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Briefing

Paper 5

Partnership working with pharmacists

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Collaborative Quality Improvement in General Practice Clusters

This paper is the fifth in a series that relates to areas of quality and safety on which general practice clusters could usefully focus improvement activity. Each paper summarises research, guidelines and other evidence about areas of care which can be improved, and improvement methods and interventions.

Partnership working with pharmacists

General practice is experiencing the twin challenges of high workload due to increased patient need and a crisis in recruitment and retention. One solution is to work more in partnership with other health care professionals. Nurses are already well embedded in teams but pharmacists less so. Pharmacists are often said to be the experts in medicines and given the importance of polypharmacy and improved prescribing safety, pharmacists are a natural additional to the established doctor nurse partnership. This paper suggests areas for closer working with both community pharmacists and practice pharmacists, based on policy documents, systematic reviews of the evidence and examples of service developments.

The problem

There are currently several challenges facing the GP workforce in Scotland. An external factor is the well documented steadily increasing workload due to the changing population demographic, with people living longer and many previously untreatable diseases now being managed long term in primary care. A related internal factor is the trend towards early retirement, part time working, and failure to fill training slots. One solution to the current workforce shortages is changing the skill mix within primary care teams and working more closely with other health care professionals. Historically doctors have worked closely with nursing colleagues but less so with other professional groups such as pharmacists.

Prescribing is a core role of GPs. It is the most common patient-level intervention in the NHS, and the second highest area of spending after staffing. However prescribing may often be sub-optimal[1-3] leading to therapeutic failure, medicine wastage, and adverse events[4]. All of these come at a cost and are more likely in an elderly population on polypharmacy regimes[5] and patients with multi morbidity[6]. The quality of prescribing in nursing homes is of particular relevance in this context and both media reports and academic papers provide evidence of areas for improvement[7].

Furthermore, from the patient perspective, adherence to medicines has been identified as a key issue by the World Health Organization[9] and most recently by the UK Academy of Medical Sciences[10]. Estimates of adherence vary widely but are often reported to be as low as 50%[11]. This is an additional reason for therapeutic failure, and increased costs associated with patient hospitalisations or avoidable escalation in other costs of care[9]. It may also result in unused medicines, the cost of which are estimated at about £30 million per year in the UK.

Approximately a quarter of the undergraduate pharmacy course is based on pharmacology and therapeutics, more than in other health care related courses. Reflecting this, as long ago as 1986, the Nuffield Committee of Inquiry into the profession highlighted that pharmacists could play a "unique and vital role" in health care and recommended that pharmacists and general medical practitioners should collaborate to improve the effectiveness and efficiency of prescribing. Since then the profession has steadily moved away from an increasingly redundant compounding role and an increasingly automated supply role, to one in which their clinical knowledge of medicines has become their raison d'être. However whilst in hospitals this clinical pharmacy role has been established for many years, pharmacists have yet to be fully integrated into the health care team in primary care. Furthermore pharmacists with two years post qualification experience can now be accredited as non-medical prescribers authorised to prescribe any drug within the BNF within their areas of competence.

Can GP Pharmacy partnerships improve outcomes?

Reports of pharmacists working closely with medical colleagues in their primary care setting started emerging in the mid 1990s. One of the earliest was the Downfield project in Dundee when a GP employed two clinical pharmacists from the local hospital to run clinics, for example, for patients on anticoagulants [11], or peptic ulcer disease, with reported improvements in patient outcomes. Since then many initiatives and studies have been undertaken demonstrating that pharmacists working in either community pharmacy or based in general practice can improve outcomes as the following examples based on the challenges noted above show.

A recent systematic review[12] suggested that organisational interventions involving pharmacists conducting medication reviews would reduce potentially inappropriate prescribing (PIP) in community-dwelling older adults. Given the link between PIP and adverse health outcomes,[4] this should improve patient health and reduce the costs of adverse events. The PINCER study[13], completed in England, showed that a pharmacist-led, information technology-based intervention is an effective method for reducing a range of medication errors in general practice, when patients on known high risk prescribing regimens are targeted. Similarly a cluster randomised trial for patients with established heart disease in Scotland showed that a pharmacist led intervention resulted in improved prescribing of statins and a greater percentage of patients achieving their target cholesterol levels.[14]

Although pharmacist prescribing was introduced in Scotland in 2008, numbers in the community are only building slowly. NES now provide training in core clinical skills, common clinical conditions, communication skills, advanced clinical skills in diabetes,

musculoskeletal and other specialist areas for all qualified pharmacist prescribers. Most early research focussed on the process aspects of the pharmacist prescribing role and patient satisfaction but evidence is emerging suggesting clinical benefit, for example in chronic pain [15].

In nursing homes, involving a pharmacist in medication review has been shown to reduce falls[16], and reduce PIP[17]. These outcomes can be attributed to pharmacists making recommendations for change to the responsible clinician which are accepted in the vast majority of cases and also include de-prescribing.[19] However it is suggested that if the pharmacists working in the care home has prescribing rights, and has the agreement of the GP to implement the suggested changes, there may be even greater benefits.

Finally when considering adherence, there is also a role for the pharmacist. Adherence is complex and multifactorial and as Cochrane reviews[19] continue to show there is no single simple solution; only a minority of identified studies improved both adherence and clinical outcomes. Pharmacists were however identified as one provider who can support improved adherence with some evidence of benefit. Two studies of pharmacy-led adherence interventions conducted in England and published since the latest Cochrane review confirm this potential. One evaluated the English New Medicines Service.[21,22] The primary outcome of adherence was improved in the group receiving the pharmacist intervention, although there was no change in patient quality of life, or in their beliefs about medicines. The second study[22] was especially interesting as it delivered the English Medication Use Review service[23] from a mail order pharmacy and used a centralised telephone follow for patients already established on a long term medicine (either a lipid lowering medicine or an anti-diabetic medicine).

Implementation in real-life NHS practice

Pharmacists working in the primary care/community setting can be based in community pharmacies or general practices. Wherever they work, they all have the same basic qualification and set of competences. Many pharmacists have portfolio careers and will spend part of the week in a traditional community pharmacy and part working in a general practice. In 2013 the Scottish Government's prescription for Excellence[24] described pharmaceutical care as a key component of safe and effective healthcare, involving pharmacists working in partnership with patients and other health and social care professionals to obtain optimal outcomes. This was highlighted as important for patients with complex health issues including multimorbidities and those in care homes. "All pharmacists providing NHS pharmaceutical care should be NHS accredited clinical pharmacist independent prescribers working in collaborative partnerships with medical practitioners who will continue to have overall responsibility for diagnosis. An essential role of the clinical pharmacist working within the team will be to initially assess the patient for potential issues to help inform the choice of medication. In addition they will be responsible for the continual monitoring of the effects and side effects of the medicines and making adjustments to dose and therapeutic agent within agreed parameters".

Community pharmacies like general practices are independent NHS contractors and they derive most of their income (on average over 90%) from their NHS contract. The current contract comprises five core services[25]:

Acute medication service

Dispensing, including ETP (electronic transmission of prescriptions) and clinical review of the prescription and patient advice.

Chronic medication service

Provision of pharmaceutical care as part of a shared agreement between the patient, pharmacist and GP, for patients with long term conditions to improve patient understanding and optimising the clinical benefits from their therapy.

A public health service

Interventions to promote healthy lifestyles, comprising advice, health promotion campaign materials, smoking cessation services and sexual health services/supply of emergency hormonal contraception.

Minor ailment service

Registration of patients and provision of advice and treatment for minor ailments on the NHS.

Gluten-Free Food (GFF) Service

Pharmacists may also provide other services under local arrangements, such as services to drug misusers, palliative care services, or the national PGD for supply of emergency medicines, and prescribing clinics. Within the above contracted service the chronic medication service offers a clear opportunity for supporting adherence and reviewing medication, but implementation has been slow and pharmacists and GPs need to work closely together to make the service successful.

The acute medication service also has potential for closer working as one practice in England has recently shown[26] with three monthly meetings organised by the GP with local pharmacists to discuss practical issues associated with prescription queries, and evolving into shared clinical meetings with positive outcomes for patient satisfaction, effectiveness of care and education. The RCGP and RPS issued a joint statement[27]supporting closer working between GPs and community pharmacists but highlighted some important building blocks for change. These include improved inter professional IT links, safeguards for consent and confidentiality, shared standards (for example in areas such as screening and diagnosis and pharmacy-led treatments and advice), joint education and training at undergraduate and postgraduate level, which could facilitate greater trust and understanding of the professions' respective and complementary roles, skills and expertise, standard setting and clinical guidance on the

provision of over-the-counter medicines, making opportunities for joint working to improve medicines utilisation, cost-effectiveness and minimise waste.

An increasing number of pharmacists are employed within general practices, either as NHS salaried staff working as part of Health Board teams or directly employed by the practice. Historically brought into practices to conduct paper based medication reviews, audits and make global changes e.g., generic substitutions, they increasingly run their own clinics and prescribe, and are well placed to implement the services described earlier. A recent joint statement from the RCGP and Royal Pharmaceutical Society[28,29] called for more pharmacists to work in GP surgeries to resolve day-to-day medicine issues, particularly for patients with long term conditions and those who are taking a number of different medications. They would also liaise with hospitals, community pharmacists and care homes to ensure seamless care for patients.

In May 2016[30] the Scottish Government published a supporting information pack for the use of the Primary Care Fund. The pack underpinned proposals from 2015 in which the Cabinet Secretary for Health, Wellbeing and Sport announced £16.2 million from the Primary Care Fund over the next three years to recruit up to 140 whole time equivalent additional pharmacists to work directly with GP practices. "These pharmacists will be independent prescribers and already have or will undertake, advanced clinical skills training to support the care of patients with long term conditions and so free up GP time to spend with other patients."

So the infrastructure is in place to take forward the pharmacist–GP partnership for the better care of patients. Table 1 suggests some key areas for future collaboration. While many of these will not be totally new and many GPs will already be delivering them to some extent, their universal delivery is yet to be achieved and is a key area for collaborative quality improvement in general practice clusters. Finally, research regularly shows that for such partnerships and shared roles to be maximally effective and mutually acceptable, trust and longer term professional relationships are key.

Implication for collaborative quality improvement in general practice clusters

Improving prescribing in partnership with pharmacists would be a suitable topic for implementation by general practice clusters. There are already several quality prescribing indicators that could be applied to either PRISMS data, PIS data or used at individual practice level. For example the STOPP START criteria[31] are now widely accepted for use in the elderly and, recently, equivalent criteria have been developed for children. For topic specific initiatives, such as improving antibiotic prescribing, routinely available data can be used to look at overall prescribing rates, ratios of 4C antibiotics to all antibiotic prescriptions, seasonal trends and peer comparisons. For adherence, crude estimates can be obtained by applying the medication possession ratio

Table1: Examples of areas for partnership working with pharmacists (all based on successful delivery elsewhere; many other examples)

Problem/area for improvement	Pharmacy partnering solution
Improving patient adherence	Work with community pharmacy to direct patients to the Chronic Medication Service
Reducing prescribing errors with potential for significant harm	Identify areas of high risk prescribing, and pharmacist to review patient medical records and identify and discuss patients at risk, including audit of required monitoring
Identifying potential areas of deprescribing eg. long term use of PPIs	Pharmacist to identify patients from medical records and invite them in for a pharmacist consultation
Reducing appointments for minor illness	Direct patients to community pharmacy minor ailment service
Improving prescribing in nursing homes	Pharmacist to undertake clinical medication review of all nursing home patients and review need for all medication
Reduce hospitalisations due to NSAID associated GI bleeds	Pharmacist to review records and check all patients on gastro protective treatment
Improve seamless care on discharge from hospital	Community pharmacy to receive discharge medication letter
Improving management of UTIs	Implement a PGD for appropriate antibiotic prescription by community pharmacists following strict protocol.
Reducing use of relief medication in asthma	Pharmacist led clinic to review inhaler techniques and prescribe as needed
Reduce workload associated with methadone prescribing	Pharmacist prescriber to adjust methadone dose on basis of regular daily contact with patient when daily dispensing

to either prescribing or dispensing data. For nursing home initiatives measures of falls or hospital admissions can be used.

This short paper has summarised the current climate supporting greater partnership between GP and pharmacy, given some examples of evidence based areas for implementation to improve the safety and effectiveness of prescribed medicine. However pharmacists, as has been peripherally alluded to, also play an important role in self-care and public health and these are also areas that clusters could consider for their quality improvement plans.

References

1. Spinewine A, Schmader K, Barber N et al. Appropriate prescribing in elderly people: How well can it be measured and optimised? Lancet 2007;370:173–184
2. Cahir C, Fahey T, Teeling M et al. Potentially inappropriate prescribing and cost outcomes for older people: A national population study. Br J Clin Pharmacol 2010;69:543–552
3. Bradley, Marie C., Motterlini, Nicola, Padmanabhan, Shivani, Cahir, Caitriona, Williams, Tim, Fahey, Tom, Hughes, Carmel M Potentially inappropriate prescribing among older people in the United Kingdom BMC Geriatrics 2014, 14:72 http://www.biomedcentral.com/1471-2318/14/72
4. Cahir C, Bennett K, Teljeur C et al. Potentially inappropriate prescribing and adverse health outcomes in community dwelling older patients. Br J Clin Pharmacol 2014;77:201–210
5. Guthrie B Scottish School of Primary Care Briefing Paper Improvement topic 1 Prescribing Safety
6. Mercer S Scottish School of Primary Care Briefing Paper Improvement topic 3 Managing multimorbidity
7. Barber ND, Alldred DP, Raynor DK, Dickinson R, Garfield S, Jesson B et al. Care homes' use of medicines study: prevalence, causes and potential for harm of medication errors in care homes for older people. Qual Saf Health Care 2009; 18: 341-6
8. World Health Organisation Adherence to long-term therapies: evidence for action 2003 http://www.who.int/chp/knowledge/publications/adherence_introduction.pdf?ua=1 Accessed January 20th 2016
9. Academy of Medical Sciences Patient adherence to medicines Summary of a joint meeting 2014 http://www.acmedsci.ac.uk/viewFile/552f6b3fdab3a.pdf Accessed January 20th 2016
10. Naderi SH1, Bestwick JP, Wald DS. Adherence to drugs that prevent cardiovascular disease: meta-analysis on 376,162 patients. Am J Med. 2012 Sep;125(9):882-7.e1. doi: 10.1016/j.amjmed.2011.12.013. Epub 2012 Jun 27.
11. Macgregor S.H., Hamley, J.G., Dunbar, J.A. (1996) Evaluation of a primary care anticoagulant clinic run by a pharmacist BMJ 312:560
12. Clyne B, Fitzgerald C, Quinlan A, Hardy C, Galvin R, Fahey T, Smith SM. 2016. Interventions to Address Potentially Inappropriate Prescribing in Community-Dwelling Older Adults: A Systematic Review of Randomized Controlled Trials. Journal of the American Geriatrics Society. 64 (6):1210-22.
13. Avery, Anthony J., Rodgers, Sarah, Cantrill, Judith A., Armstrong, Sarah, Cresswell, Kathrin, Eden,Martin, Elliott, Rachel A, Howard, Rachel, Kendrick, Denise, Morris, Caroline J, Prescott, Robin J, Swanwick, Glen, Franklin, Matthew, Putman, Koen, Boyd, Matthew, Sheikh, Aziz A pharmacist-led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis (2012) Lancet; 379: 1310–19
14. Lowrie R, Lloyd SM, McConnachie A, Morrison J (2014) A Cluster Randomised Controlled Trial of a Pharmacist-Led Collaborative Intervention to Improve Statin Prescribing and Attainment of Cholesterol Targets in Primary Care. PLoS ONE 9(11): e113370. doi:10.1371/journal.pone.0113370
15. Bruhn H, Bond CM, Elliott AM, et al. Pharmacist led management of chronic pain in primary care: results from a randomised controlled exploratory trial. BMJ Open 2013;3:e002361.doi:10.1136/bmjopen-2012
16. Zermansky AG, Alldred DP, Petty DR, et al. Clinical medication review by a pharmacist of elderly people living in care homes--randomised controlled trial. Age Ageing 2006;35 (6):586-91
17. Sach, T. H., Desborough, J., Houghton, J., Holland, R., Applying micro-costing methods to estimate the costs of pharmacy interventions: An illustration using multi-professional clinical medication reviews in care homes for older people in International Journal of Pharmacy Practice
18. Andreassen, L. M., Kjome, R. L. S., Sølvik, U. Ø., Houghton, J., Desborough, J. A.(2016) The potential for deprescribing in care home residents with Type 2 diabetes International Journal of Clinical Pharmacy 38.pp. 977–984
19. Nieuwlaat R et al Interventions for enhancing medication adherence 2014 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd (Review)Rhttp://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000011.pub4/epdf Accessed January 20th 2016
20. Elliott, Rachel Ann., Boyd, Matthew J., Salema, Nde-Eshimuni., Davies, James., Barber, Nicholas., Mehta, Rajnikant Laxmishanker., Tanajewski, Lukasz., Waring, Justin., Latif, Asam., Gkountouras, Georgios., Avery, A. J., Chuter, Antony., Craig, Christopher Supporting adherence for people starting a new medication for a long term condition through community pharmacies: a pragmatic randomised controlled trial of the New Medicines Service. BMQ Quality and Safety 2016 doi:10.1136/bmjqs-2015-004400
21. New medicines service http://psnc.org.uk/services-commissioning/advanced-services/nms/ Accessed July 11th 2016
22. Lyons, I., Barber, N., Raynor, David K., Wei, L. The Medicines Advice Service Evaluation (MASE): A randomised controlled trial of a pharmacist led telephone based intervention designed to improve medication adherence BMQ Quality and Safety 2106 doi:10.1136/bmjqs-2015-004670
23. Medication Use Review http://psnc.org.uk/services-commissioning/advanced-services/murs/ Accessed 21st January 2016
24. Prescription for Excellence: A Vision and Action Plan for the Right Pharmaceutical Care through Integrated Partnerships and Innovation http://www.gov.scot/Publications/2013/09/3025 accessed July 11th 2016
25. http://www.communitypharmacy.scot.nhs.uk/core_services/cms.html Accessed 11th July 2016
26. Clinician and pharmacist joint-working strategies for better care outcomes http://www.rcgp.org.uk/clinical-and-research/bright-ideas/clinicians-and-pharmacists-seminars.aspx accessed July 11th2016
27. Breaking down the barriers – how community pharmacists and GPs can work together to improve patient care. RCGP and RPS joint statement 2011 (updated 2014) http://www.rpharms.com/public-affairs-pdfs/RPSRCGPjointstatement.pdf accessed July 11th 2016
28. Pharmacists set to work in GP surgeries in radical move to ease pressures on general practice and improve patient care http://www.rcgp.org.uk/news/2015/march/pharmacists-set-to-work-in-gp-surgeries.aspx accessed July 11th 2016
29. RCGP and RPS Policy Statement on GP Practice Based Pharmacistshttps://www.rpharms.com/promoting-pharmacy-pdfs/rcgp-joint-statement-for-pharmacists-in-gp-surgeries-version-2.pdf accessed July 11th 2016
30. Primary Care Fund Pharmacists in GP Practices -Supporting Information Pack http://www.gov.scot/Resource/0050/00500253.pdf
31. O'Mahony D, O'Sullivan D, Byrne S, O'Connor MN, Ryan C, Gallagher P. STOPP & START criteria for potentially inappropriate prescribing in older people. Version 2. Age & Ageing. 2015; 44(2):213-218