

# A new focus of lipid-lowering therapy for secondary prevention vascular and diabetic foot patients in a pharmacist-led clinic.



Approximately 25-28 % of UK CVD deaths are due to raised cholesterol; every 1.0 mmol/L in LDL-C is associated with a 23% relative risk reduction in major atherosclerotic CVD events. Patients attending vascular clinics or diabetic foot clinics often have atherosclerotic disease and are at increased risk for the recurrence of vascular events. These patients merit high-intensity lipid-modifying therapy to maintain secondary prevention targets to reduce their risk of further disease. In this study we aimed to evaluate the impact of a pharmacist-led lipid optimisation clinic for secondary prevention in such patients.

The LDL cholesterol reductions achieved for vascular outpatients and diabetic foot MDT patients would, if maintained, correspond to relative risk reductions in major vascular events of >19% and >31% respectively.

## Project Dates



**Project Start** 01/03/2021

**Project End** 01/02/2023

## Programmes

- > CVD
- > In Hospital
- > Spread and Adoption

## Contact Details

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“ By reviewing these cohorts of patients and working with their GP when necessary, we have achieved a significant reduction in non-HDL cholesterol following review in clinic. When maintained, this is expected to reduce these patients' risk of having a major vascular event. This project also saw benefit to a cohort of patients who live in areas with high levels of deprivation. These patients often have limited access to specialist services due to lack of transport and mobility, and therefore suffer poorer health outcomes.

— **MATTHEW HART, SPECIALIST CLINICAL PHARMACIST, THE NEWCASTLE UPON TYNE HOSPITALS NHS FOUNDATION TRUST**

### **Challenge/Problem Identified**

The baseline audit of 61 Male and 39 Female patients with a mean age of 67.4 identified that 62% were eligible for lipid optimisation. Some patients within the cohort were not on any lipid lowering therapy and some were on a mixture of treatments at baseline.

By targeting those identified at elevated risk, for lipid optimisation a significant impact could be made by reducing risk of cardiovascular events through reduction of cholesterol.

### **Overview of innovation**

The baseline audit showed most patients were not treated to secondary prevention targets.

This led to the creation of a pharmacist-led clinic within secondary care, carrying out lipid optimisation of secondary prevention for high risk vascular and diabetic foot patients. The aim was to reduce health inequalities and reduce the risk of patients developing further cardiovascular disease.

This project is thought to be the first pharmacist-led clinic focusing on vascular patients and diabetic foot patients in the UK.

### **Action taken**

The following actions were taken:

- Post identification of eligible patients, telephone consultations were held with patients.
- Individualised treatment prescribed and/or advice provided to the GP for action.

Reviewed impact of lipid optimisation approx. 6-8 weeks later through reviewing lipid profiles and LFTs (Liver Function Tests).

### **Outcome**

Of 216 patients (144 male and 72 female) with a mean age of 69.3 years:

- 166 (77%) were on statins.
- 175 (81%) were above target of non-HDL of 2.5 mmol/L (mean 3.51 mmol/L) and required optimisation which led to a significant reduction in total cholesterol, triglycerides and non-HDL to a mean of 2.44 mmol/L.
- Post optimisation 92 out of 133 (69%) were at target odds ratio 2.95 (1.92 – 4.55),  $p < .001$  of being at target equivalent to an NNT=2. Calculated LDL levels (Friedewald) show a mean reduction of 0.83 [0.68 – 0.98] mmol/L for vascular patients and 1.39 [0.78 – 2.01] mmol/L for diabetic foot patients due to the intervention.

There would be economic and financial benefits of patients undergoing treatment who then avoid a cardiac event and associated care costs. Unfortunately, the predicted cost savings were not evaluated.

## Benefit

The LDL cholesterol reductions achieved for vascular outpatients and diabetic foot MDT patients would, if maintained, correspond to relative risk reductions in major vascular events of >19% and >31% respectively.

Reductions in lipid levels are achieved as patients' adhere to medicines prescribed. This is reflected by the statistical significant reductions in total cholesterol, triglycerides and non-HDL cholesterol ( $p$ -value < 0.05) post review in clinic.

## Sustainability

Consultations took place via telephone, therefore travelling time to clinic appointments was reduced. Electronic letters were sent directly to the patient's GP.

## Support provided by HI NENC

HI NENC (formerly AHSN NENC) funded Matthew Hart two days per week to run the clinic.

Support was provided from HI NENC via Professor Julia Newton, Nikki Holdsworth and Kate Mackay as well as Dr Jon Rees for statistical analysis.

## Plans for the future / spread and adoption

- An article has been published within the Journal of Clinical Lipidology.
- A pathway to support adoption and implementation of this approach in other trusts is being developed, and is to be shared nationally.
- Further development of the overall project to incorporate other high risk patient cohorts such as cardiovascular and stroke.
- Spread the work through local presentations encouraging uptake by other Trusts in NENC.
- Embed the service into the Trust rather than requiring external funding.
- Matthew Hart is linking with the cardiology department in relation to acute coronary syndromes to further replicate the work undertaken during this project.

## Related links, references and further resources

Link to the Journal article:

[https://www.sciencedirect.com/science/article/pii/S1933287424000424?utm\\_campaign=STMJ\\_219742\\_AUTH\\_SERV\\_PA&utm\\_m](https://www.sciencedirect.com/science/article/pii/S1933287424000424?utm_campaign=STMJ_219742_AUTH_SERV_PA&utm_m)

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