American College of Preventive Medicine
physicians dedicated to prevention

Policy Statement on Climate Change

Policy Recommendation: The American College of Preventive Medicine (ACPM) recognizes climate change as a threat to human health. Therefore, ACPM advocates for public health engagement and action on climate change including adoption and implementation of effective mitigation and adaptation measures. To this end, ACPM supports policies that:

1. Prioritize and invest in public health preparedness, surveillance, education and training related to the health impacts of climate change.[1]
2. Invest in public health research on the health effects of climate change to inform mitigation and adaptation strategies.[2]
3. Promote the development and availability of educational opportunities for trainees and health professionals addressing the effects of climate change.[3]
4. Promote environmentally responsible, energy-efficient health care[4] and encourage healthcare providers and health systems to reduce the carbon footprint of the health sector.
5. Invest in public transportation systems and built environment design and development to mitigate climate change, support adaptation and promote public health.[5]
6. Reduce greenhouse gas emissions and invest in development and adoption of clean energy alternatives and increased energy efficiency, in order to reduce negative healthoutcomes from climate change.[6]
7. Commit to and engage in ambitious global action on climate change. Furthermore, ACPM opposes policies that repeal, weaken or undermine laws, regulations and commitments aimed at mitigating climate change.

Key Issues:

1. There is substantial, undeniable evidence that climate change is occurring.
2. Climate change is primarily a result of human activity.
3. There are numerous threats to public health, animal health, and planetary health as a result of climate change.
4. The health implications of climate change demand action including both mitigation and adaptation measures.
5. Physicians have a key role to play in addressing climate change and mitigating its health impact.

Supporting Evidence For This Position:

1) There is substantial, undeniable evidence that climate change has occurred and is occurring.

The Intergovernmental Panel on Climate Change (IPCC) concluded that global warming is "unequivocal," finding that sea levels have risen, snow and ice have melted and the atmosphere and ocean have warmed over the last three decades.[7] NASA estimates that human activity has increased the Earth's global average temperature by about 1ºC so far, and is increasing by 0.2ºC every decade.[8] Models suggest that further reductions in greenhouse gas emissions are needed to avoid exceeding an average temperature increase of more than 2º C over pre-industrial levels.[9] Avoiding this threshold is considered critical to preventing truly catastrophic and potentially irreversible damage with profound public health implications.[10]

2) **Climate change is primarily a result of human activity.**

There is also overwhelming evidence and scientific consensus that climate change is primarily driven by anthropogenic greenhouse gas emissions.[11],[12] Thus, reductions in greenhouse gas emissions present an opportunity to mitigate climate change and the associated health sequelae.[13]

3) **There are numerous threats to public health as a result of climate change.**

There is widespread recognition of the inexorable linkage between health and climate change.[14] The World Health Organization estimates that 12.6 million deaths globally are attributable to environmental causes and that number is only predicted to increase in the years tocome.[15] The environmental effects of climate change include:

- Extreme temperature and weather events[28,29]
- Poor and worsening air quality[30]
- Water shortages and diminished water quality[24]
- Migration[35]
- Conflict[36]
- Social injustice and threats to human rights[38]

The numerous health effects caused by these environmental effects of climate change are manifold[16,17] and include but are not limited to:

- Asthma[18]
- Chronic obstructive pulmonary disease (COPD)[19]
- Diabetes[20]
- Lung cancer[21]
- Vector-borne illnesses[22,32]
- Kidney disease[23]
- Cardiovascular disease including myocardial infarction, heart failure, and stroke[24]
- Water-borne and airborne infectious disease[22,31]
- Trauma[25]
- Depression and other mental health disorders[26,37]
- Food insecurity, malnutrition, and diet-related non-communicable diseases[27]

Furthermore, these health harms disproportionately affect vulnerable populations, particularly in low- and middle-income countries.[39]

4) **The public health implications of climate change demand action including both mitigation and adaptation measures.**

Tackling climate change has been called “the greatest global health opportunity of the 21st century” given the significant health co-benefits of low-carbon solutions.[40] Addressing climate change entails both ambitious efforts to mitigate global warming through reductions in greenhouse gas emissions as well as efforts to adapt to climate change.[41]

5) Physicians have a key role to play in addressing climate change and mitigating its health impact.

In the context of the public health risks of climate change and the significant co-benefits of low-carbon solutions,preventive medicine health professionals will support and lead efforts to tackle climate change and protect human health.[42,43,44]

References:

1. Keim M. Building Human Resilience: The Role of Public Health Preparedness and Response As an Adaptation toClimate Change. Am J Prev Med 2008;35(5):508-516. Available at http://www.ajpmonline.org/article/S0749- 3797(08)00687-9/fulltext.
2. Haines A. Climate Change and Health: Strengthening the Evidence Base for Policy. Am J Prev Med2008;35(5):411-413. Available at http://www.ajpmonline.org/article/S0749-3797(08)00668-5/fulltext
3. Lawrence R & Saundry P. Climate Change, Health Sciences, and Education. Am J Prev Med 2008;35(5):426-428. Available at http://www.ajpmonline.org/article/S0749-3797(08)00704-6/fulltext
4. World Health Organization. (2019). Healthy environments: why do they matter and what can we do?. World Health Organization. Available at: https://apps.who.int/iris/handle/10665/325877
5. Younger M et al. The Built Environment, Climate Change, and Health: Opportunities for Co-Benefits. Am J PrevMed 2008;35(5):517-526. Available at http://www.ajpmonline.org/article/S0749-3797(08)00682-X/fulltext
6. U.S. EPA. Fact Sheet: Clean Power Plan Benefits of a Cleaner, More Efficient Power Sector. 2017. Available at https://19january2017snapshot.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-benefits-cleaner-more- efficient-power-sector.html
7. Intergovernmental Panel on Climate Change (IPCC), 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change Available at https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
8. NASA. Global Climate Change: Vital Signs of the Planet. Global warming vs. Climate Change. 2021. June 19, 2019. Available athttps://climate.nasa.gov/resources/global-warming-vs-climate-change/
9. NASA. Global Climate Change. A Degree of Concern: Why Global Temperature Matter. Available at: https://climate.nasa.gov/news/2878/a-degree-of-concern-why-global-temperatures-matter/
10. World Bank. Turn Down the Health: Why a 4 º C Warmer World Must be Avoided. 2012. Available athttps://openknowledge.worldbank.org/handle/10986/11860
11. Cook J et al. Consensus on consensus: a synthesis of consensus estimates on human-caused global warming.Environmental Research Letters 2016;11(4). Available at http://iopscience.iop.org/article/10.1088/1748- 9326/11/4/048002
12. Solomon S et al. Irreversible climate change due to carbon dioxide emissions. PNAS 2009;106(6):1704-1709.Available at http://www.pnas.org/content/106/6/1704.abstract
13. McMichael AJ. Globalization, climate change, and human health. N Engl J Med. 2013 Jul 4;369(1):96. Available at http://www.nejm.org/doi/full/10.1056/NEJMra1109341?af=R&rss=currentIssue&utm_source=buffer&buffer_share=5e4c5#t=article

14. Patz JA, Frumkin H, Holloway T, Vimont DJ, Haines A. Climate change: challenges and opportunities for globalhealth. JAMA. 2014 Oct 15;312(15):1565–80. Available at https://jamanetwork.com/journals/jama/article- abstract/1909928
15. Pruss-Ustun A et al. Preventing Disease Through Healthy Environments: A global assessment of the burden ofdisease from environmental risks. 2016. Available at http://apps.who.int/iris/bitstream/10665/204585/1/9789241565196_eng.pdf?ua=1
16. Crimmins A et al. USGCRP 2016: The Impacts of Climate Change on Human Health in the United States: AScientific Assessment. 2016. Available at https://health2016.globalchange.gov/
17. The Medical Society Consortium on Climate & Health. Medical Alert! Climate Change is Harming Our Health.2017. Available at https://medsocietiesforclimatehealth.org/wp-content/uploads/2017/03/gmu_medical_alert_updated_082417.pdf
18. Luber, G., and others, 2014: Ch. 9: Human Health. Climate Change Impacts in the United States: The Third National Climate Assessment, J.M. Melillo, Richmond, T. (T.C.), and Yohe, G.W., Eds., U.S. Global Change Research Program, 220-256.
19. Hansel NN, McCormack MC, Kim V. The Effects of Air Pollution and Temperature on COPD. COPD. 2016;13(3):372-379. doi:10.3109/15412555.2015.1089846
20. Lavigne, E., Gasparrini, A., Wang, X. et al. Extreme ambient temperatures and cardiorespiratory emergency room visits: assessing risk by comorbid health conditions in a time series study. Environ Health 13, 5 (2014). https://doi.org/10.1186/1476-069X-13-5
21. Hiatt RA, Beyeler N. Cancer and climate change. The Lancet Oncology. 2020;21(11):e519-e527. doi:10.1016/s1470-2045(20)30448-4
22. Rocklöv, J., Dubrow, R. Author Correction: Climate change: an enduring challenge for vector-borne disease prevention and control. Nat Immunol 21, 695 (2020). https://doi.org/10.1038/s41590-020-0692-7
23. Johnson R, J, Sánchez-Lozada L, G, Newman L, S, Lanaspa M, A, Diaz H, F, Lemery J, Rodriguez-Iturbe B, Tolan D, R, Butler-Dawson J, Sato Y, Garcia G, Hernando A, A, Roncal-Jimenez C, A: Climate Change and the Kidney. Ann Nutr Metab 2019;74(suppl 3):38-44. doi: 10.1159/000500344
24. Peters, A., Schneider, A. Cardiovascular risks of climate change. Nat Rev Cardiol 18, 1–2 (2021). https://doi.org/10.1038/s41569-020-00473-5
25. Brokamp C, Strawn JR, Beck AF, Ryan P. Pediatric Psychiatric Emergency Department Utilization and Fine Particulate Matter: A Case-Crossover Study. Environ Health Perspect. 2019 Sep;127(9):97006. doi: 10.1289/EHP4815. Epub 2019 Sep 25. PMID: 31553231; PMCID: PMC6792357.
26. Majeed H, Lee J. The impact of climate change on youth depression and mental health. The Lancet Planetary Health. 2017;1(3):e94-e95. doi:10.1016/s2542-5196(17)30045-1
27. Patz J, Grabow M & Limaye V. When it rains, it pours: future climate extremes and health. Ann Glob Health2014;80(4):332-44. Available at https://www.ncbi.nlm.nih.gov/pubmed/25459335
28. Schwartz J et al. Projections of temperature-attributable premature deaths in 209 U.S. cities using a cluster-basedPoisson approach. Environmental Health 2015;2015:14:85. Available at https://ehjournal.biomedcentral.com/articles/10.1186/s12940-015-0071-2
29. Reinmuth-Selzle K et al. Air Pollution and Climate Change Effect on Allergies in the

Anthropocene: Abundance,Interaction and Modification of Allergens and Adjuvants. Environmental Sci & Tech 2017; 51(8): 4119-4141. Available at http://pubs.acs.org/doi/abs/10.1021/acs.est.6b04908
30. Kinney P. Climate Change, Air Quality, and Human Health. Am J Prev Med 2008;35(5):459-467. Available athttp://www.ajpmonline.org/article/S0749-3797(08)00690-9/fulltext
31. Wu X et al. Impact of climate change on human infectious diseases: Empirical evidence and human adaptation.Environment International 2016;86:14-23. Available at http://www.sciencedirect.com/science/article/pii/S0160412015300489
32. Gage K et al. Climate and Vectorborne Diseases. Am J Prev Med 2008;35(5):436-450. Available athttp://www.ajpmonline.org/article/S0749-3797(08)00706-X/fulltext
33. Tai A et al. Threat to future global food security from climate change and ozone air pollution. Nature Climate Change 2014;4:817-821. Available at https://www.nature.com/articles/nclimate2317
34. Schewe J et al. Multimodel assessment of water scarcity under climate change. PNAS 2014;111(9):3245-3250.Available at http://www.pnas.org/content/111/9/3245.short
35. Schutte S et al. Connecting planetary health, climate change, and migration. Lancet Planetary Health2018;2(2):e58-59. Available at https://www.sciencedirect.com/science/article/pii/S2542519618300044
36. Bowles D, Butler C & Morisetti N. Climate change, conflict and health. J Royal Soc of Med 2015;Oct 2. Available at http://journals.sagepub.com/doi/pdf/10.1177/0141076815603234
37. Ursano R et al. Resource Document on Mental Health and Climate Change. American Psychiatric Association.2017. Available at https://www.psychiatry.org/File%20Library/Psychiatrists/Directories/Library-and-Archive/resource_documents/2017-Resource-Document-Mental-Health-Climate-Change.pdf
38. Levy B & Patz J. Climate Change, Human Rights, and Social Justice. Annals of Global Health 2015;81(3):310-322. Available at http://www.sciencedirect.com/science/article/pii/S0160412015300489http://www.sciencedirect.com/science/article/ pii/S2214999615012242
39. United Nations. World Social Report Chapter 3 Climate Change: Exacerbating Poverty and Inequality. 2020. Available at https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/02/World-Social-Report-2020-Chapter-3.pdf
40. Watts N et al. Health and climate change: policy responses to protect public health. Lancet 2015;386:1891-1914.Available at http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)60854-6/fulltext
41. Huang C et al. Constraints and Barriers to Public Health Adaptation to Climate Change. Am J Prev Med2008;40(2):183-109. Available at http://www.ajpmonline.org/article/S0749-3797(10)00635-5/fulltext
42. Watts N et al. The Lancet Countdown on health and climate change: from 25 years of inaction to a globaltransformation for public health. The Lancet 2017: Oct 30. Published online. Available at

http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(17)32464-9.pdf
43. Machalaba C et al. Climate Change and Health: Transcending Silos to Find Solutions. Annals of Global Health 2015;81(3):445-458. Available at http://www.sciencedirect.com/science/article/pii/S2214999615012187
44. Ramanathan V & Haines A. Healthcare professionals must lead on climate change. BMJ 2016;355:i5245. Available at http://www.bmj.com/content/355/bmj.i5245