

Impact case study (REF3)

Institution: University of Nottingham		
Unit of Assessment: 3 (Allied Health Professions, Dentistry, Nursing and Pharmacy)		
Title of case study: Transforming Influenza Vaccination Provision through Community Pharmacy in England, France and Australia		
Period when the underpinning research was undertaken: 2013 – 2016		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Claire Anderson	Role(s) (e.g. job title): Professor of Social Pharmacy	Period(s) employed by submitting HEI: 1999 - current
Period when the claimed impact occurred: 2014 onwards		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Research by the School of Pharmacy has been used by the health services of England, France and Australia to improve their nation's public health by transforming the role of community pharmacy to deliver influenza vaccinations to eligible patients. In England, over 8,390,000 eligible patients have chosen to be vaccinated in pharmacy by the 79% of community pharmacies now offering the service. In France, an initial pilot has led to the nationwide legislative change allowing pharmacists to deliver influenza vaccinations from Oct 2019, with almost 2 million patients vaccinated in pharmacy in 2019/20. In Australia, pharmacists, who previously were not authorised to deliver vaccinations, delivered over 2 million private and publicly funded influenza vaccinations in 2019, as well as MMR, diphtheria, pertussis and tetanus. Pharmacy provision of influenza vaccination enabled delivery of record vaccinations protecting patients and healthcare systems in the face of COVID-19 and influenza and facilitated the commissioning of pharmacy-led COVID-19 vaccination sites.</p>		
2. Underpinning research		
<p>Influenza is a highly contagious, acute viral infection that has a global impact. There are an estimated 1 billion cases, 3 to 5 million severe cases, and 290,000 to 650,000 influenza-related deaths worldwide annually (World Health Organisation, WHO). Influenza vaccination is the most effective defence against the disease. The WHO target for uptake of influenza vaccinations is 75% in the over 65-year age group; a target repeatedly missed. Patients in at-risk groups have been eligible to receive a publicly funded influenza vaccination in primary care, however uptake has been consistently below target.</p> <p>Community pharmacies work at the frontline of healthcare in cities, towns and villages; they play an increasing role in improving public health and wellbeing through provision of advanced services. Pharmacy have administered influenza vaccinations privately at a cost to the patient in England since 2002, and previously were not legally authorised to administer vaccines in France or Australia. In 2013, Professor Claire Anderson and colleagues at Boots UK Ltd evaluated their private influenza vaccination service. During the 2013/14 influenza season they identified the prevalence of patients, who despite being eligible for a free NHS vaccination chose to pay for the service at a pharmacy and evaluated these patients' motivations. The results, published in <i>BMC Health Services Research</i>, showed that patients eligible for a free vaccination were opting to pay due to accessibility, convenience and preference for a pharmacy environment (R1).</p> <p>This research led to a further investigation by Anderson in the 2014/15 influenza season, to profile the users of Boots pharmacies for influenza vaccination. The results, published in the <i>International Journal of Clinical Pharmacy</i>, showed that Pharmacy influenza vaccination services are highly accessed by at-risk patients from all socio-demographic areas, and seem to be particularly attractive to carers, frontline healthcare workers, and those of working age. These people stated that it was easier for them to go to a pharmacy for vaccination (R2).</p> <p>Some areas in England were locally commissioned to deliver NHS influenza vaccinations prior to Anderson's work, however, without a national commission, the service was limited by challenges in consistency, training and the ability to do national winter campaigns.</p>		

The findings of Anderson's research supported the national commissioning of NHS influenza vaccination delivery in England. This enabled at-risk patients to be reached nationally by targeting people unlikely to access the service at general practitioner surgeries, as well as those with long-term conditions on repeat medicines who are eligible for an NHS vaccine and frequently visit pharmacy. The research also informed the delivery of influenza vaccination pilots in Australia and France, leading to similar healthcare transformations.

3. References to the research

Publications:

- R1. **Anderson C.**, Thornley T. "It's easier in pharmacy": why some patients prefer to pay for flu jabs rather than use the National Health Service. *BMC Health Serv. Res.*, (2014) **14** 35. <https://doi.org/10.1186/1472-6963-14-35>
- R2. **Anderson C.**, Thornley T. Who uses pharmacy for flu vaccinations? Population profiling through a UK pharmacy chain. *Int. J., Clin., Pharm.*, (2016) **38** 218-222. <https://doi.org/10.1007/s11096-016-0255-z>

4. Details of the impact

The provision of influenza vaccination through community pharmacy in England, France and Australia has been transformed by Anderson's research.

England - Impact on services

In England, Anderson's research supported the Pharmaceutical Services Negotiating Committee (PSNC) negotiations for the NHS pharmacy service, whereby from 2015 the delivery of influenza vaccinations by pharmacists was nationalised across England: Public Health England's report 'Influenza Vaccine Uptake amongst GP Patient Groups in England' for the 2012/13 Winter season highlighted that "... *just over 50% of people aged six months to under 65 years in a clinical risk group, had been vaccinated against flu. Despite continued efforts to improve uptake ... the remaining half of the clinical risk group population eligible to receive the vaccine, are still not getting immunised.*" There was considerable interest within the public health community, and the policy leads for influenza vaccination at Public Health England, in a role for community pharmacists as part of the annual flu campaign to widen and ease access to vaccination. Those officials were interested specifically in three issues in consideration of a nationally commissioned service from community pharmacy:

- were community pharmacists capable of delivering the service?
- did they have capacity to deliver it such to make a difference to the under 65 at-risk groups?
- would the public see community pharmacies as a legitimate place for receiving an influenza vaccination?

The chief executive for the Company Chemists' Association (2007 – 2015) and Pharmacy Voice (2010 – 2017), who was involved in these discussions through the Pharmacy Public Health Advisory group [A], confirmed that Anderson's "*research contributed to the weight of evidence that resulted in the commissioning of the national flu service in 2015.*" "*At the time when officials were actively considering the extension of the national scheme into pharmacy, these data ... were significant in the commissioning of the national scheme.*" [A]

The Chief Pharmacist at Boots UK Ltd "*confirm[ed] that the work carried out by Professors Claire Anderson ... on influenza vaccinations provided by community pharmacists in the UK has been instrumental in supporting the evidence case for widening access to such services across the NHS.*" [B]

Uptake of NHS funded influenza vaccinations in pharmacies between September and March has increased from 595,467 in 2015/16 to 1,721,705 in 2019/20. The number of pharmacies offering the service has increased by 29% over this period (from 7,195 to 9,310), and pharmacy contractors have received GBP56,502,440 in fees directly for the delivery of influenza vaccinations from the NHS [C]. The 2018 'Economic Analysis of Flu Vaccination'

notes that “costs of delivering a vaccine through a pharmacy is £2 cheaper than through a GP.” Vaccination in pharmacy was estimated to have saved the NHS around GBP3,000,000 in 2017/18 [D]. Provision of influenza vaccination is one of the gateway criteria to access the Pharmacy Quality Payment scheme since 2016, and will continue to be so as outlined in The Community Pharmacy Contractual Framework 2019/20 to 2023/24. Since 2015, Anderson’s research has been used in annual briefings provided by PSNC to pharmacy contractors to help promote the influenza vaccination service to patients and local stakeholders [E].

England - Impact on patients

The results of the annual patient questionnaire for the Flu Vaccination Service delivered by community pharmacy, managed by NHS England, demonstrate patients highly value the service. In 2016/17 and 2017/18, at least 98% of patients were very satisfied with the service, 99% would be willing to have an influenza vaccination at pharmacy again, and 99% would recommend the service. 15% (2016/17) and 7% (2017/18) of patients said they might not have had the vaccination if the service had not been available in pharmacy, equating to 236,727 vulnerable patients not receiving the best protection against the influenza virus [F]. It was concluded that the results were sufficiently consistent and positive to not have to run the questionnaire thereafter.

International impact

France: The international status of Walgreens Boots Alliance facilitated the influence of Anderson’s research on the development of national pharmacy influenza vaccination services in France for at-risk patients. This is corroborated in statements of the Contract Framework and Outcomes Senior manager at Boots UK Ltd and the Chief Pharmacist at Boots UK Ltd [B]. In 2016, the French regulator (Conseil National de l’Ordre des Pharmaciens) featured Anderson’s publication (R1) as supporting evidence in their successful campaign to change legislation to allow pharmacists to deliver influenza vaccinations [G]. In July 2018, a Haute Autorité de Santé (French national authority for health) guideline was published ‘Extension des competences des professionnels de santé en matière de vaccinations’. This guideline recommends the development of influenza vaccination services in pharmacy in France using the UK as a successful case study, and Anderson’s findings on patients’ attitudes to pharmacy vaccination as supporting evidence [pages 38, 39, 51, G]. In 2018/19, 22,000 pharmacists delivered over 650,000 influenza vaccinations across 13,000 pharmacy sites in four pilot regions [H]. In 2019/20, the service was expanded countrywide with almost 2,000,000 patients vaccinated by a pharmacist [H].

Australia: Anderson’s research informed the pilot Australia ‘Queensland Pharmacist Immunisation Pilot (QPIP)’ project that allowed Australian pharmacists to vaccinate for the first time in 2014. The chair of the steering committee for the pilot commented “*we utilized the evidence and data from Claire Anderson’s work in the UK and used this to influence and change policy in Australia around influenza vaccinations in community pharmacy. It formed the basis of large practice base studies in community pharmacy.*” [I]

Following the success of the pilot, private influenza vaccinations have been delivered nationwide by community pharmacy since 2016. In 2018, over 1,000,000 Australians were vaccinated in pharmacy, and this rose to over 2,000,000 in 2019 [J]. Greg Hunt, Minister for Health, Australia, stated in a press release regarding record vaccinations in Australia in December 2018, “*Australia experienced the lowest rates of the influenza since 2013 after a record 11 million Australians got a flu jab, nearly a third more than the previous year. Delivering vaccines to people in most need of protection would not have been possible without the collaboration between GPs and other vaccination providers across Australia, as well as community pharmacies which encouraged and administered the uptake of this important, lifesaving vaccination.*” [J]

The second stage of the pilot, launched in 2015, expanded the Pharmacy vaccination program, for MMR, diphtheria, pertussis and tetanus. Pharmacy is now commissioned to

deliver the National Immunisation Programme for at high-risk groups in three territories; Victoria, Australia Capital Territory and Western Australia. As of January 2019, 7 out of 8 Australian states and territories offer vaccination services additional to influenza [K].

Transforming vaccinations globally

The International Pharmaceutical Federation (FIP) is the global federation of more than 150 national associations representing over 4,000,000 pharmacists and pharmaceutical scientists, and 170 universities. Since 2016, FIP have been working globally to develop the role of pharmacy in provision of vaccination services. The FIP Chief Executive Officer confirms Anderson's research has contributed significantly to their publication of Transforming Vaccination Globally report and set of global commitments and regional action plans [L].

Impact on reducing the double threat - Covid-19 and Influenza

In 2020, a double threat of COVID-19 and influenza risked further burdening healthcare systems worldwide. In Sept 2020, Public Health England published research that linked prevalence of death with patients suffering from COVID-19 and influenza to be twice those suffering with COVID-19 alone. Australia, England and France launched ambitious plans to expand their influenza vaccination programmes for maximum population uptake. In Australia, influenza vaccination uptake increased by 5,000,000 compared to 2019 and delivery by pharmacy was expanded to include children from 10 years of age. In England, a record 30,000,000 patients were eligible for free NHS influenza vaccinations, with over 950,000 patients vaccinated in pharmacy in September 2020 alone; 2.5 times that of the same period in 2019. Pharmacy gave over 2,397,788 influenza vaccinations in 2020, 890,000 more than in 2019 [C, M]. France ordered 30% more influenza vaccinations this year than previously.

In November 2020, the PSNC confirmed it was working with NHS England and NHS Improvement (NHSE&I) and the Department of Health and Social Care to agree how pharmacies could play a part in the COVID-19 vaccination programme. Alastair Buxton, Director of NHS Services at PSNC, stated "*Community pharmacy teams have had a central role in the response to the pandemic so far, and this should continue as new treatments and vaccinations become available.*" "*The success of the flu vaccinations service highlights just how effective community pharmacies are in delivering key public health initiatives and means the majority of pharmacists are already trained in administering vaccines.*" At the end of November, pharmacy contractors were contacted by the NHSE&I Chief Commercial Officer and SRO Vaccine Programme, the Director of Primary Care, and the Chief Pharmaceutical Officer for England with details of the commissioning of community pharmacy-led designated vaccination sites, highlighting that "*The UK has one of the world's highest levels of public support for making a safe COVID-19 vaccine available and community pharmacy is currently doing an outstanding job of increasing coverage under the expanded winter flu programme.*" [M], and echo those of the Chief Pharmacist at Boots UK Ltd [B]. The first pharmacy-commissioned COVID-19 vaccination sites will be active from January 11th 2021.

Thanks to Claire Anderson's research influencing the provision of influenza vaccination in Pharmacy, thereby increasing service capacity, England, France and Australia have been able to deliver record numbers of flu vaccinations in 2020. Pharmacy provision of this service has helped to protect millions of people and their healthcare systems.

5. Sources to corroborate the impact

- A. Corroborative statement from The Chief Executive of the Company Chemist's Association and of Pharmacy Voice (PDF).
- B. Corroborative statements from Chief Pharmacist at Boots UK Ltd, and the Senior Manager (Contract Framework and Outcome) at Boots UK Ltd (PDF).

- C. 1) NHSBSA published data on vaccination uptake, money to pharmacy, number of community pharmacies providing service. URL: <https://www.nhsbsa.nhs.uk/statistical-collections/general-pharmaceutical-services-england/general-pharmaceutical-services-england-201516-201920> (also PDF). 2) PharmOutcomes and Sonar systems data of vaccinations given URL: <https://psnc.org.uk/services-commissioning/advanced-services/flu-vaccination-service/> (also PDF).
- D. Economic evaluation of influenza vaccination. URL: <https://www.pharmacy magazine.co.uk/clinical-briefing-pharmacy-flu-jabs-save-nhs-millions> and <https://ilcuk.org.uk/an-economic-analysis-of-flu-vaccination/> (ILC/Sequirus 2018, also PDF).
- E. PSNC Briefings 2015, 2018 and 2019 “Flu vaccination - the benefits of a community pharmacy service”. URLs: <https://psnc.org.uk/our-news/flu-vaccination-the-benefits-of-a-community-pharmacy-service-august-2015/> <https://psnc.org.uk/services-commissioning/psnc-briefings-services-and-commissioning/psnc-briefing-05216-flu-vaccination-the-benefits-of-a-community-pharmacy-service-october-2016/> and <https://psnc.org.uk/services-commissioning/psnc-briefings-services-and-commissioning/psnc-briefing-036-19-flu-vaccination-the-benefits-of-a-community-pharmacy-service-september-2019/> (also PDF).
- F. NHS patient questionnaire results for patients vaccinated in pharmacy 2016/17, 2017/18 (PDF).
- G. Campaign materials and recommendations in France: 1) CNOP campaign material lobbying from the expansion of vaccination services in pharmacy (PDF) 2) Haut Autorité de santé Recommendation Vaccinale “Extension des compétences des professionnels de santé en matière de vaccination” July 2018 (PDF).
- H. Data on uptake and growth of provision throughout France – from ‘Ordre National Des Pharmaciens’. (PDF).
- I. Corroborative statement from lead of pilot in Australia, and Pilot Phase 1 and 2 publications (PDF).
- J. Data on uptake of Flu vaccination in Australia from Australian Pharmacy Guild and quote from Greg Hunt Minister for health, Australia after successful Flu season 2018 (PDF).
- K. Australian Pharmacy Guild webpages on vaccination provision in pharmacy in Australia – included private flu provision, national flu provision and expansion to other vaccination areas. URL: <https://www.guild.org.au/programs/vaccination-services> (also PDF).
- L. Corroborative statement from the Chief Executive Officer of the International Pharmaceutical Federation (PDF).
- M. PSNC Negotiations for pharmacy COVID vaccination provision, increase influenza vaccinations in 2020, and letter from NHS Chief Commercial Officer and SRO Vaccine Programme re COVID vaccination provision in pharmacy (PDF).