Institution: Newcastle University		
Unit of Assessment: UoA 3		
Title of case study: Increasing the use of local community pharmacies for minor illnesses reduces the burden on hospitals and GPs		
Period when the underpinning research was undertaken: 2014-2018		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	**Role(s) (e.g. job title):**	**Period(s) employed by submitting HEI:**
Dr Hamde Nazar	Senior Lecturer in Pharmacy Practice	Drs Nazar, Todd and Slight were transferred from Durham University's School of Medicine, Pharmacy and Health to Newcastle University via TUPE in August 2016
Dr Adam Todd	Reader in Pharmaceutical Public Health	
Dr Sarah Slight	Reader in Pharmacy Practice	
Professor Clare Bambra	Professor of Public Health	August 2016-present
Professor Falko Sniehotta	Professor of Behaviour	June 2010-present
Dr Katie Thomson	Medicine & Health Psychology	March 2017-present
Period when the claimed impact occurred: 2015-present		
Is this case study continued from a case study submitted in 2014? No		

1. Summary of the impact

Emergency departments (EDs) and general practice (GP) in England are facing unsustainable pressure. Treating minor illnesses at ED and in GP is costly and reduces their capacity to treat more serious conditions. A possible alternative is Community Pharmacies (CPs), but poor integration and a lack of evidence of their capacity discouraged uptake. Newcastle research found that: 1) CPs are the most accessible healthcare provider; 2) CPs have the capacity and knowledge to manage minor illness; and 3) CPs could be integrated into the NHS 111 referral pathway. Consequently, in 2019 a new framework was rolled out that directed patients calling NHS 111 with minor illness to a CP where appropriate. On average, over 5,500 patients per month calling NHS 111 are now recommended to a CP, allowing EDs and GPs to treat more urgent patients and save NHS costs.

2. Underpinning research

Unmet need and background

Emergency Departments (EDs) in England receive up to 22.4 million attendances per year (2014-15)[1]. General Practice (GP) also faces unsustainable pressures, with 372 million GP consultations over the same period[2]. Of these, around 5% of ED and 13% of GP consultations[3] are for minor illnesses: each inappropriate visit is costly to the NHS and reduces its capacity to manage patients with more serious conditions. In addition, many of the 45,000 patients a day who call NHS 111 are directed to in-hours GPs, when they could have been managed in Community Pharmacies (CPs). In 2000, the Department of Health formally recommended that minor illnesses could be managed in CPs and the pharmacy contract changed in 2005 to allow CPs to do so. However, uptake was low due to poor integration within the wider NHS; a lack of recognition of CPs as an appropriate option by both the public and healthcare professionals; and a sub-optimal regulatory system.

Research by Newcastle University

Newcastle research addressed three main areas. The first was CP accessibility: R1 showed that CPs are the most accessible healthcare provider in England, with 89% of the population being able to access one within 20 minutes' walk. Significantly, this accessibility increases to 99.8% in areas of the highest deprivation (R1), a phenomenon termed the 'positive pharmacy care law'. Subsequent Newcastle research found that CPs are also more accessible than GP services (R2).

[1]NHS Digital. Accident and Emergency Attendances in England- 2014-15 http://content.digital.nhs.uk/catalogue/PUB19883

[2]Department of Health and NHS England. Stocktake of access to general practice in England. National Audit Office Nov 2015 https://www.nao.org.uk/wp-content/uploads/2015/11/Stocktake-of-access-to-general-practice-in-England.pdf

[3]Watson *et al*. 2015 http://dx.doi.org/10.1136/bmjopen-2014-006261

Secondly, Newcastle research found that CPs can deliver effective public health services. This work produced the first meta-analysis showing that CP-delivered smoking cessation programmes are effective compared to usual care (R3).

The third area was a collaboration between Newcastle University, representatives from NHS England, NHS 111 and the Local Professional Network to develop a new pathway in the NHS 111 clinical support system. At consensus workshops these partners identified, for the first time, 72 minor illnesses that could safely and appropriately be managed in CPs (R4, R5). A pilot service, which ran from December 2017 to March 2018 in the North-East, tested the technical integration and clinical governance for referral from NHS 111 to CP. This pilot service, known as the Digital Minor Illness Referral Service (DMIRS), involved a change in: 1) NHS 111 call handler training; 2) the mechanism to escalate patients back into emergency care if required; and 3) the service data required to monitor the impact of the service. Following the success of this initial pilot, in Autumn 2018 DMIRS was extended to London, Devon and the East Midlands until March 2019[4], supporting up to 17.8 million people. As a result of this Newcastle-led research, DMIRS was rolled into a new pharmacy contract and launched across England in October 2019.

The impacts resulting from these three areas of research are described below.

3. References to the research

SciVal field-weighted citation impact (FWCI) as of December 2020. Newcastle researchers in **bold.**

R1. **Todd A**, Copeland A, Husband A, Kasim A, Bambra C. (2014) The positive pharmacy care law: an area-level analysis of the relationship between community pharmacy distribution, urbanity and social deprivation in England. *BMJ Open.* 4(8):e005764. DOI: 10.1136/bmjopen-2014-005764. FWCI: 5.47.

R2. **Todd A**, Copeland A, Husband A, Kasim A, Bambra C. (2015) Access all areas? An area-level analysis of accessibility to general practice and community pharmacy services in England by urbanity and social deprivation. *BMJ Open.* 5(5):e007328. DOI: 10.1136/bmjopen-2014-007328. FWCI: 4.75.

R3. Brown TJ, **Todd A**, O'Malley C, Moore HJ, Husband AK, Bambra C, Kasim A, **Sniehotta FF**, Steed L, Smith S, Nield L, Summerbell CD. (2016) Community pharmacy-delivered interventions for public health priorities: a systematic review of interventions for alcohol reduction, smoking cessation and weight management, including meta-analysis for smoking cessation. *BMJ Open.* 6(2):e009828. DOI: 10.1136/bmjopen-2015-009828. FWCI: 11.53.

R4. **Nazar H**, Nazar Z, Yeung A, Maguire M, Connelly A, **Slight SP**. (2018) Consensus methodology to determine minor ailments appropriate to be directed for management within community pharmacy. *Research in Social and Administrative Pharmacy*. 14(11): 1027-42. DOI: 10.1016/j.sapharm.2018.01.001. FWCI: 1.47.

R5. **Nazar H**, Nazar Z. (2018) Community pharmacy minor ailment services in England: Pharmacy stakeholder perspectives on the factors affecting sustainability. *Research in Social and Administrative Pharmacy*. 15(3):292-302. DOI: 10.1016/j.sapharm.2018.04.036. FWCI: 1.45.

R6. **Todd A**, **Thomson K**, Kasim A, **Bambra C**. (2018) Cutting care clusters: the creation of an inverse pharmacy care law? An area level analysis exploring the clustering of community pharmacies in England. *BMJ Open.* 8(7):e022109. DOI: 10.1136/bmjopen-2018-022109. FWCI: 0.46.

NB the research was carried out at Durham University's School of Medicine, Pharmacy and Health, which was transferred to Newcastle University *via* TUPE in 2017. Research England agreed that the underpinning research, and thus the case study, can be submitted by Newcastle.

[4]https://www.england.nhs.uk/commissioning/primary-care/pharmacy/digital-minor-illness-referral-service-dmirs

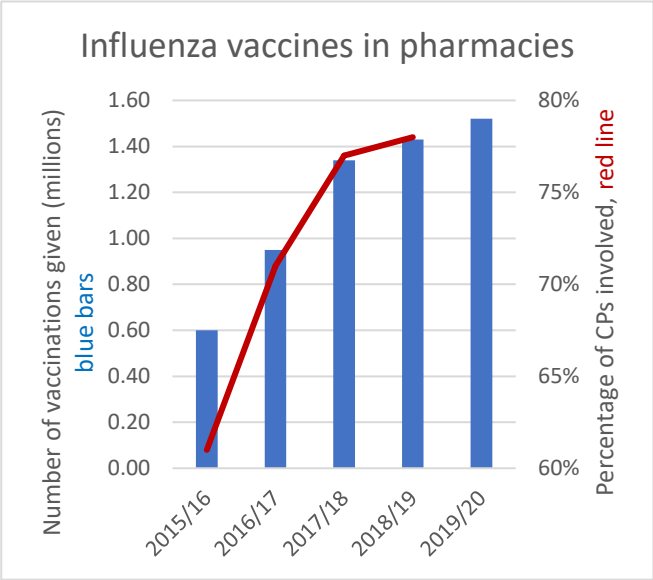
4. Details of the impact

Background

Newcastle research showed that CPs 1) are an appropriate place to treat minor illnesses; 2) have the capacity and knowledge to manage minor illnesses; and 3) are often more accessible than GP services. In 2015, the CP minor illness scheme was rebranded as the Think Pharmacy First Minor Illness Scheme, which increased public awareness of the 11,700 CPs in England.

Flu vaccination in CPs: informing the contract change and demonstrating proof of concept

In July 2015, the Community Pharmacy Contractual Framework (CPCF) changed to allow CPs to deliver a national NHS seasonal flu vaccine service targeted at eligible at-risk patients (EV1). The contract changed because of Newcastle evidence that CPs were accessible, convenient and could target hard-to-reach groups, often more so than GPs: the 2015 briefing (EV2) cites R1 as evidence of the accessibility of CPs. Since the service began in 2015/16, there has been a rapid increase in the number of patients receiving a vaccination and the percentage of CPs involved (see graph, EV3). This demonstrated that CPs were able to handle the increased volume of patients.



Recognition in NHS and NICE policy

The value and capacity of CPs has been recognised by both PHE and NICE. A 2017 PHE document "Pharmacy: A Way Forward for Public Health" (EV4), citing R1 and R3, states "commissioners should consider using community pharmacies to help deliver public health services". The 2018 NG102 NICE guideline (EV5), which cites R1, encourages more people to use CPs by integrating them within existing health and care pathways and ensuring they offer standard services and a consistent approach.

Changing the NHS 111 algorithm to direct patients to CP

Having established the value and capacity of CPs, the next step was to change the framework of NHS 111 so that patients calling about a minor illness are directed to CPs, instead of to more urgent care centres such as EDs and GPs. A Newcastle University-led pilot (DMIRS) directly informed a change in the NHS 111 algorithm and call handler training so that, where appropriate, callers with minor ailments were referred digitally to a CP. The success of the trial led to DMIRS being rolled into the new national five-year CPCF in October 2019 (EV6, 7). The CPCF expands the role of CPs to embed them as the first port of call for minor illnesses and health advice across England. Page 7 states: "The piloting of DMIRS… has enabled us to introduce a well tried, tested, safe and sustainable service into the CPCF. It has also enabled us to demonstrate the value that community pharmacy can add."

As at July 2020, an average of 5,511 patients per month calling NHS 111 have been recommended to CP (EV8), a total of 55,108 across England since October 2019. A large-scale evaluation of the service that ran throughout 2018 (EV9) found that 13,246 patient calls to NHS 111 were referred to CP. Of these, 47% of patients attended the CP and were successfully managed in this setting, saving over 6,000 appointments in GP or ED. A further 21% also attended CP, who escalated the patient to more urgent care, and 12% of patients were recovering or seeing another healthcare provider. Only 3% of patients did not attend CP, and in less than 1% of cases was the referral inappropriate.

Of note was the use of the service by patients from deprived areas: the highest number of calls and the highest number of patients referred to CP were from the five most deprived deciles (EV9).

As noted in R1, CP accessibility was 99.8% in areas of the highest deprivation, confirming that those most in need of a CP were able to access one. Even in areas of low deprivation, a CP is often more accessible than a GP, both in terms of geography and opening times.

Impact on NHS 111 call handlers in the North East of England

In December 2017, the North East Ambulance Service (NEAS) NHS Foundation Trust call handling centre changed their algorithm to direct appropriate patients to CP for treatment; this presented an ideal opportunity to evaluate the effect on NHS 111 call handlers in practice. This pilot study was due to be repeated in other sites, but was halted by the COVID-19 outbreak. As of July 2020, 320 Health Advisors in NEAS had been trained on the new referral method, and as a result there has been a significant shift of patients from primary care to CP. From launch to end July 2020, a total of 43,191 patients have been sent to CP, of which around 46% were managed entirely in CP, saving around 20,000 referrals to a GP, Out of Hours Service or Urgent Treatment Centre in the North East alone (EV10).

5. Sources to corroborate the impact

EV1. The Pharmaceutical Services negotiating Committee (PSNC) Flu Vaccination Service webpage: https://psnc.org.uk/services-commissioning/advanced-services/flu-vaccination-service
EV2. August 2015 PSNC Briefing 041/15: Flu vaccination: The benefits of a community pharmacy service. https://psnc.org.uk/wp-content/uploads/2013/04/PSNC-Briefing-041.15-Flu-vaccination-The-benefits-of-a-community-pharmacy-service.pdf
EV3. PSNC Seasonal flu vaccine uptake in Community Pharmacy webpage. https://psnc.org.uk/services-commissioning/advanced-services/flu-vaccination-service/flu-vaccination-statistics/
EV4. Public Health England document “Pharmacy: A Way Forward for Public Health“. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/643520/Pharmacy_a_way_forward_for_public_health.pdf
EV5. NICE guideline NG102: Community pharmacies: promoting health and wellbeing, August 2018. https://www.nice.org.uk/guidance/ng102
EV6. The Community Pharmacy Contractual Framework for 2019/20 to 2023/24: supporting delivery for the NHS Long Term Plan, July 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819601/cpcf-2019-to-2024.pdf
EV7. Letter from the Director of NHS Services, Pharmaceutical Services Negotiating Committee.
EV8. NHS 111 Minimum Data Set 2020-21. https://www.england.nhs.uk/statistics/statistical-work-areas/nhs-111-minimum-data-set/nhs-111-minimum-data-set-2020-21/ See column Y: these specific data are available on request
EV9. Nazar et al. 2020 A service evaluation and stakeholder perspectives of an innovative digital minor illness referral service from NHS 111 to community pharmacy, doi.org/10.1371/journal.pone.0230343
EV10. Letter from the Section Manager, North East Ambulance Service - NHS Foundation Trust.