

An Innovative use of Data to Improve the Care of COPD patients

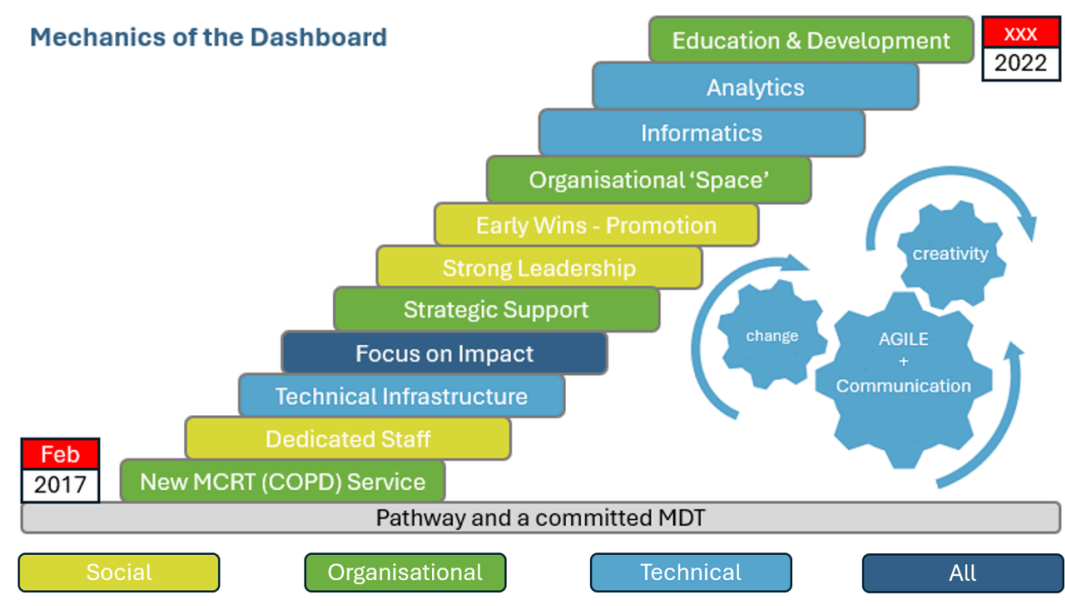
Claire Yerramasu, Jack Farquhar, Nicole DuBou, Elouise Johnstone, Matthew Curl

Background, Method and Aim

The Scottish government (1) is encouraging data and digital innovation to help improve patient care. A key challenge for the future is how to best utilise routinely collected data. Using innovative data driven solutions are likely to be clinically and cost-effective and improve quality of life. This will help to treat patients in the right place and at the right time using a realistic medicine approach (2).

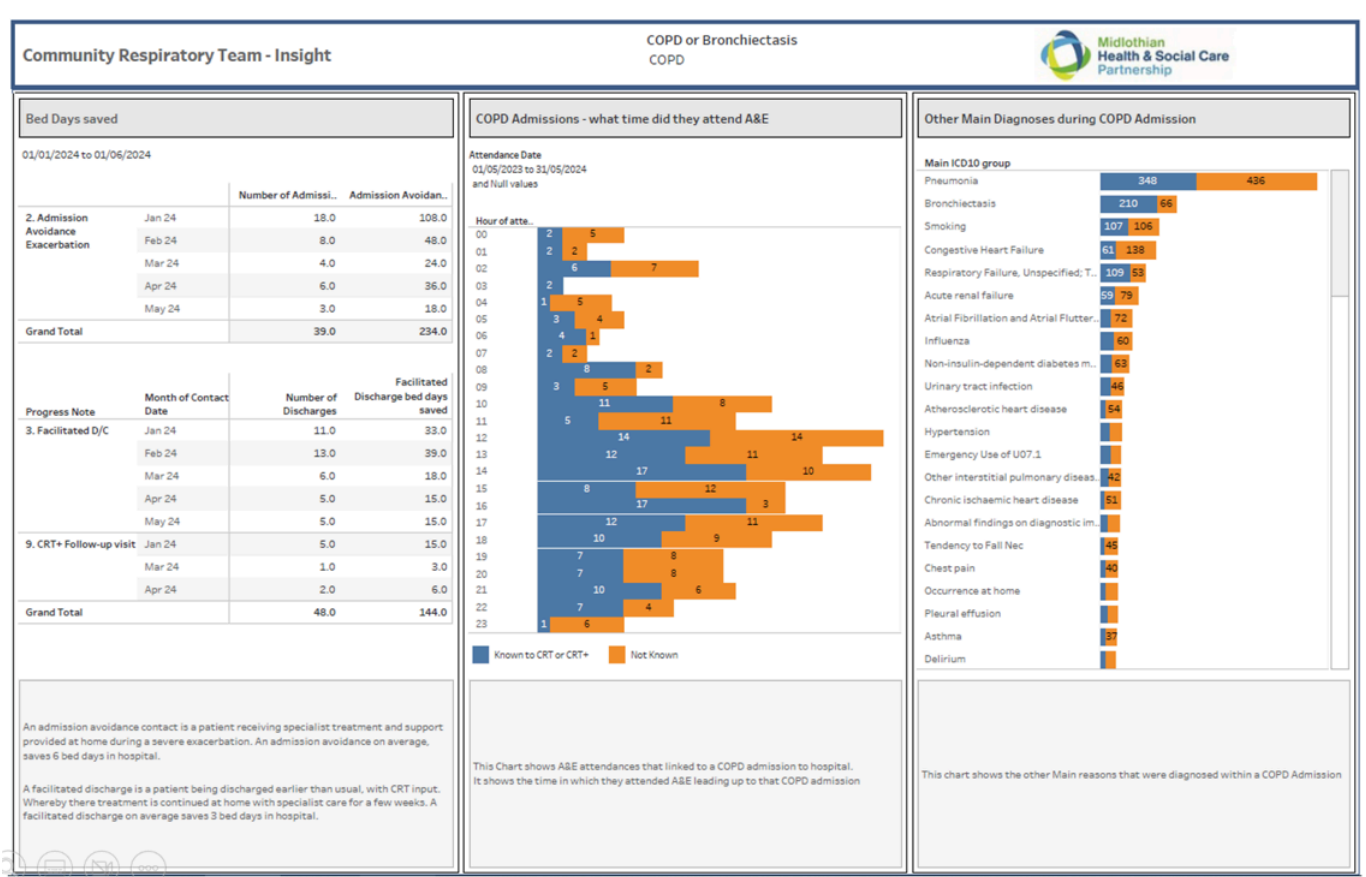
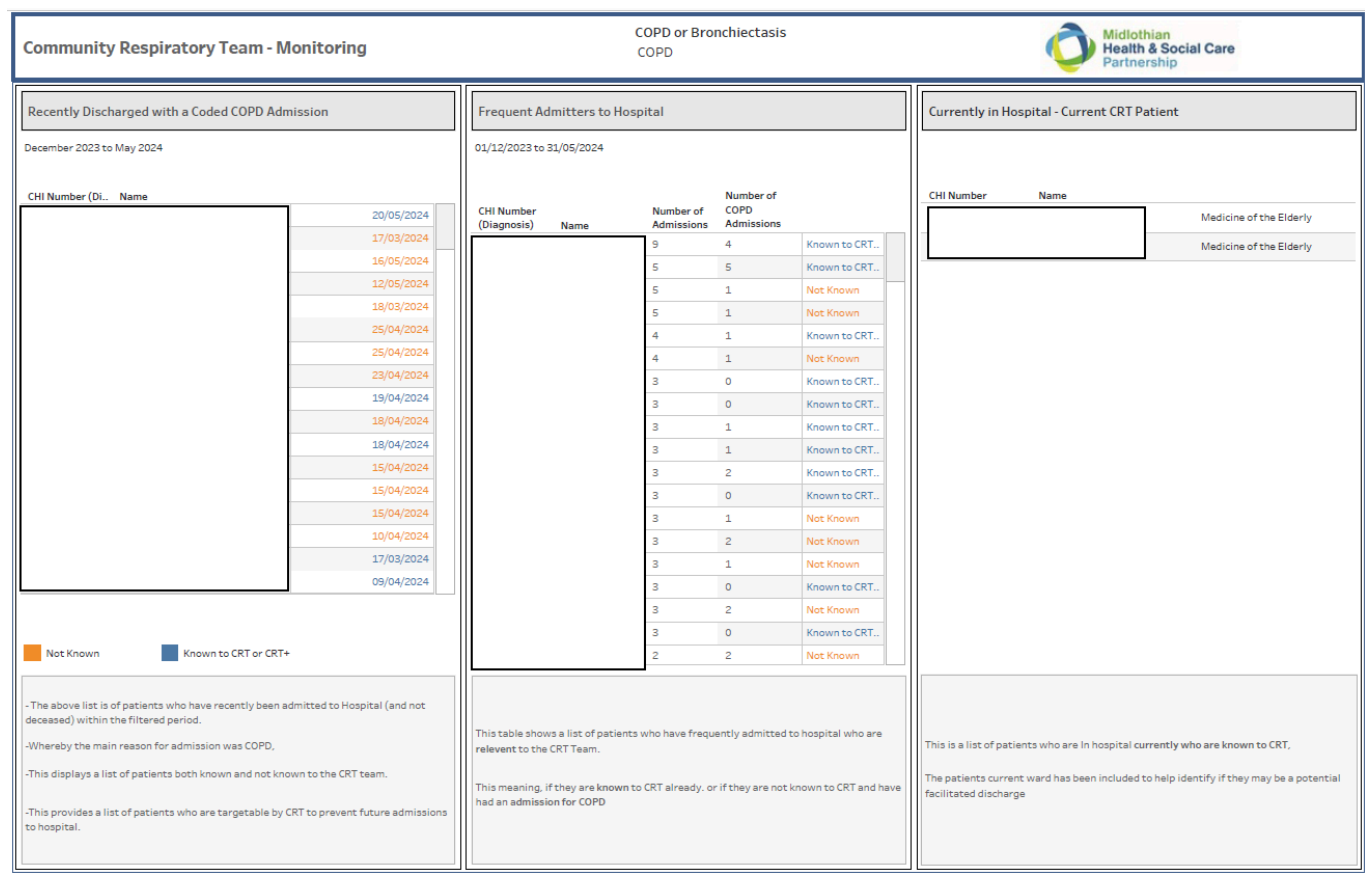
We created a Tableau data dashboard for Midlothian Community Respiratory Team (MCRT). Clinicians, data and digital analysts, service and performance managers worked together using a collaborative iterative approach to create the dashboard.

This project won a national award - Scottish Healthcare Award "Best Asthma/COPD project" in November 2023



Service level results (examples)

- Caseload analysis for service reporting
- Identify frequent attenders to hospital (known/not known to Service) and target with CRT input
- Identify patients who are hospitalised and in-reach to facilitate discharge



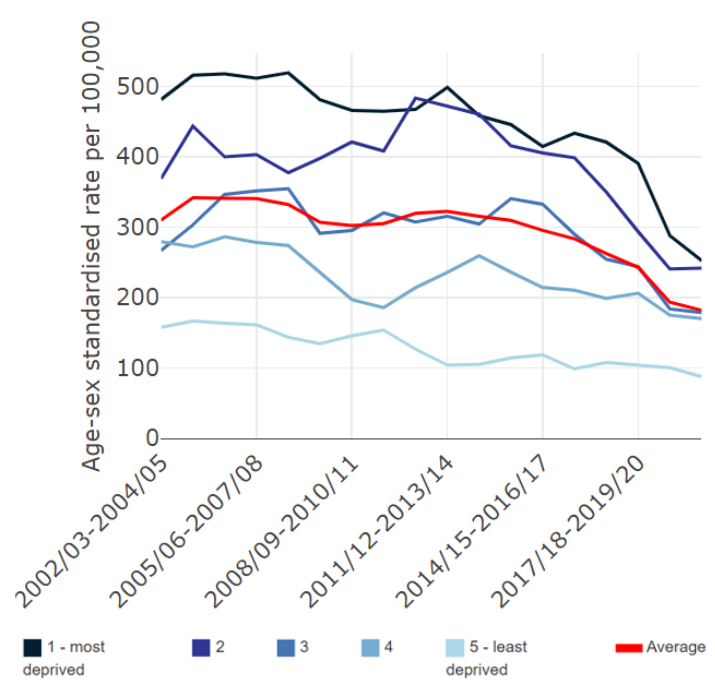
New discoveries (examples)

- Automatically calculates bed days saved
- Confirm existing trends i.e. time of admission to hospital weekend/evenings
- Highlights high pneumonia rates / multi-morbidity associated with COPD admissions

Outcome - Health Inequalities

- It is vital that the design/provision of care reduce the impact of health inequalities.
- National public health data demonstrates that COPD patient hospitalisations from Midlothian have reduced in all deprivation groups since 2002. The greatest improvement is in deprivation group 1 (most deprived areas) where the hospitalisation rate reduced by 48% (3)
- The data shows that Midlothian is the only HSCP in Scotland to have achieved both a rate reduction in group 1 of over 45%, and a reduction across all SIMD groups.

Chronic obstructive pulmonary disease (COPD) patient hospitalisations over time by deprivation group



What's most impressive is that the service is integrated, CRT is such a good example of this
-CRT Patient

Really helpful in identifying patients with COPD who aren't getting referred to our team
-CRT Staff

Excellent care, if only I could have had it sooner
-CRT Patient

Helps to identify areas for improvement
-CRT Staff

Conclusions

- Dashboard gives insights and new information to direct service improvement based on data
- MCRT dashboard can be used as blueprint for other services
- Challenges in using to full capacity in first year included staffing, recruitment and team capacity
- Ongoing service improvement using dashboard to assist with triage processes / case finding / service review

References

1. Scottish Government. Digital health and care strategy [Internet]. 2021 [cited 2024 May 28]. Available from: <https://www.gov.scot/publications/right-care-right-place-2/pages/3>
2. Realistic Medicine. What realistic medicine is and what it isn't [Internet]. 2024 [cited 2024 May 28]. Available from: <https://realisticmedicine.scot/about/>
3. Public Health Scotland. (COPD) patient hospitalisations Scotland 2019/20-2021/22: [Internet]. 2022 [cited 2024 May 28] https://scotland.shinyapps.io/ScotPHO_profiles_tool/