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Evaluating the Carbon Footprint of Kettering General Hospital Diabetes and Endocrine Clinic

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Background

- There is increasing evidence that particulate matter (PM) in air (air pollution) is associated with ill health, hospital admission and all cause mortality (1).
- The main source of PM in western countries is road transport.
- Increased exposure to PM may increase the risk of T2DM (2)
- Here the aim was to examine the potential carbon footprint of clinics at a district general hospital

Results

- 202 patients travelled a combined distance of 1625 miles to be seen in clinic. (163 – Kettering General Hospital, 22 – Nene Park, 10 – Isebrook Hospital, 7 – Corby Hospital)
- The mean distance between clinic and patient's home was 8.0 miles, compared to 2.2 miles between patients' home and their GP.
- The median distance to Kettering General Hospital was 8.5 miles, compared to 3.9 miles for the peripheral clinics

Summary

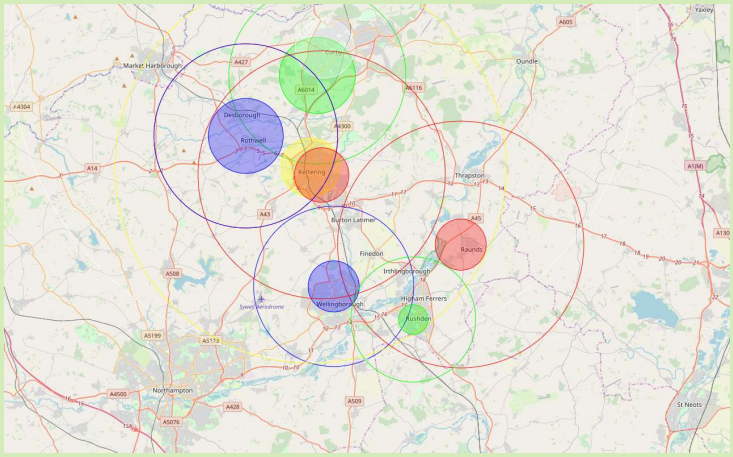
- Coming to hospital clinics lead to an additional 404 road journeys, with a distance of over 3250 miles, equivalent to driving from Kettering to Baghdad
- Face-to-face interactions may be essential in some instances, but greater peripheral clinics may decrease the distance patients have to travel to be seen
- Greater virtual clinics and community lead clinics may further reduce the number of car journeys
- Previous studies have shown patient can be satisfied with video consultations for diabetes care (3)
- Previous surveys of Physicians have identified up to 20% of patients could have been managed through means other than face-to-face consultation (4)
- Distance to clinic is one of the most common reasons for patients not attending appointments (4)
- The NHS is responsible for 5.4% of the United Kingdoms Greenhouse Gas Emissions (5) – reorganisation of outpatient clinics may help to reduce the burden

Limitations

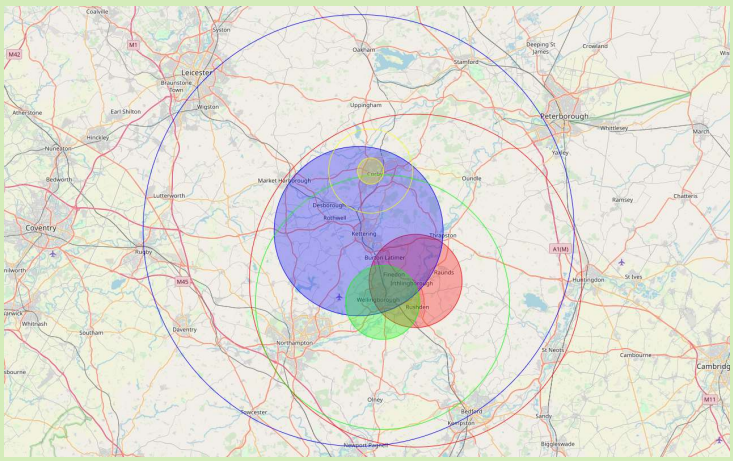
- It was assumed that all patients had made the visit specifically for the clinic appointment – some trips may have occurred anyway (e.g. for work)
- Patients may have taken public transport, although given the limited links in the area we did not consider this a viable option
- Patients may have come using carbon neutral transport (e.g. cycling and walking)

Methods

- A two week period at the start of September 2019 was evaluated to calculate the distance patients travelled to clinic, compared with the distance to their GP
- Distance was calculated using the fastest direct car route between the postcode of the GP or clinic and the postcode of the patient's home address.
- Due to the local geography and transport links train travel was not considered feasible



ABOVE - GP Surgeries are close to patient – median (shaded circle) and maximum (unshaded circle) of the main GP surgeries our patients were registered



ABOVE – Median distance (shaded circle) and maximum distance (unshaded circle) – are far greater for hospital clinics, particularly those at Kettering General

COVID and Clinics

- Since COVID all non-essential clinics have been converted to virtual
- Plan in post-COVID practice to maintain as many virtual clinics as possible

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