Report of the Evaluation of the Greater Manchester Community Pharmacy Inhaler Technique Service

Executive Summary – April 2014

Background: It is widely recognised in primary care that inhaler technique amongst patients is often poor[1]. Whilst prescribing might be optimal, if a patient cannot use their inhaler properly, there is a risk that their lack of control will result in treatment interventions becoming more intensive (such as unnecessarily high preventer doses). The cost of medicines waste resulting from suboptimal inhaler use is not inconsiderable, especially considering the unit cost of many reliever inhalers. Poor condition control also leads to extra cost with regard to GP and nurse appointments and hospital admissions.

Community Pharmacy Greater Manchester co-ordinated a project across seven areas (Bolton, Bury, Heywood Middleton & Rochdale, Manchester, Stockport, Trafford, Tameside & Glossop) funded by the former Strategic Health Authority, supported by each of the former Primary Care Trusts, with contributions from pharmaceutical companies. In this project, pharmacists did an enhanced MUR for patients using inhalers for asthma or COPD. The project offered patients a series of three consultations over a 6-month period, with special dispensation for pharmacists to do two MURs in that time. Training events were provided for the pharmacists, and they were supplied with equipment and resources to undertake the Service. The Service was in operation from September 2012 until November 2013.

Service Description - The pharmacists asked patients to complete the ACT or CAT measure of condition control at months 0 and 6. They used an In-check®DIAL device to measure inspiration rate for MDIs and DPIs. Some pharmacists also had an AIM machine in-store to check flow, synchronisation and breath-holding for patients using MDIs. If a patient's visual check of technique was moderate or poor (as opposed to good), they were asked to return. At this point the pharmacist could give education and/or recommend a change in device or the addition of a spacer (both of which would need the agreement of the prescriber). A brief second consultation was done in month 3-4, repeating the Incheck® measurement and technique check with ongoing advice. At month 6 the enhanced MUR consultation and control measures were repeated. Pharmacists were asked to give smoking cessation advice as appropriate.

The aim of the Service was to provide an enhanced medicines use review (MUR) service for asthma and COPD patients to achieve a number of objectives (see table overleaf).

Methods: The evaluation explored operational data and also included inputs from Service users (a survey of 40 respondents and 6 telephone interviews), Service providers (a structured interview of 55 providers and in-depth interviews with 3 'high activity' providers) and other stakeholders (4 telephone interviews with other health professionals and a focus group with 3 members of the project team). A combination of these data inputs has enabled us to gauge whether and how the Service met its stated objectives.

Results: Nine hundred and six users were engaged in the Service by 73 pharmacies across Greater Manchester. Activity varied considerably across the pharmacies and areas: only 14 of the 73 pharmacies engaged more than 20 users throughout the Service period. The mean age of a Service user was 56.9 years, and one-quarter of those engaged were 75 years and over. Three-quarters of the users reported asthma as their diagnosis (74.3%, total n=906). Most people said that they had been shown how to use their inhaler before (83.4%, n=741), but many of them added that it had been a long time ago, and/or they did not feel that it had been done properly.

Most users (64.9%, n=531) had only MDI devices (there could be more than one if, for example, they were using a reliever and preventer MDI – this was not specifically recorded). Just over one-quarter of users had both a MDI and DPI device (26.3%, n=215). It was difficult to retain users in the Service over the three consultations: 906 users attended the first, but this was down to 266 by the second and only 130 for the third, so it is important that the gains made during one consultation are explored.

[1] Fink JB, Rubin BK. Problems with inhaler use: a call for improved clinician and patient education. *Resp Care* 2005; 50: 1360-74.

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Objective	**Have the objectives have been met?**
Improved patient outcomes through:	
• ***Improved inhaler technique;***	• *By the third attempt with the Incheck® Dial, incorporating advice from the pharmacist, **61.6% of MDI users** and **89.1% of DPI users** had managed to bring their performance into range (from a baseline of 20.9%/ 67.1% resp.).*
• ***Improved patient understanding and hence adherence with inhaler therapy;***	• *Users reported increased understanding and confidence about their inhalers and their condition.* • *Most of the pharmacist interventions were to provide education, rather than to recommend changes or refer users on to other services – the Service was very self-contained.*
• ***Optimising use of inhaler therapy (including a change of device);***	• *Where an AIM machine was available, the percentage of pharmacist recommendations to change the device, or to add a spacer, doubled*[2] • *25 device changes / spacer additions were seen in the second visits, indicating that the intervention had influenced some prescribers*
• ***A reduction in adverse events / exacerbations;***	• *The user survey suggested a very small reduction in the prescribing of steroids and antibiotics, and in emergency hospital admissions*
• ***Ensuring that patients who smoke are offered appropriate smoking cessation advice.***	• *All user survey respondents who reported being a smoker when they used the Service reported being offered stop smoking advice, and a significant number of them made a quit attempt as a result*
Reduction in waste of inhaler therapies through:	
• ***A possible reduction in prescribed inhalers for poorly controlled conditions***	• *Some users reported using less of their reliever medication after using the Service as their improved technique enhanced the effect of the preventer*
• ***Patients being encouraged to only order the items they need***	• *Most users in the survey felt that they knew more about how to order the inhalers they needed*
Other indicators of improvements:	
• ***Reduction in use of other health services***	• *Approximately 20% of users in the survey reported making fewer GP or practice nurse visits; 10% reported fewer emergency admissions to hospital*
• ***Quality improvement in condition management / symptom control*** 	• *When asked how often they used their reliever inhaler - one indicator of condition control -29.0% of users (n=29) said that they used it up to 1-3 times a week, which was a significant increase on the baseline level of 20.9%. Under half of responding users were using the reliever once a day or more (42.0%, n=42), a notable decrease on the baseline level of 60.5%.* • *The proportion of users with asthma scoring 20 or more on the ACT, indicating reasonable or good control, increased from 29.2% at visit 1 to 70.8% at visit 3 (NB – much smaller numbers at visit 3).* • *The proportion of users with COPD scoring 20 or less on the CAT, indicating low to medium impact of the COPD on their lives, increased from 49.3% at visit 1 to 73.0% at visit 3 (NB – much smaller numbers at visit 3).* • *Over half of user survey respondents reported an increase in their quality of life since using the Service*

Conclusion and Recommendations: The Greater Manchester Community Pharmacy Inhaler Technique Service has shown that an inhaler technique check by a community pharmacist has the potential to benefit patients who use inhalers. The cohort of patients as a whole who have seen a pharmacist for the Service have shown improvement trends in terms of inhaler technique, target inspiration flow rate, asthma/COPD control indicators and quality of life measures. There was considerable enthusiasm for the Service from all groups participating in the evaluation.

Recommendations that might influence the development of the future Service would be:

- Redesign the training to include more advice about strategies for managing recruitment and recall
- Reduce the number of consultations to two at most
- Consider separating the inhaler check from the MUR and resource it as a separate enhanced service
- Consider empowering pharmacists - by PGD or other appropriate means - to add a spacer device or to change the device type within the consultation
- Implement a more streamlined, electronic data collection system
- Include all users of inhalers in the target audience, and competent children and young people
- Consider more deployment of non-pharmacist staff in the Service
- Put AIM machines into more pharmacies
- Continue to engage multidisciplinary advocates at a GM level and help to ease any tension in local areas
- Develop effective feedback and benchmarking strategies to motivate pharmacists

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[2] There were low numbers of consultations, however, where the AIM machine was available.