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PCCS Lipid QI Programme

An introduction to lipid management

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Prof. Raj Thakkar disclosures

- AstraZeneca
- Bayer
- Boehringer Ingelheim
- Novartis
- Amgen
- Medtronic
- Edwards
- Heathy.io
- Abbott

Dr Jim Moore disclosures

- Amgen
- AstraZeneca
- Bayer
- Boehringer Ingelheim
- Cuviva
- Novartis
- Novo Nordisk
- VIFOR
- Amarin
- Medtronic
- Roche

Introduction to the programme

- **WHY?**
  - Lipid management is essential to managing CVD
- **WHAT?**
  - This Quality Improvement (QI) programme is designed to support primary care teams to understand the importance of lipid management, how to improve coding, and embed processes for managing lipid levels
- **HOW?**
  - The programme will take a continuous service improvement approach
- **WHO?**
  - It will be directed at HCPs in your practice or PCN

Lipid QI programme overview

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WHY

Introductory video

15 mins

- Overview of lipid management
- Where QI comes into play – services and targets to reach
- The importance of targeting high risk populations (secondary prevention)

WHAT

Module one: Patient identification and diagnosis

30 mins

- Cholesterol management in CVD prevention
- Principles of primary and secondary care prevention
- Achieving national guidelines

HOW

Module two: Recall and review – practical tips

30 mins

- Coding and patient services
- UCLP dashboard
- Recalling patients to conduct holistic review
- Clinical targets to aim for in clinic

Module Three: Treatment and management

45 mins

- Lifestyle and drugs
- AAC guidance/HIN network guidelines
- Lipid lowering beyond statins including using injectable therapies
- Statin intolerance

SPECIAL POPULATIONS

Module Four:

20 mins

- Familial Hypercholesterolaemia

BRIEF INTERVENTIONS

Additional resources/patient support short videos

- Counselling patients on inclisiran (5mins)
- Tips for keeping patients on therapy/ adherence (5 mins)

CVD is responsible for 25% of all deaths in the UK[1]

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CVD costs the UK economy* an estimated

£19 BILLION

every year

*including premature death, disability and informal costs

460 PEOPLE DIE

every day from CVD

7.6 MILLION

people are living with CVD in the UK

CVD kills one person

EVERY 3 MINS

in the UK

CVD, cardiovascular disease; UK, United Kingdom.

1. British Heart Foundation. UK Factsheet April 2023. Available at: https://www.bhf.org.uk/-/media/files/for-professionals/research/heart-statistics/bhf-cvd-statistics-uk-factsheet.pdf?rev=e771367bf0654a4dae85cbc9dbefae17&hash=76C0182379BB6EE118EC6F76FA35A158. Accessed April 2023.

CVD and lipids[1-2]

- CVD risk can be reduced by modifying the blood lipid profile
  - TC is an important predictor of CVD events
  - LDL-C is a powerful risk factor
  - Non-HDL-C constitutes atherogenic lipoprotein particles (LDL, VLDL, IDL and TG [20%])
  - Raised TG level is a risk factor for CVD and is independent of TC

CV, cardiovascular; CVD, cardiovascular disease; HDL-C, high-density lipoprotein cholesterol; IDL, intermediate-density lipoprotein; LDL-C, low-density lipoprotein cholesterol; TC, total cholesterol; TG, triglycerides; VLDL, very-low-density lipoprotein.

1. NICE CKS. Lipid modification – CVD prevention. Available at: https://cks.nice.org.uk/topics/lipid-modification-cvd-prevention/. Accessed June 2023; 2. Bhatt DL. What is non-HDL cholesterol? Available at: https://www.health.harvard.edu/heart-health/what-is-non-hdl-cholesterol#:~:text=A%20non%2DHDL%20cholesterol%20value,are%20eventually%20transformed%20into%20LDL.. Accessed June 2023.

Patient identification: make every contact count

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NHS health checks

- For patients aged 40 to 74 years[2]
- Calculating QRISK to assess a person's risk of developing CVD over the next 10 years[3]

Proactive population health management

- Assessing lipid profile of at-risk groups such as:[1]
  - Secondary prevention
  - Patients with CKD
  - Patients with hepatic impairment
  - Patients with diabetes
  - Smokers or ex-smokers
  - Older adults
  - South Asian population
  - Other QRISK3 factors[3*]

Comorbidity assessments (case-based strategy)

- Assessing CVD risk and lipids in patients with comorbidities such as AF and hypertension[4]
- Utilise long-term condition appointments to also undertake vital checks to assess a person's risk of CVD, e.g., BP checks[5]
- Secondary prevention

Opportunistic screening → **Patients at increased risk** → **Patients with established CVD**

*Please refer to QRISK3 for other CVD risk factors. AF, atrial fibrillation; BP, blood pressure; CKD, chronic kidney disease; CVD, cardiovascular disease; NHS, National Health Service.

1. British Heart Foundation. High Cholesterol – Symptoms, Causes & Levels. Available at: https://www.bhf.org.uk/informationsupport/risk-factors/high-cholesterol. Accessed July 2023; 2. NHS. NHS Health Check. Available at: https://www.nhs.uk/conditions/nhs-health-check/. Accessed July 2023; 3. ClinRisk. Welcome to the QRISK®3-2018 risk calculator. Available at: https://qrisk.org/. Accessed July 2023; 4. British Heart Foundation. Incidence and prevalence - comorbidities - coronary heart disease. Available at: https://www.bhf.org.uk/what-we-do/our-research/heart-and-circulatory-diseases-in-numbers/comorbidities-coronary-heart-disease. Accessed July 2023; 5. NHS. Cardiovascular disease. Available at: https://www.nhs.uk/conditions/cardiovascular-disease/#:~:text=High%20blood%20pressure%20(hypertension)%20is,can%20damage%20your%20blood%20vessels. Accessed July 2023.

Coding for cholesterol control and lipid management

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- There is significant under-coding across care records

Primary prevention	Secondary prevention
Accurate coding for risk factors for CVD is essential to robustly calculate QRISK	Failure to code established CVD will lead to recorded under-prevalence, and risk loss of follow-up
Failure to properly code can lead to under-estimating risk	To aim to manage non-HDL cholesterol to < 2.5 mmol/L or LDL < 1.8 mmol/L (QOF 2023/24) and to intensify lipid-lowering therapy if this is not achieved[1]
Note QRISK already under-estimates risk with respect to CKD Patients with CKD are at high risk of CVD as outlined in NICE and statin therapy is recommended in these patients	Accurate coding of patients with FH is important
	Improving coding practices can be seen as a quality improvement measure, enabling HCPs to monitor patients with CVD or raised cholesterol better

CKD, chronic kidney disease; CVD, cardiovascular disease; FH, familial hypercholesterolaemia; HCPs, healthcare professionals; HDL, high-density lipoprotein; LDL, low-density lipoprotein; QOF, Quality and Outcomes Framework.

1. NHS England. Quality and Outcomes Framework guidance for 2023/24. Available at: https://www.england.nhs.uk/wp-content/uploads/2023/03/PRN00289-quality-and-outcomes-framework-guidance-for-2023-24.pdf. Accessed July 2023; 2. NICE. Cardiovascular disease: risk assessment and reduction, including lipid modification (CG181). Available at: https://www.nice.org.uk/guidance/cg181. Accessed October 2023.

Systematic registration, recall and review

- Practices/PCNs should have a robust process in place for systematic retrospective coding
- In addition, there should be a mechanism to maintain registers through disease/risk factor detection and contemporaneous coding practices. This will close the prevalence gap and support the creation of an accurate disease register
- A disease register will enable effective population health management and a reliable patient recall and review system:
  - Special notes:
    - Holistic, personalised care should be offered to all
    - For patients with a QRISK3 score ≥ 10%/secondary prevention who decline pharmacological intervention, reassess CVD risk in the future[1]
    - For patients treated for primary and secondary prevention of CVD, monitoring for adverse effects and review of drug treatment is important[2]
    - Younger patients may have a low 10-year CVD risk, but which is still higher than others of their age. Calculating lifetime risk in this cohort of patients can help to identify these high-risk younger patients, to allow early intervention and modification of risk factors[3]
      - Use the QRISK3 tool to calculate the estimated CVD risk within the next 10 years for people aged between 25 and 84 without CVD[1]

CVD, cardiovascular disease; PCNs, primary care networks.

1. NICE. Cardiovascular disease: risk assessment and reduction, including lipid modification (CG181). Available at: https://www.nice.org.uk/guidance/cg181. Accessed July 2023; 2. NICE CKS. Lipid modification - CVD prevention. Available at: https://cks.nice.org.uk/topics/lipid-modification-cvd-prevention/. Accessed July 2023; 3. Keele University: Centre for Medicines Optimisation. NPC Archive Item: Estimating lifetime cardiovascular risk – we can, but should we? Available at: https://www.centreformedicinesoptimisation.co.uk/estimating-lifetime-cardiovascular-risk-we-can-but-should-we/. Accessed June 2023.

National targets

NICE lipid targets are currently under review and the new recommendations will impact on QOF targets

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- The QOF domain for cholesterol control and lipid management (CHOL) 2023/24 outlines targets for lipid levels and lipid lowering therapy for certain groups of patients:

Indicator	Points	Thresholds
Ongoing management		
CHOL001. Percentage of patients on the QOF **Coronary Heart Disease, Peripheral Arterial Disease, Stroke/TIA or Chronic Kidney Disease** Register who are currently prescribed a statin, or **where a statin is declined or clinically unsuitable, another lipid lowering therapy**	14	70-95%
CHOL002. Percentage of patients on the QOF **Coronary Heart Disease, Peripheral Arterial Disease, or Stroke/TIA** Register, who have a recording of non-HDL cholesterol in the preceding 12 months that is lower than 2.5 mmol/L, or where non-HDL cholesterol is not recorded a recording of LDL cholesterol in the preceding 12 months that is lower than 1.8 mmol/L	16	20-35%

- Accurately coding the conditions highlighted in CHOL001 will flag these patients for review and appropriate lipid management

HDL, high-density lipoprotein; LDL, low-density lipoprotein; QOF, Quality and Outcomes Framework; TIA, transient ischaemic attack.

NHS England. Quality and Outcomes Framework guidance for 2023/24. Available at: https://www.england.nhs.uk/wp-content/uploads/2023/03/PRN00289-quality-and-outcomes-framework-guidance-for-2023-24.pdf. Accessed July 2023.

Follow up and targets in primary and secondary prevention[1-5]

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Primary Prevention	Secondary Prevention
Measure TC, HDL-C, LDL-C and non-HDL-C within 3 months	Measure TC, HDL-C, LDL-C and non-HDL-C within 3 months
Aim for a greater than 40% reductio	l/L and/or LDL-C <1.8mmol/L
ESC recommendations for patients • LDL-C reduction ≥50% from bas	tients at very high-risk: m baseline and LDL-C goal <1.4 mmol/L

Very high risk is defined as:
- ASCVD (clinical/imaging)
- SCORE ≥10%
- FH with ASCVD or with another major risk factor
- Severe CKD (eGFR <30 mL/min)
- DM & target organ damage: ≥3 major risk factors; or early onset of T1DM of long duration (>20 years)

If not achieved:
- Consider adherence issues, dose ti
- Consider increasing statin dose if on < atorvastatin 80 mg and the patient is at higher risk due to comorbidities, risk score or based on clinical judgement
- Consider combination treatment with other lipid lowering therapies

Provide annual medication reviews for patients taking statins (consider an annual non-fasting non-HDL-C blood test to inform the discussion):
- Discuss medication adherence, lifestyle changes and address CVD risk factors
- Discuss with patients taking low or medium intensity statins, the benefits and risks of high intensity statins

CVD, cardiovascular disease; ESC, European Society of Cardiology; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; TC, total cholesterol.

1. NICE. Cardiovascular disease: risk assessment and reduction, including lipid modification (CG181). Available at: https://www.nice.org.uk/guidance/cg181. Accessed July 2023; 2. Health Innovation Network. Lipid Optimisation Pathway for Secondary Prevention in Primary Care. Available at: https://thehealthinnovationnetwork.co.uk/programmes/cardiovascular-disease/lipid-management-and-familial-hypercholesterolemia/lipid-management-pathways/. Accessed November 2023; 3. NICE. Inclisiran for treating primary hypercholesterolaemia or mixed dyslipidaemia (TA733). Available at: https://www.nice.org.uk/guidance/ta733. Accessed August 2023; 4. Mach F, et al. Eur Heart J 2020;41:111-188; 5. Khatib R and Neely D on behalf of the AAC Clinical Subgroup. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. November 2022. Available at: https://www.england.nhs.uk/aac/publication/summary-of-national-guidance-for-lipid-management/. Accessed August 2023.

Guidance for lipid management

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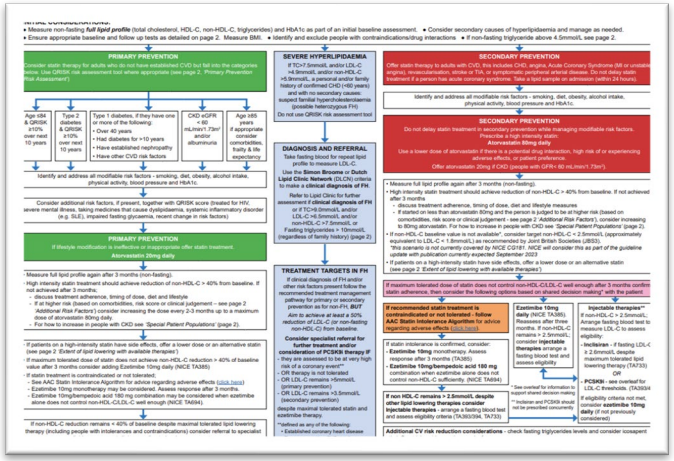
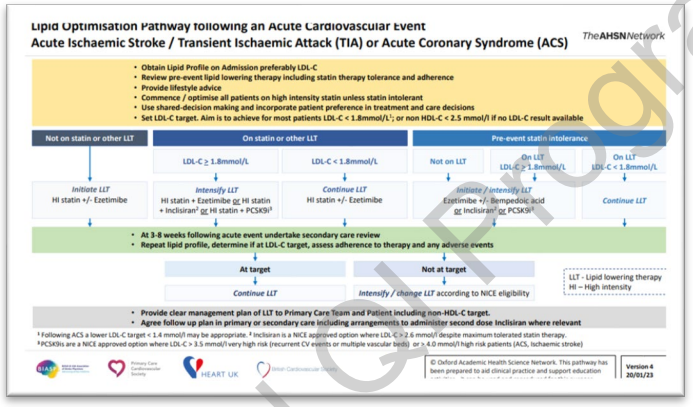
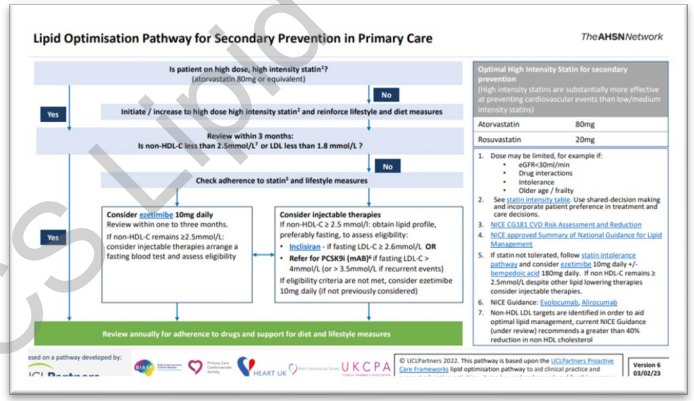
Accelerated Access Collaborative: Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD

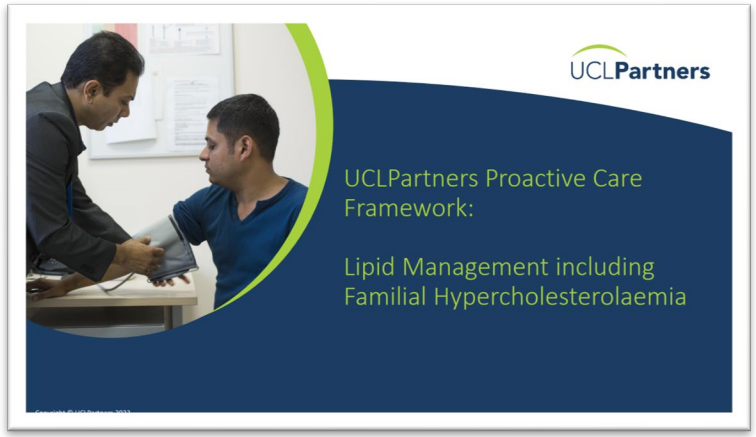


The HIN: Lipid management pathways





UCLPartners Proactive Care Framework: Lipid Management including Familial Hypercholesterolaemia



CVD, cardiovascular disease; HIN, Health Innovation Network.

1. Khatib R and Neely D on behalf of the AAC Clinical Subgroup. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. November 2022. Available at: https://www.england.nhs.uk/aac/publication/summary-of-national-guidance-for-lipid-management/. Accessed July 2023; 2. Health Innovation Network. Lipid Optimisation Pathway following an Acute Cardiovascular Event: Acute Ischaemic Stroke / Transient Ischaemic Attack (TIA) or Acute Coronary Syndrome (ACS). Available at: https://thehealthinnovationnetwork.co.uk/programmes/cardiovascular-disease/lipid-management-and-familial-hypercholesterolemia/lipid-management-pathways/. Accessed November 2023; 3. Health innovation Network. Lipid Optimisation Pathway for Secondary Prevention in Primary Care. Available at: https://thehealthinnovationnetwork.co.uk/programmes/cardiovascular-disease/lipid-management-and-familial-hypercholesterolemia/lipid-management-pathways/. Accessed November 2023; 4. UCLPartners. UCLPartners Proactive Care Framework: Lipid Management including Familial Hypercholesterolaemia. Available at: https://s42140.pcdn.co/wp-content/uploads/Cholesterol-Framework-Dec-2022-Version-8.pdf. Accessed July 2023.

LDL-Cholesterol lowering therapies

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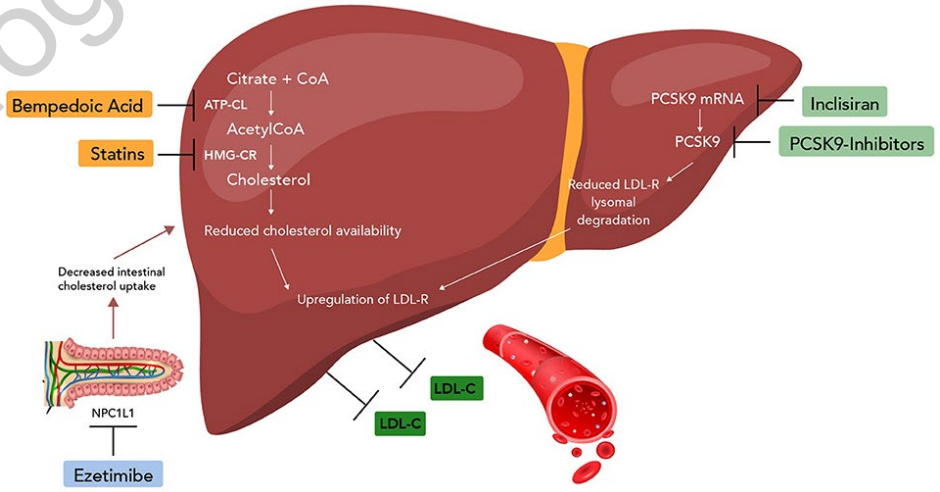
Mechanism of action

Statins	**↓ cholesterol synthesis**
	HMG CoA reductase inhibitor
Ezetimibe	**Impairs cholesterol and biliary absorption**
	Inhibits Niemann-Pick C1 like protein in the intestine and liver
Bempedoic acid	**↑ expression LDL receptors**
	Inhibits adenosine triphosphate-citrate lyase
PCSK9i's	**Prevents inhibition of LDL receptors on hepatocytes**
	Inhibits PCSK9 that binds to LDL receptors
Inclisiran	**↓ production PCSK9**
	Gene silencing by small interfering RNA



HMG CoA, hydroxymethylglutaryl-coenzyme A; LDL-C, low-density lipoprotein cholesterol; PCSK9, proprotein convertase subtilisin/kexin type 9; RNA, ribonucleic acid. 1. Atorvastatin SmPC; 2. Ezetimibe SmPC; 3. Bempedoic acid SmPC; 4. Evolocumab SmPC; 5. Alirocumab SmPC; 6. Inclisiran SmPC.

LDL-C lowering capabilities of therapies

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Lipid-lowering therapies	LDL-C ↓	Points to note
Atorvastatin 80 mg OD	55%	Cost effective in all patients
Ezetimibe 10 mg OD	19%	
Bempedoic acid 180 mg OD	~28% (when combined with ezetimibe)	Use if statins not tolerated and LDL-C not controlled on ezetimibe
NICE cost-effective in high-risk patients at NICE specified LDL-C cut-offs:		
Evolocumab 2-4 weekly	~50%	LDL-C > 3.5/4 mmol/L
Alirocumab 2-4 weekly	~50%	
Inclisiran 3-6 monthly	~50%	LDL-C ≥ 2.6 mmol/L

Thresholds for inclisiran use are different in Wales	LDL-C cut-offs
Patients with high risk due to previous CV events	LDL-C ≥4.0 mmol/L
Patients with recurrent/polyvascular disease	LDL-C ≥3.5 mmol/L
Patients with HeFH for secondary prevention of CV events	LDL-C ≥3.5 mmol/L
Patients with HeFH for primary prevention of CV events	LDL-C ≥5.0 mmol/L

CV, cardiovascular; HeFH, heterozygous familial hypercholesterolaemia; LDL-C, low-density lipoprotein cholesterol; NICE, National Institute for Health and Care Excellence; OD, once daily. 1. Atorvastatin SmPC; 2. Ezetimibe SmPC; 3. Bempedoic acid SmPC; 4. Evolocumab SmPC; 5. Alirocumab SmPC; 6. Inclisiran SmPC; 7. Khatib R and Neely D on behalf of the AAC Clinical Subgroup. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. November 2022. Available at: https://www.england.nhs.uk/aac/publication/summary-of-national-guidance-for-lipid-management/. Accessed October 2023; 8. NICE. Bempedoic acid with ezetimibe for treating primary hypercholesterolaemia or mixed dyslipidaemia (TA694). Available at: https://www.nice.org.uk/guidance/ta694. Accessed October 2023; 9. All Wales Therapeutics and Toxicology Centre. Inclisiran (Leqvio®). Available at: https://awttc.nhs.wales/accessing-medicines/medicine-recommendations/inclisiran-leqvio/. Accessed October 2023.

Effective LDL-C reduction remains a challenge

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The situation in England (to June 2023):

Recent national **CVDPREVENT data** showed that

- **Over 71% of patients with CVD have non-HDL-C levels above 2.5 mmol/L or LDL-C above 1.8 mmol/L[1]**
- **Over 17% of patients with CVD are not on any lipid-lowering therapy[2]**

In a **European study** of patients prescribed lipid-lowering therapy for primary or secondary prevention:[3*]

Just 33% of patients achieved 2019 ESC/EAS LDL-C goals (95% CI: 32–35)

The likelihood of goal attainment fell with increasing risk (i.e., a lower LDL-C goal)

OVER 80% of very high-risk patients were **UNABLE TO REACH 2019 ESC/EAS LDL-C GOALS** on statins alone[†]

Greater utilisation of adjunctive therapies is needed to help patients at highest risk reach guideline-recommended LDL-C goals

*Data from an 18-country, European-wide, cross-sectional, observational study of patients prescribed lipid-lowering therapy for primary or secondary prevention in primary or secondary care across Europe, including the UK (N=5,888).[3] †Treatment goals for very high-risk patients: LDL-C <1.4 mmol/L (<55 mg/dL) and ≥50% LDL-C reduction from baseline.[4] As untreated lipid levels were not available, the authors could not quantify to what extent the ≥50% LDL-C reduction from baseline was achieved.[3] All patients with documented ASCVD, either clinical or unequivocal on imaging, are considered very high risk.[4] ASCVD, atherosclerotic cardiovascular disease; CI, confidence interval; CVD, cardiovascular disease; ESC/EAS, European Society of Cardiology/European Atherosclerosis Society; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol.

1. CVDPREVENT. Data Explorer: Cholesterol: CVD treated to threshold (CVDP007CHOL). Available at: https://www.cvdprevent.nhs.uk/data-explorer?period=9&area=1&indicator=30. Accessed October 2023; 2. CVDPREVENT. Data Explorer: Cholesterol: CVD treated with LLT (CVDP009CHOL). Available at: https://www.cvdprevent.nhs.uk/data-explorer?period=9&area=1&indicator=34. Accessed October 2023; 3. Ray KK, et al. Eur J Prev Cardiol 2021;28(11):1279-1289; 4. Mach F, et al. Eur Heart J 2020;41(1):111-188.

Summary

- In the UK, CVD is a significant population health issue with costs of ~£19 billion annually (including costs from premature death, disability and informal costs)[1]
  - CVD kills one person every 3 minutes in the UK
- LDL-C lowering will reduce CVD risk[2]
  - Many patients are not at target and require a polypharmacy strategy to achieve this
- Maximising opportunities for assessing lipid profiles is essential through proactive population health management, NHS health checks and comorbidity assessments
- Coding for cholesterol control and lipid management is important for primary and secondary CVD prevention
  - Coding forms one of the pillars of systematic population health management
  - Accurate disease registers are central to delivering effective population health management and ensuring a reliable means of patient recall and review
- National guidelines and targets can support with lipid management[3,4]

CVD, cardiovascular disease; NHS, National Health Service; UK, United Kingdom.

1. British Heart Foundation. UK Factsheet April 2023. Available at: https://www.bhf.org.uk/-/media/files/for-professionals/research/heart-statistics/bhf-cvd-statistics-uk-factsheet.pdf?rev=e771367bf0654a4dae85cbc9dbefae17&hash=76C0182379BB6EE118EC6F76FA35A158. Accessed October 2023; 2. NICE CKS. Lipid modification – CVD prevention. Available at: https://cks.nice.org.uk/topics/lipid-modification-cvd-prevention/. Accessed October 2023; 3. NHS England. Quality and Outcomes Framework guidance for 2023/24. Available at: https://www.england.nhs.uk/wp-content/uploads/2023/03/PRN00289-quality-and-outcomes-framework-guidance-for-2023-24.pdf. Accessed October 2023; 4 . Khatib R and Neely D on behalf of the AAC Clinical Subgroup. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. November 2022. Available at: https://www.england.nhs.uk/aac/publication/summary-of-national-guidance-for-lipid-management/. Accessed October 2023.