A Systematic Review to Identify the Effectiveness of Greenhouse Gas Mitigation Interventions for Healthcare Systems in Low- and Middle-Income Countries

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Annex 1 Systematic Review Searches per Electronic Database

**Ovid EMBASE, Ovid MEDLINE, Ovid Global Health**

|  |  |
| --- | --- |
| Search line | Content of search |
| 1 | (netzero or net zero).mp. |
| 2 | Carbon Footprint/ |
| 3 | Greenhouse Effect/ |
| 4 | exp Climate Change/ |
| 5 | (carbon or CO2 or methane or CH4 or nitrous oxide or N2O or hydrofluorocarbon\* or HFC\* or perfluorocarbon\* or PFC\* or F-gas or fluorinated gas or sulfur hexafluoride or SF6 or nitrogen trifluoride or NF3 or emission\* or greenhouse or GHG or climat\* change\* or global warming or footprint or eco-friendly or climate friendly or environment\* friendly or eco-efficient or environment\* responsible or environment\* sound or energy-efficient or energy-saving or green initiative\* or environmental impact or short-lived climate pollutant or black carbon).mp. |
| 6 | (environment\* and sustainab\*).mp. |
| 7 | 1 or 2 or 3 or 4 or 5 or 6 |
| 8 | exp "Delivery of Healthcare"/ |
| 9 | exp Health Facilities/ |
| 10 | (health system\* or healthcare or healthcare or health sector or health supply chain\* or health service\* or health cent\* or delivery of health or health delivery or health facilit\* or hospital or hospitals or clinic or clinics or emergency room\* or operat\* room\* or operat\* theat\* or patient care or ward\* or urgent care or primary care or secondary care or tertiary care or quaternary care or telemedicine or medical cent\* or diagnostic care or rehabilitative care or preventative care or palliative care or home care).mp. |
| 11 | 8 or 9 or 10 |
| 12 | 7 and 11 |
| 304 | or/13-303 [ALL LOW AND MIDDLE-INCOME COUNTRIES (expert search)] |
| 305 | 12 and 304 |
| 306 | limit 305 to yr="1990 - 2023" |

Table 1 Systematic Review Search Ovid Databases

**Web of Science**

|  |  |
| --- | --- |
| Search line | Content of search |
| 1 | (((ALL=(netzero OR "net-zero")) OR ALL=((carbon or CO2 or methane or CH4 or "nitrous oxide" or N2O or hydrofluorocarbon\* or HFC\* or perfluorocarbon\* or PFC\* or "F-gas" or "fluorinated gas" or "sulfur hexafluoride" or SF6 or "nitrogen trifluoride" or NF3 or emission\* or greenhouse or GHG or "climat\* change\*" or "global warming" or footprint or "eco-friendly" or "climate friendly" or "environment\* friendly" or "eco-efficient" or "environment\* responsible" or "environment\* sound" or "energy-efficient" or "energy-saving" or "green initiative\*" or "environmental impact" or "short-lived climate pollutant" or "black carbon").mp.)) OR ALL=(environment\* and sustainab\*)) AND ALL=("health system\*" or healthcare or "healthcare" or "health sector" or "health supply chain\*" or "health service\*" or “health cent\*” or "delivery of health" or "health delivery" or "health facilit\*" or hospital or hospitals or clinic or clinics or "emergency room\*" or "operat\* room\*" or "operat\* theat\*" or "patient care" or ward\* or "urgent care" or "primary care" or "secondary care" or "tertiary care" or "quaternary care" or telemedicine or "medical cent\*" or "diagnostic care" or "rehabilitative care" or "preventative care" or "palliative care" or "home care") |
| 2-15 | [ALL LOW AND MIDDLE-INCOME COUNTRIES (expert search)] |
| 16 | #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 |
| 17 | #16 AND #1 |

Table 2 Systematic Review Search Web of Science

**Africa-Wide Information**

|  |  |
| --- | --- |
| Search line | Content of search |
| 1 | ((((netzero OR "net-zero")) OR ((carbon or CO2 or methane or CH4 or "nitrous oxide" or N2O or hydrofluorocarbon\* or HFC\* or perfluorocarbon\* or PFC\* or "F-gas" or "fluorinated gas" or "sulfur hexafluoride" or SF6 or "nitrogen trifluoride" or NF3 or emission\* or greenhouse or GHG or "climat\* change\*" or "global warming" or footprint or "eco-friendly" or "climate friendly" or "environment\* friendly" or "eco-efficient" or "environment\* responsible" or "environment\* sound" or "energy-efficient" or "energy-saving" or "green initiative\*" or "environmental impact" or "short-lived climate pollutant" or "black carbon").mp.)) OR (environment\* and sustainab\*)) AND ("health system\*" or healthcare or "healthcare" or "health sector" or "health supply chain\*" or "health service\*" or "health cent\*" or "delivery of health" or "health delivery" or "health facilit\*" or hospital or hospitals or clinic or clinics or "emergency room\*" or "operat\* room\*" or "operat\* theat\*" or "patient care" or ward\* or "urgent care" or "primary care" or "secondary care" or "tertiary care" or "quaternary care" or telemedicine or "medical cent\*" or "diagnostic care" or "rehabilitative care" or "preventative care" or "palliative care" or "home care") |

Table 3 Systematic Review Search Africa-Wide Information

**LILACS**

|  |  |
| --- | --- |
| Search line | Content of search |
| 1 | (((((netzero OR net-zero)) OR ((carbon or CO2 or methane or CH4 or nitrous oxide or N2O or hydrofluorocarbon$ or HFC$ or perfluorocarbon$ or PFC$ or F-gas or fluorinated gas or sulfur hexafluoride or SF6 or nitrogen trifluoride or NF3 or emission$ or greenhouse or GHG or climat$ change$ or global warming or footprint or eco-friendly or climate friendly or environment$ friendly or eco-efficient or environment$ responsible or environment$ sound or energy-efficient or energy-saving or green initiative$ or environmental impact or short-lived climate pollutant or black carbon).mp.)) OR (environment$ and sustainab$)) ) AND ((health system$ or healthcare or healthcare or health sector or health supply chain$ or health service$ or health cent$ or delivery of health or health delivery or health facilit$ or hospital or hospitals or clinic or clinics or emergency room$ or operat$ room$ or operat$ theat$ or patient care or ward$ or urgent care or primary care or secondary care or tertiary care or quaternary care or telemedicine or medical cent$ or diagnostic care or rehabilitative care or preventative care or palliative care or home care)) |

Table 4 Systematic Review Search LILACS

**Global Index Medicus**

|  |  |
| --- | --- |
| Search line | Content of search |
| 1 | (((((netzero OR net-zero)) OR ((carbon or CO2 or methane or CH4 or nitrous oxide or N2O or hydrofluorocarbon\* or HFC\* or perfluorocarbon\* or PFC\* or F-gas or fluorinated gas or sulfur hexafluoride or SF6 or nitrogen trifluoride or NF3 or emission\* or greenhouse or GHG or climat\* change\* or global warming or footprint or eco-friendly or climate friendly or environment\* friendly or eco-efficient or environment\* responsible or environment\* sound or energy-efficient or energy-saving or green initiative\* or environmental impact or short-lived climate pollutant or black carbon).mp.)) OR (environment\* and sustainab\*))) AND ((health system\* or healthcare or healthcare or health sector or health supply chain\* or health service\* or health cent\* or delivery of health or health delivery or health facilit\* or hospital or hospitals or clinic or clinics or emergency room\* or operat\* room\* or operat\* theat\* or patient care or ward\* or urgent care or primary care or secondary care or tertiary care or quaternary care or telemedicine or medical cent\* or diagnostic care or rehabilitative care or preventative care or palliative care or home care)) |

Table 5 Systematic Review Search Global Index Medicus

**GreenFile**

|  |  |
| --- | --- |
| Search line | Content of search |
| 1 | (((((netzero OR "net-zero")) OR ((carbon or CO2 or methane or CH4 or "nitrous oxide" or N2O or hydrofluorocarbon\* or HFC\* or perfluorocarbon\* or PFC\* or "F-gas" or "fluorinated gas" or "sulfur hexafluoride" or SF6 or "nitrogen trifluoride" or NF3 or emission\* or greenhouse or GHG or "climat\* change\*" or "global warming" or footprint or "eco-friendly" or "climate friendly" or "environment\* friendly" or "eco-efficient" or "environment\* responsible" or "environment\* sound" or "energy-efficient" or "energy-saving" or "green initiative\*" or "environmental impact").mp.)) OR (environment\* and sustainab\*)) AND ("health system\*" or healthcare or "healthcare" or "health sector" or "health supply chain\*" or "health service\*" or "delivery of health" or "health delivery" or "health facilit\*" or hospital or hospitals or clinic or clinics or "emergency room\*" or "operat\* room\*" or "operat\* theat\*" or "patient care" or ward\* or "urgent care" or "primary care" or "secondary care" or "tertiary care" or "quaternary care" or telemedicine or "medical cent\*" or "diagnostic care" or "rehabilitative care" or "preventative care" or "palliative care" or "home care")) AND (Afghanistan OR Albania OR Algeria OR “American Samoa” OR Angola OR Argentina OR “Argentine Republic” OR Armenia OR Azerbaijan OR Bangladesh OR Belarus OR Byelarus OR Belorussia OR Belize OR Benin OR Bhutan OR Bolivia OR Bosnia OR Botswana OR Brazil OR Bulgaria OR Burma OR “Burkina Faso” OR Burundi OR “Cabo Verde” OR “Cape verde” OR Cambodia OR Cameroon OR “Central African Republic” OR Chad OR China OR Colombia OR Comoros OR Comores OR Comoro OR Congo OR “Costa Rica” OR “Côte d'Ivoire” OR Cuba OR Djibouti OR Dominica OR “Dominican Republic” OR Ecuador OR Egypt OR “El Salvador” OR Eritrea OR Ethiopia OR Fiji OR Gabon OR Gambia OR Gaza OR “Georgia Republic” OR Georgian OR Ghana OR Grenada OR Grenadines OR Guatemala OR Guinea OR “Guinea Bissau” OR Guyana OR Haiti OR Herzegovina OR Hercegovina OR Honduras OR India OR Indonesia OR Iran OR Iraq OR Jamaica OR Jordan OR Kazakhstan OR Kenya OR Kiribati OR Korea OR Kosovo OR Kyrgyz OR Kirghizia OR Kirghiz OR Kirgizstan OR Kyrgyzstan OR “Lao PDR” OR Laos OR Lebanon OR Lesotho OR Liberia OR Libya OR Macedonia OR Madagascar OR Malawi OR Malay OR Malaya OR Malaysia OR Maldives OR Mali OR “Marshall Islands” OR Mauritania OR Mauritius OR Mexico OR Micronesia OR Moldova OR Mongolia OR Montenegro OR Morocco OR Mozambique OR Myanmar OR Namibia OR Nauru OR Nepal OR Nicaragua OR Niger OR Nigeria OR Pakistan OR Palau OR Panama OR “Papua New Guinea” OR Paraguay OR Peru OR Philippines OR Phillippines OR Philipines OR Phillipines OR Principe OR Romania OR Rwanda OR Ruanda OR Samoa OR “Sao Tome” OR Senegal OR Serbia OR “Sierra Leone” OR “Solomon Islands” OR Somalia OR “South Africa” OR “South Sudan” OR “Sri Lanka” OR “St Lucia” OR “St Vincent” OR Sudan OR Surinam OR Suriname OR Swaziland OR Syria OR “Syrian Arab Republic” OR Tajikistan OR Tadzhikistan OR Tadjikistan OR Tadzhik OR Tanzania OR Thailand OR Timor OR Togo OR Tonga OR Tunisia OR Turkey OR Turkmen OR Turkmenistan OR Tuvalu OR Uganda OR Ukraine OR Uzbek OR Uzbekistan OR Vanuatu OR Venezuela OR Vietnam OR “West Bank” OR Yemen OR Zambia OR Zimbabwe OR ((developing or "less\* developed" or "under developed" or "underdeveloped" or "middle income" or "low\* income") AND (economy or economies)) OR ((developing or "less\* developed" or "under developed" or underdeveloped or "middle income" or "low\* income" or underserved or "under served" or deprived or poor\*) AND (countr\* or nation$ or population$ or world)) OR (low\* AND (gdp or gnp or "gross domestic" or "gross national")) OR (low AND middle AND countr\*) OR (lmic or lmics or "third world" or "lami countr\*") OR ("transitional countr\*") OR ("global south") OR ("Africa South of the Sahara" or "sub-Saharan Africa" or "subSaharan Africa") OR ("Central Africa" OR "Eastern Africa" OR "Southern Africa" OR "Western Africa")) |

Table 6 Systematic Review Search GreenFile