# Supplemental Information

Title: Telemedicine and the Environment: Life Cycle Environmental Emissions from In-Person and Virtual Clinic Visits

Supplemental Table 1: System inputs and unit processes used; including alternate scenarios for supplies. GLO=global, UP=unit process, U=unit, RoW=Rest of World, RER=Europe, CN=China, US=United States, WECC= Western Electricity Coordinating Council

| **Transit Mode** | **amount (2021 total)** | **unit** | **Ecoinvent v3 UP** | **Source** | | |
|---|---|---|---|---|---|---|
| Air travel | 140921810.7 | people-km | Transport, passenger aircraft, short haul {GLO}\| transport, passenger aircraft, short haul \| Cut-off, U | Patient travel estimated from ZIP code of address vs. clinic; distances over 400km assumed as flight mode | | |
| Car travel | 76428101.73 | km | Transport, passenger car {RoW}\| market for \| Cut-off, U | Patient travel estimated from ZIP code of address vs. clinic; distances over 400km assumed as flight mode | | |
| **Minimal Supply List** | **amount (per visit)** | **unit** | **Ecoinvent v3 UP** | **Source** | | |
| Surgical Mask | 11.7 | g | Polypropylene, granulate {GLO}\| market for \| Cut-off, U | Direct measurement; allocated over total use (1/10th the production and disposal) | | |
| | 0.24 | g | Cellulose fibre {RoW}\| market for cellulose fibre \| Cut-off, U | Direct measurement; allocated over total use (1/10th the production and disposal) | | |
| | 0.02925 | g | Aluminium alloy, metal matrix composite {GLO}\| market for \| Cut-off, U | Direct measurement; allocated over total use (1/10th the production and disposal) | | |
| | 0.02925 | g | Polyurethane, flexible foam {RoW}\| market for polyurethane, flexible foam \| Cut-off, U | Direct measurement; allocated over total use (1/10th the production and disposal) | | |
| | 0.01 | kWh | Electricity, high voltage {CN}\| market group for \| Cut-off, U | Estimate; allocated over total use (1/10th the production and disposal) | | |
| Hand Sanitizer | 2.55 | g | Benzyl alcohol {RER}\| production \| Cut-off, U | Estimate | | |
| Table Cover | 31.99347 | g | Tissue paper {RER}\| production \| Cut-off, U | Estimate | | |
| Sanitary Wipe | 0.0212 | g | Ammonium chloride (GLO) market for/cut-off, U | Duffy, et al | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 2.3 | g | Isopropanol {RoW}\| market for isopropanol \| Cut-off, U | Duffy, et al | | |
| | 1 | g | Fibre, cotton (GLO) market for/Cut-off U | Duffy, et al | | |
| **Minimal Supply List - Transportation** | **amount (per visit)** | **unit** | **Ecoinvent v3 UP** | **Source** | **Assumed Distance (km)** | **Data Sources** |
| Shipping (from China) | 0.117213 | tkm | Transport, freight, sea, container ship {GLO}\| market for transport, freight, sea, container ship \| Cut-off, U | Estimate | 3000 | Estimates/assumptions - Google maps |
| | 0.00156284 | tkm | Transport, freight, lorry >32 metric ton, euro4 {RoW}\| market for transport, freight, lorry >32 metric ton, EURO4 \| Cut-off, U | Estimate | 40 | Estimates/assumptions - Google maps |
| Waste transit | 0.00156284 | tkm | Municipal waste collection service by 21 metric ton lorry {GLO}\| market for \| Cut-off, U | Estimate | 40 | Estimates/assumptions - Google maps |
| Waste scenario | 39.071 | g | Municipal solid waste (waste scenario) {US}\| Treatment of waste \| Cut-off, U | Calculated from measured data | | |
| **Intensive Supply List (above, 1 mask per visit, PLUS:)** | **amount (per visit)** | **unit** | **Ecoinvent v3 UP** | **Source** | | |
| Exam gloves (2) | 9.6 | g | Polybutadiene {RER}\| production \| Cut-off, U | Primary - weighed item; assumed material type | | |
| Gown | 110 | g | Polypropylene, granulate {RER}\| production \| Cut-off, U + Electricity, high voltage {CN}\| market group for \| Cut-off, U | Primary - weighed item; assumed material type; energy from literature (secondary source) | | |
| | 0.5 | kWh | Electricity, high voltage {CN}\| market group for \| Cut-off, U | Estimate | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Patient Gown | 110 | g | Polypropylene, granulate {RER}\| production \| Cut-off, U + Cellulose fibre {RoW}\| market for cellulose fibre \| Cut-off, U + Aluminium alloy, metal matrix composite {GLO}\| market for \| Cut-off, U + Polyurethane, flexible foam {RoW}\| market for polyurethane, flexible foam \| Cut-off, U | Primary - weighed item; assumed material type; energy from literature (secondary source) | | |
| | 0.5 | kWh | Electricity, high voltage {CN}\| market group for \| Cut-off, U | Estimate | | |
| **Intensive Supply List - Transportation** | **amount (per visit)** | **unit** | **Ecoinvent v3 UP** | **Source** | **Assumed Distance (km)** | **Data Sources** |
| Shipping (from China) | 0.838413 | tkm | Transport, freight, sea, container ship {GLO}\| market for transport, freight, sea, container ship \| Cut-off, U | Estimate | 3000 | Estimates/assumptions - google maps |
| | 0.01117884 | tkm | Transport, freight, lorry >32 metric ton, euro4 {RoW}\| market for transport, freight, lorry >32 metric ton, EURO4 \| Cut-off, U | Estimate | 40 | Estimates/assumptions - google maps |
| Waste transit | 0.01117884 | tkm | Municipal waste collection service by 21 metric ton lorry {GLO}\| market for \| Cut-off, U | Estimate | 40 | Estimates/assumptions - google maps |
| Waste scenario | 279.471 | g | Municipal solid waste (waste scenario) {US}\| Treatment of waste \| Cut-off, U | Calculated from measured data | | |
| **HVAC Energy Use** | **amount (per min)** | **unit** | **Ecoinvent v3 UP** | **Source** | | |
| Natural gas, heating | 0.010331205 | MJ/min | Heat, central or small-scale, natural gas {RoW}\| market for heat, central or small-scale, natural gas \| Cut-off, U | Direct measurement; averaged across all measured facilities | | |
| Electricity, all uses plus chilled water | 0.00625289 | kWh/min | Transport, passenger car {RoW}\| market for \| Cut-off, U | Direct measurement; averaged across all measured facilities | | |
| Steam from district heating | 0.011718687 | MJ/min | Video, one minute, WECC grid | Direct measurement; averaged across all measured facilities | | |

| Other Energy Use | amount (per min) | unit | Ecoinvent v3 UP (modified to use the WECC grid mix) | Source | | |
|---|---|---|---|---|---|---|
| Phone, electricity (patient) | 2.17E-05 | kWh/min | Electricity, low voltage {WECC, US only}\| market for \| Cut-off, U | Nurminen, 2010; assumed to be a cell phone | | |
| Phone, desktop (clinician) | 1 | min | Operation, computer, desktop, office use {WECC}\| market for \| Cut-off, U | | | |
| Video, internet (patient) | 1 | min | Internet access, videoconference WECC, 0.7 Mbit/s {GLO}\| market for \| Cut-off, U | | | |
| Video, desktop (clinician) | 1 | min | Operation, computer, desktop, office use {WECC}\| market for \| Cut-off, U | | | |

Supplemental Table 2: Model inputs for baseline scenario and sensitivity analyses, shown for 2021 only

| ***Inputs for Sensitivity Analyses*** | | *In-person visits (2021 cumulative)* | | | | | *Virtual visits (2021 cumulative)* | |
|---|---|---|---|---|---|---|---|---|
| **Scenario** | **Setup** | **Supplies(# visits)** | **Trash (# visits)** | **Car (km)** | **Aircraft (km)** | **HVAC (min)** | **phone min** | **video min** |
| Baseline (min supplies, WECC) | 2021 In-person, air | 39,213 | 39,213 | 0 | 93,908,607 | 882,760 | 0 | 0 |
| | 2021 phone, air (IF in person) | 1,396 | 1,396 | 0 | 3,070,530 | 43,025 | 43,025 | 0 |
| | 2021 video, air (IF in person) | 21,895 | 21,895 | 0 | 43,942,674 | 764,470 | 0 | 764,470 |
| | 2021 In-person, car | 1,250,220 | 1,250,220 | 42,881,325 | 0 | 32,426,310 | 0 | 0 |
| | 2021 phone, car (IF in person) | 58,239 | 58,239 | 2,560,264 | 0 | 1,595,630 | 1,595,630 | 0 |
| | 2021 video, car (IF in person) | 590,805 | 590,805 | 30,986,513 | 0 | 18,729,540 | 0 | 18,729,540 |
| | 2021 - phone | | | | | | 1638655 | |
| | 2021 - video | | | | | | | 19494010 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Transportation: All car | 2021 In-person, all car | 1,289,433 | 1,289,433 | 136,789,932 | - | 33,309,070 | | |
| | 2021 Phone (IF all car) | 59,635 | 59,635 | 5,630,794 | - | 1,638,655 | | |
| | 2021 Video (IF all car) | 612,700 | 612,700 | 74,929,186 | - | 19,494,010 | | |
| Energy: WECC + solar | 2021 In-person, air | 39,213 | 39,213 | 0 | 93,908,607 | 882,760 | | |
| | 2021 phone, air (IF in person) | 1,396 | 1,396 | 0 | 3,070,530 | 43,025 | | |
| | 2021 video, air (IF in person) | 21,895 | 21,895 | 0 | 43,942,674 | 764,470 | | |
| | 2021 In-person, car | 1,250,220 | 1,250,220 | 42,881,325 | 0 | 32,426,310 | | |
| | 2021 phone, car (IF in person) | 58,239 | 58,239 | 2,560,264 | 0 | 1,595,630 | | |
| | 2021 video, car (IF in person) | 590,805 | 590,805 | 30,986,513 | - | 18,729,540 | **phone min** | **video min** |
| | 2021 - phone | - | - | - | - | - | 1,638,655 | - |
| | 2021 - video | - | - | - | - | - | - | 19,494,010 |
| Energy: US Average | 2021 In-person, air | 39,213 | 39,213 | 0 | 93,908,607 | 882,760 | | |
| | 2021 phone, air (IF in person) | 1,396 | 1,396 | 0 | 3,070,530 | 43,025 | | |
| | 2021 video, air (IF in person) | 21,895 | 21,895 | 0 | 43,942,674 | 764,470 | | |
| | 2021 In-person, car | 1,250,220 | 1,250,220 | 42,881,325 | 0 | 32,426,310 | | |
| | 2021 phone, car (IF in person) | 58,239 | 58,239 | 2,560,264 | 0 | 1,595,630 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2021 video, car (IF in person) | 590,805 | 590,805 | 30,986,513 | - | 18,729,540 | **phone min** | **video min** |
| | 2021 - phone | - | - | - | - | - | 1,638,655 | - |
| | 2021 - video | - | - | - | - | - | - | 19,494,010 |
| Supplies: intensive list | 2021 In-person, air | 39,213 | 39,213 | - | 93,908,607 | 882,760 | | |
| | 2021 In-person, car | 1,250,220 | 1,250,220 | 42,881,325 | - | 32,426,310 | | |

Supplemental Table 3: Model inputs and assumptions of clinic energy consumption and surface area; Base case and min/max scenario modeling

| **Measured Data related to Energy Consumption of in-Person Systems** | **Electricity (kWh/sf/min)** | **Natural Gas (MJ/sf/min)** | **Chilled water (kWh/sf/min)** | **Steam (MJ/sf/min)** | **Room size (sf), assumed** |
|---|---|---|---|---|---|
| *Base: (Campus Average)* | 5.47652E-05 | 0.000103312 | 7.76368E-06 | 0.000117187 | 100 |
| *Maximum* | 6.88927E-05 | 0.000574177 | 1.24724E-05 | 0.000214128 | 225 |
| *Minimum* | 2.04401E-05 | 0 | 0 | 0 | 64 |

Supplemental Table 4: Per-patient Greenhouse Gas emissions at SHC in 2021 by Department. SMP = Stanford Medical Partners, GI = Gastrointestinal

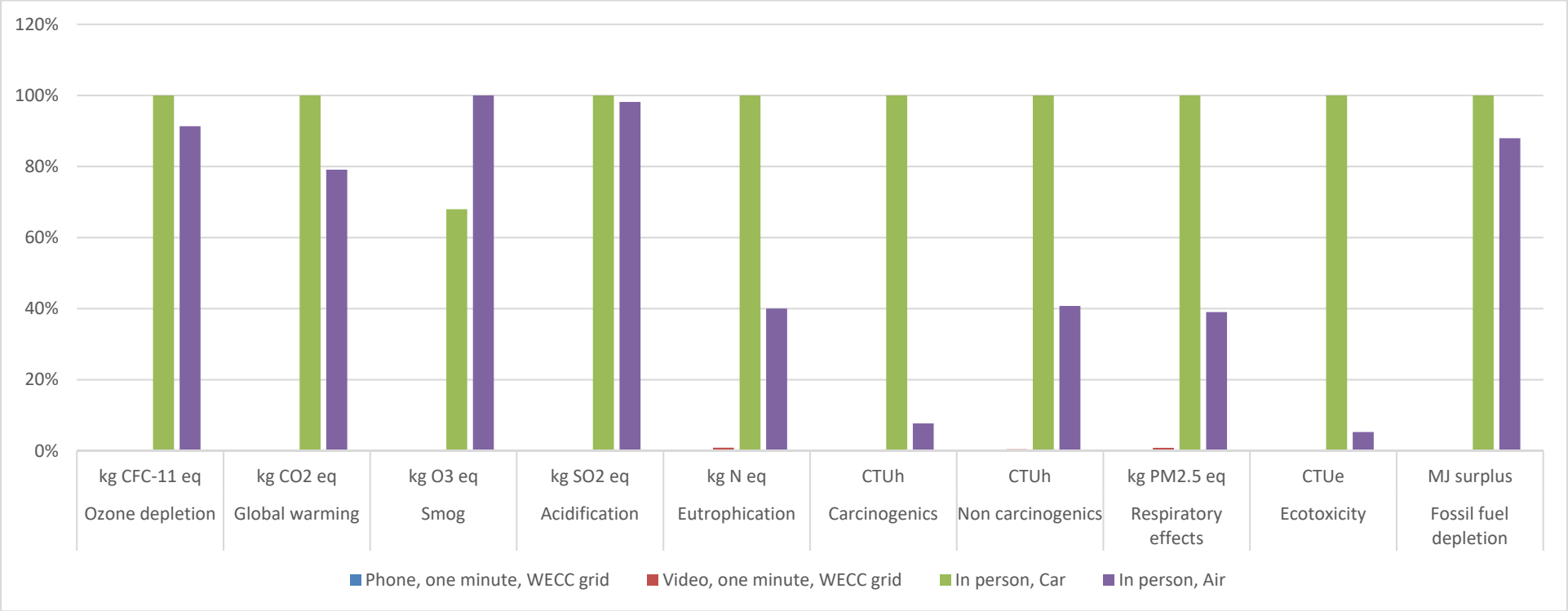
| **Department** | kgCO2e/ patient (in person only) | kgCO2e/ patient (virtual only) | GHG reductions |
|---|---|---|---|
| Acute Care Surgery | 23.19 | 0.0233 | 99.90% |
| Cancer | 25.80 | 0.0344 | 99.87% |
| Cardiovascular | 29.99 | 0.0513 | 99.83% |
| Dermatology | 16.92 | 0.0226 | 99.87% |
| GI/GI Surgery | 25.37 | 0.0465 | 99.82% |
| Gynecology | 19.91 | 0.0479 | 99.76% |
| Medical Specialties | 23.39 | 0.0492 | 99.79% |
| Neurosciences | 37.72 | 0.0501 | 99.87% |
| Ophthalmology | 20.15 | 0.0252 | 99.87% |

| | | | |
|---|---|---|---|
| Orthopedics | 63.85 | 0.0258 | 99.96% |
| Otolaryngology | 25.93 | 0.0429 | 99.83% |
| Pain management | 23.83 | 0.0702 | 99.71% |
| Plastic Surgery | 24.56 | 0.0292 | 99.88% |
| Primary Care | 11.54 | 0.0423 | 99.63% |
| Psychiatry | 35.91 | 0.0751 | 99.79% |
| Pulmonary & Critical Care | 30.30 | 0.0478 | 99.84% |
| SMP Oncology | 9.18 | 0.0276 | 99.70% |
| SMP Primary Care & Pediatrics | 7.33 | 0.0311 | 99.58% |
| SMP Specialty Care | 8.90 | 0.0317 | 99.64% |
| Urology | 18.70 | 0.0390 | 99.79% |
| **TOTAL** | 20.04 | 0.0430 | 99.79% |

Supplemental Table 5: Life Cycle Results for 2021 data (cumulative); WECC= Western Electricity Coordinating Council

| **Impact category** | **Unit** | **Phone, one minute, WECC grid** | **Video, one minute, WECC grid** | **In person, Car** | **In person, Air** | **TOTAL (2021 SHC Visits)** |
|---|---|---|---|---|---|---|
| Ozone depletion | kg CFC-11 eq | 9.20952E-05 | 0.001844036 | 2.849211375 | 2.602209842 | 5.453357348 |
| Global warming | kg CO2 eq | 1,332.07 | 27,568.70 | 14,426,785.18 | 11,411,217.10 | 25,866,903 |
| Smog | kg O3 eq | 59.16748557 | 1110.417111 | 834839.8399 | 1228089.108 | 2064098.532 |
| Acidification | kg SO2 eq | 4.855870369 | 88.11502952 | 51025.64683 | 50095.49919 | 101214.1169 |
| Eutrophication | kg N eq | 10.85541512 | 220.3741332 | 25299.53295 | 10125.96 | 35656.72249 |
| Carcinogenics | CTUh | 0.000190171 | 0.003448333 | 1.843533223 | 0.14201771 | 1.989189437 |
| Non carcinogenics | CTUh | 0.000898494 | 0.015376862 | 3.59232697 | 1.464095831 | 5.072698157 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Respiratory effects | kg PM2.5 eq | 3.341351662 | 74.15252071 | 8584.59233 | 3352.933977 | 12015.02018 |
| Ecotoxicity | CTUe | 86675.62949 | 1491669.186 | 470255246 | 24820556.14 | 496654147 |
| Fossil fuel depletion | MJ surplus | 1333.309503 | 27900.48216 | 26547185.19 | 23353168.31 | 49929587.29 |




*Supplemental Figure 1: Life Cycle Results for Stanford Health Care Clinic Visits; normalized to largest value in each impact category*

Supplemental Table 6: Life Cycle Results for 2021 car travel visits (cumulative); WECC= Western Electricity Coordinating Council

| Impact category | In-person visit (minimal supplies) | Stanford medical trash (minimal supplies) | Transport, passenger car {RoW}\| market for \| Cut-off, U | One minute in-person Visit, WECC grid |
|---|---|---|---|---|
| Ozone depletion | 0.0101901 | 0.000727 | 2.826965627 | 0.011328813 |
| Global warming | 91,731.47 | 7,793.13 | 14,203,972.82 | 123,287.77 |
| Smog | 5298.1457 | 929.0306 | 825137.4348 | 3475.228832 |
| Acidification | 472.98291 | 31.49692 | 50276.49885 | 244.6681525 |
| Eutrophication | 664.04068 | 53.41693 | 23945.3473 | 636.7280307 |
| Carcinogenics | 0.0080544 | 0.001471 | 1.825262985 | 0.008744543 |
| Non carcinogenics | 0.1050632 | 0.009873 | 3.4486644 | 0.028725985 |
| Respiratory effects | 51.615996 | 2.710798 | 8282.304483 | 247.9610527 |
| Ecotoxicity | 1389622.3 | 790903.1 | 465241521.7 | 2833198.922 |
| Fossil fuel depletion | 174593.65 | 6126.335 | 26172251.35 | 194213.8522 |

Supplemental Table 7: Life Cycle Results for 2021 air travel visits (cumulative); WECC= Western Electricity Coordinating Council

| Impact category | In-person visit (minimal supplies) | Stanford medical trash (minimal supplies) | Transport, passenger aircraft, short haul {GLO}\| market for transport, passenger aircraft, short haul \| Cut-off, U | One minute in-person Visit, WECC grid |
|---|---|---|---|---|
| Ozone depletion | 0.00032 | 2.28E-05 | 2.601559023 | 0.000308 |
| Global warming | 2,877.15 | 244.43 | 11,404,739.19 | 3,356.33 |
| Smog | 166.1757 | 29.13893 | 1227799.185 | 94.60814 |
| Acidification | 14.83505 | 0.987897 | 50073.0155 | 6.660741 |
| Eutrophication | 20.82756 | 1.675416 | 10086.12301 | 17.33401 |
| Carcinogenics | 0.000253 | 4.61E-05 | 0.14148088 | 0.000238 |
| Non carcinogenics | 0.003295 | 0.00031 | 1.459708835 | 0.000782 |
| Respiratory effects | 1.61893 | 0.085024 | 3344.479638 | 6.750386 |
| Ecotoxicity | 43585.34 | 24806.58 | 24675034.43 | 77129.8 |
| Fossil fuel depletion | 5476.109 | 192.1518 | 23342212.86 | 5287.195 |

Supplemental Table 8: Detailed results for GHG emissions in sensitivity analyses (SHC 2021 data); WECC= Western Electricity Coordinating Council

| ***GHG Results, Energy Sources*** | **baseline (WECC)** | **WECC+solar** | **US avg** | **% difference from baseline** | | |
|---|---|---|---|---|---|---|
| In-person visits (car) | 14,426,785 | 14,355,862 | 14447096.7 | 0.0% | -0.5% | 0.1% |
| In-person visits (air) | 11,411,217 | 11,409,286 | 11411770.09 | 0.0% | 0.0% | 0.0% |
| Phone visits | 1,332.07 | 507.63 | 1,568.18 | 0.0% | -61.9% | 17.7% |
| Video visits | 27,568.70 | 7,884.88 | 33,205.86 | 0.0% | -71.4% | 20.4% |
| In-person TOTAL | 25,838,002.38 | 25,765,148.15 | 25,858,866.78 | 0.0% | -0.3% | 0.1% |
| Virtual TOTAL | 28,900.77 | 8,392.52 | 34,774.04 | 0.0% | -71.0% | 20.3% |

| | | | | | | |
|---|---|---|---|---|---|---|
| "Savings" of virtual system over in-person (if virtual was done in person) | 16,926,497 | 16,900,783.50 | 16,933,860.99 | 0.0% | -0.2% | 0.0% |
| If in-person was all cars | 45,539,469 | | | 76.2% | | |
| **GHG Results, Energy Intensity (HVAC system)** | **Min energy intensity** | **Baseline** | **Max energy intensity** | **% difference from baseline** | | |
| In-person visits (car) | 14,320,619 | 14,426,785 | 14,793,903 | -0.7% | 0.0% | 2.5% |
| In-person visits (air) | 11,408,327 | 11,411,217 | 11,421,211 | 0.0% | 0.0% | 0.1% |
| Phone visits | 1,332.07 | 1,332 | 1,332.07 | 0.0% | 0.0% | 0.0% |
| Video visits | 27,568.70 | 27,569 | 27,568.70 | 0.0% | 0.0% | 0.0% |
| In-person TOTAL | 25,728,945.90 | 25,838,002.38 | 26,215,114.50 | -0.4% | 0.0% | 1.5% |
| Virtual TOTAL | 28,900.77 | 28,900.77 | 28,900.77 | 0.0% | 0.0% | 0.0% |
| "Savings" of virtual system over in-person (if virtual was done in person) | 16,857,307 | 16,926,497 | 17,165,753 | -0.4% | 0.0% | 1.4% |
| **GHG Results, Intensive Supply List** | **Baseline** | **Max supplies** | **% difference from baseline** | | | |
| In-person visits (car) | 14,355,862 | 14,618,550 | 0.0% | 1.8% | | |
| In-person visits (air) | 11,411,217 | 11,417,148 | 0.0% | 0.1% | | |
| Phone visits | 1,332 | 1,332.07 | 0.0% | 0.0% | | |
| Video visits | 27,569 | 27,568.70 | 0.0% | 0.0% | | |
| In-person TOTAL | 25,767,078.94 | 26,035,697.61 | 0.0% | 1.0% | 268,618.66 | |
| Virtual TOTAL | 28,901 | 28,900.77 | 0.0% | 0.0% | | |

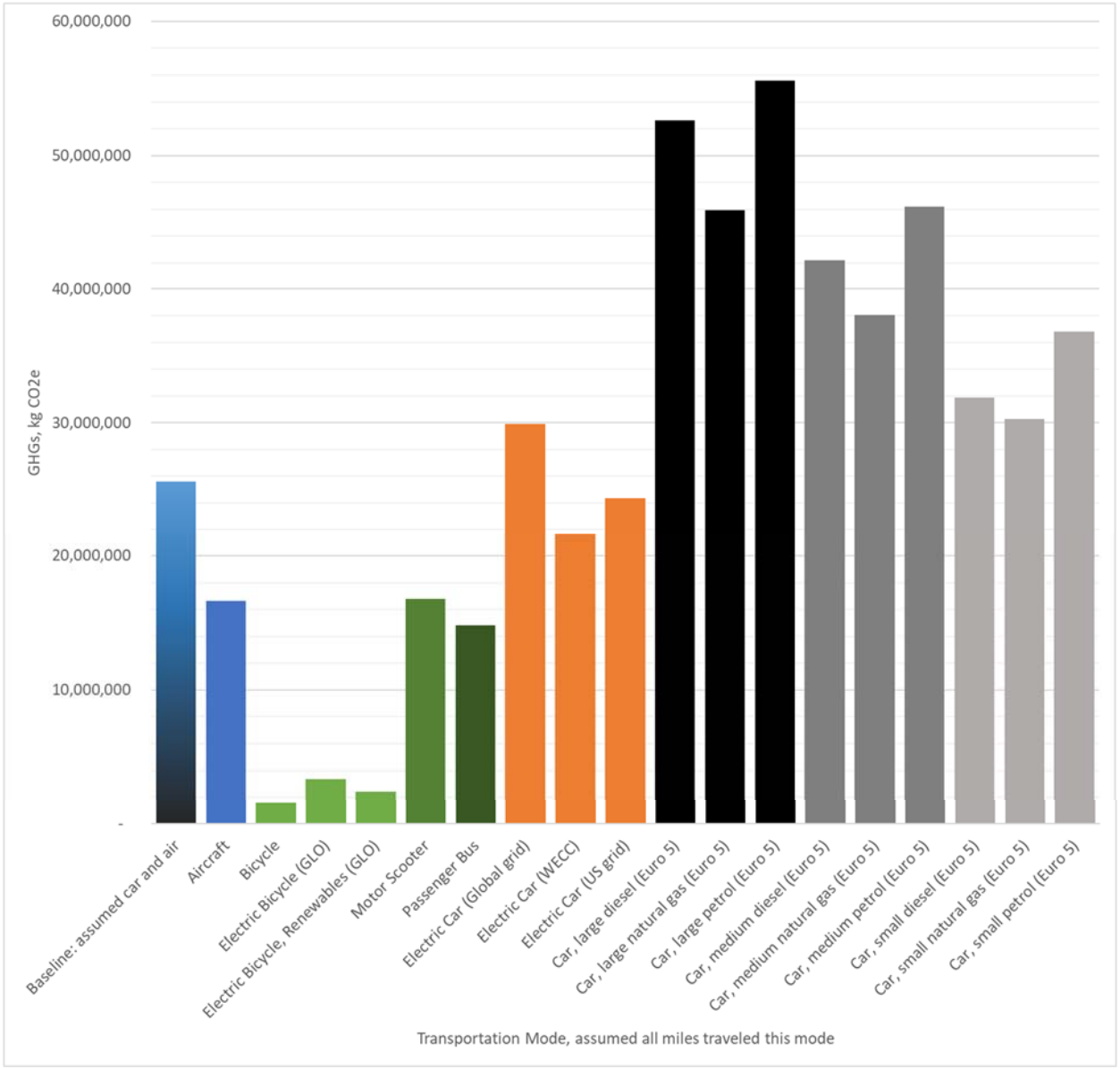



*Figure 2: Variation in estimated emissions from patient travel modes, showing only transportation emissions for in-person visits in 2021. GLO=global energy mis, WECC= Western Electricity Coordinating Council or California's grid mix, US avg= United States average grid mix, Euro 5=passenger vehicles conforming to European emissions standards from 2008 (the most recent passenger vehicles available in the Ecoinvent database)*

List of Ecoinvent v3.8 unit processes used for Transportation Mode sensitivity analyses:

We assumed one person traveling per visit.

- 1 personkm Transport, passenger, bicycle {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 personkm Transport, passenger, electric bicycle {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 personkm Transport, passenger, electric bicycle, electricity from renewable energy products {GLO}| market for transport, passenger, electric bicycle, electricity from renewable energy products | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 personkm Transport, passenger, motor scooter {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 personkm Transport, regular bus {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, electric {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, large size, diesel, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, large size, natural gas, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, large size, petrol, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, medium size, diesel, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, medium size, natural gas, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, medium size, petrol, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, small size, diesel, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, small size, natural gas, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, small size, petrol, EURO 5 {GLO}| market for | Cut-off, U (of project Ecoinvent 3 - allocation, cut-off by classification - unit)
- 1 km Transport, passenger car, electric {WECC}| market for | Cut-off, U (of project Stanford Virtual Visits)
- 1 km Transport, passenger car, electric {US}| market for | Cut-off, U (of project Stanford Virtual Visits)