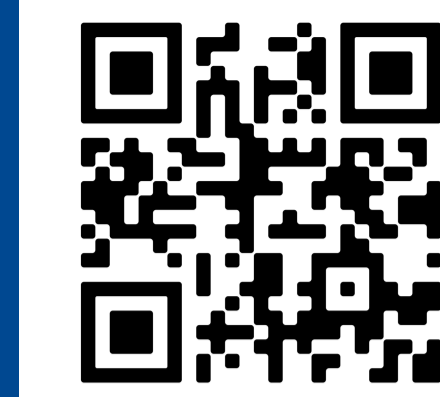


Countering the Adverse Environmental Effects due to Improper Disposal of Aerosol Inhalers.

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Scottish Guidelines

Aim

By the end of March 2024, we aim to increase safe disposal of aerosol inhalers for patients prescribed Meter Dosed inhalers (MDI) in Charlotte Medical Practice, Murray's Pharmacy and Lochthorn Pharmacy by 25%. This aligns with the Scottish Government Quality Prescribing for Respiratory Illness 2024 to 2027 [1].

Background

- 3% of NHS Scotland's carbon emissions are created from aerosol inhalers [1].
- Aerosol inhalers still emit propellant CO₂ when empty [2].
- Incineration of MDIs reduces their lifecycle CO₂ emissions by 25% [3].
- Proportionally NHS D&G has the highest number of SABA prescriptions per person in Scotland [1].
- Our project aligns with NHS Scotland's plan to reduce CO₂ emissions from inhalers by 70% by 2028 [1].

Understanding the Problem

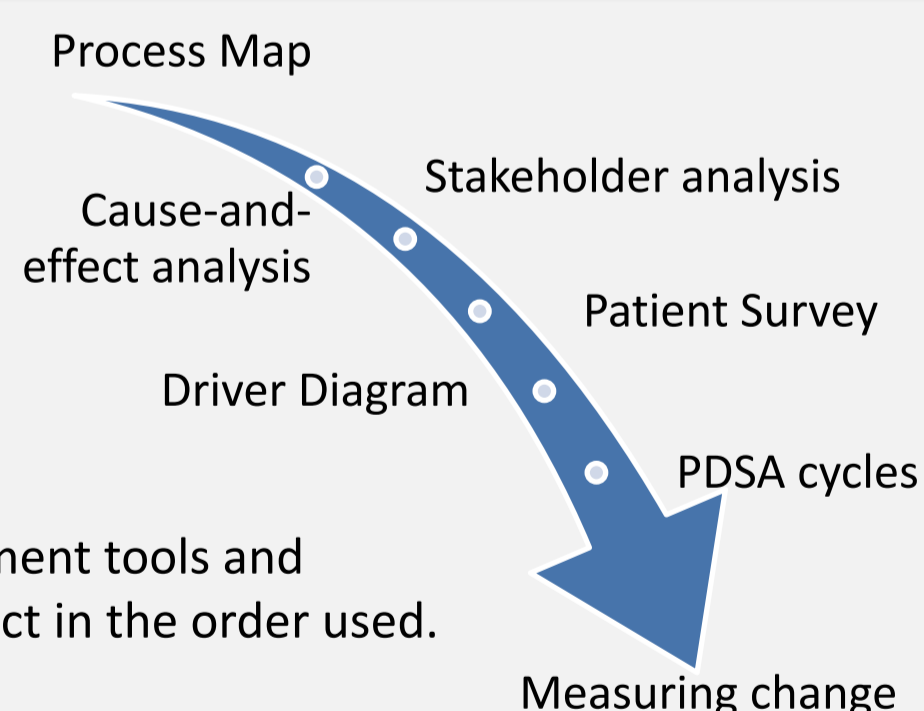
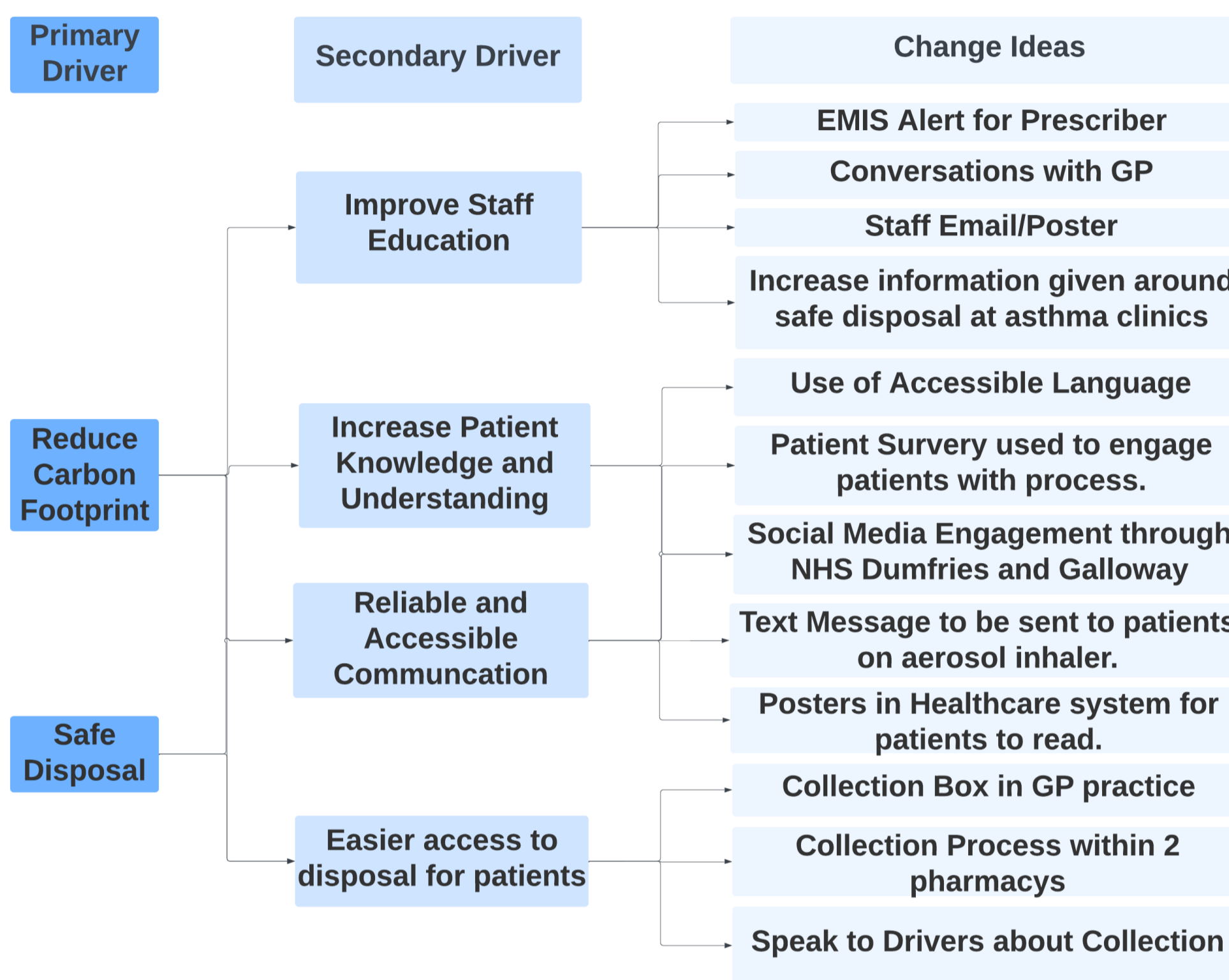


Figure 1. Quality improvement tools and methods used in the project in the order used.

Patients were identified as the key stakeholders. 95% of patients we surveyed did not know where or how to dispose of an aerosol inhaler safely.

- Following our initial patient survey, we identified a lack of patient understanding and knowledge, and used patient preference regarding personal education to direct our change ideas.

Process of Change



We decided to focus on improving patient knowledge and understanding, reliable and accessible communication, and easier disposal access for patients when deciding, as a group, which change ideas to implement.

Testing Change (PDSA cycles)

Easier access to disposal for patients	Increase patient knowledge and understanding
1. Liaise with two pharmacies regarding the process of safe disposal	1. Patient survey used to engage patients
2. Patient survey carried out to gauge best place for drop off	2. Posters added in GP regarding safe disposal
3. Collection box was placed in the GP for drop off	3. Social media engagement using NHS D&G Facebook
4. Drivers spoken to about collection of inhalers.	4. Reminders sent to patients via text messages
	5. Liaised with local respiratory support group

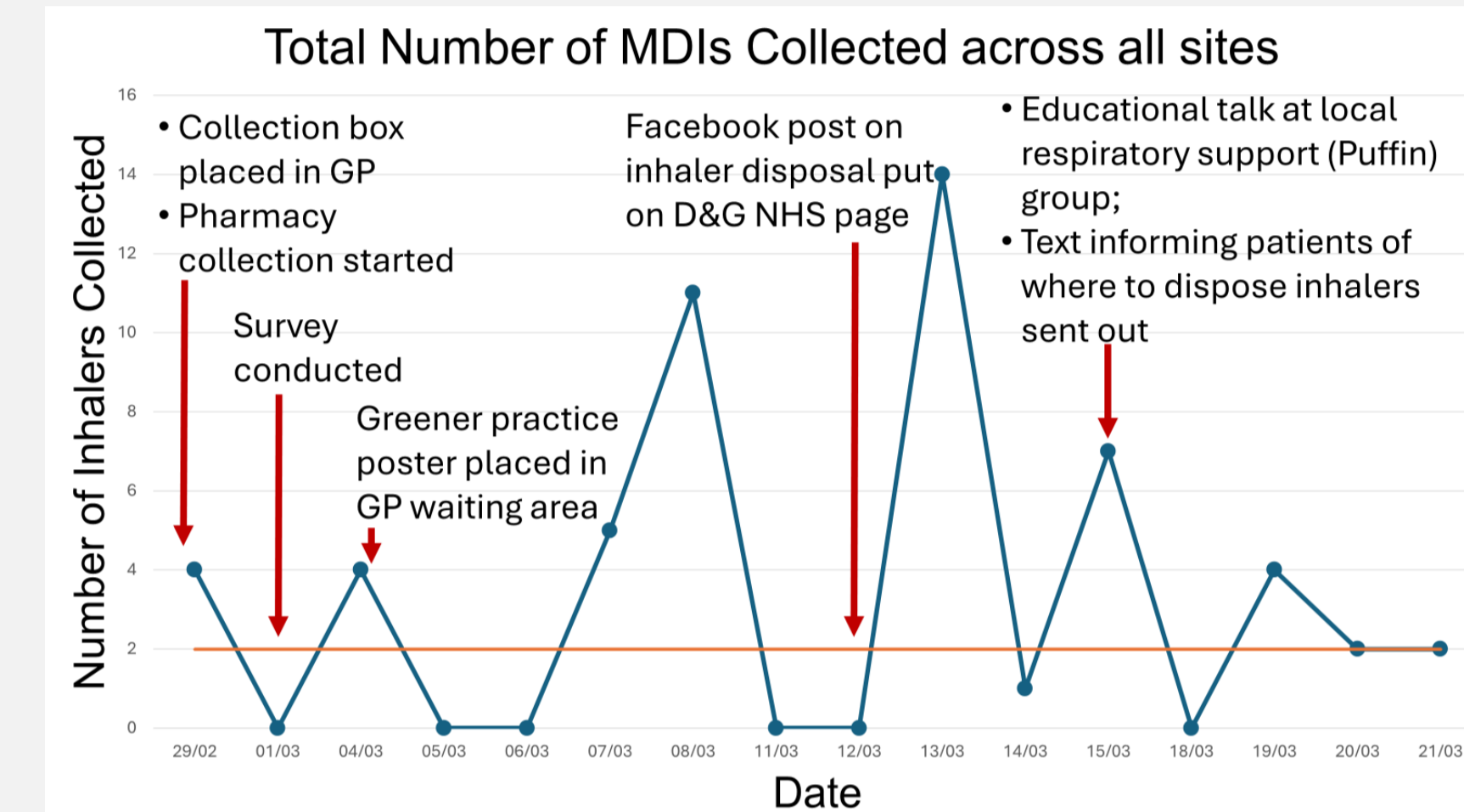
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1. Quality prescribing for respiratory illness 2024 to 2027 - Draft guidance: Consultation, Scottish Government. Available at: <https://www.gov.scot/publications/quality-prescribing-respiratory-2024-2027/consultation/default.aspx> (Accessed: 24 March 2024).
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 3. Milton Keynes and NHS, M.K. (2022) There is no planet B. Milton Keynes University Hospital NHS Foundation Trust. Available at: <https://www.miltonkeynesnhs.uk/wp-content/uploads/2022/10/There-is-no-planet-B.pdf> (Accessed: 25 February 2024).

Results

Data was collected daily for the number of MDIs handed into the GP and two of the pharmacies attached to the practice.

The overall number of MDIs handed into each location has been plotted below.



- The run chart shows a random pattern with no specific trend or shift in the number of inhalers being handed in.
- This indicates that the changes made have not had the full affect intended.
- This is potentially due to high levels of variation of footfall into the areas each day. We predict that weekly data over a longer period would potentially change this.
- Patient awareness has shown an increase through the data collected from both surveys. With 95% of patients not knowing about safe disposal at the start of the project. This changed to 75% were knowledgeable and willing to safely dispose inhalers.

Conclusions

- We predict that not meeting the aim was due to the limited time of the project.
- An increase in patient awareness (main stakeholders) was seen and if carried on could improve safe inhaler disposal.
- Recommendations could include reminders through review appointments, text messages and engagement with the community through social media and community groups.