Home Hospice Carbon Impact Report

Home Hospice provides care for patients in their own homes with the intention of avoiding a hospital admission. A carbon factor assessment has been undertaken comparing both models of care. The figures are based on an average year, in this case, from July 2022 to June 2023. In this time, Home Hospice accepted 615 referrals. The average length of stay for these patients was 10.5 days.

Traditional Inpatient Care

If a patient had travelled into hospital and spent 10.5 days there then the amount of carbon produced can be calculated:

10.5 x 37.9 (carbon factor of a general in patient bed day)
+ 112 (carbon factor of an ambulance journey to and from hospital)

= 509.95 kgCO2e

So, if the patient had been treated traditionally, the episode would have produced 509.95 kgCO2e.

Home Hospice Care

The primary concern about carbon emissions for Home Hospice is car travel. In this year the support workers travelled a total of 230,599 miles, which is 374.96 miles per patient. The carbon factor for each mile of staff travel is 0.3 kgCO2e, so for each patient the emissions can be calculated as:

374.96 x 0.3 = 112.49 kgCO2e

There are additional factors to consider in providing care at home.

Each patient is also visited, on average, by 2 members of staff 4 times a day, so 84 sets of PPE are used. The carbon factor for an apron is 0.065, and a pair of gloves is 0.052, so the PPE adds:

84 x (0.065 + 0.052) = 9.83 kgCO2e

Every patient also has at least one delivery of equipment. We do not have the average mileage per NRS delivery (equipment supplier), but can calculate an

estimate based on the average mileage per patient divided by their total number of visits to get an average mileage from a generic base in the county:

374.96 / 42 = 8.93 miles

So the carbon impact of the equipment supply trip is, on average:

8.93 x 0.3 = 2.68 kgCO2e

If the patient is with Home Hospice for 10.5 days, then their home is using energy for 10.5 days. The carbon factor for this is 7.4 kgCO2e per day. As there is an energy consumption calculation in the inpatient carbon emission figure we could add one for the home care:

10.5 x 7.4 = 77.7 kgCO2e

However, it is likely that this is household energy use that would occur regardless of Home Hospice care, so it could be excluded from the total.

Including all these factors, we get the carbon emissions for an average Home Hospice stay as:

Mileage: 112.49 +
PPE: 9.83 +
Equipment supply: 2.68 +
Home energy: 77.7 (if wish to include)

= 202.7 kgCO2e

This is less than half the emissions of the same patient under traditional inpatient care.

Other Possible Factors

For every patient there is a referral by email or phone, an initial phone call to the patient and a final phone call at the end of care. The carbon factor for a phone call is 0.1, so this would add:

0.1 x 3 = 0.3 kgCO2e

There is also a daily virtual clinical meeting between staff, with a carbon factor of 0.06 per video call. However, for each patient this only produces:

(0.06 x 365) / 615 = 0.036 kgCO2e

This is probably negligible.

Every member of staff in Home Hospice has a smartphone. There are 40 members of staff, and the carbon factor of a smartphone is 64.5, so if we assume a lifespan of 3 years per phone then the total carbon impact per year is:

$$(40 \times 64.5) / 3 = 860 \text{ kgCO2e}$$

So per patient this is:

$$860 / 615 = 1.4 \text{ kgCO2e}$$

Even if these additional items are included in the total, Home Hospice care produces 40% of the carbon emissions of a comparable inpatient stay.

Next Steps

The biggest source of carbon emissions for Home Hospice is car travel. Therefore, a way to cut down on carbon would be if staff used alternative travel methods, such as bikes or electric cars. It's also possible to use route optimisation software to calculate the most direct route between patients, which is already available to staff but may not always be used as it is better to prioritise patient needs over minimising mileage.

All carbon impact data taken from:
"A Toolkit for assessing the carbon impact of Virtual Wards" NHSE 2022