

## 2.04 Carbon Emissions, Sedentary Travel Time and Mode of Transport to a Community-Based Multi-Site Pulmonary Rehab Program

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**Background:** Ireland is a major emitter of healthcare carbon emissions. Pulmonary Rehabilitation (PR) is gold standard treatment for patients with chronic respiratory disease. Transport is a common barrier to PR attendance. Reduced activity levels and air pollution are factors in self-management of lung disease. Since May 2022, PR is available in five South Tipperary community-based locations compared to only hospital-based PR in Clonmel.

**Methods:** Individual patient transport modes to community-based PR programs was recorded. Google maps calculated distance and travel time from patients' location to the previous hospital-based PR. The NHS Carbon Calculator calculated carbon emissions of a standard diesel car travelling from the patients' location to the previous hospital-based PR.

**Results:** Patients attending one hospital based PR class in Clonmel travelled 32-73km or 0.5-1.3hrs, Table 1. Community-based PR patients (n=147) saved 83,228.8 kilometres travelling, 1,470.4 hours of sedentary travel time and avoided 15,174.5 kg CO<sub>2</sub>e being released Figure 1 and 2. Community locations enabled 13.6% (n=20) to use active travel, 3.4% (n=5) carpooled and 21.1% (n=31) were driven, Figure 3.

**Conclusions:** This South Tipperary community-based PR program demonstrates significant reductions in carbon emissions and sedentary travel time; increases the opportunity for active travel and reduces transport as a barrier.

**Keywords:** Pulmonary rehabilitation, carbon emissions, sedentary travel time, active travel

**Disclosures:**

**Conflict of Interest:** *The authors declare that they have no conflict of interest.*

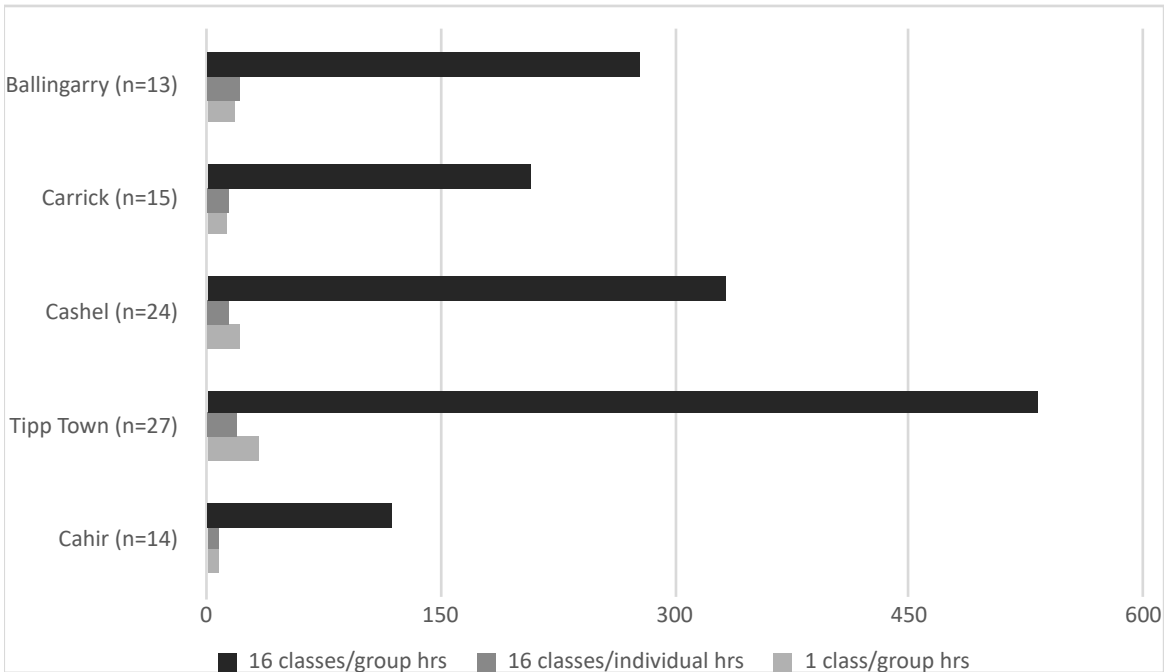
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**Table 1. Distance and Travel Time for one Participant to Attend one Hospital-Based PR Class in Clonmel**

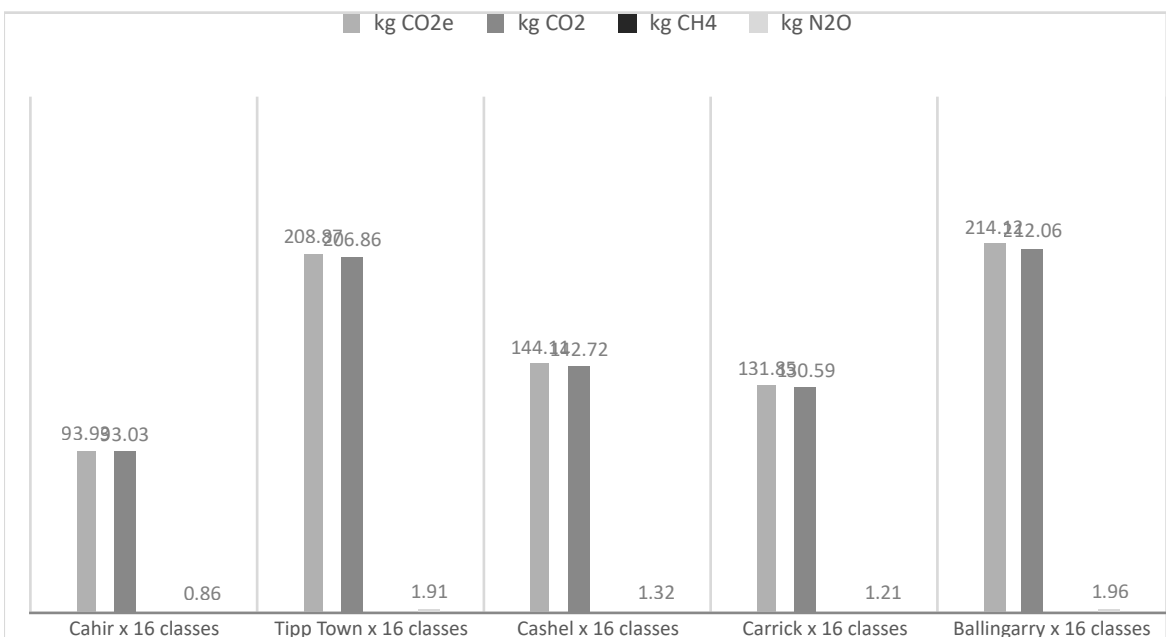
	<b>Distance (return journey) km</b>	<b>Travel time hrs</b>
<b>Cahir</b>	32.2	0.5
<b>Tipp Town</b>	71.6	1.2
<b>Cashel</b>	49.4	0.9

<b>Carrick</b>	45.2	0.9
<b>Ballingarry</b>	73.4	1.3

**Figure 1. A comparison of Sedentary Travel Time Return Journey from New Community-Based PR Locations to Previous Hospital-Based PR Program in Clonmel**



**Figure 2. Diesel Car Return Journey Emissions from New Community-Based PR Locations to Previous Hospital-Based PR Program in Clonmel**



**Figure 3. Transport Mode of Patients to Community-Based PR**

