Designing greener intravitreal injection services using the Delphi process

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We congratulate Ong et al. on their interesting article addressing greener intravitreal injection (IVI) services.[1] The article explores strategies to reduce the environmental impact of building energy and water usage, personal travel, manufacturing, procurement and waste management. We would like to highlight the role of the Delphi process for reducing carbon footprints of IVI services based on our experiences at an NHS teaching hospital.

The Delphi process has been used to improve the sustainability of local cataract services and involves the following steps:[2]

1. Collect ideas by email from multi-disciplinary team members about improving the sustainability of local services.
2. De-duplicate, anonymise and group ideas into themes.
3. Invite staff to a face-to-face meeting to discuss each idea and discard unrealistic ideas.
4. Collate the refined ideas into an online poll and ask staff to rank them.
5. Form a team to implement the highest ranked ideas.
6. Estimate the financial savings and carbon or waste savings before and after implementation.

Our Delphi process yielded 23 staff suggestions, reduced to 17 following de-duplication and grouping (table 1). After discussion and ranking, ideas relating to waste segregation, recycling and reduction were most popular so were implemented.

The weight of waste disposed of via each waste stream before and after the introduction of improved waste segregation and recycling is shown in table 2. Overall, an additional 108.9g of waste per injection was recycled.

The action plan for waste reduction involved injectors stopping wearing disposable plastic aprons (agreed with infection control) and removing unnecessary items from the IVI pack, including three plastic spears, a plastic forceps and a cardboard tray. Ideas being implemented are expected to reduce waste by 39.3g and save 42 pence per injection.

Since around 12 000 IVIs are performed locally each year, our Delphi process is expected to increase waste recycled by 1 306.8Kg annually, save £5 040 and reduce waste by 471.6Kg.

We encourage all ophthalmology departments to use the Delphi process to promote staff engagement with sustainability issues and design greener IVI services.

References

1. Ong, A. Y., Birtel, J. & Charbel Issa, P. Greener intravitreal injections: a narrative review. *Eye* **38**, 2874–2879 (2024).
2. Malcolm, J., Dodd, A., Shaikh, M., Cassels-Brown, A. & Buchan, J. C. Reducing the carbon footprint of cataract surgery: co-creating solutions with a departmental Delphi process. *Eye* **38**, 1349–1354 (2024).