino J, Chen LJ, Cao X, Allen JG. Environ Res Lett. 2021 Sep;16(9):094047. doi: 10.1088/1748-9326/ac1bd8. Epub 2021 Sep 9.
https://iopscience.iop.org/article/10.1088/1748-9326/ac1bd8
Despite evidence of the air pollution effects on cognitive function, little is known about the acute impact of indoor air pollution on cognitive function among the working-age population. We aimed to understand whether cognitive function was associated with real-time indoor concentrations of particulate matter (PM2.5) and carbon dioxide (CO2). We conducted a prospective observational longitudinal study among 302 office workers in urban commercial buildings located in six countries (China, India, Mexico, Thailand, the United States of America, and the United Kingdom). For 12 months, assessed cognitive function using the Stroop color-word test and Addition-Subtraction test (ADD) via a mobile research app. We found that higher PM2.5 and lower ventilation rates, as assessed by CO2 concentration, were associated with slower response times and reduced accuracy (fewer correct responses per minute) on the Stroop and ADD for 8 out 10 test metrics. Each interquartile (IQR) increase in PM2.5 (IQR=8.8 µg/m3) was associated with a 0.82% (95%CI: 0.42, 1.21) increase in Stroop response time, a 6.18% (95% CI: 2.08, 10.3) increase in Stroop interference time, a 0.7% (95% CI: -1.38, -0.01) decrease in Stroop throughput, and a 1.51% (95% CI: -2.65, -0.37) decrease in ADD throughput. For CO2, an IQR increase (IQR=315ppm) was associated with a 0.85% (95% CI: 0.32, 1.39) increase in Stroop response time, a 7.88% (95% CI: 2.08, 13.86) increase in Stroop interference time, a 1.32% (95% CI: -2.3, -0.38) decrease in Stroop throughput, and a 1.13% (95% CI: 0.18, 2.11) increase in ADD response time. A sensitivity analysis showed significant association between PM2.5 in four out of five cognitive test performance metrics only at levels above 12 µg/m3. Enhanced filtration and higher ventilation rates that exceed current minimum targets are essential public health strategies that may improve employee productivity.

WE ACT

13. **Prescriptions for Mitigating Climate Change-Related Externalities in Cancer Care: A Surgeon's Perspective.** Agbafe V, Berlin NL, Butler CE, Hawk E, Offodile Ii AC. J Clin Oncol. 2022 Mar 25:JCO2102581. doi: 10.1200/JCO.21.02581. Online ahead of print.

https://ascopubs.org/doi/10.1200/JCO.21.02581
We believe that surgical oncologists are a crucial stakeholder community in the implementation of associated priorities for two reasons. First, owing to the prevalence of consumables, heating, ventilation, and air conditioning (HVAC) systems, volatile anesthetic gases, and sterilization processes, operating rooms (ORs) partially account for 70% of a hospital's waste and are three to six times more carbon-intensive than the hospital as a whole, according to a 2017 life cycle analysis.5-7 In 2014, the release of hydrofluorocarbon and chlorofluorocarbon anesthetic gases stood at the equivalent of 3 million tons of carbon dioxide, with 80% of emissions from desflurane alone.8,9 Second, carbon-intensive minimally invasive surgical approaches, that is, laparoscopic and robotic-assisted, have become mainstays in the management of several cancers, for example, uterine, oropharyngeal, colorectal, and prostate.10-15 For example, the robotic hysterectomy has been associated with a carbon footprint of 814 KgCO2e, commensurate with a 2,273 mile journey in a gasoline car.16 This is salient because the adoption of robotic-assisted procedures increased eight-fold from 2012 to 201811 and overall minimally invasive surgical activity in the United States is associated with total CO2 emissions of 355,924 tons per year, synonymous with a country-level ranking of 198th among UN member states.

14. **Observing Annual Trends in Vehicular CO(2) Emissions.** Kim J, Turner AJ, Fitzmaurice HL, Delaria ER, Newman C, Wooldridge PJ, Cohen RC. Environ Sci Technol. 2022 Mar 24. doi: 10.1021/acs.est.1c06828. Online ahead of print.
Transportation emissions are the largest individual sector of greenhouse gas (GHG) emissions. As such, reducing transportation-related emissions is a primary element of every policy plan to reduce GHG emissions. The Berkeley Environmental Air-quality and CO2 Observation Network (BEACO2N) was designed and deployed with the goal of tracking changes in urban CO2 emissions with high spatial (∼1 km) and temporal (∼1 hr) resolutions while allowing the identification of trends in individual emission sectors. Here, we describe an approach to inferring vehicular CO2 emissions with sufficient precision to constrain annual trends. Measurements from 26 individual BEACO2N sites are combined and synthesized within the framework of a Gaussian plume model. After removing signals from biogenic emissions, we are able to report normalized annual emissions for 2018-2020. A reduction of 7.6 ± 3.5% in vehicular CO2 emissions is inferred for the San Francisco Bay Area over this 2 year period. This result overlaps with, but is slightly larger than, estimates from the 2017 version of the California Air Resources Board EMFAC emissions model, which predicts a 4.7% decrease over these 2 years. This demonstrates the feasibility of independently and rapidly verifying policy-driven reductions in GHG emissions from transportation with atmospheric observations in cities.

15. **Time to Break the "Lock-In" Impediments to Chemicals Management.** Blumenthal J, Diamond ML, Hoffmann M, Wang Z. Environ Sci Technol. 2022 Mar 19. doi: 10.1021/acs.est.1c06615. Online ahead of print.
https://pubs.acs.org/doi/10.1021/acs.est.1c06615
Despite enormous national, regional, and global efforts on chemical management, the widespread use of hazardous chemicals continues in many parts of the world even after decades of there being well-known risks to public and/or ecosystem health. This continued

supply and use, despite strong evidence of negative impacts, is not unique to chemicals management. In the field of climate change, the concept of "lock-in" has been used to explain the complex interactions among economic, social, technological, and political dynamics that reinforce global reliance on the extraction and use of fossil fuels. Learning from carbon "lock-in" phenomena, this Perspective explores the challenges of chemicals management from the perspective of lock-in through three case studies: paraquat, perfluorooctanesulfonic acid (PFOS), and asbestos. These case studies illustrate that most current chemicals management frameworks fail to address the concerns arising from this complex interplay by not involving all relevant stakeholder groups that are part of lock-in, from producers to consumers. This results in a relatively narrow consideration (e.g., only demand but not supply) of the effectiveness and consequences of regulations. We submit that to break lock-in and address the global threat of chemical pollution, current approaches to managing hazardous chemicals should be broadened to take a comprehensive approach to understanding and managing factors contributing to lock-in, notably both supply and demand on national and international scales.

16. **Comparison of Plate Waste between Vegetarian and Meat-Containing Meals in a Hospital Setting: Environmental and Nutritional Considerations.** Berardy A, Egan B, Birchfield N, Sabaté J, Lynch H. Nutrients. 2022 Mar 11;14(6):1174. doi: 10.3390/nu14061174. https://www.mdpi.com/2072-6643/14/6/1174
Vegetarian diets can satisfy nutritional requirements and have lower environmental impacts than those containing meat. However, fruits and vegetables are wasted at higher rates than meat. Reducing both food waste (FW) and the environmental impacts associated with food production is an important sustainability goal. Therefore, the aim of this study was to examine potential tradeoffs between vegetarian meals' lower impacts but potentially higher FW compared to meat-containing meals. To examine this, seven consecutive days of plate FW data from Loma Linda University Medical Center (LLUMC) patients were collected and recorded from 471 meals. Mean total FW and associated greenhouse gas emissions (GHGE) were higher among meat-containing meals (293 g/plate, 604 g CO2-eq/plate) than vegetarian meals (259 g/plate, 357 g CO2-eq/plate) by 34 g ($p = 0.05$) and 240 g CO2-eq ($p < 0.001$), respectively. Statistically significant differences were observed in both FW and associated GHGE across major food categories, except fruit, when comparing vegetarian and meat-containing meals. Overall, vegetarian meals were preferable to meat-containing meals served at LLUMC both in terms of minimizing FW and lowering environmental impacts. Other institutions serving vegetarian meal options could expect similar advantages, especially in reduced GHGE due to the high CO2 embodied in meat.

17. **Green Diabetes Summit 2021.** Nguyen KT, Xu NY, Zhang JY, Shang T, DuBord AY, Heinemann L, Krisiunas EP, Stumpe T, Seid DA, Klonoff DC. J Diabetes Sci Technol. 2022 Jan;16(1):233-247. doi: 10.1177/19322968211049800. Epub 2021 Oct 21. https://journals.sagepub.com/doi/10.1177/19322968211049800
On July 21, 2021, Diabetes Technology Society convened the virtual Green Diabetes Summit. The event consisted of 23 representatives from key stakeholder groups based in both the United States and Europe. The purposes of the summit were to (1) provide background on the complexity of addressing sustainability-related issues, including waste management, of

diabetes devices from many different perspectives along the products' life cycle stages, and (2) determine the feasibility and role of a coalition of stakeholders to find solutions, particularly in the design, use, and proper disposal of diabetes devices used in home care that no one stakeholder can resolve on their own.

18. **On CRDPs and CRPD: why the rights of people with disabilities are crucial for understanding climate-resilient development pathways.** Eriksen SH, Grøndahl R, Sæbønes AM. Lancet Planet Health. 2021 Dec;5(12):e929-e939. doi: 10.1016/S2542-5196(21)00233-3. Epub 2021 Nov 22. https://www.sciencedirect.com/science/article/pii/S2542519621002333
In this Personal View, we examine how the Convention on the Rights of Persons with Disabilities and lived experiences of disability can deepen understanding of four key features of climate-resilient development: social justice and equity as normative goals; the ethical underpinnings of social choices; the inequitable relations that drive marginalisation; and the ways in which society navigates uncertainty through inclusive and contestatory politics. A disability lens not only helps to understand how marginalisation generates vulnerability; it also helps to elaborate the ethic of solidarity as underpinning social choices and steering development towards climate-resilient pathways. Social justice concerns non-discrimination and equitable participation in everyday informal arenas, as well as formal decision making processes. The resilience knowledges of disabled people help to rethink sustainable development by expounding human interdependence and everyday problem solving in the face of uncertainties. They also contribute to opening up climate change decision making and knowledge processes in ways crucial to engendering transformative change. Embracing human diversity by recognising dignity and capacity is required to counter othering and marginalisation, ensure human wellbeing and planetary health, and achieve socially just development. As such, solidarity is not just a normative goal, but also a means of building climate-resilient development.

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Air Quality and Brain Health. Slomski A. JAMA. 2022 Mar 23. doi: 10.1001/jama.2022.3691. Online ahead of print.

Environmental risk of pharmaceuticals: Let us look at the whole package. Lertxundi U, Domingo-Echaburu S, Orive G. Br J Clin Pharmacol. 2022 Mar 23. doi: 10.1111/bcp.15311. Online ahead of print.

Climate Change and Mental Health Curricula: Addressing Barriers to Teaching. Seritan AL, Coverdale J, Brenner AM. Acad Psychiatry. 2022 Mar 21:1-5. doi: 10.1007/s40596-022-01625-0. Online ahead of print.

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