Pharmacy-based screening for cardiovascular risk

A systematic review suggests that pharmacy-based screening for cardiovascular risk factors may be possible. However, many people do not act on the advice to visit their GP, and the effect of screening on new diagnoses has not been robustly shown.

Overview: Cardiovascular disease caused 160 deaths per 100,000 people in 2010 (Department of Health 2013). In 2013, the prevalence of diabetes in England was 2.7 million people, or 6% of the adult population. This figure had increased by 137,000 people since 2012 (Public Health England 2014).

Adults in England aged 40–74 years are eligible for an NHS Health Check with their GP, which assesses a person’s risk of cardiovascular disease based on their BMI, cholesterol, blood pressure and alcohol use. People having a health check may also be tested for type 2 diabetes if the doctor thinks it is necessary. The results of the health check are given as an overall cardiovascular risk score (low, moderate or high). Low risk is defined as less than a 10% chance of a heart or circulation problem in the next 10 years, whereas a high risk is more than a 20% chance of a heart or circulation problem in the next 10 years.

Pharmacies dispense prescriptions and other medicines, but increasingly also offer testing for common conditions, and provide advice on minor ailments. In addition, some pharmacies provide checks of blood pressure, cholesterol and blood glucose and offer screening for chlamydia and allergies.

Current advice: NICE guidance on lipid modification recommends that a systematic strategy should be used in primary care to identify people who are likely to be at high risk of cardiovascular disease. People older than 40 should have their estimate of cardiovascular risk reviewed on an ongoing basis. Additionally, people should be prioritised for a full formal risk assessment if their estimated 10-year risk of cardiovascular disease is 10% or more.

Current NICE guidance does not make any recommendations on pharmacist-based screening for cardiovascular risk factors. Pharmacists are recommended to take action on identifying people at high risk of diabetes in NICE guidance on preventing type 2 diabetes.

The NICE Pathways on diabetes, hypertension and cardiovascular disease prevention bring together all related NICE guidance and associated products on these conditions in interactive topic-based diagrams.

New evidence: Willis et al. (2014) conducted a systematic review of studies that looked at the effects of pharmacy-based screening for type 2 diabetes and cardiovascular disease. The main outcomes were the referral rate to primary care and the rate of uptake of those referrals.

The review included 16 studies with 108,414 participants who had a mean age of 55 years. More than half (57%) of participants were female. All but 2 studies were observational. The studies differed in
their cut-offs for cardiovascular risk factors and took place in 6 different countries. Meta-analysis was done for data from 9 studies.

Meta-analysis showed significant heterogeneity for each outcome (both p>0.001), so pooled statistics were not reported. Rates of referral to primary care ranged from 6% to 73% (9 studies, n=99,708), and uptake of referral ranged from 13% to 92% (6 studies, n=10,113). The method of referral to primary care was often poorly reported. When reported, the most common referral method was giving the person a print-out of their results and advising them to visit their doctor. Only 4 studies provided results directly to the person’s doctor.

Data from follow-up with doctors was not reported routinely, with 1 study each reporting on follow-up on diabetes, cholesterol and hypertension outcomes. These showed that, of the screened populations, 2% had new diagnoses of either impaired glucose tolerance or impaired fasting glucose, 17% had newly diagnosed high total cholesterol and 6% had a new diagnosis of hypertension.

In risk of bias assessment, 11 studies were deemed to be ‘good’, 3 were ‘fair’ and 2 were ‘poor’. Most ‘fair’ or ‘poor’ assessments were because of poor description of the screening intervention. Many of the studies included did not report the outcomes of interest, and several of those that did report the outcomes of interest seemed to have very low response rates.

The authors concluded that ‘studies of opportunistic pharmacy-based screening interventions have been successful in identifying a significant proportion of the population both suffering from and at high risk of cardiovascular disease and type 2 diabetes’. However, a critical appraisal report produced for the Centre for Reviews and Dissemination’s Database of Abstracts of Reviews of Effects noted that ‘the primary research (as presented) does not provide reliable evidence about the effectiveness of such screening’.

Commentary: “There are over 12,000 community pharmacies in the UK (National Pharmacy Association), and pharmacies are more equitably distributed than many other primary care services. For several years there has been talk, and effort, to make better use of the skills and knowledge of pharmacists, including the Healthy Living Pharmacy movement. On the face of it, pharmacies are a good entry point for screening and other services that could help identify, treat and reduce the risks of diabetes and cardiovascular disease. This paper therefore does a service in reviewing what is known at least on the first of these, and then on subsequent referral to general practice.

“However, the findings are less encouraging than the paper’s authors conclude. There are very few high quality studies, and those that are judged to be high quality are very heterogeneous and generally find very low take-up of referral in general practice.

“Given the studies are from different countries, it would have been useful if the analysis included a discussion of whether results from these different countries appeared to have been influenced by the structure and characteristics of the pharmacy market, incentives and policy. Such factors are important in the real world and can get abstracted away in such studies. This is particularly true in England, given the NHS Health Check and community pharmacies’ role both in referral and intervention. Hopefully, data and evaluation will flow from experience with these programmes.

“But one of the key messages of this research is that to date the information flow between pharmacy and general practice has been poor, and uptake of referral similarly so. This needs to change if pharmacy’s potential is to be reached.” – David Buck, Senior Fellow, Public Health and Health Inequalities, The King’s Fund

Study sponsorship: UK National Institute for Health Research.