**Workshop 4 (Facilitators): - Asthma - Carbon foot-printing in healthcare**

**This is a short exercise which can be combined with one of the other workshop exercises, or be completed by individuals, or as a group within the main class-room.**

**Task**: **Using the table below and the equation and carbon emission factors given below, itry to work out the Carbon footprint of the following:**

* **200 patients attend the Emergency Department via Ambulance 4 times a year**
* **200 patients being admitted to hospital for 4 days, 4 times a year**
* **160 patients receiving 1 new Ventolin inhaler 4 times a year.**
* **200 patients discharged home via taxi****4 times a year**

**Carbon footprint (kg CO2e) = Activity/resource use x GHG emissions factors**

**Emission Factors:**

Ambulance Journey = 36.1kg/C02e/single trip

Emergency department visit = 13.8kgCO2e/per visit

Inpatient bed day = 37.9kgCO2e/bed day

Ventolin Inhaler = 24kgC02e/inhaler

Taxi journey home = 1.1kgCO2e/journey (based on a 6km journey = 0.185kgCo2e/km)

Table: Carbon Foot-printing for Healthcare

|  |  |  |
| --- | --- | --- |
| **Activity/Resource use** | **Carbon Emissions Factor** | **Activity/Resource x Emissions factor (kgCO2e)** |
| **Ambulance journey** | 36.1 kgCO2e / single trip |  *200 x 4 x 36.1 kgCO2e = 28,880* |
| **ED visit** | 13.8 kgCO2e / per visit |  *200 x 4 x 13.8 kgCO2e = 11,040* |
| **Inpatient bed day** | 37.9 kgCO2e / bed day |  *200 x 4 x 4 x 37.9 kgCO2e = 121,280* |
| **Ventolin inhaler**  | 24 kgCO2e/ inhaler | *200 x 0.8 x 4 x 24 kgCO2e = 15,360* |
| **Travel home (taxi)** | 1.1 kgCO2e/single trip trip | *200 x 4 x 1.1 kgCO2e = 880* |
|  | Total carbon footprint (kgCO2e): |  ***= 177,440 kgCO2***  |

**Facilitator note:** *This activity shows one way to calculate a carbon footprint using the carbon emission factor for units of healthcare activity e.g. one inpatient appointment for 200 patients.*

*The non-carbon method: A quick and simple way of measuring the environmental impact without doing a carbon footprint is to make a list of all the resources currently used and measuring/recording the amount used (before implementing an improvement idea) and then list and measure them again after implementing the improvement to compare if the resource use has increased or decreased. If it has decreased then the environmental impact has been reduced.*