



# Whole Systems Integrated Care (WSIC) Dashboards: Asthma Radar

User Guide – V3.0

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## Version History

Date	Version	Author	Notes
13/10/2017	0.1	Rachel Meadows	First Draft
27/10/2017	0.2	Rachel Meadows	Calculation Definitions added
06/11/2017	0.3	Dr Mark Levy	Amendments
10/11/2017	1.0	Rachel Meadows	Final version
17/05/2018	2.0	Olivia Walicki	Updates
07/08/2018	2.1	Titilayo Shoroye	Updates
11/12/2018	3.0	Tracey Dede	Updates

## Contents

Version History.....	2
Section 1: Introduction to the Asthma Radar .....	5
Clinical uses of the Asthma Radar.....	8
Section 2: Step by Step Guide .....	9
Asthma Radar   Homepage .....	10
Asthma Radar   How to use the radar .....	11
Asthma Radar   Red Flags.....	13
Asthma Radar   Risk Factors .....	14
Asthma Radar   Risk Factors: Calculation Definitions .....	14
Asthma Radar   A&E and UCC attendances.....	16
Asthma Radar   Number of Exacerbations .....	17
Asthma Radar   Number of Exacerbations: Calculation Definition .....	17
Asthma Radar   Number of SABA .....	18
Asthma Radar   Number of SABA: Calculation Definition .....	18
Asthma Radar   Number of LABA .....	19

Asthma Radar   Number of LABA: Calculation Definition .....	19
Asthma Radar   Numbers of Inhaled Corticosteroid inhalers .....	20
Asthma Radar   Numbers of Inhaled Corticosteroid inhalers: Calculation Definition .....	20
Asthma Radar   Asthma Review .....	21
Asthma Radar   Asthma Review: Calculation Definitions.....	21
Asthma Radar   Inhaler Technique .....	22
Asthma Radar   Inhaler Technique: Calculation Definitions .....	22
Asthma Radar   Asthma Symptom Control Tests .....	23
Asthma Radar   Asthma Symptom Control Tests: Calculation Definitions.....	23
Asthma Radar   Asthma Plan.....	25
Asthma Radar   Asthma Plan: Calculation Definition .....	25
Asthma Radar   Lung Function .....	26
Asthma Radar   Lung Function: Calculation Definition .....	26
Asthma Radar   Sorting.....	27
Asthma Radar   Graphs.....	27
Asthma Radar: Patient Summary.....	28

# Section 1: Introduction to the Asthma Radar

## Introduction

The UK National Review of all asthma deaths in the UK concluded that

- Over 60% of the deaths had major preventable risk factors.
- Risks were not recognised by the clinicians – and included :
  - Patients were prescribed excess reliever medication – more than 4 puffs of a reliever in a week is an indication of poor asthma control (this equates to more than 1 ½ blue inhalers a year.
  - Insufficient preventer inhalers were prescribed for most of those who died.
  - 10% had been discharged from hospital after treatment for an asthma attack without follow up, in the four weeks before they died; and
  - About a fifth had been treated in A&E in the year before they died.

An asthma attack means that something serious has gone wrong with the management of a patient. This may be related to drug treatment, inability to use inhalers, lack of education of patients about the disease, their medication, to recognize danger and take action, and when to call for help.

Risk factors for asthma attacks and deaths are well known and have been published in Table 11 of the BTS/ SIGN British Asthma Guidelines and table 2-2 of the Global Asthma Strategy (GINA).

Traditionally, mainly driven by QoF, asthma reviews are only done once a year in the UK. As asthma is an on-going, chronic disease, this isn't really logical. As asthma attacks and exacerbations signify that something serious has gone wrong, it is important to do a post attack review before the patient runs out of oral corticosteroids. After an attack, patients need to be assessed to determine whether the attack is over, and to act appropriately if not; and to establish what went wrong and take action to optimize the treatment. Furthermore, the presence of any risk factors should result in action by a clinician.

As there are a number of risk factors for asthma attacks, it is difficult for clinicians to check for each one during consultations. The Asthma Radar has been designed to classify risks into 'Red Flag' status, to help clinicians easily identify those patients at risk, whose care needs optimising. Patients with any of the risk factors identified should have a review by a doctor, or a nurse with training in asthma care.

## Clinical uses of the Asthma Radar

There are a number of scenarios where we envisage that the Asthma radar may be of use:

1. Prioritising patients for review:
  - The radar allows the clinician to sort patients by a number of parameters including number of red flags, number of risk factors, number of exacerbations or age
2. Virtual clinics:
  - Sitting down with a specialist clinician and reviewing a list of asthma patients can be a relatively time efficient way of getting input into a group of poorly controlled / off-target patients. The radar allows the clinicians to review a list of patients sorted by Number of exacerbations (or other parameters) quite rapidly without necessarily having to open every patient's set of notes in the GP system.
3. Print off for patients:
  - The asthma radar can create a print off for the patient incorporating their risk factors for asthma attacks, graphs of latest Peak Flow and FEV1, which may help patients get a handle on their latest trends and understand their condition better.
4. Recall for appointments
  - The Asthma Review column allows a health professional to see who has not had an asthma review ever, or in the last 12 months, or since the patients last exacerbation.



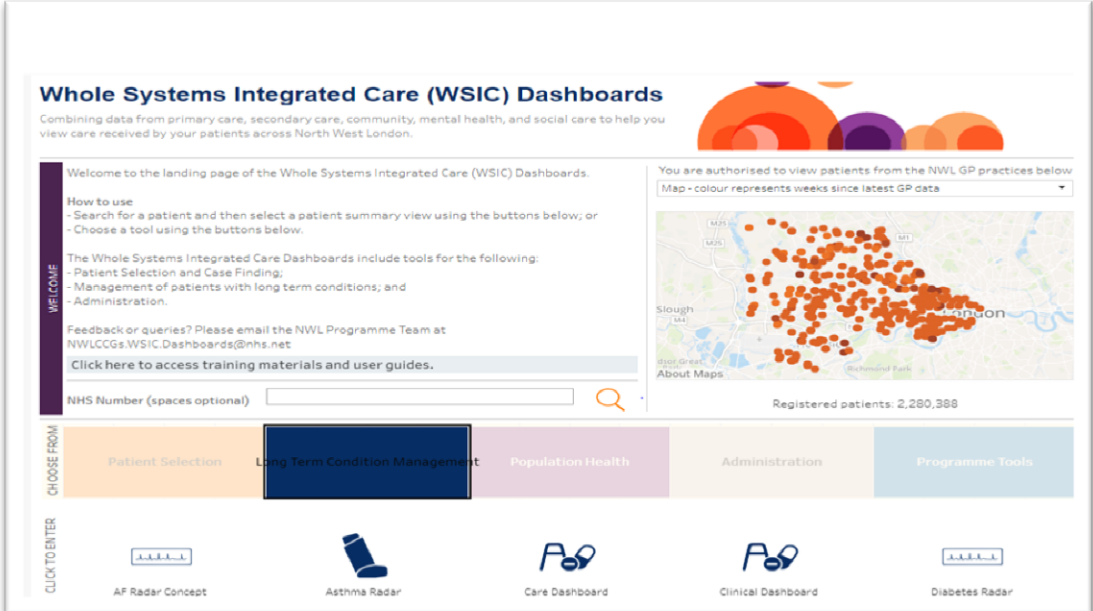
## Section 2: Step by Step Guide

## Asthma Radar | Homepage

You can access the Asthma Radar from the Homepage. Please refer to the ‘How to Use’ section, which explains some of the functionality of the radar.

**‘Choose a Tool’**  
You can access the tool in two ways.

- Asthma Radar
- Patient’s Asthma Summary



**Whole Systems Integrated Care (WSIC) Dashboards**  
Combining data from primary care, secondary care, community, mental health, and social care to help you view care received by your patients across North West London.

**WELCOME**

Welcome to the landing page of the Whole Systems Integrated Care (WSIC) Dashboards.

**How to use**


- Search for a patient and then select a patient summary view using the buttons below; or
- Choose a tool using the buttons below.

The Whole Systems Integrated Care Dashboards include tools for the following:

- Patient Selection and Case Finding;
- Management of patients with long term conditions; and
- Administration.

Feedback or queries? Please email the NWL Programme Team at [NWLCCGs.WSIC.Dashboards@nhs.net](mailto:NWLCCGs.WSIC.Dashboards@nhs.net)

[Click here to access training materials and user guides.](#)

NHS Number (spaces optional)  






You are authorised to view patients from the NWL GP practices below  
Map - colour represents weeks since latest GP data

Registered patients: 2,280,388

**CHOOSE FROM**

- Patient Selection
- Long Term Condition Management**
- Population Health
- Administration
- Programme Tools

**CLICK TO ENTER**

-  AF Radar Concept
-  Asthma Radar
-  Care Dashboard
-  Clinical Dashboard
-  Diabetes Radar

## Asthma Radar | How to use the radar

The Asthma Radar displays traffic lights indicating if the item is a Red, Amber or Green Flag.

### Whole Systems Integrated Care | Asthma Radar

Identify patients with asthma who may be at high risk and/or in need of review

Click on a traffic light to view details of the selected patient

GP Practice (All) Patient Segment (All) RCP Review Filter No filter selected Sort by... Number of Red Flags 70,596 patients on list

Patient Name	Age	Number of Risk Factors	Number of A&E/UCC Attendances (past 12 months)	Number of Exacerbations (past 12 months)			Asthma Care			Lung Function	
				Exacerbations	Short-Acting β <sub>2</sub> -agonists	Inhaled Corticosteroids	Asthma Review	Inhaler technique	Symptom Control Test	Personal asthma plan	Peak Flow
76	5.2	1	9	9	2	●	●	●	●	●	●
47	4.2	1	3	11	1	●	●	●	●	●	●
36	3.1	0	2	15	0	●	●	●	●	●	●
5	2.1	1	2	7	3	●	●	●	●	●	●
3	1	2	2	18	2	●	●	●	●	●	●
3	0	1	2	7	1	●	●	●	●	●	●
75	6.1	1	2	8	2	●	●	●	●	●	●
37	4.2	0	3	9	2	●	●	●	●	●	●
57	2.1	1	2	8	0	●	●	●	●	●	●
71	6.2	7	5	7	0	●	●	●	●	●	●
69	6.2	1	6	12	11	●	●	●	●	●	●
55	6.2	2	7	28	0	●	●	●	●	●	●

Click to highlight traffic lights of that colour  
● Green Flag ● Amber ● Red Flag ● Neutral/Unknown

Total number of patients on list

- Notes on usage**
- Click on a traffic light to view patient details
  - A missing traffic light indicates that no data is available for the indicator
  - Hover over traffic lights to see when an item was last recorded and the most recent result

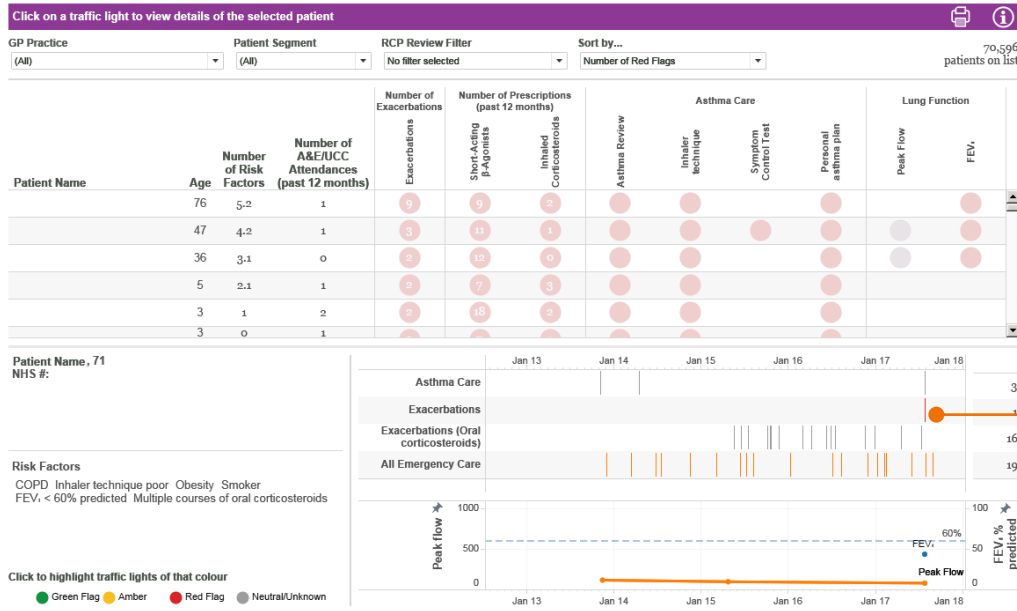
Hover over points on the graph to show the date and value of the reading

## Asthma Radar | How to use the radar

Select a patient to reveal more information below about that individual

### Whole Systems Integrated Care | Asthma Radar

Identify patients with asthma who may be at high risk and/or in need of review



#### Notes on usage

- Click on a traffic light to view patient details
- A missing traffic light indicates that no data is available for the indicator
- Hover over traffic lights to see when an item was last recorded and the most recent result

Hover over lines on the swim lane to show more information about the event



## Asthma Radar | Red Flags

**Red Flags** are a familiar concept for doctors, so some risk factors have been designated red flag status – for example, red flag status has been given to: someone who has ever been admitted to ICU as they will always be at risk of dying from asthma; someone who has FEV1% predicted below 60%; a pregnant woman, a child with food allergy and asthma. The full list of red flags is listed throughout this user guide. These have been developed on the basis of evidence derived from the UK National Review of Asthma Deaths<sup>1</sup>, Table 2-2 GINA<sup>2</sup> and Table 11 BTS/SIGN Guideline<sup>3</sup>

### References:

1. Why asthma still kills: the National Review of Asthma Deaths (NRAD) Confidential Enquiry report Royal College of Physicians. London; 2014 [Available from: <https://www.rcplondon.ac.uk/projects/outputs/why-asthma-still-kills>]
2. The Global Strategy for Asthma Management and Prevention, Global Initiative for Asthma (GINA).2017. Available from: <http://www.ginasthma.org>
3. British Thoracic Society, Scottish Intercollegiate Guideline Network. SIGN 153 - The British Guideline on the Management of Asthma. 2016 [Available from: <https://www.brit-thoracic.org.uk/document-library/clinical-information/asthma/btssign-asthma-guideline-2016/>]

## Asthma Radar | Risk Factors

Number of Risk Factors – when selected the risk factors will be listed in the bottom left of the Radar.

### Asthma Radar | Risk Factors: Calculation Definitions

Patient has risk factor of...	...if they have had/have...	or one of... (ReadCodeV2 for inclusion)	... and none of (ReadCodeV2 for mitigation)	...	ReadCodeV2s ignored
<b>COPD</b>	LTC of COPD	-	-	Now	-
<b>Obesity</b>	LTC of Obesity	-	-	Now	-
<b>Major psychological or socioeconomic conditions</b>	LTC of Mental Health or Depression	ZVu4.	-	Now	-
<b>Pregnancy</b>	SLAM activity with Maternity POD	L%, 62%, 63%	-	In 9 months prior to time of calculation	62P%, 62D%, 62%, 62H8., 62I%, 633A., 63C%
<b>Blood eosinophils raised</b>	...	42K3., D403., D4033, D4034, D403z, H583., H583z, H5832, 42K1., D4030, D4031, 42b9. with NumResult > 5, 42K.. with NumResult > 0.5	42K2. 42K.. with NumResult <= 0.5, 42b9. with NumResult < 5	as their latest result	-

<b>FEV1 &lt; 60%</b>	...	339S. with NumResult < 60	n/a	as their latest result	-
<b>Inhaler technique poor</b>	...	663I., 66Y4.	663H.	as their latest result	6636., 6637., 66Yv.
<b>Smoker</b>	...	The 'Smoker' read codes (see Read Codes V2 tab)	The 'Ex-smoker' or 'Non-smoker' read codes (see Read Codes V2 tab)	as their latest result	-
<b>Food allergy(ies)</b>	...	SN58%	-	Ever	-
<b>Allergic rhinitis</b>	...	H17%, 14B1.	-	Ever	-
<b>Multiple courses of oral corticosteroids</b>	More than one prescription of oral corticosteroids (see Drug Codes tab)	-	-	In 12 months prior to time of calculation	-
<b>Past severe attack</b>	Any of: - a NEL admission with Primary or Secondary Diagnosis of J46 - a NEL inpatient stay with Primary Diagnosis of J45 or J46 and with 1 or more days of critical care - an A&E or UCC attendance with Primary Diagnosis of J46	H33z0, 14Ok0, 663V3, H3301, H3311	-	Ever	-

## Asthma Radar | A&E and UCC attendances

The number of A&E and UCC attendances is listed as a general risk factor (i.e. not a specific asthma risk as such because it is unclear from the data why patients attend these EDs, however, these patients may well be at risk and should be reviewed to determine why they need to utilize unscheduled care so frequently and for which problems. This data can be more accurate if practices routinely code hospital attendances and admissions with the clinical code for that admission. The code for an asthma exacerbation or attack is H333.



## Asthma Radar | Number of Exacerbations

Number of exacerbations or attacks in the last 12 months: Two or more attacks in the previous year are designated as red flags. This number is an underestimate due to the difficulty in getting accurate data from A&E and UCC. The numbers are derived from hospital admission data, prescriptions of short courses of oral prednisolone, and where the READ Code H333 has been used – data clerks in practices are encouraged to code all correspondence with details of treated asthma attacks as H333.

### Asthma Radar | Number of Exacerbations: Calculation Definition

The number of exacerbations is a count of: Distinct days in previous 12 months on which there were either:

- READ code of 66YC., 8H2P., H33z0, H33z1, or H333.
- READ code of 663m. or 663d. with NumResult > 0
- Prescription of short courses of oral corticosteroids
- Beginning of a non-elective inpatient stay with J45 or J46 as primary diagnosis
- A&E, UCC, or Walk-in Centre attendance with J45 or J46 as primary diagnosis

The indicator on the radar will be **Grey** if the count is 0, **Red** if the count is more than 0 in the last 12 months

## Asthma Radar | Number of SABA

Numbers of SABA (Short acting bronchodilators – eg salbutamol): more than 6 in the previous year (or pro rata) are designated as red flags. This may also be an underestimate as we cannot extract the number of devices prescribed – only the number of items. Practices should be advised not to authorise more than one SABA device on repeat prescriptions.

## Asthma Radar | Number of SABA: Calculation Definition

The number of SABA is a count of: prescriptions of SABAs in past 12 months, these include SABA/ICS combos. The indicator on the radar will be **Green** if the count is less than or equal to 6, **Red** if the count is more than 6 in the last 12 months

## Asthma Radar | Number of LABA

Numbers of LABA (Long acting bronchodilators – eg Bambeterol): more than 4 in the previous year (or pro rata) are designated as red flags. This may also be an underestimate as we cannot extract the number of devices prescribed – only the number of items. Practices should be advised not to authorise more than one LABA device on repeat prescriptions.

## Asthma Radar | Number of LABA: Calculation Definition

The number of LABA is a count of: prescriptions of LABAs in past 12 months, these include LABA/ICS combos. The indicator on the radar will be **Green** if the count is less than or equal to 4, **Red** if the count is more than 4 in the last 12 months

## Asthma Radar | Numbers of Inhaled Corticosteroid inhalers

Depending on the dose and type of inhaler, patients should be prescribed sufficient inhaler medication to ensure the prescribed dose can be taken.

In this first release of the Radar, anyone issued less than four prescription items will be designated as red flags.

## Asthma Radar | Numbers of Inhaled Corticosteroid inhalers: Calculation Definition

The number of ICS is a count of: prescriptions of ICS in past 12 months. These include Ultra LABA/LABA/SABA ICS combos.

The indicator on the radar will be **Grey** if the count is more than or equal to 4, **Red** if the count is less than 4 in the last 12 months

## Asthma Radar | Asthma Review

Red flags will be designated for reviews if no asthma review has been done in the previous year, or if no review was done within a week of an asthma attack.

## Asthma Radar | Asthma Review: Calculation Definitions

The latest recorded Asthma review using READ codes 66YJ. or 66YK.

The indicator on the radar will be;

**Red** if the event date of code older than a year, OR Event date of code older than latest exacerbation, OR no code present.

**Green** if not Red

## Asthma Radar | Inhaler Technique

Red flags will be designated for someone who hasn't had their inhaler technique checked or if this is poor.

### Asthma Radar | Inhaler Technique: Calculation Definitions

The latest recorded Inhaler technique using READ codes 663H., 66Y4., 663I., 66Yy.

The indicator on the radar will be;

**Red** if READ code is 663I., 66Y4. or no code present.

**Green** if READ code is 663H.

**Grey** if READ code is 66Yy.

**NOTE** where there are multiple results on the same day, codes that give a RAG rating are chosen before ones that would be grey

## Asthma Radar | Asthma Symptom Control Tests

The RCP 3 questions are one method for recording symptom control; other tests include the Asthma Control Test (ACT) (<http://www.asthmacontroltest.com/Europe/United%20Kingdom/en>); and the Asthma Control Questionnaire (ACQ) <https://www.goltech.co.uk/acq.html> Red flags will be designated for anyone who hasn't had their asthma symptom control assessed or if this indicates poor control.

## Asthma Radar | Asthma Symptom Control Tests: Calculation Definitions

The latest recorded Asthma Symptom Control Test using READ codes 38DL. (ACT), 38DT. (ACQ) or any of the codes corresponding to answers to RCP review questions:

### Exercise:

6635., 663P., 663Q., 663e., 663e0, 663e1, 663f., 663w., 663x., 663P0, 663P1, 663P2

### Sleep:

663N., 663N0, 663N1, 663N2, 663O., 663O0, 663r., 66YP., 66Ys., 66Yq., 66Yr.

### Day Symptoms:

663q., 663s., 663t., 663u., 663v.

The indicator on the radar will be;

**Red** 38DL. When ACT result is less than or equal to 15

**Amber** if READ code is 38DL. When ACT result less than or equal to 19

**Green** 38DL. When ACT result more than 19

**Grey** Code relates to RCP question OR 38DL. with no numeric result

**NOTE** where there are multiple results on the same day ACT results are used over RCP, and non-zero numeric results are used over numeric results of 0

## Asthma Radar | Asthma Control Questionnaire Information

The ACQ is able to identify the adequacy of asthma control in individual patients. In general, patients with a score below 1.0 will have adequately controlled asthma and above 1.0 their asthma will not be well controlled. However, there is a very grey area between 0.75 and 1.25 where patients are on the borderline of adequate control. On the 7-point scale of the ACQ, a change or difference in score of 0.5 is the smallest that can be considered clinically important. This means that changes of 0.5 or greater would justify a change in the patient's treatment (in the absence of undue side effects or excessive costs). This may vary a little between individual patients.



## Asthma Radar | Asthma Plan

Half of those who died in the NRAD either didn't call for or get help during their final fatal attack. Most of these people had not been provided with a personal asthma action plan which would have helped them identify danger signals and to know that they should have called for help. Therefore, red flags will be designated for someone who hasn't been issued with a personal asthma self-management action plan.

### Asthma Radar | Asthma Plan: Calculation Definition

The latest recorded Asthma Plan using READ codes 8CMA0 or 661M1

The indicator on the radar will be;

**Red** if not coded

**Green** if coded

## Asthma Radar | Lung Function

Peak Expiratory Flow and Spirometry: These will be designated red flags if none have been done or if FEV1% predicted is below 60% which is a risk factor for asthma death.

### Asthma Radar | Lung Function: Calculation Definition

#### Peak Flow

The latest recorded Peak flow using READ codes 339c., 339A., 3395. with a numeric result

The indicator on the radar will be;

**Grey** numeric result present

**NOTE** where there are multiple results on the same day take the minimum numeric result (where the result is specified and non-zero)

#### FEV1

The latest recorded FEV1 using READ codes 339S. with a numeric result

The indicator on the radar will be;

**Red** if Code is 339S. with a result of less than 60

**Amber** if READ code is 339S. with a result of between 60 - 70

**Green** if READ code is 339S. with a result of more than 70

**NOTE** where there are multiple results on the same day take the minimum numeric result (where the result is specified and non-zero)

## Asthma Radar | Sorting

The Radar may be sorted by different criteria using the dropdown menu at the top of the screen. Where multiple patients have the same value for the sort they are ordered by NHS number.

- Number of Red flags
- Number of Risk factors
- Number of exacerbations
- Age

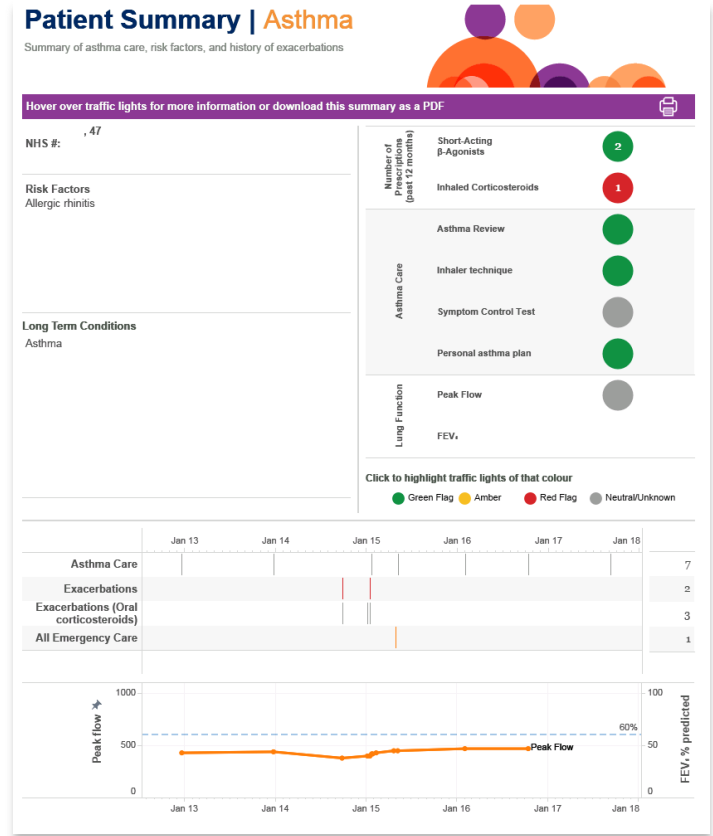
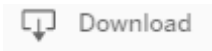
## Asthma Radar | Graphs

The FEV1 and Peak flow graph is available for a maximum of the past five years.

## Asthma Radar: Patient Summary

The Patient Asthma Summary consolidates the information available on the Asthma Radar for a single patient onto one page.

The summary may be exported as an A4 PDF for printing or sharing, e.g. with a patient, by choosing PDF from the download menu at the top right of the screen.





**For more information, please email**

**[NWLCCGS.WSIC.DASHBOARDS@NHS.NET](mailto:NWLCCGS.WSIC.DASHBOARDS@NHS.NET)**