

### Document Purpose

Data was analysed across 10 GP practices within the Cheshire Merseyside STP to establish baseline level data on lipid management in the context of key indications for treatment with statin therapy

### Method of data collection

Authorisation was gained from individual GP practices to run a set of queries on the GP clinical system designed to interrogate and extract data relevant to lipid management for a defined group of patients meeting agreed inclusion criteria

### Date period for data collection

Data was collected between June 2018 and July 2018

### Definition of clinical inclusion criteria

Patients were included within the data set if they matched any of the following criteria:

- 1 A recorded diagnosis of any of the following conditions: atherothrombotic cardiovascular disease (A-T CVD) comprising: ischaemic heart disease (IHD), myocardial infarction (MI), stroke (CVA) or transient ischaemic attack (TIA) or peripheral arterial disease (PAD), type II Diabetes, chronic kidney disease (CKD) or familial hypercholesterolaemia (FH)
- 2 A recorded QRISK2 score > 10%
- 3 Currently receiving therapy with a statin treatment

### Assumptions and limitations

Using the dataset calculations to determine % reduction in non-HDL cholesterol (non-HDL C) levels using the following assumptions:

- 1 The highest recorded total cholesterol (TC) and/or low density lipoprotein (LDL) reading recorded in an individuals note is assumed to be the **baseline** value i.e. untreated level
- 2 The most recent TC/LDL/HDL value recorded in an individuals notes is taken as the **latest** value, reflecting any reduction resulting from lipid modification therapy
- 3 Where a patients is taking a current statin, the difference in baseline to latest value is assumed to be an effect of that statin therapy rather than any other statin therapy taken between baseline and latest values


Limitations exist when using the above method to calculate treatment effect including:

- 1 The baseline may not be a true baseline figure as the patient may have been on a statin when the measurement was taken
- 2 The non-HDL C calculation uses the same HDL value for both baseline and current non-HDL C values as we do not have a HDL value at the same point in time as the 'highest' TC/LDL reading

### Summary detail of 10 practices included within the database including population, patients identified, IHD prevalence and statin treatment/exception rates within IHD and index of multiple deprivation 2015 (IMD) score <sup>1</sup>

| Practice Name | List Size | Practice postcode categorisation | Number of patients identified | IHD Prevalence (%) | Patients with IHD taking a statin (%) | Exception rate for patients with IHD (%) | Patients with QRISK recorded (%) <sup>†</sup> | IMD Score* |
|---------------|-----------|----------------------------------|-------------------------------|--------------------|---------------------------------------|--|---|------------|
| Practice 1    | 9,900     | Urban City and Town Area         | 2,126                         | 3.30%              | 76%                                   | 18%                                      | 38%   | 11         |
| Practice 2    | 13,400    | Urban City And Town area         | 3,784                         | 4.00%              | 78%                                   | 13%                                      | 74%   | 14         |
| Practice 3    | 4,300     | Urban Major Conurbation area     | 1,082                         | 4.04%              | 87%                                   | 4%                                       | 96%   | 50         |
| Practice 4    | 9,200     | Urban Major Conurbation area     | 2,445                         | 3.87%              | 88%                                   | 1%                                       | 96%   | 58         |
| Practice 5    | 2,500     | Urban Major Conurbation area     | 609                           | 2.96%              | 85%                                   | 0%                                       | 95%   | 37         |
| Practice 6    | 10,700    | Urban Major Conurbation area     | 2,463                         | 3.62%              | 86%                                   | 3%                                       | 97%   | 41         |
| Practice 7    | 9,600     | Urban City and Town Area         | 2,754                         | 4.66%              | 74%                                   | 13%                                      | 64%   | 11         |
| Practice 8    | 12,200    | Urban City and Town Area         | 2,706                         | 3.53%              | 90%                                   | 4%                                       | 75%   | 20         |
| Practice 9    | 16,600    | Urban Major Conurbation area     | 4,522                         | 4.05%              | 79%                                   | 11%                                      | 69%   | 11         |
| Practice 10   | 7,800     | Urban Major Conurbation area     | 1,585                         | 3.49%              | 80%                                   | 4%                                       | 37%   | 42         |

#### Key to IMD score

|               |  |
|---------------|--|
| ≤ 8.49        | least deprived<br><br>most deprived |
| 8.5 - 13.79   |  |
| 13.8 - 21.35  |  |
| 21.36 - 34.17 |  |
| ≥34.18        |  |

<https://tools.npeu.ox.ac.uk/imd/>

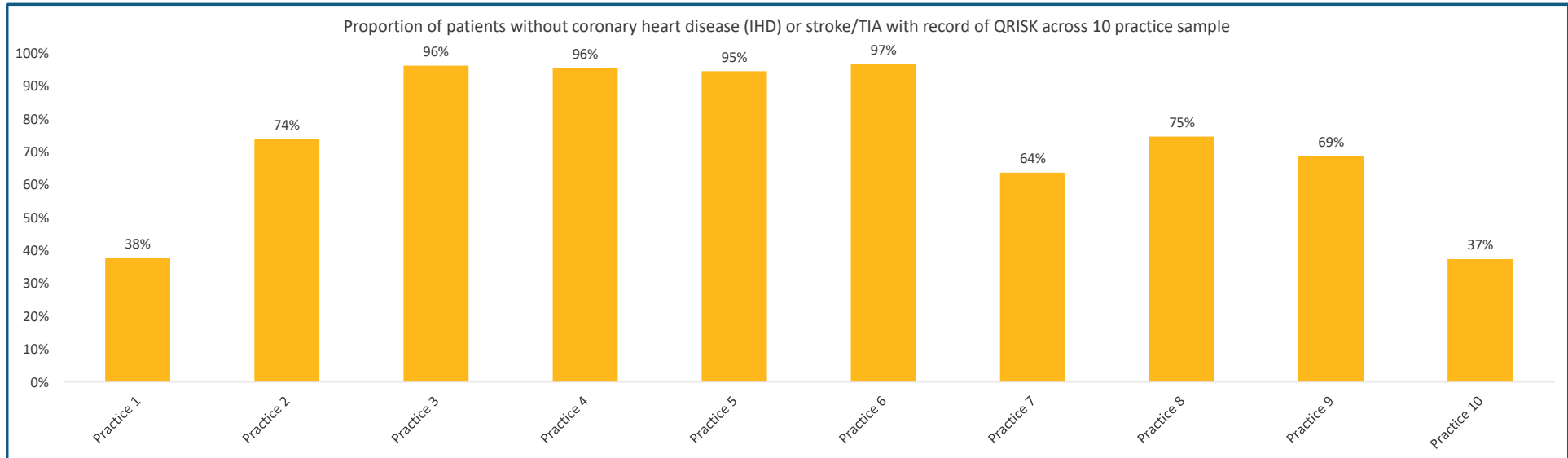
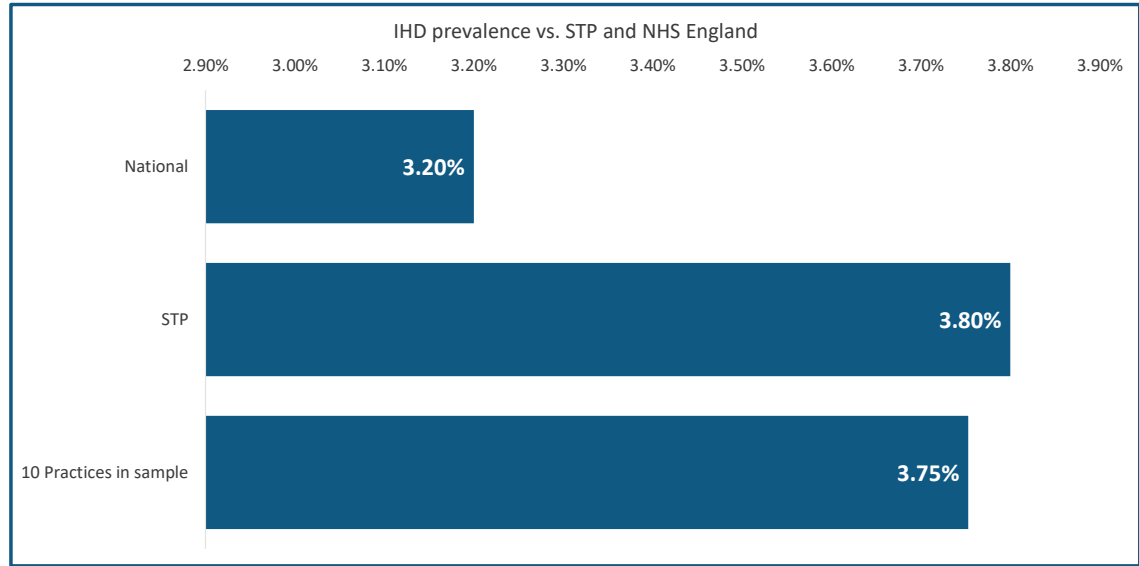
<sup>†</sup> determined as % of patients without IHD/Stroke with a record of QRISK

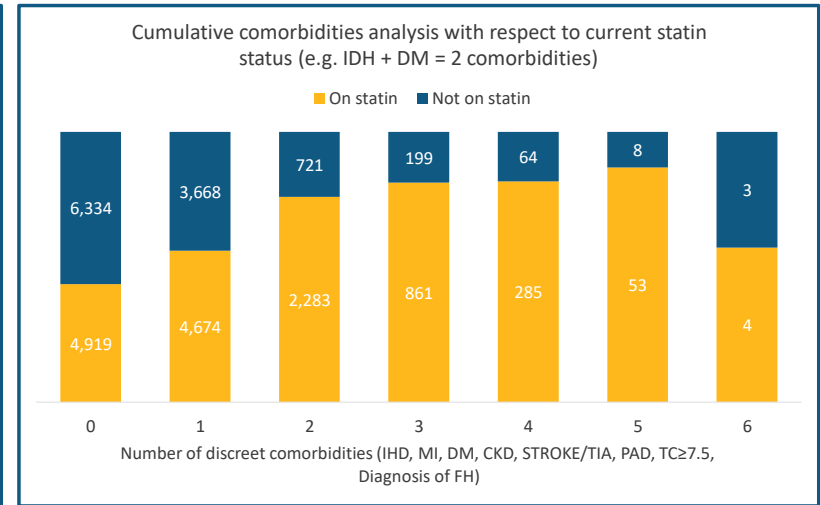
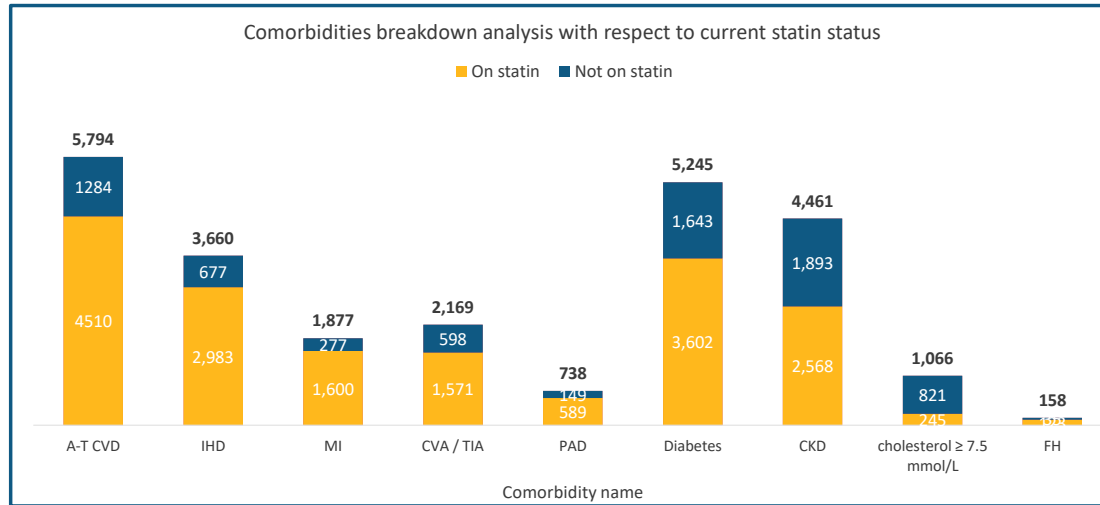
\*IMD score rounded to nearest whole number

Programme stakeholders: HEALTH & CARE PARTNERSHIP FOR CHESHIRE & MERSEYSIDE, NORTH WEST COAST STRATEGIC CLINICAL NETWORK,  
NORTH WEST COAST ACADEMIC HEALTH CARE NETWORK INNOVATION AGENCY, AMGEN LIMITED and SALVERA SERVICES

**Executive Summary:**

|   |                   |
|---|-------------------|
| Number of practices in sample   | <b>10</b>         |
| Number of different CCGs in sample  | <b>5</b>          |
| Total registered population of practices in sample                                      | <b>95,732</b>     |
| Average GP practice list for practices in sample  | <b>9,573</b>      |
| Total patients meeting inclusion criteria in within sample                              | <b>24,076</b>     |
| Average IHD prevalence across sample  | <b>3.8%</b>       |
| Statin treatment rates range in A-T CVD   | <b>71% to 86%</b> |
| Statin treatment rates range for primary prevention                                     | <b>42% to 57%</b> |
| Statin exception reporting range across sample (A-T CVD)                                | <b>8% to 65%</b>  |
| Statin exception reporting range across sample (primary prevention)                     | <b>5% to 35%</b>  |
| Patients with a recorded exception taking a statin therapy                              | <b>1,235</b>      |
| Number of patients within STP   | <b>2.6m</b>       |
| Average practice list within STP  | <b>7,060</b>      |
| Number of patients in average practice with IHD who are not receiving statin therapy    | <b>49</b>         |
| Projected total number of patients across the STP with IHD not receiving statin therapy | <b>18,275</b>     |





Latest average lipid levels across all patients identified within sample dataset

| Average last TC readings | Atorvastatin 80mg | High intensity | Medium intensity | Low intensity | No Statin |
|--------------------------|-------------------|----------------|------------------|---------------|-----------|
| A-T CVD                  | 4.0               | 4.2            | 4.1              | 4.5           | 5.1       |
| MI                       | 3.9               | 4.0            | 4.0              | 4.3           | 5.0       |
| Primary prevention       | 5.0               | 4.8            | 4.5              | 4.8           | 5.6       |
| Coded FH                 | 5.8               | 6.0            | 5.4              | 5.3           | 7.0       |

| Average last LDL reading | Atorvastatin 80mg | High intensity | Medium intensity | Low intensity | No Statin |
|--------------------------|-------------------|----------------|------------------|---------------|-----------|
| A-T CVD                  | 2.3               | 2.3            | 2.1              | 2.4           | 2.9       |
| MI                       | 2.3               | 2.2            | 2.0              | 2.3           | 2.9       |
| Primary prevention       | 2.8               | 2.8            | 2.4              | 2.7           | 3.4       |
| Coded FH                 | 4.1               | 3.8            | 3.6              | 2.8           | 4.8       |

| Average last non-HDL C | Atorvastatin 80mg | High intensity | Medium intensity | Low intensity | No Statin |
|------------------------|-------------------|----------------|------------------|---------------|-----------|
| A-T CVD                | 2.8               | 2.9            | 2.7              | 3.1           | 3.7       |
| MI                     | 2.7               | 2.8            | 2.7              | 3.0           | 3.7       |
| Primary prevention     | 3.7               | 3.4            | 3.1              | 3.4           | 4.1       |
| Coded FH               | 4.4               | 4.5            | 3.9              | 3.9           | 5.6       |

Definition of statin potencies used in dashboard report (NICE CG181 Appendix A: Grouping of statins)

| Dose (mg/day) | Reduction in low-density lipoprotein cholesterol |                  |                  |                  |                    |
|---------------|--|------------------|------------------|------------------|--------------------|
|               | 5  | 10               | 20               | 40               | 80                 |
| Fluvastatin   | -  | -                | 21% <sup>1</sup> | 27% <sup>1</sup> | 33% <sup>2</sup>   |
| Pravastatin   | -  | 20% <sup>1</sup> | 24% <sup>1</sup> | 29% <sup>1</sup> | -                  |
| Simvastatin   | -  | 27% <sup>1</sup> | 32% <sup>2</sup> | 37% <sup>2</sup> | 42% <sup>3,4</sup> |
| Atorvastatin  | -  | 37% <sup>2</sup> | 43% <sup>3</sup> | 49% <sup>3</sup> | 55% <sup>3</sup>   |
| Rosuvastatin  | 38% <sup>2</sup>                                 | 43% <sup>3</sup> | 48% <sup>3</sup> | 53% <sup>3</sup> | -                  |

<sup>1</sup> 20%–30%: low intensity.

<sup>2</sup> 31%–40%: medium intensity.

<sup>3</sup> Above 40%: high intensity.

<sup>4</sup> Advice from the MHRA: there is an increased risk of myopathy associated with high-dose (80 mg) simvastatin. The 80 mg dose should be considered only in patients with severe hypercholesterolaemia and high risk of cardiovascular complications who have not achieved their treatment goals on lower doses, when the benefits are expected to outweigh the potential risks.

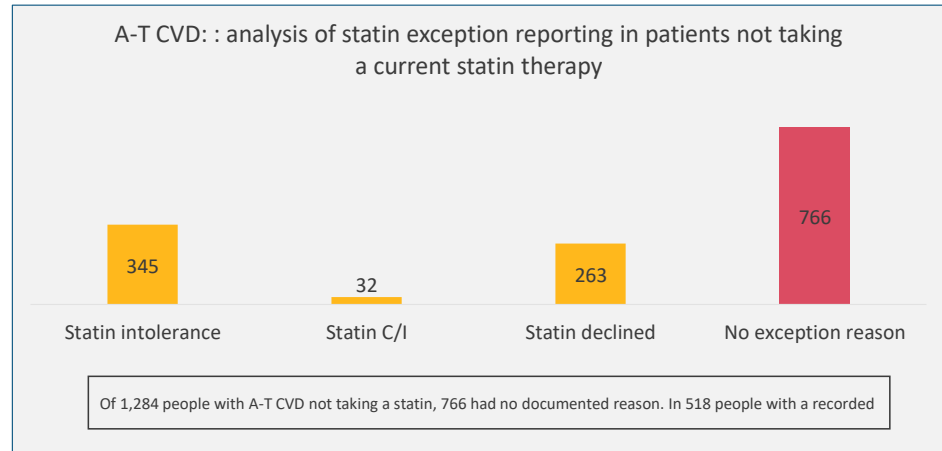
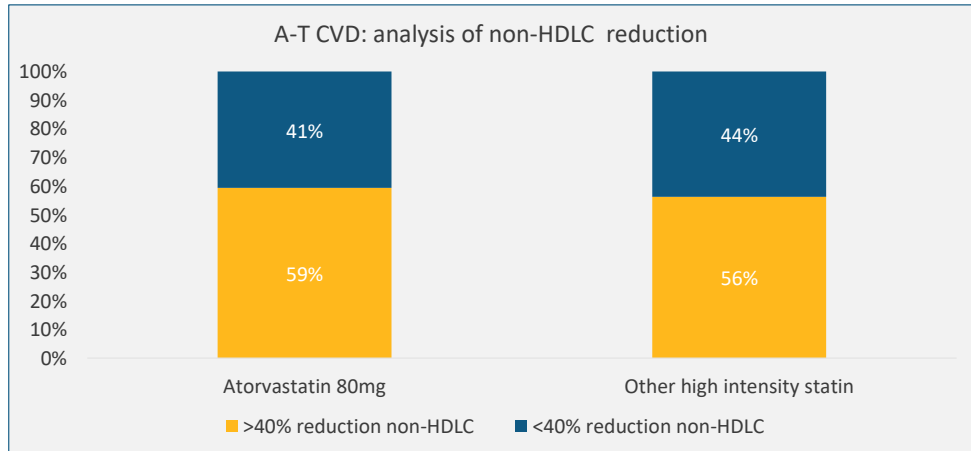
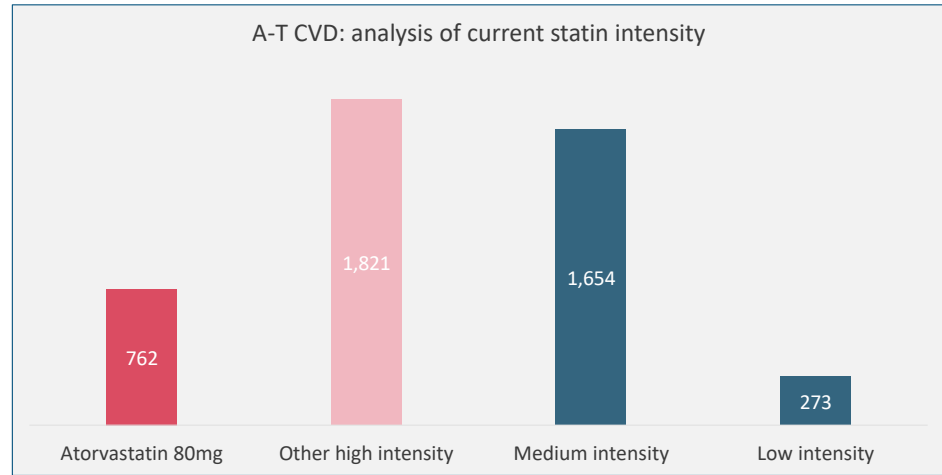
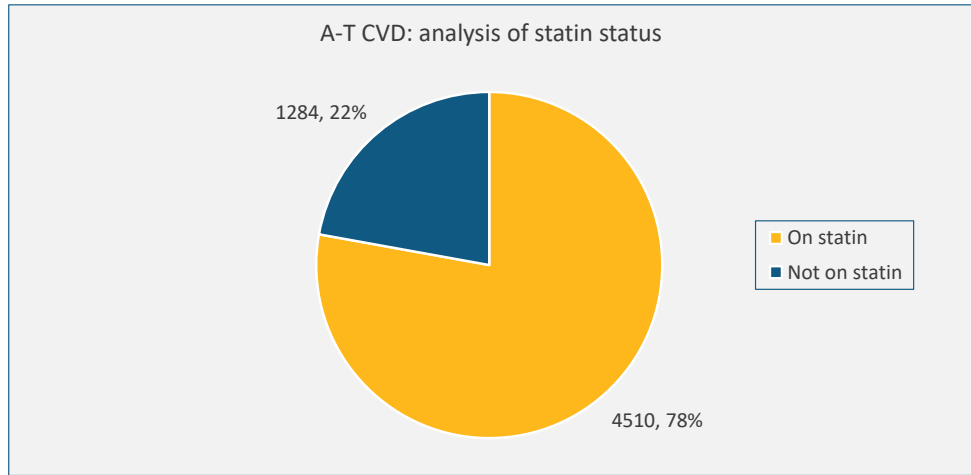
**Atherothrombotic Cardiovascular Disease (A-T CVD): Total patients = 5,794**

**Reporting definition:**  
All patients with a Read coded history of either ischemic heart disease (IHD), myocardial infarction (IHD), stroke (CVA) or transient ischaemic attack (TIA) or peripheral arterial disease (PAD)

**Key findings**  
Of 5,794 patients with a recorded diagnosis of A-T CVD, 4,510 (78%) are receiving statin therapy  
Of 4,510 patients with A-T CVD taking a statin, 762 (17%) were taking atorvastatin 80mg as recommended in NICE CG181  
Of 762 patients with A-T CVD taking atorvastatin 80mg, 452 (59%) had achieved a non-HDLC reduction of >40%

**Patients with A-T CVD (IHD/MI/CVA/TIA/PAD):**

- a. On atorvastatin 80mg
  - i. 5.5% (n=42) had a latest LDL measurement > 4mmol/l
  - ii. 5.0% (n=38) had a latest TC measurement > 6mmol/l
- b. On other high intensity statin
  - i. 5.7% (n=103) had a latest LDL measurement > 4mmol/l
  - ii. 5.7% (n=104) had a latest TC measurement > 6mmol/l



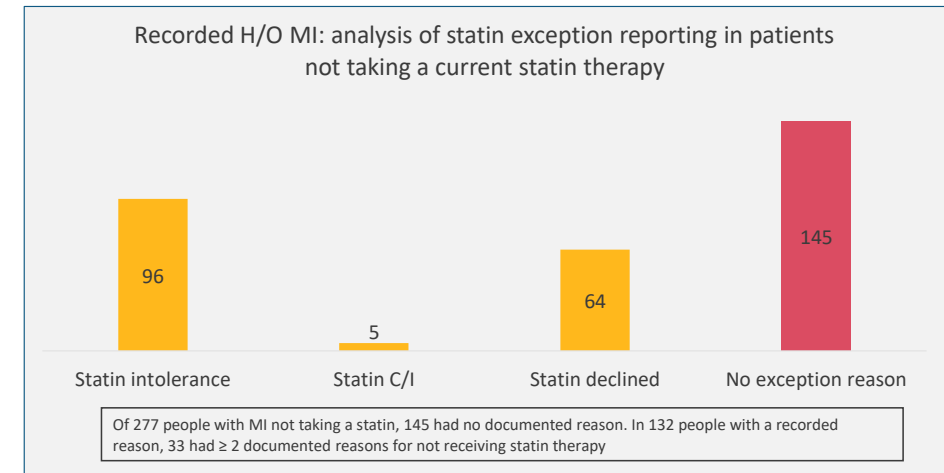
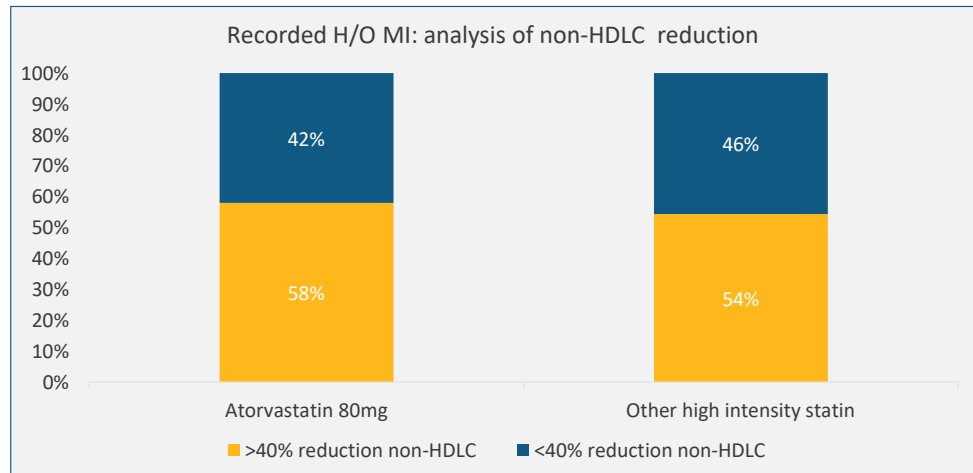
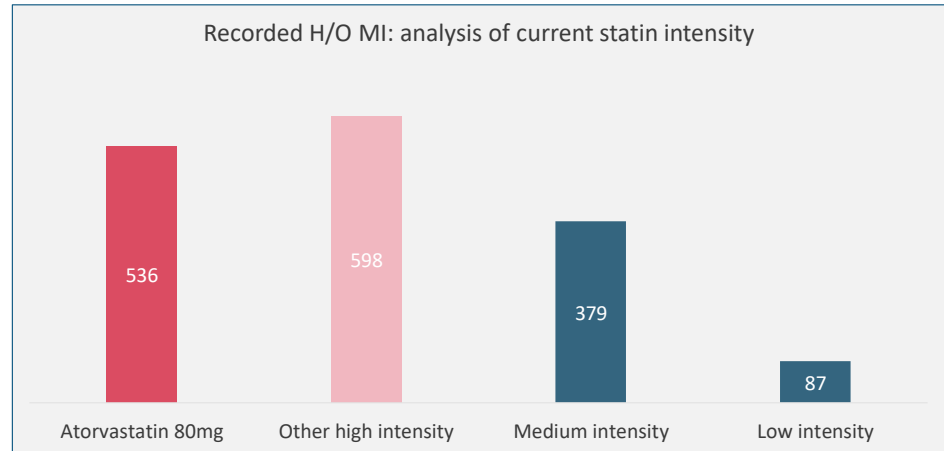
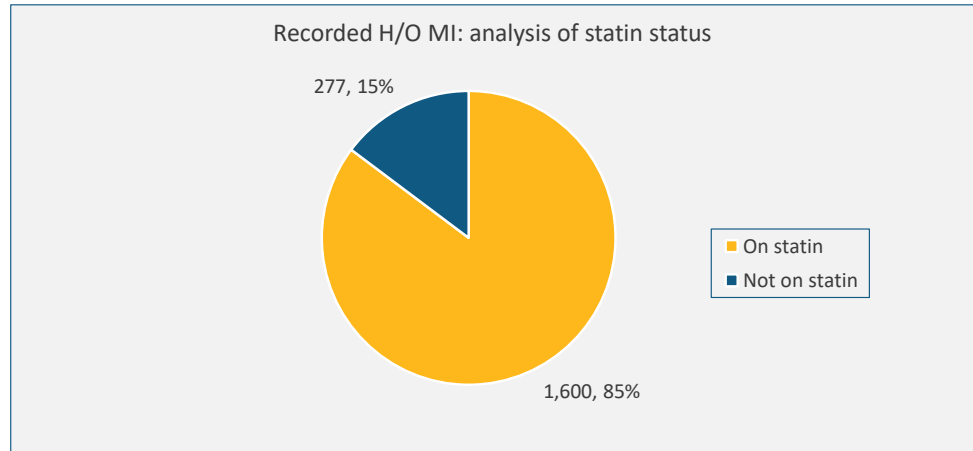
**A-T CVD subset: Myocardial infarction (MI): Total patients = 1,877**

**Reporting definition:**  
 Report on all patients with a recorded history of myocardial infarction (MI) defined using Read code terms relevant to MI\*  
 \*2 patients were identified with a h/o MI, but without a Read coded diagnosis of IHD

**Key finding:**  
 Of 1,877 patients with a recorded diagnosis of MI, 1,600 (85%) are receiving statin therapy  
 Of 1,600 patients with MI taking a statin, 536 (34%) were taking atorvastatin 80mg as recommended in NICE CG181  
 Of 536 patients with A-T CVD taking atorvastatin 80mg, 311 (58%) had achieved a non-HDLC reduction of >40%

**Patients with MI**

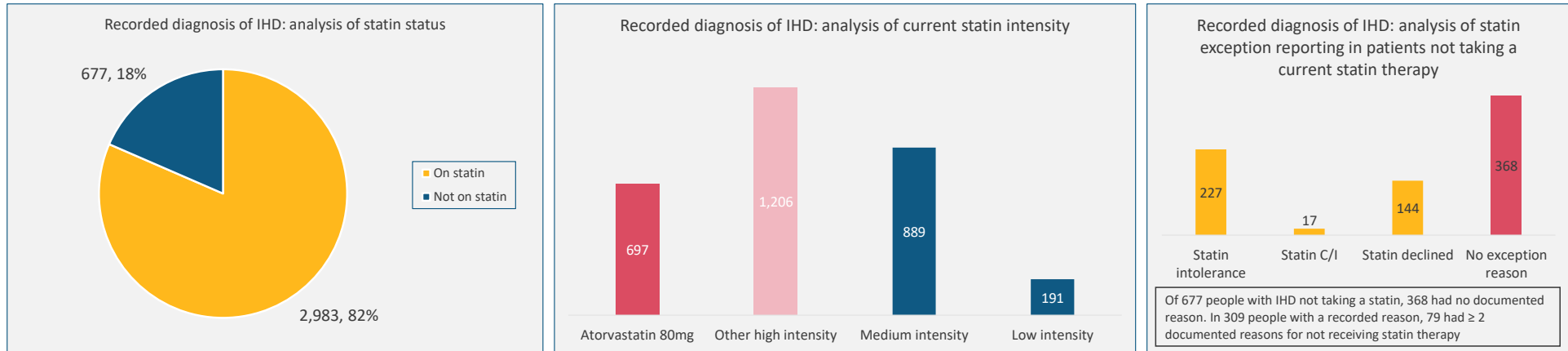
- a. On atorvastatin 80mg
  - i. 6.2% (n=33) had a latest LDL measurement > 4mmol/l
  - ii. 4.3% (n=23) had a latest TC measurement > 6mmol/l
- b. On other high intensity statin
  - i. 3.8% (n=23) had a latest LDL measurement > 4mmol/l
  - ii. 4.2% (n=25) had a latest TC measurement > 6mmol/l



**A-T CVD subset: Ischaemic Heart Disease (IHD): Total patients = 3,660**

**Reporting definition:**  
Report on all patients with a Read coded diagnosis of ischaemic heart disease defined in line with QOF register inclusion criteria

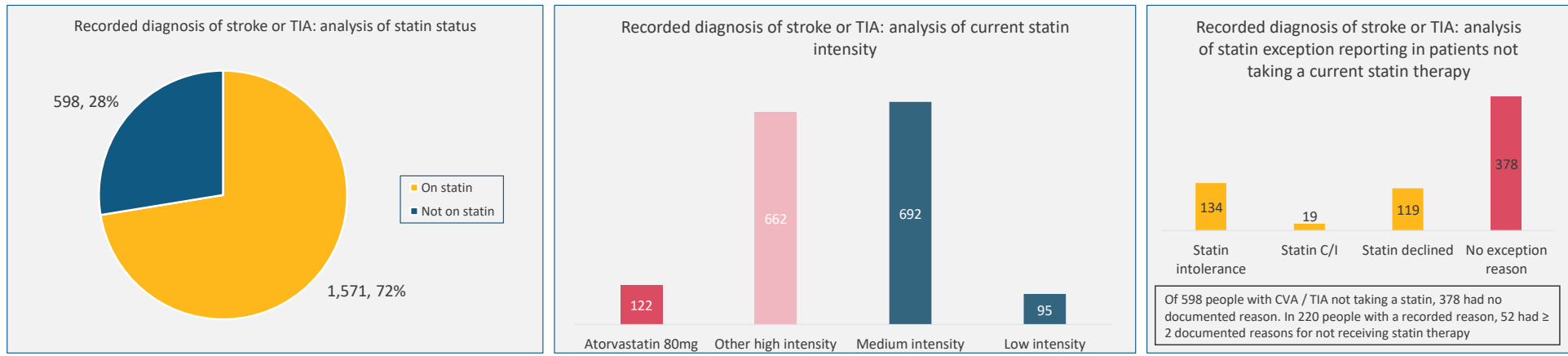
**Key findings:**  
Of 3,660 patients with a recorded diagnosis of IHD, 2,983 (82%) are receiving statin therapy  
Of 2,983 patients with IHD taking a statin, 697 (23%) were taking atorvastatin 80mg as recommended in NICE CG181



**A-T CVD subset: Stroke / Transient Ischemic Attack (TIA): Total patients = 2,169**

**Reporting definition:**  
Report on all patients with a recorded diagnosis of stroke or TIA defined in line with QOF register inclusion criteria

**Key findings:**  
Of 2,169 patients with a recorded diagnosis of CVA / TIA, 1,571 (72%) are receiving statin therapy  
Of 1,571 patients with CVA / TIA taking a statin, 122 (8%) were taking atorvastatin 80mg as recommended in NICE CG181



**A-T CVD subset: Peripheral Artery Disease (PAD): Total patients = 738**

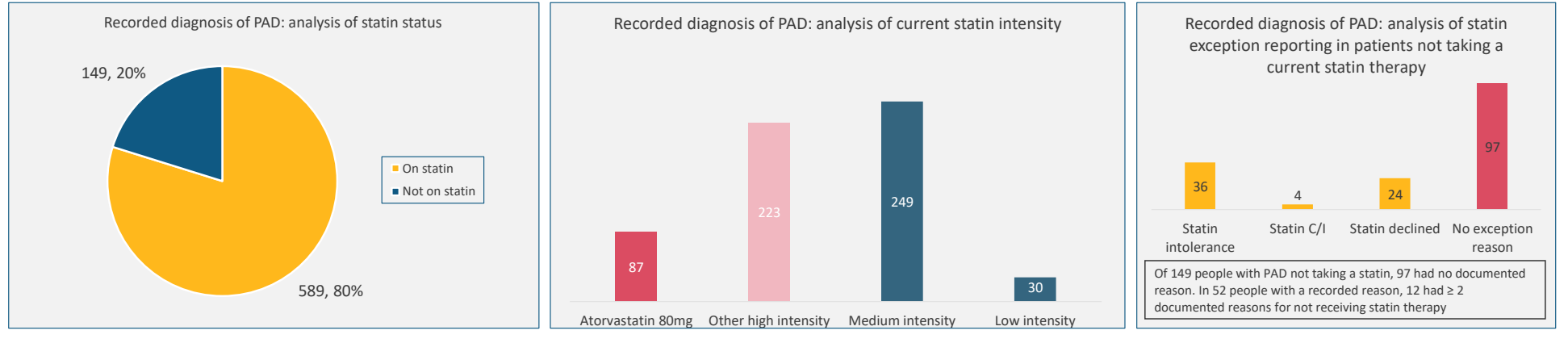
**Reporting definition:**

Report on all patients with a recorded diagnosis of peripheral arterial disease (PAD) defined in line with QOF register inclusion criteria

**Key findings:**

Of 738 patients with a recorded diagnosis of PAD, 589 (80%) are receiving statin therapy

Of 589 patients with PAD taking a statin, 87 (15%) were taking atorvastatin 80mg as recommended in NICE CG181



**Diabetes Mellitus type II (DM): Total patients = 5,245**

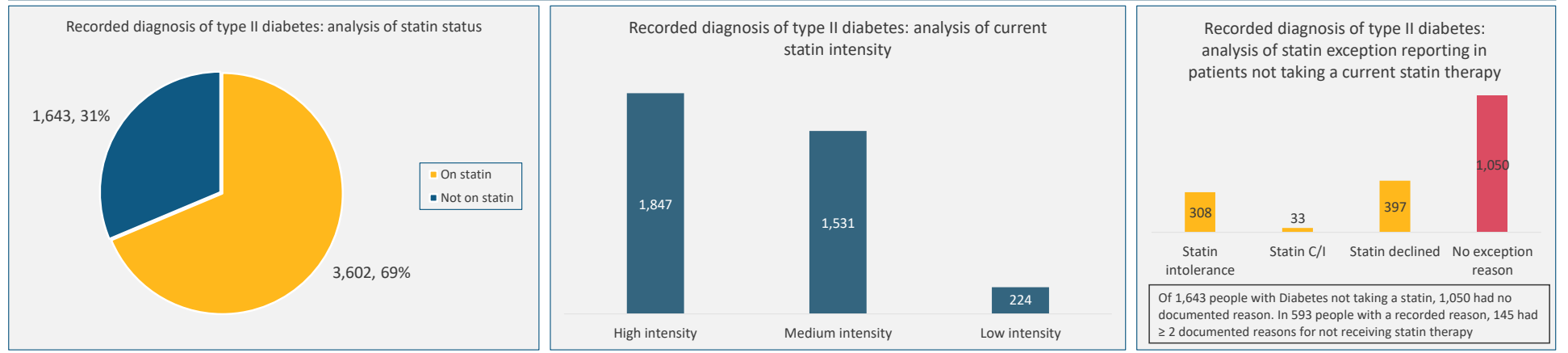
**Reporting definition:**

Report on all patients with a recorded diagnosis of Type II diabetes defined in line with QOF register inclusion criteria

**Key finding:**

Of 5,245 patients with a recorded diagnosis of Diabetes, 3,602 (69%) are receiving statin therapy

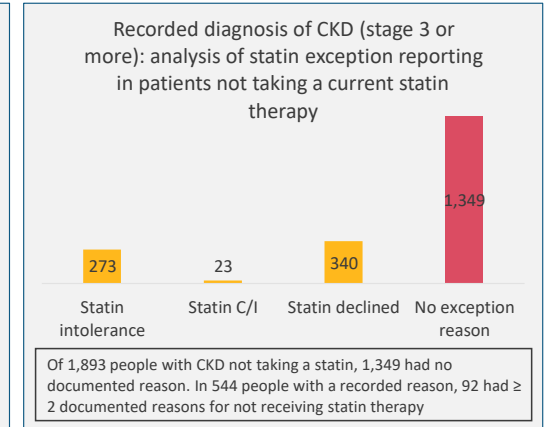
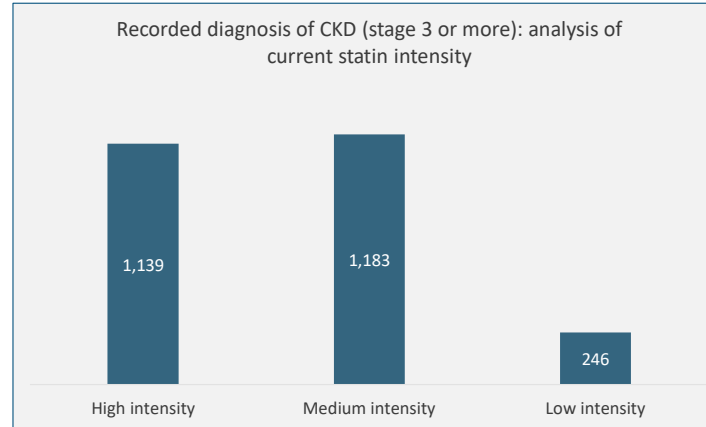
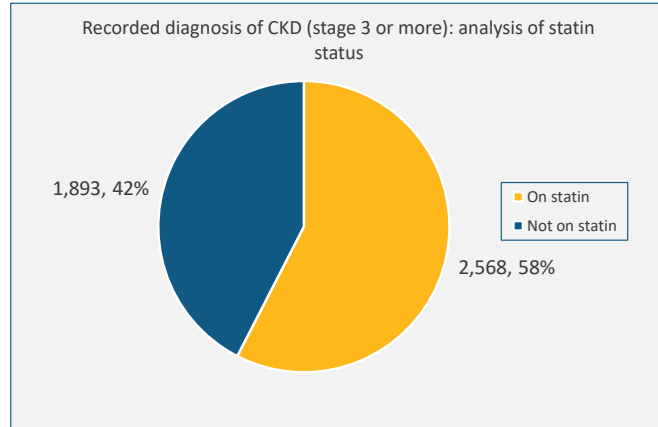
Of 1,411 patients with a recorded diagnosis of Diabetes & A-T CVD, 1,168 (83%) are receiving statin therapy



**Chronic Kidney Disease (CKD) stage 3 or more: Total patients = 4,461**

**Reporting definition:**  
Report on all patients with a recorded diagnosis of chronic kidney disease (CKD) stage 3 or above defined in line with QOF register inclusion criteria

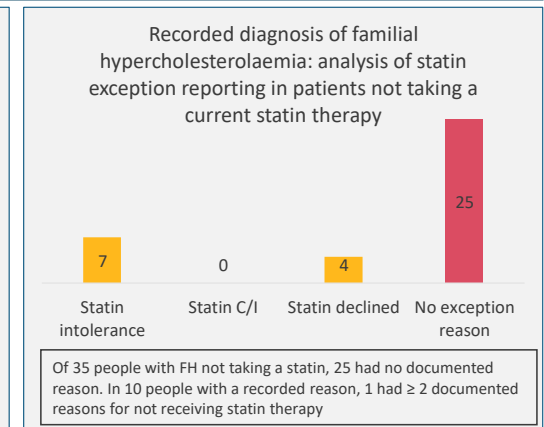
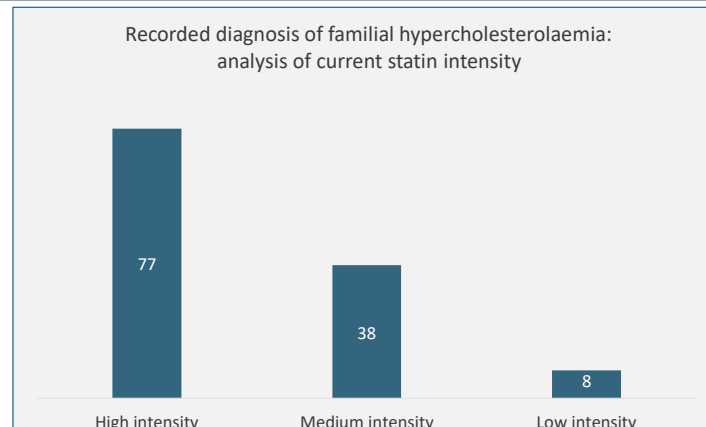
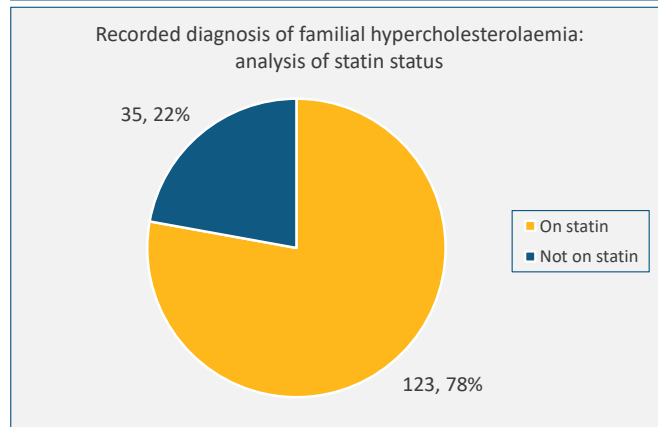
**Key finding:**  
Of 4,461 patients with a recorded diagnosis of CKD, 2,568 (58%) are receiving statin therapy  
Of 1,513 patients with a recorded diagnosis of CKD & A-T CVD, 1,147 (76%) are receiving statin therapy



**Familial hypercholesterolaemia: Total patients = 158**

**Reporting definition:**  
Report on all patients with a Read coded diagnosis of familial hypercholesterolaemia (please note a Read code for familial hypercholesterolaemia does not confirm the presence of a diagnosis validated through genetic testing)

**Key finding:**  
Of 158 patients with a recorded diagnosis of FH, 123 (78%) are receiving statin therapy  
Of 19 patients with a recorded diagnosis of FH & A-T CVD, 17 (89%) are receiving statin therapy

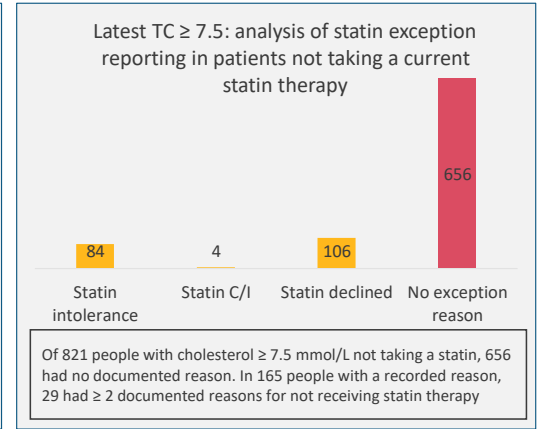
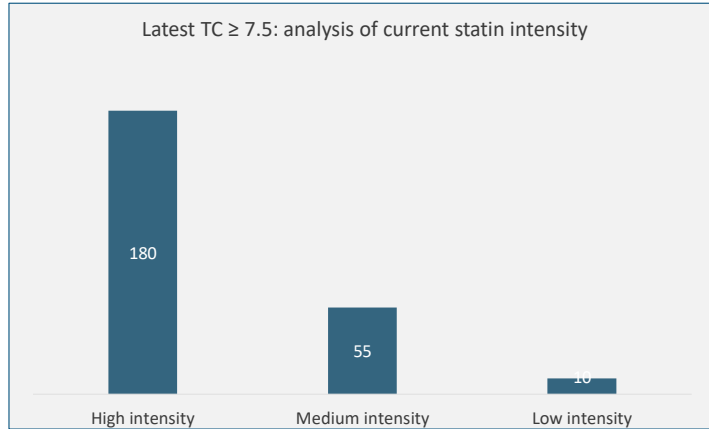
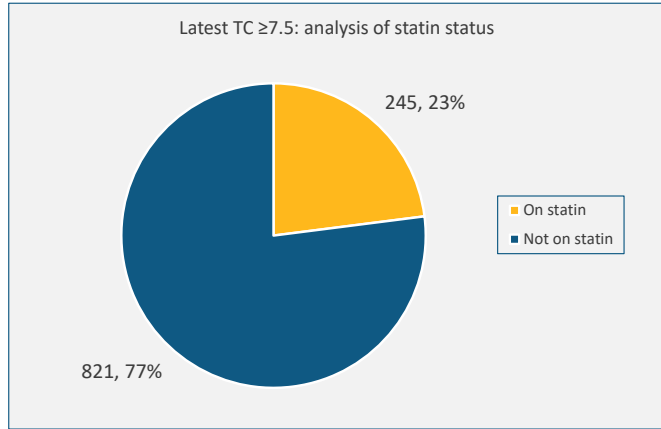




**Total cholesterol  $\geq$  7.5mmol/L: Total patients = 1,066**

**Reporting definition:**  
Report on patients with a documented latest total cholesterol level  $\geq$  7.5 mmol/L

**Key finding:**  
Of 1,066 patients with a latest cholesterol  $\geq$  7.5 mmol/L, 245 (23%) are receiving statin therapy  
Of 71 patients with a cholesterol  $\geq$  7.5 mmol/L with a diagnosis of A-T CVD, only 32 (45%) are receiving statin therapy



**QRISK 2 - risk  $\geq$  10% (exc. patients with existing A-T CVD): Total patients = 11,429**

**Reporting definition:**  
Report on patients with a documented QRISK 2 score  $>$  10% (excluding patients with existing cardiovascular disease)

**Key findings:**  
Of 14,165 (59%) patients with a documented QRISK2 score in their medical notes, 11,429 (81%) had a QRISK2 score  $\geq$  10%  
Of 11,429 patients with a recorded QRISK2 score  $\geq$  10%, 4,669 (41%) are receiving statin therapy

