Appendix 1

Evaluation of an enhanced, integrated multi-disciplinary respiratory team: proposal October 2019

1: Background

This is a proposal to evaluate the implementation of a population approach to identify and optimise the management of patients with airways disease at risk of respiratory admission in Oxfordshire using an enhanced and diversified community respiratory team. The overall purpose is to improve the care and outcomes for adults with airways disease (COPD, asthma, bronchiectasis and end stage interstitial disease) by expanding the existing community respiratory team; adding a respiratory consultant, psychologists, palliative care practitioners, dedicated GPs, smoking cessation advisor and clinical pharmacist. The team will become more integrated with, and provide training for, primary care teams and provide active outreach, particularly to patients who need community rehabilitation, psychological support and palliative care. This population health approach will identify high risk patients allowing all practitioners to focus more pro-actively on their needs. A key outcome that the new team hopes to achieve is a significant reduction in respiratory admissions for this group of patients.

This evaluation aims to describe the existing respiratory pathway as seen by practitioners and patients, and the changes and impact that the change in approach has on these individuals. It will describe to what extent the approach has been possible and highlight the challenges, barriers and facilitators encountered.

2: Outline Approach

2.1 Methodology

To evaluate the impact of this enhanced integrated multi-disciplinary team (***IRT intervention***) we will use a mixed-methods approach, which will allow us to cover all relevant outcomes (primary and secondary). The basic methodology will use information collected at different time points during the intervention (years 2019/20) to determine if changes in volume and quality care, as well as relevant patient and health practitioners' factors (e.g. experience of the intervention, quality of life and impact on workload) have occurred; and if these are likely to be due to the IRT intervention.

2.1.1 Quantitative Evaluation (methods)

Hospital Data currently collected by Secondary Uses Service (SUS) and Primary Care data available through EMIS or epact2 will be used to define the baseline data, identify changes based on trends, and determine if the expected improvements in care have been, or are likely to be, delivered.

Quantitative data collection

The data collected will be mainly counts (e.g. number of emergency department attendances, non-elective respiratory admissions, etc.) that will be used for either a) a comparative analysis between the populations in the IRT and the Control Practices or b) a change from baseline analysis based only on the population in the IRT practices.

Comparative Analysis

Data from up to four years pre-IRT intervention will be used to determine estimates of difference in outcomes between IRT and Control Practices, used as baseline levels. The main assumption is that the use of the difference between these two groups will allow us to adjust for any changes in coding as well as system changes over the time period. The use of a four-year baseline will also help determine potential trends over time in these differences that could account for changes in the population spectrum in these two areas. The evaluation of the intervention will be based around the expected estimate of these differences (potentially accounting for trend) and the actual observed differences during the post-IRT time period. This is similar to an interrupted-time-series analysis. If this approach is deemed not adequate due to non-linearity, alternative approaches such as difference-in-difference will be used for these comparisons. Analyses will be presented graphically and using tables where appropriate.

Changes from baseline

Data from up to four years pre-IRT intervention will be used to determine a baseline for these outcomes. If time trends are identified and these are linear (or based a suitable transformation), a model to predict post-IRT intervention will be created and comparisons between expected (predicted) and observed outcomes in the IRT group will be the basis for the evaluation of the IRT intervention. Alternatively, the comparison will be based on a defined baseline (e.g. year average) against a similar time period post-intervention. Analyses will be presented graphically and using tables where appropriate.

2.1.2 Qualitative Evaluation (methods)

We will use semi-structured interviews and a survey to determine the experience of the IRT intervention in four key groups:

- Respiratory services: the IRT (a half-time community consultant, 6 sessions of a GP, an additional respiratory nurse and physio practitioner, a half-time pharmacist and 2 sessions of a palliative care consultant with full-time palliative practitioner and full-time clinical psychologist) and other respiratory staff
- General practice
  - practices involved in the Project
  - practices not involved in the Project
- Patients within Oxfordshire served by the IRT
- Commissioners and other key professionals, including BI

Questionnaires

<u>Four main types of questionnaires will be developed:</u>

- Patients - simple written feedback questionnaire
- Semi-structured questionnaire for telephone interviews with staff
  - Project practices and non-project practices
  - IRT
  - Other respiratory staff and people not in the IRT

The work to identify participants and to organise times for interviews are crucial continencies. It is assumed that the IRT Project Team will help with the selection of practices/interviewees and make introductions to the evaluators so that interview times can be set-up.

Data collection points

- *Baseline* – at start of evaluation
- *During* project
- *After* – at end of the Project

Examples of types of questions to be asked:
General practice:

- Awareness of the IRT service
- Ease of access to the IRT/respiratory services
- Speed and appropriateness of response
- Outcomes of referrals, e.g. appropriate, advice given, treatment given, support given
- What is working, what isn't
- What would they change

Integrated Respiratory Team:

- Are the referrals received appropriate?
- Have they been able to prevent admissions?
- What is working, what isn't
- What would they change

Patients:

- What happened?
- What did they expect/hope would happen?
- Are they more able to cope at home with the information/treatment given?

Qualitative Data Collection

- Cross section of professionals, e.g. practice nurses, specialist nurses, GPs, from the **project practices** – maximum of 10 individuals
- Cross section of professionals, e.g. PNs, specialist nurses, GPs, from the **non- project practices** – maximum of 10 individuals
  If it seems that based on interviewing 10 people there is very widely ranging experience or views, we may need to reconsider and interview more people and agree time and resources to do so.
- Respiratory services - a cross section of staff, including those involved in the IRT eg nurses, respiratory physiotherapists, community consultant, specialist GPs, psychologist, smoking advisor and/or specialist palliative care support - up to 10 individuals
- Patients - feedback from patients via a simple feedback form given out by primary care staff/respiratory staff – up to 30.
- Visits to outpatients and practice IRT clinics.

[redacted]
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