

MSc Community Pharmacy Public Health Services –
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**“Evaluation of community pharmacy MUR activity
related to hypertension in the Cheshire and Mersey
Footprint”**

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Background and hypothesis

Community pharmacies provide Medicines Use Reviews (MURs), one of the advanced services within the community pharmacy contractual framework in England. At least 70% of Medicines Use Reviews (MURs) provided by community pharmacies must be to patients in four target groups, cardiovascular risk, respiratory disease, high risk medicines and recent hospital discharge. The Cheshire and Mersey Sustainability and Transformation Plan (STP) highlighted cardiovascular disease as one of the clinical programs to improve population health. The study reported here aimed to investigate whether MUR provision is associated with population need in Cheshire and Mersey in line with the clinical programmes identified.

Community pharmacy sits at the center of many different areas that feed directly into the public health agenda. Despite this work there is no recognised method for quantifying this input into the system which is in part due to the poor data collection and utilisation within community pharmacy. Within other areas of primary care, such as general practice, there are clear and universal methods of collecting patient impacting activities and linking them, through QOF points, to patient outcomes. The structure of the community pharmacy contract at present does not encourage similar recording hence the current lack of data.

A review of the literature demonstrated that pharmacists can be impactful on hypertension through:

- Face-to-face educational interventions
- Improved adherence leading to decrease mortality and CVD risk
- Screening patients and populations
- Therapy interventions

There are many interventions that community pharmacists currently provide, both paid, contracted services and ad-hoc professional interventions. Without standard provision, only contracted services can be reviewed. As a result of the literature review, it was decided that MURs provided a suitable proxy for effective community pharmacy intervention, both because of the nature of the intervention and because of the commonality of the service to all contract types.

Aims and Objectives

This study aimed to establish what MUR data exists within current data sources, however, it is not the purpose of this work to consider additional methods of data collection increasing the administrative burden on community pharmacy at a time of significant pressure to the network. It also aimed to describe community pharmacy MUR provision within the Cheshire and Mersey Sustainability and Transformation Plan (STP) area and to investigate association between service provision and local health needs.

Specifically, the objectives were:

- Describe the current provision, uptake and variation of local community pharmacy MUR interventions in hypertension management, with particular reference to organisational influencers
- Describe the local health needs of the population within Cheshire and Mersey, identifying population factors that are linked to local health need
- Investigate associations between MUR service uptake and the local needs of the population and if any associations are unique to the highlighted focus of the STP, hypertension
- Make recommendations about future analysis and guidance to the community pharmacy network

Methods

Data relating to MUR provision by community pharmacies in the STP area were obtained from NHS England for 2015/16 and linked by postcode to population characteristics (% of population over 75, mean age and deprivation) and health need (prevalence of coronary heart disease [CHD], stroke, asthma and COPD). Pharmacies were categorised according to contractor type (multiples [> 200 pharmacies], small and medium chains [6 - 200 pharmacies] and independents [< 6 pharmacies]). Associations between provision, population characteristics, health need and contractor type were analysed using one-way ANOVA and correlations in SPSS.

Results

After cleaning, data were available for 598 pharmacies (n=313 [52.3%] multiple, n=87 [14.5%] small and medium chains, n= 198 [33.15%] independents). Multiple contractors provided significantly greater numbers of MURs ($F(2,335)=30.95, p<=0.000$).

Proportionally more cardiovascular MURs were provided by independents ($F(2,326)=4.439, p=0.013$). Conversely, the total number of respiratory MURs provided was significantly higher by multiple contract types ($F(2,335)=22.41, p=0.000$).

Provision of cardiovascular MURs was not associated with health needs (stroke or CHD prevalence) and inversely correlated with deprivation when comparing both total cardiovascular MURs ($r_s(338)=0.112, p=0.039$) and proportion of total MURs for cardiovascular disease [CVD] ($r_s(338) = 0.113, p<=0.041$).

Respiratory MUR provision was correlated with population % under 75 ($r(307)=-0.212, p=0.000$) and greater deprivation ($r_s(338)=-0.295, p<=0.000$). Respiratory MURs as a proportion of total MURs was correlated with COPD prevalence ($r(313) = 0.227, p=0.000$) and inversely correlated with both asthma prevalence ($r(313)=-0.166, p=0.003$) and stroke prevalence ($r(313)=-0.273, p=0.000$).

Table 5: Correlation between population factors and outcome variables

	Pearson Correlation (r)						Spearman's Correlation (r_s)
	Population % 75 and over	Mean Age	CHD Prevalence %	Stroke Prevalence %	Asthma Prevalence %	COPD Prevalence %	(r_s) (n)
Total MURs	-0.066 (307)	-0.057 (307)	0.009 (321)	0.008 (321)	0.057 (321)	-0.061 (321)	0.003 (338)
Total cardiovascular MURs	0.011 (307)	0.001 (307)	-0.088 (321)	0.048 (321)	0.079 (321)	-0.148** (321)	0.112* (338)
Cardiovascular % of Total	0.081 (299)	0.033 (299)	-0.095 (313)	0.086 (313)	0.090 (313)	-0.149** (313)	0.113* (329)
Total respiratory MURs	-0.212** (307)	-0.256** (307)	0.069 (321)	-0.142* (321)	-0.063 (321)	0.104 (321)	-0.295** (338)
Respiratory % of total	-0.251** (299)	-0.316** (299)	0.047 (313)	-0.273** (313)	-0.166** (313)	0.227** (313)	-0.461** (329)
Public health advice: smoking	-0.097 (307)	-0.102 (307)	-0.007 (321)	0.052 (321)	0.000 (321)	-0.011 (321)	-0.081 (338)
Public health advice: diet and nutrition	-0.039 (307)	-0.046 (307)	-0.013 (321)	-0.041 (321)	-0.107 (321)	0.006 (321)	-0.042 (338)

Discussion

Analysis suggests that within Cheshire and Mersey, MUR provision is not always associated with health need, and varies by contractor type.(1) Although MURs may be being provided to meet the needs of respiratory patients, provision is not responding to the cardiovascular needs of the population. Moreover, contractor type was found to be associated with the number of respiratory MURs, which may be due to a COPD pharmacy programme implemented in multiples.(2) Perhaps by promoting a similar service for addressing cardiovascular risk, community pharmacy may contribute more to the STP priorities for targeting CVD.

Based on the available data, community pharmacy MURs within Cheshire and Wirral are not reflective of the cardiovascular health needs of the local population; in short there is no adaptation to local need. Raising awareness of the specific health goals of larger (but local) NHS organisations (such as STPs) will encourage pharmacists to focus their activity to meet the external plans. A campaign to increase awareness and clinical ability in this target area across all contractor types would promote sensitivity to population need. As there is a significant difference between MUR provision between contractor type, there will need to be efforts made to ensure that this work has an impact across the sector.

There is a correlation between COPD prevalence and % respiratory MURs provided. Whilst it is uncertain as to the reasons for this, it does indicate a responsiveness to need within community pharmacy. There is a possibility to target additional services and public health activity through community pharmacy as it has been shown that it is responsive to COPD needs. Activity to target COPD patients can be conducted through community pharmacy with some confidence that this will successfully target patients within this clinical group.

The positive pharmacy care law would indicate that community pharmacy has the potential to impact on health inequalities and that services commissioned through them would passively target deprivation. However, the results are conflicted with examples of both correlation and no correlation to deprivation. Despite this, the locations and activity of community pharmacy allow for targeted action. This work only analyses one element of community pharmacy activity, not capturing local activity, advice given and many other interventions conducted.

Future work

There is no way of assessing through secondary analysis of the available data why the MUR provision does not reflect local need, since simple abundance would likely lead to an increase in provision. Therefore, assessment of pharmacist's opinions and individual knowledge and capabilities through qualitative analysis would likely help provide understanding of this situation allowing targeted action to help promote participation in local health plans. Future work could establish the degree to which service provision and uptake reflects the Inverse Care Law.

The data for respiratory activity is confounded by patient eligibility, therefore it would be valuable to specifically analyse the activity pharmacists undertake with respiratory MURs and this sub-group of patients (patients diagnosed with asthma and COPD), with data targeted to those eligible for the service provision. This will allow visibility as to whether the

correlation found is specific to COPD or indicative of a wider respiratory predisposition within community pharmacy.

Conclusions

This analysis confirms that there is no significant correlation between cardiovascular need and cardiovascular MUR provision, meaning that community pharmacists are not targeting their MURs to meet this identified local need. There is however, a correlation between COPD prevalence and respiratory MURs indicating a capacity to meet local variations in need, provided there is awareness of that need.