

# Failing To Prevent Is Preparing to Fail: Secondary Prevention - Where are we and what is the solution?

Dr Sally Olsen

Honorary Cardiology Fellow University Hospital Southampton. Interventional Fellow University Hospitals Dorset (Bournemouth). No Conflict of Interest.

Cardiovascular disease (CVD) is a leading cause of morbidity and mortality in England accounting for 1 in 4 premature deaths with an estimated £7.4 billion cost to the health system (1). There is an estimated annual cost to the economy of £15.8 billion (1). Up to 80% of deaths from CVD are preventable (2). Primary and secondary prevention is through modifying risk factors such as hypertension, hypercholesterolaemia, smoking and diabetes.

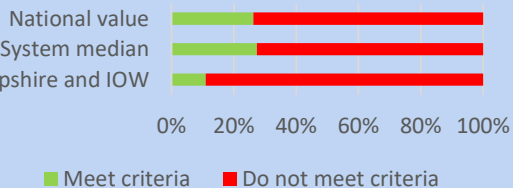
Patients with acute coronary syndromes (ACS) are at increased risk of further CVD related morbidity and mortality. This risk can be reduced by secondary prevention (3). Through the COVID pandemic and primary care crisis secondary prevention has been neglected. The CVD prevent audit reviewing primary care databases across England, shows gaps, see Figure 1 (4).

In order to prevent future CVD related morbidity and mortality high risk ACS patients need risk factor and medication optimisation. We propose a post ACS secondary prevention clinic to achieve this.

## OBJECTIVES

- Identify gaps in secondary prevention services for patients presenting with ACS to University Hospital Southampton (UHS).
- Initiate improvements to secondary prevention.

Figure 1: CVD Prevent Audit data: Percentage of Patients Aged 18 or Over with known CVD in whom the most recent (within 12 months) non-HDL Cholesterol/ LDL cholesterol is <2.5mmol/L / <1.8mmol/L (4)



## METHODS

Using the UHS Myocardial Ischaemia National Audit Project to identify patients, retrospective audits were performed. The first reviewed three months of ACS patients case notes, blood tests and primary care records. Records were reviewed to identify whether patients met NICE guidelines with regards to:

- Admission testing of cholesterol and HbA1c.
- Up-titration of angiotensin converting enzyme inhibitors/ angiotensin receptor blockers (ACE/ARB) to maximum tolerated dose.
- Repeat cholesterol check at 3 months

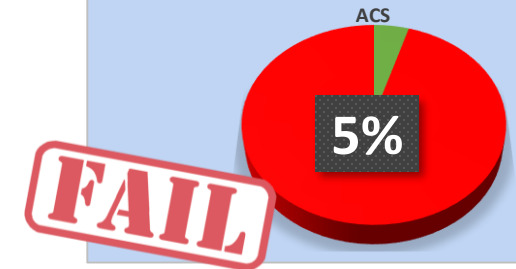
The second audit reviewed 12 months of ACS patients to identify how many of these patients had known CVD, and of those with known CVD how many met cholesterol criteria on admission.

## RESULTS Continued

Of 12 months of ACS patient admissions:

- 317/890 had a history of CVD.
- 209 (66.0%) of these admissions did not meet NICE cholesterol guidelines.
- 141(44.5%) patients had their cholesterol checked and did not meet criteria.
- 68(21.5%) did not have a cholesterol check performed.

Figure 2: UHS Patients Meeting NICE Guidelines For Secondary Prevention Three Months Post ACS



## CONCLUSIONS

- <5% of patients met NICE guidelines with regards to secondary prevention at three months Figure 2.
- 44.5% of ACS admissions with known CVD were not optimised for cholesterol. With a further 21.5% whose optimisation is unknown

These audits have confirmed significant gaps in secondary prevention services. Secondary prevention clinics have been shown to reduce mortality (3). Primary and secondary prevention needs to occur across health care with joined up approaches between primary and secondary care.

## SOLUTION

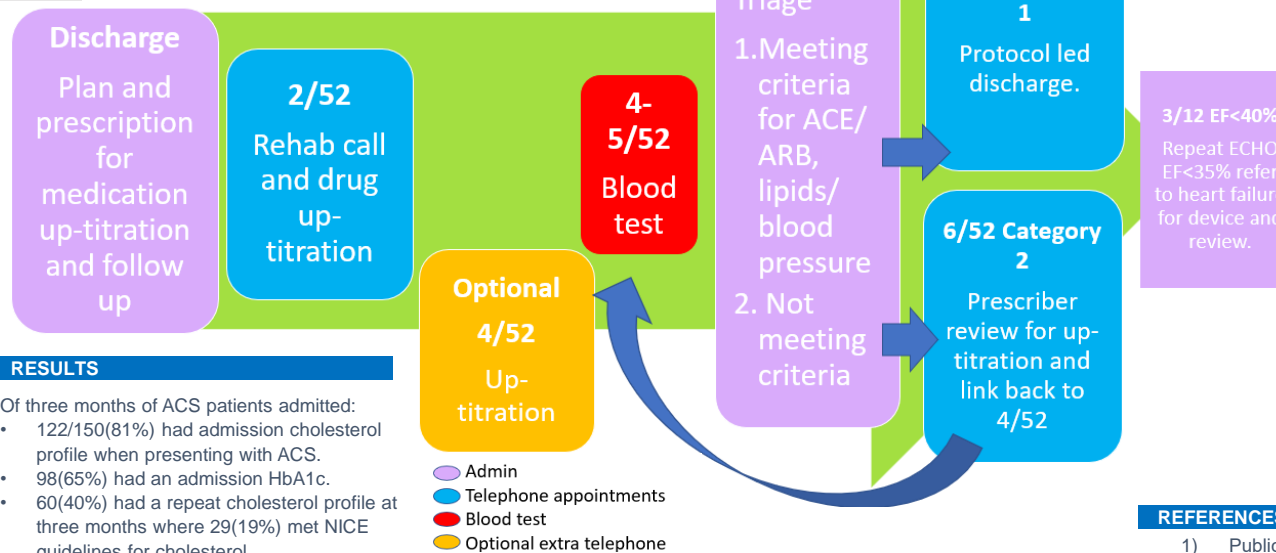
Secondary care based nurse/ pharmacist led follow up of ACS patients to provide aggressive secondary prevention, figure 3.

- Patients to be discharged on automatic up-titration protocols for ACE/ARBs and other appropriate secondary prevention medication with a plan for diabetes optimisation where appropriate.
- Cardiac rehab phone call at 2 weeks with confirmation to continue up-titration of drugs as appropriate.
- Blood test at 4-6 weeks
- Follow up at 6 weeks then
- 6 weekly follow up until patients are optimised to NICE targets on cholesterol, blood pressure and ACE/ARBs.

The limitation to putting this service in place has been access to long-term funding. Estimated costs for this clinic for ACS patients at UHS are £60,000/year for an estimated new 700 patients/year.

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## RESULTS

Of three months of ACS patients admitted:

- 122/150(81%) had admission cholesterol profile when presenting with ACS.
- 98(65%) had an admission HbA1c.
- 60(40%) had a repeat cholesterol profile at three months where 29(19%) met NICE guidelines for cholesterol.
- 30(20%) had up-titration of ACE/ARB with 23 patients on maximum dose.
- 7 patients met NICE guidelines for cholesterol and ACE/ARB inhibitor up-titration 3 months post admission.

- Admin
- Telephone appointments
- Blood test
- Optional extra telephone

Figure 3: Proposed UHS Secondary prevention clinic pathway.

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