

Medicines Optimisation in Cardiovascular Disease. We are not there yet!

Helen Williams, *Consultant Pharmacist for CV Disease and Clinical Associate for CVD, Southwark CCG; Clinical Network Lead for CVD; Lambeth CCG; CVD Lead Pharmacist for Medicines Use and Safety Division, NHS Specialist Pharmacy Service*

Correspondence to: helen.williams11@nhs.net

Abstract

Introduction

Despite improvements in healthcare, cardiovascular disease is still responsible for significant mortality and morbidity. Data from the Quality and Outcomes Framework indicates there is a substantial opportunity to improve medicines use in patients with CVD to deliver better patient outcomes.

Methods

Improving medicines use requires a multifactorial approach from the development and implementation of local guidelines to the management of individual patients.

Results

Data is submitted for a total of 1,079 patients at baseline (Apr–Sept 2013) and after the intervention period (March 2014). Of these, 281/1079 (26%) patients did not respond to repeated invitations for a BP review from the practices. Of the remaining 798 patients, the average baseline sBP was 170.8mmHg (range 122 to 229mmHg; median 169mmHg) and dBP was 94.8mmHg (52 to 144mmHg; median 98mmHg).

BP reductions were achieved across the cohort of 798 patients who the practices were able to engage for BP review resulting in achievement of key BP targets in a significant proportion. 688 patients had a sBP \geq 160mmHg at baseline with an average reduction in sBP of 26.9mmHg. The resultant average blood pressure across the cohort at the end of the project was sBP was 152mmHg (range 100mmHg to 223mmHg; median 150mmHg) and dBP was 84mmHg (range 39mmHg to 139mmHg; median 86mmHg).

Conclusion

Successful examples of how pharmacists can contribute to better patient care through supporting medicines optimisation are presented, including the direct management of a complex patient cohort by independent pharmacist prescribers and the use of a virtual clinic model to improve the practice of other healthcare professionals, such as GPs and practice nurses.

Keywords: medicines optimisation, cardiovascular, hypertension, prescribing, adherence

Background

Despite improvements in the management of cardiovascular disease (CVD) over the past two decades and a resulting reduction in overall mortality, CVD remains the most common cause of premature mortality (death below the age of 75 years) in the UK, with coronary heart disease alone accounting for more than 46,000 premature deaths per annum.¹ In terms of medicines, one in every three primary care prescriptions issued in the UK is for a cardiovascular (CV) drug, costing the NHS £1.2billion per year.² Evidence suggests that up to half of these CV drugs are never taken as prescribed.³ Strategies to improve adherence to drug therapies would have a bigger impact on outcomes than any new medical advance.⁴

The Current Situation

Data from the Quality and Outcomes Framework (QOF) 2014 indicates that there are still substantial opportunities to improve the use of medicines for patients with CVD:

- Hypertension: Nationally there are over 1.6 million people with known hypertension not achieving a blood pressure (BP) \leq 150/90mmHg, the QOF audit standard, and over 3.4 million people with known hypertension not achieving a BP \leq 140/90mmHg, the clinical BP target. High blood pressure comes second only to tobacco usage as the lead risk factor causing death in high income countries and, as such, managing high BP should be a priority for the NHS.⁵
- Heart Failure: Heart failure (HF) is associated with significant morbidity and mortality and is one of the most

common reasons for emergency hospital admission (second only to COPD in most Clinical Commissioning Groups (CCGs)). Robust evidence demonstrate that the use of ACE inhibitors (ACEI) or angiotensin receptor blockers (ARB) and beta-blockers in heart failure due to left ventricular dysfunction reduces the risk of death by up to 63%, with an associated reduction in HF hospitalisations. Despite this, only 23% of patients on the HF registers in the UK are on an ACEI or ARB, and only 15% on an ACEI or ARB and a beta-blocker (QOF 2014).⁵

- Atrial Fibrillation: AF related strokes represent a significant burden to patients, their carers and the NHS. New NICE guidance has emphasised the importance of undertaking stroke risk assessment and the initiation of anticoagulant therapies to reduce this burden. Currently in England there are over 150,000 patients with AF and known to be at high risk of stroke who are not anticoagulated. Treating this cohort with anticoagulation could prevent up to 6,000 strokes per annum.⁵

The data clearly shows there are many opportunities to improve medicines use and outcomes for patients with CVD. Pharmacy should play a key role in delivering this medicines optimisation challenge. There is no single method to address the unmet need highlighted above, and a multifactorial approach will be required to address clinical issues and patient factors, from ensuring the implementation of up to date guidance across primary and secondary care and education of health care professionals to supporting GPs and practice nurses in managing individual patients, or running clinics as a pharmacist prescriber (Table 1).

Pharmacist Prescribers

Locally, I have been involved in supporting GP practices in a number of ways. Recruited to work in primary care as a cardiac specialist pharmacist to support improvements in blood pressure management, I initially ran my own hypertension clinics in individual GP practices that were identified as failing to achieve the QOF targets, then went on to supervise others seeking to extend their role as pharmacist prescribers in this setting. This evolved into a South London wide project drawing together the activities of seven pharmacist prescribers running hypertension clinics to assess the outcomes of their work. The project, focussing on managing patients with poorly controlled hypertension, demonstrated a significant improvement in blood pressure control over the course of a six month period, with

79% of the patients managed achieving the QOF audit standard of a BP \leq 150/90mmHg and 56% of patients achieving the clinical BP target of \leq 140/90mmHg.⁶ As a result of the project, two boroughs have now commissioned a pharmacist-led community based hypertension service, to which all practices have the opportunity to refer difficult to manage patients. This service focuses on managing patients with adherence issues and those with multiple drug intolerances.

Virtual Clinics

Despite this work, there remained a large cohort of patients with high blood pressure – for example, in Lambeth CCG there were over 8,000 people on the hypertension register with BP \geq 150/90mmHg at the end of 2013. This was addressed by the CCG Medicines Optimisation team, which developed a quality improvement scheme, aiming to improve the management of hypertension by focusing on a high risk cohort with documented sBP \geq 160mmHg and/or diastolic BP (dBP) \geq 100mmHg recognising that:

- QOF targets are unattainable in a proportion of patients
- Patients at greatest risk of cardiovascular (CV) events are those with the highest BP - lowering BP in this cohort, regardless of whether specific BP targets are achieved, will reduce the risk of CV events.

A multifactorial approach was adopted to support practices, including standardised searches to identify target cohort, provision of local management guidance, in-practice specialist support in the form of virtual clinic review of a proportion of patients and provision of pharmacist-led locality-based hypertension clinics for patients with difficult to manage hypertension (Figure 1).

The project was implemented across 37 practices with data submitted for a total of 1,079 patients at baseline (Apr–Sept 2013) and after the intervention period (March 2014). Of these, 281/1079 (26%) patients did not respond to repeated invitations for a BP review from the practices. Of the remaining 798 patients, the average baseline sBP was 170.8mmHg (range 122 to 229mmHg; median 169mmHg) and dBP was 94.8mmHg (52 to 144mmHg; median 98mmHg).⁷

BP reductions were achieved across the cohort of 798 patients who the practices were able to engage for BP review resulting in achievement of key BP targets in a significant proportion. 688 patients had a sBP \geq 160mmHg at baseline with an average reduction in sBP of 26.9mmHg. The resultant average blood

Clinical issues	Patient factors
Lack of patient follow up	Lack of engagement with healthcare systems
Clinical inertia (failure to act)	Non-adherence or poor adherence
Poor knowledge and awareness of guidelines	Poor understanding of disease / and/or drug benefits
Lacks of understanding of outcomes of drug therapies	Lifestyle factors
Workload and capacity	Health beliefs

Table 1: Examples of issues affecting medicines optimisation in CVD

pressure across the cohort at the end of the project was sBP was 152mmHg (range 100mmHg to 223mmHg; median 150mmHg) and dBP was 84mmHg (range 39mmHg to 139mmHg; median 86mmHg).⁷

This virtual clinics model has previously been successfully used to review heart failure management across a number of CCGs and is currently being applied to address the under-utilisation of anticoagulation in patients with AF at risk of stroke.

Conclusion

There is a clear need to address medicines optimisation in cardiovascular disease in order to improve patient outcomes. Evidence of sub-optimal use is available across all elements of CV care, with a large number of patients with hypertension requiring better therapy, sub-optimal use of evidence based therapies in heart failure and failure to optimise anticoagulation in people with AF at risk of stroke. There is no doubt that better medicines use would deliver significant savings the NHS, not least in terms of reduced costs associated with acute CV events. Pharmacy has the opportunity to play a pivotal role in delivering against this medicines optimisation challenge. There is an opportunity to deliver better care to patients through the use of innovative models, including embedding pharmacist prescribers in clinical practice across primary and secondary care or the use of the virtual clinic model to bring specialist pharmacist support into GP practices.

Declaration of interests

Honoraria: Pharmacy Management Regional Roadshow (Manchester), May 2015. Personal fees from Boehringer Ingelheim, Bayer, BMS/Pfizer, Daiichi Sankyo, Servier, outside the submitted work.

References

1. British Heart Foundation Coronary Heart Disease Statistics. A compendium of 2012. Available at: https://www.bhf.org.uk/~media/files/publications/research/2012_chd_statistics_compendium.pdf . [Accessed 290715].
2. NHS Business Authority. 2013. Available at <http://www.nhsbsa.nhs.uk/PrescriptionServices/3367.asp> .
3. NHS Scotland. Long Term Conditions Collaborative – Improving Self Management Support. 2009. Available at: <http://www.gov.scot/resource/doc/274194/0082012.pdf> .
4. Haynes RB. Interventions for helping patients to follow prescriptions for medications. Cochrane Database of Systematic Reviews. 2001;1.
5. Data from www.gpcontract.co.uk .
6. O’Sullivan M. Team showing benefits of pharmacist prescribing takes home 2013 prize. The Pharmaceutical Journal 2013;290:731. URI: 11122578.
7. Williams H, Hodgkinson A, Hafiz I, Collings V, Burgess V, Cajeat E and Balazs J. 2015 Medicines optimisation for patients with hypertension in primary care. Poster Presentation at International Forum on Quality and Safety’ Excel London April 2015

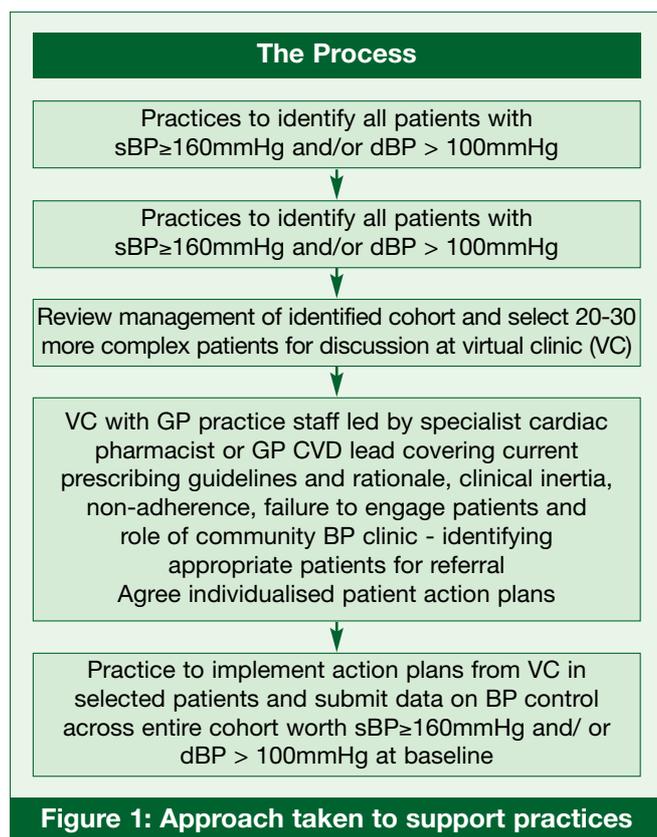


Figure 1: Approach taken to support practices