

Establishing a cross-sector pharmacy service to improve heart failure care

A two-part pharmacy service to tackle heart failure in Glasgow has been granted lottery funding. Part of the service involves pharmacists in primary care who review patients with heart failure to check they are taking the right medicines. However, to prevent problems arising in the first place, greater pharmacist involvement in hospital ensures that patients with heart failure are discharged on the right medicines. **Clare Bellingham** reports

In January last year, an opportunity arose at a meeting of Glasgow's Cardiac Health Improvement Group to apply for funding for services in heart disease and stroke. Two pharmacists — Richard Lowrie, lead primary care pharmacist at NHS Greater Glasgow primary care operating division, and Steve McGlynn, principal pharmacist at North Glasgow University Hospitals operating division and clinical lecturer at Strathclyde University — are members of the group. Their presence turned out to be key in getting funding.

"Heart failure is a huge problem in Glasgow and its prevalence is increasing," says Mr Lowrie. "Chronic diseases have a strong link to deprivation and the extent of deprivation in Glasgow is one of the reasons for the high prevalence of heart failure."

Funding was to come from the New Opportunities Fund, which is financed by the national lottery. It granted £2.6m to improve coronary heart disease and stroke services in Glasgow. In particular, the NOF identified heart failure clinics and optimising patients' medication as priorities for this money. It fell, in turn, to the Cardiac Health Improvement Group to prioritise bids for this sum and the NOF gave final approval.

Mr Lowrie and Mr McGlynn knew that this provided an ideal opportunity for a pharmacist-run service and decided immediately to apply for some of the funding. "With these priorities, it would have been hard for the group to argue that our bid was not relevant," says Mr Lowrie. So perhaps it was not surprising that the team was awarded £300,000 (*PJ*, 25 October 2003, p571).

What is important is that the first time Mr Lowrie and Mr McGlynn heard about the funding was at the Health Improvement Group meeting when they had to indicate that they would bid for funds. Neither had been told that it was on the agenda. "This shows that pharmacists have got to get places on organisations at a decision-making level," says Mr McGlynn. The group has now become a Cardiac Managed Clinical Network and both are members. These networks are multi-professional organisations that plan delivery of health services across all care sectors.

The funding allowed three new pharmacist positions to be created: two primary care pharmacists, Anfrances Duggan and Fiona Lambie, and one hospital pharmacist, Pernille Sorensen, have been appointed. The three

started their new jobs earlier this year and have since undergone an extensive training programme. This has included a heart failure therapeutics course at Glasgow Caledonian University, in-house training about medication review, a phlebotomy course, blood pressure monitoring training and computer training. The two primary care pharmacists have started a supplementary prescribing course and it is intended that Miss Sorensen will follow suit as soon as possible.

Primary care service

The starting point to any service is finding out exactly what the problem is and then working out what needs to be done to solve it, says Mr Lowrie. He knew the extent of the heart failure problem in Glasgow from pilot work carried out by the existing team of general practice-based prescribing support pharmacists (*PJ*, 29 June 2002, p911). This team of pharmacists, managed by Mr Lowrie and his colleague Alister MacLaren, lead the way in rolling out clinical services to community pharmacy in Glasgow. This is exactly what is planned for the new service. "Our long-term vision is for the reviews to be undertaken by community pharmacists. But first we need experts to establish the service: to make sure it works and also to train the community pharmacists," Mr Lowrie explains.

The pilot work identified that 38 people for every 1,000 aged over 65 years in Glasgow have heart failure. Of these, two-thirds are taking ACE-inhibitors but only one-third are on the correct dose. It is worse for beta-blockers: one third of patients are taking beta-blockers but only a third are prescribed a dose that is known to work. "The point is there was a huge gap in terms of medicines being used correctly. Yet in heart failure, medicines are the mainstay of therapy: they make the patient feel better, they improve quality of life, they keep the patient out of hospital and they prolong life," says Mr Lowrie.

Using the pilot work, the team estimated that for the whole of Glasgow, about 5,500 patients could be reviewed over the three-



Fiona Lambie undertakes consultations in primary care

year funding period. If successful, the service should prevent over 100 deaths and many more hospital admissions in three years.

All 216 GP practices in Glasgow and the local homeless unit were invited to take part in April. So far, 134 have agreed and only 11 have declined. "Heart failure is in the new GP contract so that is probably a factor in why we have had such a good response," comments Mr Lowrie.

The pharmacists started reviewing patients in the middle of May. Their first job is to identify which patients might have heart failure and to create a disease register. Next, the heart failure diagnosis must be confirmed by echocardiogram. Patients are then invited for a review or a domiciliary visit is arranged. During the medication review, the pharmacist examines which medicines have been prescribed, confirms their suitability and ensures that doses are titrated to an appropriate dose. Decisions between individual drugs are based on the Glasgow formulary. The pharmacist also draws up a pharmaceutical care plan for the patient and fills in a GP referral form if necessary. The patient is followed up a couple of months later, perhaps by telephone, to ensure that any changes have been made and to check no new problems have arisen.

Both pharmacists spend a day a week with a practice for as long as it takes to review all the patients identified. Because of the number of practices involved, priority has been given to those with the most deprived population. Usually 10 patients are reviewed each day. Both pharmacists have laptops in order to collect data and to enable them to plug into GP

practice systems and download information required for medication reviews.

Why did the two pharmacists take on the roles? "I wanted to get involved because it was something new that I thought could make a difference to patients," says Ms Lambie. "My background is in hospital pharmacy and I was intrigued by the primary care sector." Mrs Duggan, on the other hand, worked in community pharmacy. "So I was used to seeing patients but sometimes felt restricted as to what I could do for them. This service provides an extension." She explains that they have both had to learn to think like clinicians and to make decisions based on evidence which has involved getting to grips with clinical trials papers. "It has been a huge learning curve," says Ms Lambie. "But now we are at the stage of putting it into practice and our different backgrounds have complemented each other well."

Des Spence, a GP at Maryhill Health Centre, one of the practices already involved, comments: "This is an important development for pharmacy. There is a strong argument that pharmacists have a major role to play in contributing to areas of unmet need and although this project is working on heart failure perhaps other areas could be considered in due course."

The service is expected to expand in the future. In the short term, the two pharmacists are hoping to take on responsibility for initiating beta-blockers in the community, something that has caused problems for GPs. In the longer-term, plans are in place to continue the service after the New Opportunities Funding has run out. "A key part of the bid was to state how it will continue to work after the funding has stopped," says Mr Lowrie. "Greater Glasgow NHS Board has agreed to pay for one whole-time pharmacist following the end of the funding." This pharmacist's role will be to oversee the service as it is rolled out into community pharmacy, provide training, monitor the service and provide a link between the primary and secondary care arms of the service. He also hopes that the service can be funded in the future through the pharmaceutical care

model schemes with all community pharmacists being able to offer reviews to patients with heart failure.

Secondary care

In secondary care, the impetus for setting up the new service was the fact that the clinical pharmacy service for heart failure patients was haphazard. "In some areas it was good but there was no consistency across the population. One of the requirements for every service is equity," Mr McGlynn says.

Patients in Glasgow already benefited from a well-established heart failure nurse liaison service under which patients with heart failure were identified by a dedicated nurse in hospital and then followed-up at home post-discharge. "But lots of patients were missed for a variety of reasons," Mr McGlynn comments. These included problems with identification of heart failure patients since they are likely to be admitted to medical, geriatric or even surgical wards as well as cardiology wards. "And the nurses do not have the same medication review skills as pharmacists."

The outcome was that hospital pharmacists did not always have the opportunity to take an in-depth look at the patient's medicines. "Patients were being discharged on sub-optimal therapy," says Mr McGlynn. This is what the new service aims to correct. The nurse liaison service was central to the development of the new pharmacy service; the pharmacist input aims to offer improvements.

Miss Sorensen explains: "We decided that we would need to find the patients ourselves rather than rely on referral from the nurse liaison service. The obvious answer was for ward-based pharmacists to identify heart failure patients." Criteria for ward pharmacists to identify patients have been drawn up and these will be audited.

One of the key elements of the pilot is the development of a standard pharmaceutical care plan which Miss Sorensen prepares and individualises for each patient. A summary of this is provided to the liaison nurses as a transfer-of-care plan. The aim is to provide structured care and ensure the nurses get good information about the patient. The care plan includes a detailed drug history, investigations undertaken in hospital, compliance and outstanding care issues. If any drug changes are needed to optimise therapy, Miss Sorensen recommends these to a cardiologist or junior doctor so that the patient's prescription can be altered. "The cardiologists have been very supportive," she says.

At the moment, the new system is being piloted at one of Glasgow's hospitals, the Victoria Infirmary, but the plan is for it to be extended to the others once it has been tested. "We have to ensure that the system is safe and effective before it is extended," says Mr McGlynn. "Over the next quarter, I hope the service will be running here and pilots will have begun at two other sites so about half of the city's hospitals are covered." The service will then be rolled out to the remainder as soon as possible after that." As the serv-



Pernille Sorensen (right): hospital role

ice is extended, Miss Sorensen's role will change. She will carry on providing direct patient care at the Victoria Infirmary but will also take on roles in managing the service at other hospital sites and supporting the pharmacists who provide the service there. Miss Sorensen is already on hand to provide advice to the two primary care pharmacists if they come across a patient with particularly complex needs that require her specialist input.

A further extension to the service involves supplementary prescribing. Miss Sorensen hopes to start training later this year and, at two other hospitals in the city, pharmacist supplementary prescribing is further ahead. Mr McGlynn has already completed the training and another pharmacist is about to. The plan is for pharmacists to prescribe on the wards. Standardised clinical management plans, to be used as part of the heart failure service, are currently being developed.

Longer-term plans include a link with community pharmacy. "One of the biggest concerns that the nurse liaison service has is what happens to patients when they have finished with them. They don't want to just drop the patient. So we are exploring the possibility of nurses referring the patients to community pharmacists," explains Mr McGlynn. "The pharmacist that patients will see regularly for the rest of their lives is the community pharmacist so they need to be involved in long-term care." He envisages community pharmacists providing chronic disease management covering compliance, education, monitoring and some dose adjustments.

The future

How total care of heart failure patients in Glasgow will be structured in the future will be determined by a new strategy currently being developed across primary and secondary care by the Cardiac Managed Clinical Network. This means that both Mr McGlynn and Mr Lowrie are involved in the strategy's development so the two-part pharmacy service looks likely to feature.



Anfrances Duggan: primary care role