(FH) being the most common, are at heightened risk of premature cardiovascular events. However, this risk is heterogeneous within identical genotype diseases, and modifiable with treatment. Coronary imaging identifies subclinical atherosclerosis, personalises risk stratification and treatment targets. Coronary artery calcium scoring (CACS) is first-line for primary prevention. However, calcification is a late-stage process in CAD pathogenesis and the CACS has low specificity in young patients with severe FH. CT coronary angiography (CTCA) may identify non-calcific CAD and high risk plaque (HRP) features unseen with CACS. This study aimed to quantify the impact of CTCA vs traditional CACS on clinical management in real-world asymptomatic Lipid Clinic patients.

**Methods** A retrospective single-centre review of asymptomatic Lipid Clinic electronic patient records with both CACS and CTCA from May 2019 to December 2020. A vignette was compiled for each patient providing all relevant clinical data. CACS was recorded as Agastston score and CTCA as the Coronary Artery Disease - Reporting and Data System (CAD RADS) grading of anatomical stenosis with a modifier for HRP features. Findings were compiled into an anonymised online survey which Consultant Biochemists from across the UK were invited to complete. Data was revealed in a step-wise fashion to the participating clinician: (i) vignette only, (ii) CACS, and (iii) CAD RADS. Clinicians were asked their lipid target and management after each data-point was unblinded. Background information on CACS and CTCA result interpretation was provided prior to participation. Statistical analysis was performed using SPSS v.21 and significance was defined as two-tailed p<0.05.

**Results** 45 asymptomatic patients (55±9 years, 49% female) were included. 7 Consultant Biochemists from 6 institutions (4 [67%] tertiary/teaching hospitals and 2 [33%] district general hospitals) participated. CACS and CAD RADS assessment of disease burden is presented in Figure 1, with CTCA re-classifying CAD severity vs CACS in 28/45 (62%) patients. Lipid targets were altered significantly more frequently with CTCA vs CACS (19% vs 12%; χ² 57.0, p<0.005), even after CACS result available (Figure 2). The LDL target selected was altered by CACS in 12%, and in a further 19% when CAD RADS result was unblinded, which was statistically significant (χ² 57.0, p<0.005). This finding was consistent across FH and non-FH patients. Increasing CACS and CAD RADS severity were significantly associated with change in lipid target (χ² 54.2, p<0.001; χ² 27, p<0.001), the latter even after a high CACS result was available, as did presence of HRP (χ² 9.3, p=0.002).

**Conclusion** In high-risk asymptomatic dyslipidaemia, CTCA alters treatment targets beyond CACS by demonstrating higher CAD severity burden and HRP. This may differentiate high risk and very high risk patients in an important population.

**Conflict of Interest** Nil

**Abstract 174 Figure 2** Correlation table assessing impact of CACS vs CTCA on change in lipid target

<table>
<thead>
<tr>
<th>CTCA</th>
<th>Target change</th>
<th>No change</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target change</td>
<td>38 (12%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>No change</td>
<td>49 (16%)</td>
<td>228 (72%)</td>
</tr>
</tbody>
</table>

**Abstract 174 Figure 1** CAD severity breakdown by CACS vs CTCA
pandemic related delays. Patients who underwent revascularisation were identified as those having PCI immediately or up to 4 weeks after iCA, and CABG within 3 months.

**RESULTS**
209 patients attended for elective iCA. 106 patients (50.7%) with no known CAD met NICE CG95 chest pain pathway criteria (Figure 1). Of these, 25 patients (23.6%) had no non-invasive tests prior to iCA. 81 patients (76.4%) underwent non-invasive test, with 58 patients having any functional test and 23 having only CTA (Figure 2). Revascularisation was performed in 69/106 patients (65.1%: 64 PCI; 5 CABG). Of those with prior functional imaging 41/58 (70.7%) underwent revascularisation. Of the 25 patients without prior functional or anatomical imaging, 9 (36.0%) had revascularisation. The percentage of patients revascularized stratified by upstream investigation pathway are listed in Table 1.

**Conclusions**
Six years following NICE CG95 publication, nearly a quarter of chest pain patients with no known CAD are referred for iCA without prior non-invasive testing. Only 31.1% had both CT and a functional test. Revascularisation rates were lowest in patients without prior non-invasive investigation, suggesting history and examination are poor predictors of need for revascularisation. In contrast, prior non-invasive testing was associated with higher rates of revascularisation, avoiding the risks of unnecessary iCA for many patients. Ensuring patients are likely to need revascularisation or intracoronary assessment prior to iCA is likely to improve catheter lab efficiency in a capacity constrained system.

**Conflict of Interest**
N/A

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**IMPROVING ASSESSMENT OF LIPID PROFILE IN PATIENTS WITH ACUTE CORONARY SYNDROME USING A QUALITY IMPROVEMENT PROJECT**

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**Introduction**
Cardiovascular disease (CVD) is the leading cause of morbidity and mortality worldwide, accounting for nearly 30% of the total deaths based on the World Health Organization (WHO) statistics. Cholesterol is a key risk factor for atheroma and coronary heart disease. Lipid-lowering drugs play a crucial role in the secondary prevention of CVD. Current national guidelines recommend checking a lipid profile in all patients admitted with acute coronary syndrome (ACS). Lipid profiles should be checked in every patient presenting to hospital with ACS as per National Institute of Clinical Excellence (NICE) and European Society of Cardiology (ESC) guidelines. The aim of our quality improvement project was to assess and improve adherence to lipid profile assessment in patients presenting with ACS to our tertiary care centre.

**Methods**
Data was collected retrospectively from patients admitted to the cardiology ward at our hospital either directly or via emergency department (ED)/acute medical unit (AMU). A proforma was used to collect data on route of admission, patient demographics, diagnosis and blood tests performed. Prospective data was then collected following implementation of two interventions (education to relevant teams and posters in relevant clinical areas). Data from each cycle was analysed using Microsoft Excel to assess compliance with guidelines.

**Results**
Baseline data was collected from 07/10/2021 to 09/11/2021 and showed that only 65% of patients admitted with ACS had a full lipid profile checked on admission (see table 1). One patient had a total cholesterol >7.5 therefore warranted referral to specialist services however this was not...