

A Lung Health Service – Doncaster pharmacy direct referral for chest x-ray

A project summary

Accelerate, Coordinate, Evaluate (ACE) Programme

An early diagnosis of cancer initiative supported by:

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About the ACE Programme

The Accelerate, Coordinate, Evaluate (ACE) Programme is an early diagnosis of cancer initiative focused on testing innovations that either identify individuals at high risk of cancer earlier or streamline diagnostic pathways. It was set-up to accelerate the pace of change in this area by adding to the knowledge base and is delivered with support from: NHS England, Cancer Research UK and Macmillan Cancer Support; with support on evaluation provided by the Department of Health's Policy Research Units (PRUs).

The first phase of the programme consisted of around 60 projects split into various topic-based clusters to facilitate evidence generation and learning. The second phase (pilots live from January 2017) comprises five projects exploring Multidisciplinary Diagnostic Centre (MDC) – based pathways. The learning from ACE is intended to provide ideas and evidence to those seeking to improve local cancer services. The evaluations and findings are produced independently, and are therefore, not necessarily endorsed by the three supporting organisations.

Executive Summary

This document is a summary of a project from the cluster looking at the role non-GP primary care health professionals can play in diagnosing cancer earlier in patients at high risk and will be of particular interest to commissioners considering commissioning a pharmacy direct referral to chest x-ray (CXR) pathway. It provides: a breakdown of results; challenges; and, perceived successes.

Context

Doncaster Clinical Commissioning Group (CCG) piloted a pharmacist direct referral to chest CXR pathway in nine community pharmacies called the “Lung Health Service”, which formed part of a larger CCG-led cancer awareness programme. Doncaster CCG ran their direct referral project over eight months. The pilot ran from September 2015 until April 2016.

The pilot aimed to improve the diagnosis of lung cancer and other lung abnormalities by:

- Detecting symptomatic lung cancer earlier
- Reducing the number of people who present at A&E with advanced lung cancer
- Diagnosing previously undetected lung abnormalities other than cancer e.g. COPD
- Testing the pharmacist direct referral pathway over a period of eight months.

Results

16 patients were identified and assessed over the duration of the Lung Health Service. Of these, 10 had a CXR. One patient confirmed a stable lung condition. No lung cancer was diagnosed.

The project yielded broader system benefits. Good communication between primary and secondary care health professionals enabled an efficient referral process for patients. Engagement from a broad cross-section of local stakeholders also lent credibility to the project, which helped to secure initial commitment.

The pilot did, however, face a number of challenges. GPs were apprehensive about pharmacists making appropriate referrals and there were some issues with identifying patients who had previously been referred for a CXR. Counter staff thought the six patients who declined the CXR did so because they were unaware of the validity of the pilot and were unprepared for a formal conversation. There was also concern that the project team didn't have enough capacity to remind pharmacists about the pilot.

These challenges resulted in the project being de-commissioned by the CCG. Although the pilot didn't demonstrate success through quantitative data, it did show that pharmacists can make appropriate quality referrals. There is a growing interest in the increasing role of pharmacists and a number of project members believe there is value in the approach that needs to be explored further. This view is supported by a CRUK-funded cross-sectional surveyⁱ of 401 community pharmacists which found 74% of respondents agreed they could take a more active role in the early diagnosis of cancer.

Video interviews were conducted with the project lead and two participating radiographers – details and links to the videos can be found on page 7 of this report.

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Context

Community pharmacies are highly accessible to the local population they serve; 89% of the population in England can walk to a community pharmacy within 20 minutes, rising to 98% in urban areas and 99% in areas of high deprivation.ⁱⁱ

A previous 12 week pilot in South West London trialling pharmacist direct referral to CXR in 2011/12 found pharmacists were capable of undertaking appropriate referrals. Although no cases of lung cancer were found, around a third of patients who had a CXR (14/47) were found to have undiagnosed chronic obstructive pulmonary disease (COPD).ⁱⁱⁱ

Doncaster has much higher than average incidence of lung cancer between 2012 and 2014,^{iv} particularly in more deprived neighbourhoods. The poor outcomes are partly due to the number of patients diagnosed with late stage lung cancer, often via emergency presentation.

- From a population of 313,235 Doncaster CCG has a higher number of cancers diagnosed each year: (659 per 100,000 population compared to 614 per 100,000 England average)^v
- Routes to diagnosis vary from: a two week wait (2WW), consultant upgrades and A&E presentations. 2WW crude rates for lung cancer are 70.5 per 100,000 compared to 100.5 England average^{vi} and many of these are late stage
- Doncaster has a smoking rate of 22.92% compared to the England national average of 18.6%^{vii}
- Nationally there are comparatively poor survival rates for lung cancer, for which just 5% of patients survive for 10 years or more, compared to breast (78%) and colorectal cancers (57%)^{viii} because patients often present at a later stage.

Doncaster pharmacist direct referral to CXR

Doncaster Clinical Commissioning Group (CCG) piloted a pharmacist direct referral to CXR pathway in a small number of community pharmacies called the “Lung Health Service”, which formed part of a larger CCG-led cancer awareness programme. Doncaster CCG ran their direct referral project over eight months. The pilot ran from September 2015 until April 2016 across nine pharmacies.

Through the wider programme, which has had four awareness campaigns involving community pharmacies, the CCG has built a good working relationship with the Local Pharmaceutical Committee (LPC) and with many Doncaster pharmacies.

The pilot aimed to improve the diagnosis of lung cancer and other lung abnormalities by:

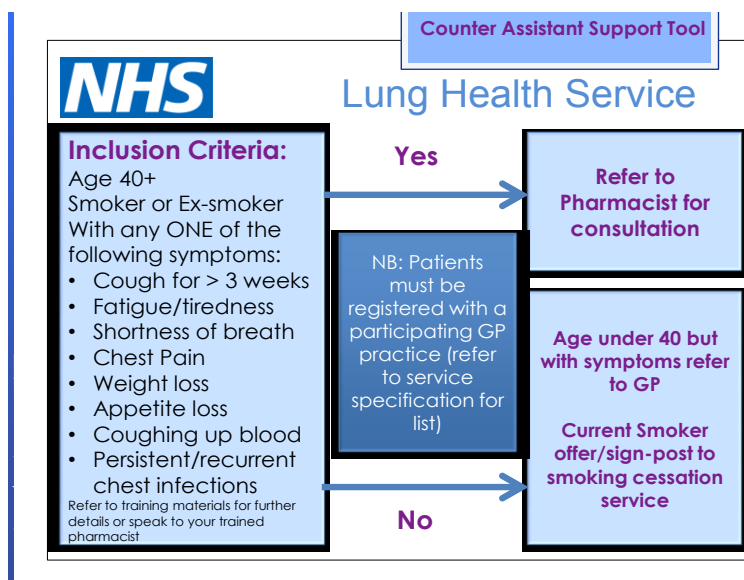
- Detecting symptomatic lung cancer earlier
- Reducing the number of people who present at A&E with advanced lung cancer
- Diagnosing previously undetected lung abnormalities other than cancer e.g. COPD
- Testing the pharmacist direct referral pathway over a period of eight months.

Community pharmacies in Doncaster were considered a good place to engage people who do not regularly consult their GP and may not seek GP assistance until their symptoms are severe, at which point they may have late stage lung cancer.

Pathway development

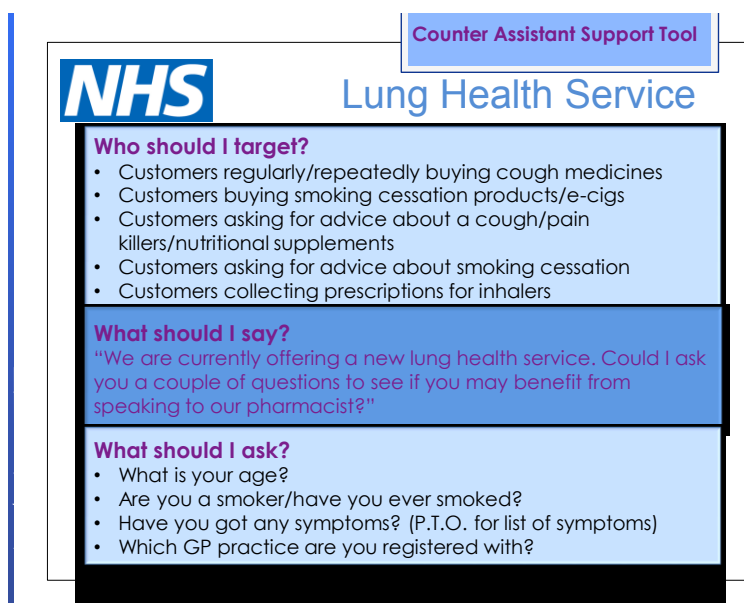
The first point of contact in the pathway is the medicines counter assistant (MCA) in the pharmacy, whose role is to identify individuals visiting the pharmacy who may meet the inclusion criteria for the “Lung Health Service”:

Figure 1.1: A tool for MCAs to support the Lung Health Service



To help MCAs spot pharmacy customers who may meet the criteria on further questions, the following detailed aid was developed:

Figure 1.2: A tool for MCAs highlighting target groups and customers for the Lung Health Service



Once an eligible customer was referred to the pharmacist by counter staff he/she was offered a confidential consultation to ascertain whether they meet the criteria for referral to the local acute trust for CXR, or will be advised to see their GP.

For the pharmacist to refer someone directly for a CXR (pathway A) they must have been a current or former smoker aged over 40 and have one of the symptoms listed in figure 1.1.

However, if a patient had a CXR within the last month, they were advised to visit their GP (pathway B).

Pathway A – direct to CXR pathway for patients who meet referral criteria



A copy of the results of the CXR (radiology report) were sent to both the GP and the referring pharmacist. Responsibility of patients who have been referred for a CXR by their pharmacist remains with their GP and/or the chest physicians at the local trust (as appropriate). All abnormalities are automatically picked up by the chest physicians as per the local pathway. The only mechanism to verify if a patient has gone to the hospital for a CXR is the radiology report. If there is no radiology report, then the patient is assumed to have not attended.

Pathway B – referral pathway for patients who have had a CXR within the last month



The organisations and roles involved with the development of the pathway were:

- From **Doncaster CCG**: Commissioning Leads, Cancer Clinical Lead (a GP)
- From the **LPC**: various pharmacists and MCAs directly involved with the LPC
- From **Doncaster and Bassetlaw NHS Foundation Trust**: Respiratory Consultant, managers from the diagnostics team and clinicians including Radiology Leads

Activities undertaken to get individuals and organisations on board and to develop the pathway were:

- One-to-one meetings with key stakeholders (5-10 took place)
- Larger meetings including group based discussions about the project (3 took place)
- Frequent email communications, mainly to GP practices.

The training of pharmacists participating in the direct referral pilot was developed with the LPC, the radiology department at the local NHS Trust and a Doncaster patient who was diagnosed and treated locally for lung cancer. In addition, pharmacists were also required (on request of the local trust) to undertake Ionising Radiation (Medical Exposure) Regulations 2000 (IRMER) training.^{ix}

Results

16 patients presenting to pharmacy were identified, had a consultation and were offered a CXR. Six of the patients declined a CXR and ten attended Doncaster & Bassetlaw Hospitals NHS Foundation Trust for a CXR. One stable lung condition was confirmed.

No patients were diagnosed with lung cancer. Due to limitations in the data the project was unable to highlight if other co morbidities such as COPD were detected.

Figure 2.1: Number of patients seen via the referral system

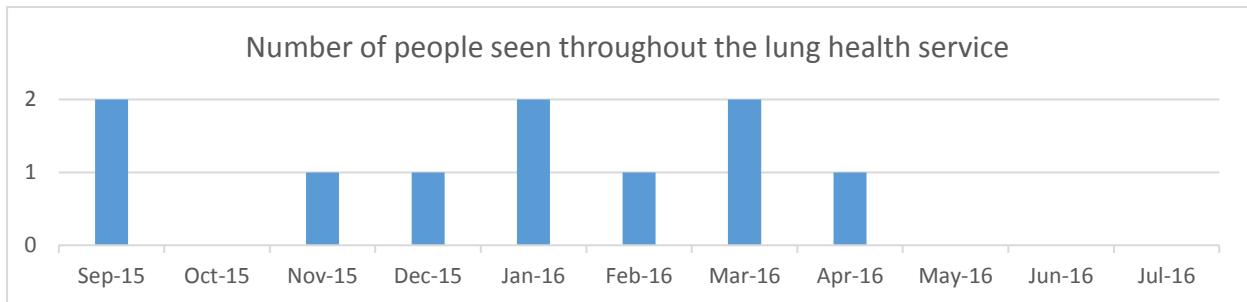


Figure 2.2: Proportion of patients referred by individual pharmacies

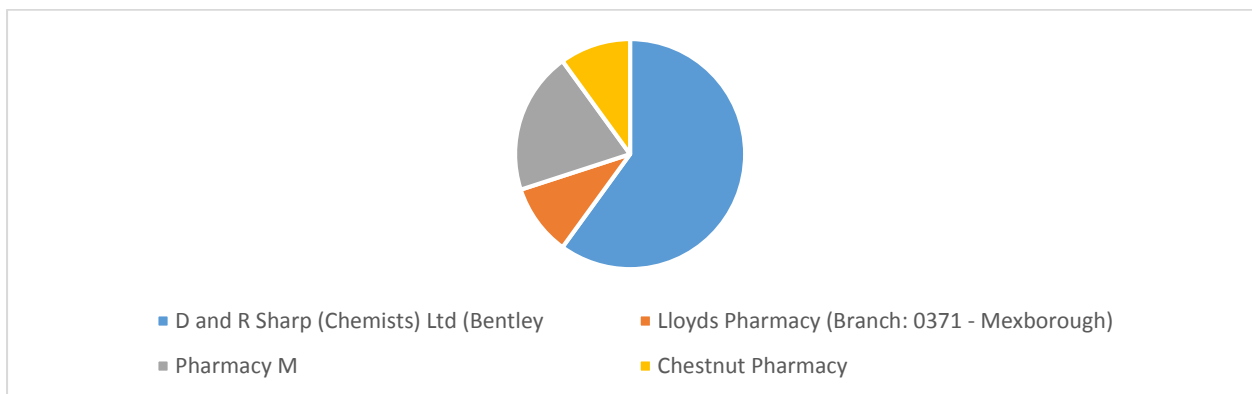


Figure 2.3: Number of patient referrals by age

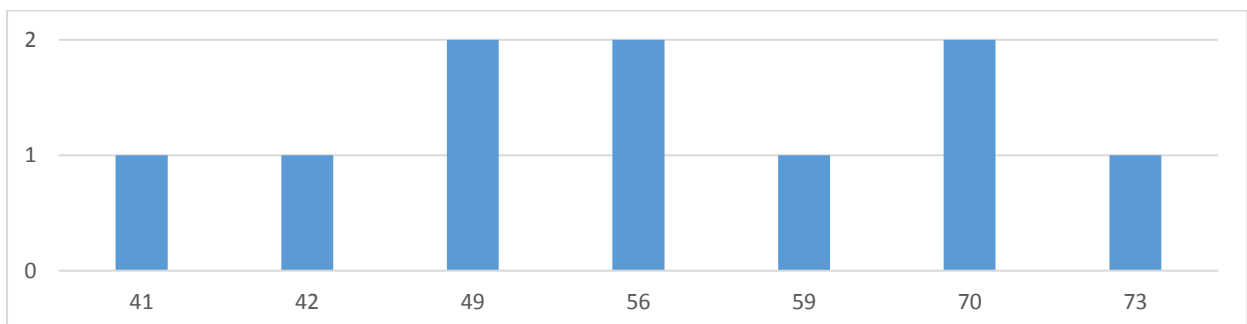


Figure 2.2 highlights that the pharmacy in Bentley accounted for 60% of the referrals. A major factor influencing this is thought to be the involvement of a particular pharmacist who had a key role within the project. Other factors include: local socio-demographics, smoking prevalence and the relationship with the local community.

The small proportion of referrals from the other pharmacies is thought to be a result of the project team's low engagement with them during the project's lifespan, largely due to their limited capacity.

Data suggest an equal gender distribution, although the initial premise of the referral service was that it would reach and engage 'hard to reach' males. Figure 2.3 shows the age distribution with 70% aged 59 or less; this is in contrast with the national average for lung cancer diagnosis which shows the age bracket with the highest number of diagnoses to be 75 and over.^x

Due to small numbers of patients referred it is difficult to draw any broad conclusions from the data provided, and as a result Doncaster CCG senior management team felt the project was neither financially viable nor achieving earlier diagnosis objectives and, as a result, was decommissioned.

Findings from the evaluation interviews with key stakeholders

These findings are based on qualitative and quantitative data from the Lung Health Service in Doncaster. The findings are drawn from an evaluation survey and face to face discovery interviews completed by participants working on and leading the project.

The findings are described within a number of themes:

- Benefits
- Challenges
- Suggestions for rolling out a similar pathway.

Benefits

Communication between health professionals

Around a quarter of all participants reported the value in connecting and communicating back to primary and secondary care in the development of the referral process. This highlights that joint working (across commissioners, pharmacy and secondary care colleagues) on the design of the referral process is an important aspect of implementation.

"Regular meetings and feedback were extremely helpful to keep in touch with what was and wasn't working, and to know that low numbers were expected initially"
Health professional

Project credibility

It was perceived that the buy-in from the LPC, CCG and local chest physicians from the local acute NHS trust established credibility and commitment to the project. Strong relationships that previously existed between the LPC and community pharmacists helped facilitate and mobilise pharmacists to engage in the new service. The importance of appropriate non-medical referrals was recognised as crucial to establishing how community pharmacy was perceived locally. A radiologist highlighted that the pharmacist's referrals had been exemplary; legible and included all relevant medical history.

Pharmacy engagement through training sessions

The majority of participants felt that the training provided as part of the pilot was a success. It was reported that the radiation awareness training sessions in particular were well attended. Pharmacy staff reported feeling confident in the process following the training.

"We felt the training sessions would improve the confidence of the pharmacists to deliver the service and the feedback we've had was that it worked. It's about confidence as much as core skills and knowledge"
Nick Hunter, Chief Officer of Doncaster LPC

Referral process

It was perceived that the process of identifying patients eligible for the service and directly referring them for a CXR, when implemented,

worked well. A number of participants highlighted that the new process fitted well into their existing roles even though it was outside their normal day to day focus.

Challenges

Patient eligibility

The number of eligible patients meeting all the criteria for a CXR were limited. Some participants highlighted that some symptom-eligible patients had already been referred for a CXR by their GP thus inferring that it was difficult to differentiate between those patients who had had recent investigations via general practice and those that had not.

GP engagement

Participants highlighted some challenges with engagement within general practice as some GPs were sceptical of pharmacists referring appropriately. There was a need to establish clear procedures that had buy-in from both GPs and pharmacists.

Data capture

There were challenges with tracking referral data between primary and secondary care. One participant highlighted that referrals from pharmacy sites were not necessarily identified at radiology in secondary care. This created difficulties in establishing accurate referrals for the pilot. There were additional challenges with participants not recording data on PharmOutcomes for some patients who were offered a CXR but declined. This may have resulted in pharmacist participation appearing lower than it actually was.

Patient clarity

Some participants believed the reason patients were declining a CXR was due to a lack of understanding as to why a CXR was being offered when they felt “well” and that they were put off by a formal conversation, although the majority of patients were receptive. One participant suggested integrating the Lung Health Service into smoking cessation and Medicine Use Review (MUR) consultations, as this would provide a more formal setting for patients, which could make them more receptive to a referral.

Project setup

There was some degree of confusion with the approach of the project. It is understood that one of the main aims was to refer patients suspected as having lung cancer from natural footfall within participating pharmacies, although there were also participants who felt the lack of advertising was a contributing factor to the success of the project. Although, creating demand for the service amongst patients who may not have originally intended visiting the pharmacy is a different model. The project also saw changes in project management which hindered progress and slowed momentum.

Suggestions for rolling out a similar pathway

Joint design sessions

Participants highlighted that projects of this nature should be linked to local commissioning priorities to ensure local buy-in and commitment from all stakeholders. Sessions bringing together a number of key stakeholders encourages collaborative and aligned working.

Ensuring training relevance to community pharmacists

Whilst the training given to pharmacists was perceived as very good and a useful refresher on x-rays, some participants suggested tweaking the IRMER training package to be more relevant to community pharmacists. It is, however, important to maintain the same level of quality as this is what provided the assurance to stakeholders that the referrals would be appropriate. The radiographers providing the training were not financially reimbursed, but future business cases should factor in costs for funding backfill of radiographers and reimbursing attending pharmacists.

Video interviews

Two short video interviews were conducted with project members to hear their thoughts on various aspects of the project:

- Interview with **Nick Hunter**, chief executive of Doncaster Local Pharmaceutical Committee on pharmacy training and project challenges: <http://bit.ly/2hCjiRA>
- Interview with radiographers **Alison Hunter-Wyatt** and **Rachel Probyn** on the role expansion of community pharmacists: <http://bit.ly/2hwHxlg>

Conclusion

Whilst it seems logical that community pharmacies could provide a viable route through which to reach patients who wouldn't typically go to their GP, and at the same time offer a possible way of reducing the burden on GPs, the project was not able to demonstrate this.

Though we have no evidence that this project accessed this particular population group, it is possible that normalising health interactions with pharmacists beyond their current role is an important step for supporting healthcare in primary care.

A recent Cochrane review by the Royal Pharmaceutical Society looking at the outcomes of patients with a range of medical conditions, found that non-medical prescribers were just as effective at prescribing medicines as medical prescribers. In line with this review, we have observed that it is possible to train pharmacists so that they can make appropriate referrals to CXR.

Limitations to this project, in its set-up and changes in project management, has meant that evaluation against the original aims and objectives has not been possible. We recommend further research into the model this project tested, with careful detail to research design to support full evaluation.

Contact

For questions relating to the project please email ACEteam@cancer.org.uk.

References

- ⁱ Cancer Research UK. 2016 Annual survey of UK Healthcare Professionals. Unpublished, cited with permission.
- ⁱⁱ Todd A, Copeland A, Husband A et al, 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:e005674, August 2014
- ⁱⁱⁱ Punwani R, Nimako K, Brzezicki T, Loke TK, Draper A, Hill A, Ozdilli J, Keddie Z, Tamby Rajah D, O'Brien M, Community Pharmacy Referrals Project: Increasing awareness and early diagnosis of respiratory disease via a direct pathway to secondary care, National Cancer Research Institute (NCRI) Cancer Conference 2014, Abstract B122, 2-5 November 2014
- ^{iv} Local Cancer Statistics tool, Cancer Research UK [http://www.cancerresearchuk.org/cancer-info/cancerstats/local-cancer-statistics/?location-name-1=Doncaster \(LA\)&location-1=00CE](http://www.cancerresearchuk.org/cancer-info/cancerstats/local-cancer-statistics/?location-name-1=Doncaster(LA)&location-1=00CE)
- ^v Local Cancer Statistics tool, Cancer Research UK [http://www.cancerresearchuk.org/cancer-info/cancerstats/local-cancer-statistics/?location-name-1=Doncaster \(LA\)&location-1=00CE](http://www.cancerresearchuk.org/cancer-info/cancerstats/local-cancer-statistics/?location-name-1=Doncaster(LA)&location-1=00CE)
- ^{vi} *Cancer fingertips*:
<http://fingertips.phe.org.uk/profile/cancerservices/data#page/0/gid/1938132830/pat/46/par/E39000029/ati/19/are/E38000044>
- ^{vii} Local Cancer Statistics tool, Cancer Research UK
[http://www.cancerresearchuk.org/cancer-info/cancerstats/local-cancer-statistics/?location-name-1=Doncaster \(LA\)&location-1=00CE](http://www.cancerresearchuk.org/cancer-info/cancerstats/local-cancer-statistics/?location-name-1=Doncaster(LA)&location-1=00CE)
- ^{viii} Cancer Statistics tool, Cancer Research UK
<http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/lung-cancer#heading-Two>
- ^{ix} More information on the training undertaken for this pilot can be found in the ACE report on pharmacy training for early diagnosis of cancer: <http://bit.ly/2hENq6t>
- ^x Cancer Statistics tool, Cancer Research UK
<http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/lung-cancer#heading-Zero>