Supplementary Information

- Design flow for Strategy 2 Recruitment
- Read codes used for both Strategy 1 and 2

Trigger

- Can be triggered manually
- Can be triggered by free text: Breathless and SOB
- Automatically triggered when any of these codes (or their children) are entered:

[D]Breathlessness (XaBMU) (SNOMED: 267036007),
[D]Dyspnoea (R060A) (SNOMED: 267036007),
Breathless - moderate exertion (1732.) (SNOMED: 161939006),
Breathless - mild exertion (1733.) (SNOMED: 161940008),
Dyspnoea at rest (1734.) (SNOMED: 161941007),
Difficulty breathing (1738.) (SNOMED: 230145002),
Breathlessness NOS (173Z.) (SNOMED: 267036007),
[D]Orthopnoea (R0602) (SNOMED: 62744007),
[D]Shortness of breath (R0608) (SNOMED: 267036007),
Dyspnoea on exertion (X76Gz) (SNOMED: 60845006),
Breathlessness rating (X77QT) (SNOMED: 251896001),
Increasing breathlessness (Xa6a8) (SNOMED: 297216006),
Anxiety about breathlessness (Xaafv) (SNOMED: 702535006),
Breathlessness causing difficulty eating (XagZ) (SNOMED: 702581006),
Breathless - strenuous exertion (XalQ3) (SNOMED: 390871002),
MRC Breathlessness Scale: grade 1 (XalUi) (SNOMED: 391120009),
MRC Breathlessness Scale: grade 2 (XalU1) (SNOMED: 391123006),
MRC Breathlessness Scale: grade 3 (XalUm) (SNOMED: 391124000),
MRC Breathlessness Scale: grade 4 (XalUn) (SNOMED: 391125004),
MRC Breathlessness Scale: grade 5 (XalUo) (SNOMED: 391126003),
Borg Breathlessness Score: 0 none at all (Xalvn) (SNOMED: 401275008),
Borg Breathlessness Score: 0.5 very, very slight (Xalvo) (SNOMED: 401323002),
Borg Breathlessness Score: 1 very slight (Xalvs) (SNOMED: 401279002),
Borg Breathlessness Score: 2 slight (Xalvt) (SNOMED: 401280004),
Borg Breathlessness Score: 3 moderate (Xalvu) (SNOMED: 401281000),
Borg Breathlessness Score: 4 somewhat severe (Xalvv) (SNOMED: 401282007),
Borg Breathlessness Score: 5 severe (Xalvy) (SNOMED: 401284008),
Borg Breathlessness Score: 6 severe (+) (Xalw0) (SNOMED: 401286005),
Borg Breathlessness Score: 7 very severe (Xalw5) (SNOMED: 401290007),
Borg Breathlessness Score: 8 very severe (+) (Xalw6) (SNOMED: 401291006),
Borg Breathlessness Score: 9 v, very severe (almost maximal) (Xalw7) (SNOMED: 401292004),
Borg Breathlessness Score: 10 maximal (Xalw8) (SNOMED: 401293009),
Dyspnoea (XEOqq) (SNOMED: 267036007),
Orthopnoea (XEOqr) (SNOMED: 62744007),
H/O: Breathlessness (Y2574),
Paroxysmal nocturnal dyspnoea (1736.) (SNOMED: 55442000),
O/E - dyspnoea (2322.) (SNOMED: 162890008),
Nocturnal dyspnoea (X76Gy) (SNOMED: 248548009),
Body mass airflow obstruct dyspnoea exercise capacity index (XaX8r) (SNOMED: 758801000000102),
Chronic respiratory disease questionnaire dyspnoea subscale (XaXfl) (SNOMED: 473339009),
Dyspnoea, obstruction, smoking, exacerbation frequency index (XaZZr) (SNOMED: 845231000000103),
Dyspnoea: no (Y09ae),
Dyspnoea Obstruction Smoking Status Exacerbation Frequency (DOSE) Score (Y0e6d),
Frequency nocturnal dyspnoea (YA297),
Dyspnoea trigger (YA298) or
Medical research council dyspnoea score (YA667)
Can only be triggered for:
[Role] GP Assistant
[Role] GP Associate
[Role] GP CMO
[Role] GP Locum
[Role] GP Partner
[Role] GP Registrar
[Role] GP Retainer
[Role] GP Sole Practitioner
[Role] General Medical Practitioner
[Role] Practice Manager
[Role] System Administrator

Filter
Only applies to patients over 40 years
Only applies to patients in the Breathe Deep - Patient eligible for protocol report
Exclusions

Breathe Deep - Patient eligible for protocol
Research / Breathlessness

Matching to GMS, Applied, Private, Temporary, Other, Blank, Walk-in, Online
User patients

Breathe Deep - Exc 4 - Clinical exclusions
Research / Breathlessness

| Code     | Description                                                                 |
|----------|-----------------------------------------------------------------------------|
| G571     | Rheumatic left ventricular failure                                           |
| 84114007 | Heart failure                                                               |
| 80614007 | Obstructive lung disease                                                    |
| 82630000 | Chronic obstructive pulmonary disease                                       |
| 83650005 | Chronic emphysema due to chemical sputum                                    |
| 99030004 | Interstitial lung disease                                                   |
| 23373001 | Other specified chronic obstructive pulmonary disease                       |
| X101     | Occupational chronic bronchitis                                            |
| 40691004 | Systolysis grade 3                                                         |
| X101     | Drug-induced bronchitis obliterans                                          |
| X101m    | Pulmonary emphysema X101m                                                   |
| 87433001 | Pulmonary emphysema in alpha-1 PI deficiency                               |
| X101p    | Toxic emphysema X101p                                                      |
| X101q    | Congenital lobar emphysema X101q                                           |
| X101r    | Scler emphysema X101r                                                       |
| X202     | Heart failure as a complication of care                                    |
| X202c    | Right ventricular failure                                                  |
| X202d    | Syphilitic failure                                                          |
| X202e    | Truncal failure                                                             |
| X202f    | Imputed left ventricular function NOS                                       |
| X202g    | Impaired left ventricular function                                          |
| X202i    | Later effects of infectious disease NOS                                     |
| X202j    | Later effects of infectious disease NOS (X202j)                             |

Mandatory In
Optional In
Not In
Mild chronic obstructive pulmonary disease (XaEIV) (SNOMED: 313296004)
Moderate chronic obstructive pulmonary disease (XaEIV) (SNOMED: 313297008)
Severe chronic obstructive pulmonary disease (XaEIV) (SNOMED: 313299006)
End stage chronic obstructive airways disease (XaND) (SNOMED: 135836000)
Interstitial pulmonary emphysema (XaQg) (SNOMED: 77690003)
New York Heart Association classification - class I (XaJ9G) (SNOMED: 420300004)
New York Heart Association classification - class II (XaJ9H) (SNOMED: 421704003)
New York Heart Association classification - class III (XaJ9I) (SNOMED: 420913000)
New York Heart Association classification - class IV (XaJ9J) (SNOMED: 422293003)
Chronic obstructive pulmonary disease finding (XaK8Q) (SNOMED: 13645005)
Very severe chronic obstructive pulmonary disease (XaN4a) (SNOMED: 293991000000106)
Congestive heart failure due to valvular disease (XaO5n) (SNOMED: 426611007)
Heart failure with normal ejection fraction (XaWy) (SNOMED: 446221000)
Eosinophilic bronchitis (Xaa7C) (SNOMED: 866901000000103)
Asthma-chronic obstructive pulmonary

Heart failure with reduced ejection fraction (Xaf6B) (SNOMED: 703272007)

Date of Read code before 184 days ago
Matching to GMS, Applied, Private, Temporary, Other, Blank, Walk-in, Online User patients

**Breathe Deep - Exc 1 - Patients to be sent an invitation**
Research / Breathlessness

Has a Invitation to participate in clinical trial = 42353.0 CPMS
Matching to GMS, Applied, Private, Temporary, Other, Blank, Walk-in, Online User patients

**Breathe Deep - Exc 3 - GP screened ineligible**
Research / Breathlessness

Has a Does not meet eligibility criteria for clinical trial = 42353.0 CPMS
Matching to GMS, Applied, Private, Temporary, Other, Blank, Walk-in, Online User patients

**Breathe Deep - Exc 2 - Declined invite**
Research / Breathlessness

Has a Declined invitation to participate in research study = 42353.0 CPMS
Matching to GMS, Applied, Private, Temporary, Other, Blank, Walk-in, Online User patients