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BACKGROUND
Understanding variation in Clinical Commissioning Groups (CCGs) cancer outcomes is important and could provide insight to identify areas where outcomes could be improved. Previously CCGs have been clustered by demographic indicators; here CCGs are clustered with respect to cancer outcomes.

METHODS
Clusters were determined in STATA13 using k-means and hierarchical methods. We used 13 cancer outcomes looking at cancer burden (incidence [all cancer 2011-13], mortality [all cancer 2011-13] and 1-year survival [2012]), diagnostic waiting times (2 week, 31 day and 62 day waits [2014-15]) and emergency presentations (2014-15), 2 week waits [referral, conversion and detection [2014]]

RESULTS

DISTRIBUTION OF CCGs BY CLUSTER
We found six clusters with an SSB coefficient of 0.37, the clusters are distributed across England as shown.

SMOKING AS A RISK FACTOR AND HOW IT RELATES TO CANCER OUTCOMES
We compared the index of multiple deprivation (2014), smoking prevalence (2014-15), lung cancer incidence (2011-13) and oesophageal cancer incidence (2011-13). Smoking causes around 37,200 lung cancer deaths and around 5,500 oesophageal cancer deaths, a year. This analysis raises an interesting question. Though clusters two and three have similarly high deprivation, cluster two has significantly lower smoking prevalence and lung incidence rates than cluster three (though still high rates overall). What factors lead to lower smoking rates in a similarly deprived population. Could we learn from the CCGs in cluster two about better smoking cessation services?

CONCLUSION
Clustering CCGs by looking at cancer outcomes adds to our understanding of variation in cancer outcomes. Research will continue and the characteristics of the clusters will be further explored, it will be important to look at clusters in the light of demographics as well as cancer outcomes. Looking at each cluster and comparing the cluster cohorts, could help CCGs to understand cancer outcomes and could inform possible changes to improve cancer outcomes.

REFERENCES
30-DAY MORTALITY FOLLOWING SYSTEMIC ANTI-CANCER THERAPY FOR BREAST AND LUNG CANCER IN ENGLAND: WHICH FACTORS INCREASE THE RISK?

Michael Wallington1, Emma B Saxon2, Martine Bomb1, Rebecca Smittenaar2, Matthew Wickenden2, Sean McPhail1, Jem Rashbass1, David Chao3, John Dewari, Denis Talbott4, Michael Peake1, Timothy Perren1, Charles Wilson2 and David Dodwell1

1Public Health England, 2Cancer Research UK, 3Royal Free Hospital, 4Ninewellis Hospital & Medical School, 5University of Oxford, 6Institute for Lung Health, 7Addenbrooke's NHS Trust, 8Institute of Oncology

INTRODUCTION

Here, we present work achieved through a partnership between Public Health England and Cancer Research UK.

There is huge potential to improve patient care if the outcomes of patients receiving systemic anti-cancer therapy (SACT) can be monitored more effectively, and if clinicians better understand the outcomes that are achieved with current approaches to therapy.

Using data from the new SACT data set, we examined the proportion of lung and breast cancer patients in England who died within 30 days of receiving treatment. Patients dying within 30 days are unlikely to have gained the survival or palliative benefits of the treatment, and given the side effects sometimes caused by SACT, are more likely to have suffered harm. This outcome is therefore potentially linked to poor clinical decision making. Our analysis allows us to better understand the factors that predict early mortality, and identify the patients for whom treatment could potentially be improved.

THE SACT DATA SET

The SACT data set is a new resource that collects information, reported routinely by National Health Service hospital trusts, on the treatment of malignant disease in England2 in four key areas:

- patient and tumour characteristics, including age, gender, and tumour stage;
- hospital and consultant details, including General Medical Council (GMC) number;
- treatment characteristics, including drug names and drug combinations (regimens);
- ‘outcome’ fields, including date of most recent treatment and date of death (where applicable).

We examined data from January to December 2014 because this was the most complete calendar year of data that is available at the time this analysis was carried out3, and we examined data for breast and lung cancer as data completeness was good for these cancer types.

CONCLUSION

The Systemic Anti-Cancer Therapy (SACT) dataset provides insight into the factors affecting early mortality of patients in England. Several patient, tumour and treatment-related factors impact on 30-day mortality risk. The higher than expected early mortality risk for some categories of patients point to possible opportunities for improvements in care: this could lead to better informed treatment decision-making by clinicians and their patients, and therefore improve clinical outcomes.

METHODS

For breast and lung cancer patients reported to have received systemic anti-cancer therapy in England between 1st January 2014 and 31st December 2014, we identified those that died within 30 days of SACT by calculating the time between the start date of the most recently reported systemic anti-cancer therapy cycle in 2014 and, where relevant, the date of death for each patient.

We examined the association of age, Performance Status (PS), Income Deprivation (ID), whether patients had received previous SACT (as recorded in the SACT database), and Body Mass Index (BMI) with 30-day mortality following systemic anti-cancer therapy. This was done separately for breast and Non-Small Cell Lung Cancer (NSCLC) patients using logistic regression analyses, further separated by treatment intent (curative or palliative).

These variables are linked to clinical patient care in relation to SACT treatment, or reflect other factors that are, e.g., patients with high income deprivation are more likely to smoke.

RESULTS

Patients receiving palliative SACT had a higher 30-day mortality than curative SACT (7.4% vs 0.3% for breast cancer patients, 10.0% vs 2.9% for NSCLC patients). These patients have incurable cancer; and a higher disease burden. Older breast cancer patients, aged 60-69 and 70+, receiving curative SACT had a significantly higher 30-day mortality than those aged 50-59 (0.5% and 0.8%, respectively, versus 0.2%). Older patients are generally more frail, and may be less able to tolerate the side effects of SACT. This highlights the value of our national, unselected population study in addition to clinical trial data.

Breast cancer by age

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Palliative breast cancer patients with PS 2-4 (in poor general health) had 5 times higher 30-day mortality than those with PS 0 (18.5% vs 3.5%). This trend was also significant for curative breast and palliative NSCLC patients. This may be because the toxic effects of SACT outweigh the survival-extending benefits for patients in poor general health.

Breast cancer by performance status

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NSCLC by age

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Palliative NSCLC patients with PS 2-4 (in poor general health) had 5 times higher 30-day mortality than those with PS 0 (18.5% vs 3.5%). This trend was also significant for curative breast and palliative NSCLC patients. This may be because the toxic effects of SACT outweigh the survival-extending benefits for patients in poor general health.

NSCLC by performance status

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REFERENCES


IMPACT OF THE BOWEL SCREENING PROGRAMME ON BOWEL CANCER INCIDENCE RATES IN ENGLAND

Katie Connor, Ella Ohuma, Natalie Moilt, Rebecca Smittenaar, Lucy Ironmonger
Cancer Intelligence Team, Cancer Research UK

BACKGROUND

Bowel cancer incidence rates have been decreasing since 2011 in England.[1] This analysis aims to explore the way in which the recent fall in rates relates to the introduction of the guaic faecal occult blood test (gFOBT) bowel cancer screening programme (BCSP).

The England BCSP began being rolled out to 60-69 year olds in 2006 and this was completed by 2010. Roll out to 70-74 year olds was completed by 2014. As well as detecting early asymptomatic bowel cancers, adenomas (polyps) are detected and removed through the programme (Fig 1).[2] In this way, gFOBT screening could potentially prevent cancers as adenomas are precursors of the majority of bowel cancers.[3]

Fig 1. Outcomes from gFOBT screening

For every 1,000 individuals who complete the FOBT:
- Around 8 have nothing abnormal detected (no polyps or cancer)
- Around 7 have polyps detected at colonoscopy
- Around 2 have a positive FOBT result and are offered colonoscopy
- Around 2 have bowel cancer detected at colonoscopy

Based on data from the first million tests from the programme [2]

METHODS

We looked at trends of age-standardised (AS) bowel cancer (C18.7-C20) incidence rates in England from 1975-2014 for all ages combined and for the following age-groups: 25-49s, 50-59s, 60-79s, and 80+ to assess which age-groups were driving the recent decline across all ages combined.

We then focussed on trends for 60-79s because this age-group includes all individuals within the screening age range at some point between the BCSP’s start (2006) and 2014 (latest incidence data). To estimate what trends in bowel cancer incidence rates for 2006-2014 would have been in the absence of screening, projected AS incidence rates were calculated for those aged 60-79 based on England data from 1979-2005, using age period cohort modelling as per the methods of Smittenaar et al (2016) [4] and Mistry et al (2011) [5]. These projected rates were compared with the actual 2006-2014 AS rates to estimate how screening has impacted bowel cancer incidence.

Jointpoint software was used to analyse the significance of changes in linear trends, using log linear regression models to calculate the annual percentage change (APC) between data points.

gFOBT screening is more likely to detect cancers in the sigmoid colon and rectum (C18.7, C19, C20), than right-sided bowel cancers [2]. Therefore, we also began to explore the incidence trends for just these left-sided sites.

REFERENCES

1. Data were provided by the Office for National Statistics on request, June 2016.
2. Logher IF, Patnick J, Dickerson C, Coleman C, Butler M, Wagner C. Outcomes of the Bowel Cancer Screening Programme (BCSP) in England after the first 1 million tests, Gut 2011; 60: (12) 1430-1444
4. Smittenaar CR, Petersen KA, Stewart K, Mott N. Cancer Incidence and Mortality Projections in the UK until 2035, Brit J Cancer 2014; 111: (10) 1577-1583

RESULTS

We found the recent significant fall in bowel cancer incidence rates for all ages combined (from 74 per 100,000 people in 2011 to 69 per 100,000 in 2014) is driven by the fall in incidence rates in 60-79s; with recent rates for other age groups either remaining stable or increasing (non-significant APCs or significant positive APCs since 2001) (Fig 2). Hence the overall recent drop for all ages combined is likely to be a result of gFOBT screening.

For those aged 60-79, comparing the actual and projected rates shows that bowel cancer incidence rates increased above the projected rates after bowel screening was introduced (Fig 3). The actual rates increased between 2006 and 2010, reaching a peak in 2010 with rates for 2008-2011 statistically significantly higher than the 2005 pre-screening rate. Similar trends were seen for sigmoid colon to rectal cancers combined (C18.7-C20) in those aged 60-79.

CONCLUSION

The BCSP has brought forward many cancer diagnoses in England, causing an initial increase in incidence rates following its implementation in 2006. A subsequent fall in rates is expected in compensation for the number of cancer cases brought forward. This preliminary analysis suggests the compensatory drop below pre-screening rates has only just started, and we would expect there to be a decline for a few more years if it is solely a result of cancers being diagnosed earlier. It is too early to be able to say whether trends also indicate that rates have fallen as a result of some cancers being prevented through the detection and removal of adenomas. However, it is notable that the rate of decline from 2011 to 2014 is greater than the rate of increase from 2006 to 2010. This warrants further investigation as we would assume the lead-time would have remained stable over time. Additional further work includes examining incidence trends for other UK countries too.
PLACING GP CANCER SCREENING COVERAGE IN THE CONTEXT OF THEIR PATIENT POPULATION CHARACTERISTICS

Becky White, Roisin Connon, Carina Crawford, Nick Ormiston-Smith
Cancer Intelligence Team, Cancer Research UK

INTRODUCTION
Cancer Research UK (CRUK)’s Primary Care Engagement Programme partners with CCGs to offer support to General Practices to improve cancer outcomes for patients with a focus on early diagnosis.

GP practices are currently able to use PHE National General Practice Profiles to compare their patients’ uptake of cancer screening services with that of the local and national averages.

However, some GPs have explicitly stated that there is a need for a screening performance indicator that takes into account the characteristics of the local population.

In response, we have developed a set of models that:

1. Establish to what extent differences in cancer screening coverage across GP practices can be explained by characteristics of their patient population.

2. Provide an improved indication of GP practice cancer screening performance, by identifying whether the actual screening coverage for an individual GP practice is higher or lower than what would be expected of its patient population.

METHODS
GP practice level cancer screening and demographic data from PHE National General Practice Profiles1 were linked to further demographic data for each GP’s ONS Ward.2,3

Average breast screening coverage was calculated for each GP practice for a 3 year period from 2013-2015. Population characteristics that affected breast screening coverage for GPs in England were identified using regression analyses. Population characteristics that improved the goodness of fit of the models were identified and included, by comparing model AIC scores. Non-linear relationships were accounted for. An independent variable was also included that took account of variation in screening coverage due to GP patient lists being invited at different times every 3 years.

The models were then used to calculate expected breast screening coverage for all GPs in England in 2013-2015. The difference between the expected and actual coverage identified whether each GP practice achieved a higher or lower screening coverage than predicted by its patient population characteristics.

Patient population characteristics included:

• AGE: Percentage practice population aged 65+

• DEPRIVATION: IMD Score 2015

• PRACTICE SIZE: Practice list size

• ETHNICITY: Percentage of the practice’s ONS Ward that is White British

• RURALITY: The rural-urban classification of the practice’s ONS Ward

RESULTS
VARIATION IN CANCER SCREENING BETWEEN GP PRACTICES
Together, variation in age, deprivation, practice size, ethnicity and rurality explained 64% of variation between GP practices in breast screening coverage.

SCREENING PERFORMANCE OF INDIVIDUAL GP PRACTICES
The difference between the expected and actual breast screening coverage for an individual GP practice provides an improved estimation of its cancer screening performance. Higher or lower than expected screening coverage could be attributed to the practice’s work around cancer screening.

Our GP facilitators will discuss individual results with practices in further detail, as other factors, that are not included in these models, may also affect coverage.

FURTHER WORK
Further work may investigate the role of patient population characteristics in variation in other performance measures; for instance, bowel screening coverage, and early diagnosis indicators such as two week wait referral data.

SUMMARY
By taking local context into account, these models provide a springboard for GP practices to better understand the factors driving their cancer screening performance. They form a personalised tool that our GP facilitators will use in discussion with GPs to assist them in monitoring and improving their own performance, ultimately helping to improve cancer outcomes for patients.

REFERENCES
EVALUATION OF A TOOLKIT TO IMPROVE THE EARLY DIAGNOSIS OF ORAL CANCER

Kirstie Osborne, Ella Ohuma, Jennifer Yiailouros, Charlie Huson
Cancer Intelligence Team, Cancer Research UK

KEY POINTS:
• Rates of oral cancer incidence and mortality have risen dramatically in the last 10 years
• In November 2015, Cancer Research UK developed an online oral cancer to support dentists and GPs to diagnose oral cancer early.
• Evaluation is ongoing but our results indicate whilst knowledge and confidence is already high, the toolkit at least reinforces knowledge and confidence and may improve clinical practice.

BACKGROUND
Over the last decade, oral cancer incidence rates have increased by almost 39% in the UK and mortality rates have risen by 21% [1]. However, around 80% of oral cavity cancer patients survive their disease for 3 years or more if diagnosed at an early stage, compared with less than half of patients diagnosed at a later stage [2].
And, oral cancer frequently has visible symptoms in the mouth cavity, or on the tongue or lips. Detection of these by individuals or healthcare professionals can facilitate early diagnosis and treatment.
Therefore, we developed an online oral cancer toolkit to support dentists and GPs to diagnose oral cancer early.

METHODS
We wanted to learn about the toolkit’s impact on knowledge, confidence and practice with regards to the early diagnosis and prevention of oral cancer. To investigate this, we employed a mixed methods approach
• Surveys: Data was collected one month before launch of the toolkit (‘pre’) and one year later (‘post’).
• Reflective notes: After completing the quiz, reflections were documented on what was learnt and how this knowledge might be put into practice.
• Referrals: Analysis of numbers of two week wait referrals for head and neck cancer and referrals to secondary care for oral biopsies.
• Focus groups: These will be conducted in February 2017 and allow further exploration of the impact of the toolkit on clinical practice.

CONCLUSION
These results indicate that whilst knowledge and confidence is already high – especially among dentists – the toolkit at least reinforcing knowledge and confidence. Further, engagement with the toolkit may improve clinical practice in terms of head, neck and oral examinations and more appropriate referrals.

RESULTS
To date, we have analysed survey data and reflective notes.

SURVEY
Data were collected from 1,973 dentists and 1,008 GPs one month before launch of the toolkit and 1,421 dentists and 1,002 GPs, one year later. We analysed differences pre-post as well as between interactors and non-interactors. For data presented here, an interactor was identified as a person who reported that they had visited one (or more) of the toolkit elements already detailed.

Dentists
A higher proportion of interactors than non-interactors
• Were aware of a two week wait referral (95.7% vs. 91.7%; p<0.001). This was also higher at post than pre (92.8% vs. 89.7%; p<0.001).
There were no differences pre-post or between interactors and non-interactors for:
• Average number of relevant signs and symptoms recognised (generally high)
• Confidence to identify signs and symptoms
• Confidence to refer to secondary care (generally high)
• Frequency of carrying out soft tissue examinations on patients (generally high)

GP’s
A higher proportion of interactors than non-interactors:
• Were confident to identify signs and symptoms (80.3% vs. 72.2%; p=0.025)
There were no differences pre-post or between interactors and non-interactors for:
• Average number of relevant signs and symptoms recognised (generally very high)
• Confidence to refer to secondary care (generally high)

REFLECTIVE NOTES
These were collected over a year from 964 dentists and 149 GPs and thematically analysed.

Dentists

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<tr>
<td>Refreshed knowledge of signs and symptoms malignant and non-malignant lesions, risk factors, when and where to refer and the importance of examinations and how to carry them out.</td>
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<td>Improvements to examination (quality and frequency), knowing better when and what to refer and increased confidence in appropriate case management.</td>
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GP’s

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<tr>
<td>Signs and symptoms of malignant and non-malignant lesions, risk factors which promoted confidence in when to refer a suspicious lesion and discussing prevention.</td>
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<tr>
<td>Improvements to where patients are referred and how promptly. Increased confidence in identifying potentially malignant lesions because of improved ability to examine.</td>
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REFERENCES
SHINING A LIGHT ON THE PRIMARY/SECONDARY CARE INTERFACE
FOR PEOPLE DIAGNOSED WITH CANCER FOLLOWING AN EMERGENCY PRESENTATION IN THE THAMES VALLEY AREA, UK

Jennifer Yiallouros1, Bernadette Lavery1, Bridget England1, Louise Forster1, Allyson Arnold1, Marissa Morriss1, Anna Murray1

BACKGROUND
In England, around one in five people with cancer are diagnosed as a result of an emergency presentation (EP). Survival has been shown to be lower for those diagnosed through an EP than any other route. On behalf of the Thames Valley Strategic Clinical Network (TVSCN), Cancer Research UK carried out an audit of people who were diagnosed with cancer following an EP using a Significant Event Audit (SEA) designed for cancer.

METHODS
All 296 GP practices in the TVSCN were invited to participate. Acute trusts identified all patients who had been diagnosed with cancer following an EP between April 2012 and March 2014. Details of these patients were provided to participating GP practices and SEAs were completed on a subset of the sample to reflect on the pathway between EP and diagnosis. Both sets of SEAs were then analysed qualitatively using framework analysis.

RESULTS
Over 160 GP SEAs were analysed from more than 70 different GP practices alongside 35 Trust SEAs from the six acute trusts in the region. The underlying reasons why cancer was diagnosed through EP could be grouped into three broad areas; tumour, person and / or system (including primary and secondary care). Within system factors five themes were identified as being particularly relevant to the interface between primary and secondary care, these were: tests, ownership of the patient, referrals and pathways, communication and whether a holistic approach had been taken.

CONCLUSION
Quality improvements for cancer at a primary and secondary care level involve many stakeholders including the Strategic Clinical Network, Clinical Commissioning Groups, Cancer Managers as well as consultants in secondary care and GPs. Each group needs to take responsibility for changes and work collaboratively with others, utilising best practice within Thames Valley where this has already been identified.

TESTS AND DIAGNOSTICS
There was much uncertainty surrounding tests and diagnostics including which tests were the most appropriate to diagnose cancer, who should have access to tests, who should be ordering tests and who should be interpreting the results. Recommendations from the audit were to ensure that patients receive the most appropriate test available to diagnose cancer in a timely way. Additionally to improve the knowledge and capacity of GPs to interpret and respond appropriately to test results and to strengthen the safety-netting mechanisms in both primary and secondary care. Also to develop information sharing systems so that GPs can access test results for the patients electronically from secondary care.

OWNERSHIP OF THE PATIENT
It was found that as the patient moved between primary and secondary care, either being referred into secondary care or discharged back to primary care, it was not always clear where the responsibility for the patient lay. From the audit, recommendations in this theme included the need for there to be greater clarity and understanding between both primary and secondary care as to where the responsibility lay for patient follow up as they moved around the healthcare system. Also in this theme it was recognised that it was necessary to raise patient awareness about the importance of early diagnosis and the role which patient’s could take to be responsible for their own health care.

REFERRAL PATHWAYS
Findings from the audit indicated that sometimes the referral pathway was not the most appropriate for either getting to secondary care and sometimes within secondary care. Recommendations from the audit were to ensure that all GPs were familiar with the latest 2WW referral guidelines and have easy access to the forms. Also to make sure that there were pathways and systems in place to deal with patients who had vague or atypical symptoms. Another recommendation to enable speedier diagnosis was to support expedited pathways so that patients could be referred from one secondary care specialty to another.

COMMUNICATION
Poor communication was identified in several areas; between primary and secondary care, with the patient and within primary and secondary care. Both written and verbal communications were identified as needing addressing. Recommendations in this theme were to improve the quality and timeliness of the discharge summaries produced by secondary care. Another recommendation was to improve the quality of the patient’s medical record in both primary and secondary care. Communication with the patient from primary and secondary care needed to be addressed as did the communication between primary and secondary care especially when GPs were requesting investigations or referrals.

HOLISTIC APPROACH
It was found in the audit that a holistic approach was often lacking in both primary and secondary care and that the patient’s working diagnosis was not re-assessed in a timely manner. Recommendations which arose from this theme included the need to raise awareness of the possibility of cancer when reviewing patients who had co-morbidities or who presented with vague symptoms. Another recommendation was to highlight the importance of reviewing the working diagnosis in cases where symptoms persist despite treatment or when new symptoms arise thus altering the clinical picture.

ACKNOWLEDGEMENTS
The project team would like to thank the GPs, general practices and the Thames Valley Trusts which participated in this audit. The work was funded by Thames Valley Strategic Clinical Network.

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THE ROLE OF COMMUNITY PHARMACISTS IN EARLY DIAGNOSIS:
RESULTS FROM A UK CROSS SECTIONAL SURVEY

Lindsay MacDonald
Cancer Intelligence Team, Cancer Research UK

BACKGROUND
Community Pharmacy has an important role to play in early diagnosis of cancer due to its accessibility and familiarity in local communities.[1,2] Public Health activities are part of the essential pharmacy service defined by the NHS community pharmacy contract.[3]

Due to their key role it is crucial to understand community pharmacists’ knowledge, attitudes and confidence in working in this area as well as the barriers they may face. By having a clear picture of this, we can strategically develop activities and resources for pharmacists as well as to track any changes over time.

A survey was conducted to explore the following with community pharmacists:
- Perception of their own role in relation to cancer and early diagnosis
- Knowledge of potential signs and symptoms of cancer
- Perceptions of their own knowledge and skills in early diagnosis

METHODS
An online cross-sectional survey of community pharmacists across the UK, conducted in March 2016. Statistical comparisons were made with data collected in 2015 where possible.

SAMPLE
401 at Community Pharmacists
58% White
29% Asian / Asian British
34% Female
Mean age of 41 (SD = 10.2 years)

RESULTS FROM A UK CROSS SECTIONAL SURVEY

WHAT ROLE DO COMMUNITY PHARMACISTS PLAY IN EARLY DIAGNOSIS?
Perception of their most important cancer role (unprompted)
- Medication prescription and advice – 41%
- Early diagnosis – 26%

“Helping to identify symptoms and signpost people to GP if necessary”
“make public aware of cancer symptoms”
“being aware of warning signs e.g. spotting skin lesions that need referring, people seeking remedies for conditions that are persistent and may be more sinister than they appear”

When prompted 82% agreed that it was part of their role to encourage people to spot potential signs and symptoms of cancer.

HOW AWARE ARE COMMUNITY PHARMACISTS OF POTENTIAL SIGNS AND SYMPTOMS OF CANCER?
9/10 correctly identified that the following symptoms could be cancer:
- An unexplained lump or swelling
- Persistent unexplained pain
- Unexplained bleeding
- A persistent cough or hoarseness
- A persistent change in bowel or bladder habits
- Persistent difficulty swallowing
- A change in the appearance of a mole
- Unexplained weight loss

2/10 were not aware that ‘A sore that does not heal’ could be a sign of cancer.

HOW DO COMMUNITY PHARMACISTS FEEL ABOUT HAVING A ROLE IN EARLY DIAGNOSIS?

Figure 1. Confidence in early diagnosis activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel confident spotting potential signs and symptoms of cancer</td>
<td>19%</td>
<td>24%</td>
<td>34%</td>
<td>22%</td>
<td>5%</td>
</tr>
<tr>
<td>I feel confident making appropriate referrals for potential signs and symptoms of cancer</td>
<td>9%</td>
<td>31%</td>
<td>41%</td>
<td>12%</td>
<td>7%</td>
</tr>
</tbody>
</table>

59% were confident in encouraging people to spot and/or respond to the signs and symptoms of cancer.

19% were not confident in actually spotting signs and symptoms.

CONCLUSIONS
Community Pharmacists have an appetite for increasing their role in early diagnosis and evidence indicates that this is increasing. However, there are a number of barriers which need to be addressed, specifically their skills and knowledge in encouraging the public to spot signs and symptoms and their confidence in actually identifying symptoms themselves. The results provide support for providing training and resources in early diagnosis to help community pharmacists to effectively carry out this key part of their role.

REFERENCES

ACKNOWLEDGEMENTS
We would like to acknowledge the contribution of Research Now who conducted the online survey and would like to thank the healthcare professionals who participated in the survey.

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CANCER RESEARCH UK
NEWHAM CCG AUDIT OF CANCER DIAGNOSIS IN PRIMARY CARE: KEY FINDINGS

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Cancer Research UK, Newham CCG

BACKGROUND
Each year in Newham CCG around 800 people are diagnosed with cancer and more than 340 die from the disease.[1] One year cancer survival in Newham CCG is among the lowest in the country. This audit aimed to assist GP practices to review their quality of care in the area of cancer diagnosis and to identify areas for improvement across the cancer pathways.

RESULTS

Types of referral:
Overall 50% of patients were referred via two week wait (2WW). There were significant differences by cancer type, with breast and prostate cancers more likely to have a 2WW referral than other cancer types. Patients aged under 25 were less likely to have a 2WW referral, with 43% of this age group being diagnosed following an emergency referral.

Number of GP attendances:
32% of patients saw their GP more than once before being referred, although the majority (61%) were referred after 1 or 2 attendances. This varied by cancer type. Only 4% of breast cancer patients had multiple attendances, whereas 8% of lung cancer patients had 4 or more attendances before being referred.

Primary Care Interval:
Of the patients with a valid interval (558/729), 45% were referred on the same day as their first primary care attendance and a further 21% were referred within 14 days. Lung and prostate cancers had longer primary care intervals, with 30% and 24% respectively waiting one month or longer.

Referral Interval:
From the cases with a valid interval (628/729), 58% of patients were seen by a specialist within 14 days of the referral being sent. Lung cancer had a shorter wait to see a specialist, with 83% being seen within 14 days compared with 46% of prostate cancer patients.

Avoidable Delays:
The GP felt there were avoidable delays in the patient’s journey in almost a quarter of cases (24%) and were unsure in a further 12% of cases. Breast cancer patients had fewer avoidable delays than other cancer types.

REASONS FOR AVOIDABLE DELAYS AND PROPOSED ACTIONS

Reasons for avoidable delays stated by GPs included:
- Patient delayed/DNA
- Could have had 2WW referral
- Symptoms could have triggered referral earlier
- Different diagnosis suspected/possibility of cancer not recognised
- Delay between referral and appointment/investigation
- Problems with referral process
- Could have ordered/repeated investigations earlier
- Delays in providing results/report from investigation
- Late presentation/did not report symptoms

Examples of practice actions:
- Fully inform patients about the reasons for referral and importance of attending appointments
- Improve follow up and management of suspected cancer patients
- Improve clinician’s knowledge of access to NICE guidelines
- Use tools like Q cancer to better assess cancer risk
- Educate clinicians on atypical presentations

CCG actions: (practices recommendations for CCG)
- Provide training/educational events on early diagnosis of cancer
- Improve process of referral to hospital
- Allow rapid access to investigations
- Review inter-organisation communication
- Improve public awareness of symptoms

A detailed work plan for addressing GPs’ recommendations to Newham CCG has been developed and is currently being implemented (available on request).

CONCLUSIONS
The Audit achieved the following objectives:
- Informed areas for service redesign and education focus for Newham CCG
- Facilitated change at practice level
- Prompted further analysis into delays across the cancer pathways

REFERENCES
BACKGROUND

- Low awareness of symptoms is associated with a longer intended delay in visiting a doctor with potential cancer symptoms [1,2]. Low awareness has also been associated with poor cancer survival [3].
- Knowing and improving public awareness of signs and symptoms of cancer could help promote earlier presentation and diagnosis.
- It’s important we understand current levels of awareness and how this has changed over time in order to inform the content of public awareness campaigns and identify key target audiences.
- These results reinforce the importance of frequently tracking public awareness of possible signs and symptoms. They also reinforce the need to include both recall and recognition items in research and to better understand the difference between these two in this context and their influence on help-seeking.

METHOD

Data were collected using the Cancer Awareness Measure (CAM) survey every two years from 2008 to 2014. The CAM was included in the Office for National Statistics’ Opinions and Lifestyle Survey and a representative sample of the GB population were surveyed (approx. n=2,000 each year).

The following questions were asked to capture both unprompted awareness (recall) and prompted awareness (recognition) of signs of cancer:

1. “There are many warning signs and symptoms of cancer. Please name as many as you can think of.”
2. “Do you think unexplained lump or swelling / unexplained bleeding / persistent cough or hoarseness / persistent change in bowel or bladder habits / persistent difficulty swallowing / change in appearance of a mole / sore that does not heal / unexplained weight loss / unexplained pain could be a sign of cancer?”

This data was coded and multivariable logistic regression was used to analyze change in awareness of signs and symptoms of cancer over time with adjustment for occupation, education, marital status and country.

RESULTS

The average number of signs and symptoms of cancer recalled (out of a possible 9 [c]) peaked at 2.5 in 2012 and then fell slightly to 2.4 in 2014. Overall, recall was slightly higher in 2014 than in 2008. Similarly, the average number of signs/symptoms recognized remained the same from 2008 to 2012 at around 6.5 but there was an increase in 2014 to nearly 7 (out of a possible 8 [a]), the highest it’s been.

RECALL: Trends in awareness of each of the 9 signs/symptoms varied but in most cases recall decreased or remained stable 2012–2014. Recall only increased 2012–2014 for 2 signs/symptoms: unexplained pain and unexplained bleeding.

RECOGNITION: In contrast, there were no decreases in recognition of any of the signs/symptoms either 2012–2014, or overall (2008–2014).

CONCLUSION

These results highlight that awareness is improving over time. However, they also indicate significant variation in trends for individual possible signs and symptoms of cancer. And there is a lack of consistency in the awareness of particular signs and symptoms when comparing recall and recognition, with trends sometimes being divergent.

These results reinforce the importance of frequently tracking public awareness of possible signs and symptoms. They also reinforce the need to include both recall and recognition items in research and to better understand the difference between the two in this context and their influence on help-seeking.

REFERENCES

Introduction

Shortening the time from symptomatic presentation in primary care to the diagnosis of lung cancer could help achieve earlier stage at diagnosis and improve outcomes.

‘Direct access’ to imaging investigations allows GPs to refer patients with suspected lung cancer for chest X-rays (CXRs) before the patient is assessed in secondary care (Figure 1). Increasing the use of GP direct access CXRs may lead to more efficient diagnosis of lung cancer.

We examined which sociodemographic groups were more likely to receive GP direct access CXRs for patients diagnosed with lung cancer.

Methods

Diagnostic Imaging Dataset (DID) and cancer registration data were linked for 72,593 patients diagnosed with lung cancer in England in 2013 and 2014. Death Certificate Only records were excluded from the analysis (n=1,428).

Our analysis cohort is limited to 57,415 patients with at least one DID-recorded CXR in the 6 months before their diagnosis. Among those, 27,237 (47%) patients had their first CXR in the 6 months before diagnosis through the GP direct access referral pathway. This group of patients was compared to those whose first CXR was ordered through other imaging referral pathways. Multivariable logistic regression was used to identify variation by sex, age, deprivation and stage at diagnosis, adjusting for those variables.

Results

There was lower use of the GP direct access imaging referral pathway for CXRs in the 6 months before diagnosis among lung cancer patients who were women, older than 70 years of age, and living in more deprived areas (Table 1 & Figure 2).

The findings also indicate an increased use of direct access CXR pathway 6 months before diagnosis in patients with stage 2 or 3 lung cancer. Patients diagnosed with stage 1 lung cancer had a lower odds of being referred through the GP direct access referral pathway and this may be explained by these patients presenting with less specific symptoms.

Conclusion

The findings provide population-based insights into how GP direct access is being used for patients diagnosed with lung cancer. There is lower use of GP direct access CXR for lung cancer in women and older patients, and those living in areas of higher deprivation. It would seem that these differences are genuine and are unlikely to relate to disease factors; responsible mechanisms need to be established by further research.

Eliminating socio-demographic inequalities in the use of the GP direct access referral pathway could potentially improve early diagnosis of lung cancer.

Figure 1. The GP Direct Access referral pathway. Exact diagnostic care pathways are, in reality, more complex. For example, a large proportion of lung cancer patients are diagnosed after presenting directly to an Accident & Emergency department.

Figure 2. Odds ratios for a patient’s first chest X-ray in the 6 months before diagnosis being referred through the GP direct access referral pathway; adjusted for sex, age band, deprivation and stage at diagnosis.

Table 1. Descriptive statistics and multivariable regression results for sociodemographic groups and stage at diagnosis. NB: The exact frequency (percentage) of patients estimated in the GP direct access referral pathway may be subject to revision.

References:

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SURVIVAL IMPACT DUE TO EARLY DIAGNOSIS AND TREATMENT FOR STRATEGIC CLINICAL NETWORKS

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1Cancer Intelligence Team, Cancer Research UK 2Early Diagnosis, Cancer Research UK

cruk.org

INTRODUCTION

There is substantial regional variation in cancer survival across England. This analysis aims to quantify the extent to which differences in the incidence by stage distributions (a proxy for early diagnosis) and survival by stage (a proxy for provision of optimal treatment) account for 1-year relative survival differences between Strategic Clinical Networks (SCNs) in England.

METHODS

Each of the 12 SCNs’ incidence by stage1 distributions and 1-year survival by stage2 were compared for five common cancers (colorectal, breast, lung, ovarian and prostate) against the England average and adjusted survival estimates were calculated for each SCN for the following two scenarios:

- The survival when each SCN’s survival by stage figures were applied to the average stage distribution for England, and the differences between this and the weighted average of stage specific survival for England.

The survival when each SCN’s stage distribution was applied to the average survival by stage for England, and the difference between this and the weighted average of stage specific survival for England.

RESULTS

Overall, after applying each SCN’s survival by stage distribution to England’s average incidence by stage distribution, North and East London has the best survival by stage distribution for colorectal (Figure 1) and lung cancer (Figure 3). Thames Valley also has the best survival by stage distribution for breast (Figure 2), ovarian (Figure 4) and prostate cancers (Figure 5). This suggests, for these cancers, that these SCNs provide the most optimal treatments compared with other SCNs. In contrast, Greater Manchester has the worst survival by stage distribution for ovarian and prostate cancers compared to other SCNs.

After applying each SCN’s incidence by stage distribution to England’s average survival by stage distribution, Wessex has the best incidence by stage distribution for colorectal, breast and prostate cancers, suggesting, for these cancers, that Wessex may be the best area for early diagnosis compared with other SCNs. Also, Northern England has the best incidence by stage distribution for ovarian cancer and Cheshire and Merseyside have the best incidence by stage distribution for lung cancer. Conversely, North and East London has the worst incidence by stage distribution for colorectal, breast and lung cancers.

Table 1 shows the SCNs with the best survival by stage and incidence by stage distributions for each cancer site. Also shown are the increases in survival that would be seen if the best SCN’s standards were applied to England.

Lung and prostate cancer would see a greater improvement in England’s average survival if each SCN’s improved provision of optimal treatment to the best SCN’s standard compared with improving early diagnosis to the standard of the best SCN.

Ovarian cancer would see a slightly bigger increase in England’s average survival if earlier diagnosis was improved to the standard of the best SCN rather than provision of optimal treatment, however both would provide a big increase in England’s survival. Colorectal and breast would see similar improvements in survival if either stage at diagnosis or provision of optimal treatment was improved to the standard of the best SCN.

CONCLUSION

From this analysis we can identify which SCNs in England have the best stage distribution and which have the best survival by stage for different cancer types. In part, this may be influenced by regional variation in case-mix (e.g. regional variation in tumour morphologies), which could not be accounted for in our analysis. However, it gives an indication of those areas that may have better early diagnosis or may provide more optimal treatment.

By establishing which SCNs perform best for treatment and early diagnosis for each cancer type it may be possible to identify examples of best practice which other SCNs could adopt as a way to increase survival in England.

REFERENCES

1 Public Health England’s National Cancer Registration and Analysis Service, Incidence by stage and 1-year survival by stage for patients diagnosed in 2012 by SCNs – personal communication

Table 1

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>SCNs with best survival by stage distribution</th>
<th>Improvement in survival above England’s average</th>
<th>SCNs with best incidence by stage distribution</th>
<th>Improvement in survival above England’s average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorectal</td>
<td>North and East London</td>
<td>1.6%</td>
<td>Wessex</td>
<td>1.7%</td>
</tr>
<tr>
<td>Breast</td>
<td>Thames Valley</td>
<td>0.7%</td>
<td>Wessex</td>
<td>0.7%</td>
</tr>
<tr>
<td>Lung</td>
<td>North and East London</td>
<td>4.3%</td>
<td>Cheshire and Merseyside</td>
<td>2.7%</td>
</tr>
<tr>
<td>Ovarian</td>
<td>Thames Valley</td>
<td>5.9%</td>
<td>Northern England</td>
<td>6.2%</td>
</tr>
<tr>
<td>Prostate</td>
<td>Northern England</td>
<td>11%</td>
<td>Wessex</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

*Greater Manchester, Lancashire and South Cumbria

Figure 1. Colorectal

Figure 2. Breast

Figure 3. Lung

Figure 4. Ovarian

Figure 5. Prostate
Regional variations in the use of GP direct access diagnostic tests

David Kennedy¹, Abigail Bentley¹, Erika Denton², Ella Ohuma¹, Nick Ormiston-Smith¹, Sheila Dixon³
Cancer Research UK ¹, Norfolk & Norwich University Hospital Trust ², NHS England ³

Introduction

Providing GPs with direct access to diagnostic tests was recommended in the Department of Health report on Improving Outcomes: A Strategy for Cancer (IOSC) as a way to help certain cancers to be diagnosed at an earlier stage.¹

In England, 77% of lung and 57% of ovarian cancers with known stage are diagnosed late (at stages III and IV).² Late stage at diagnosis is known to be related to poorer patient outcomes such as lower survival.² By providing GPs with the opportunity to refer patients directly for chest X-rays and non-obstetric ultrasounds, diagnostic imaging tests used for lung and ovarian cancer respectively, it is hoped that more cancers can be detected at an early stage (Stage I or II) by shortening the time between a patient presenting with symptoms and their subsequent diagnosis.

We sought to investigate if the propensity to refer for direct access tests (for chest X-ray or non-obstetric ultrasound) differs at a GP practice level across England.

Methods

We extracted data from the Diagnostic Imaging Dataset (DID) for all patients who were sent for a GP direct access chest X-ray or non-obstetric ultrasound in England in 2013. After excluding patients with missing age, sex or GP practice information and GP practices with a list size of less than 1,000 patients (~123 GP practices), we calculated the population rates of GP direct access chest X-rays and non-obstetric ultrasounds.

These rates were age- and sex-standardised for chest X-rays and age-standardised for non-obstetric ultrasounds. The age- and sex-standardised referral rates (the ratio of the observed number of scans to the expected number of scans) for each GP practice in England were then divided into quintiles and further investigations were carried out. GP practices were combined into their respective CCG to make the maps using MapInfo.

What does this mean?

In 2013 there were 1.8 million GP direct access chest X-rays (age- and sex-standardised rate of 324 per 10,000 people) and over 1.2 million GP direct access non-obstetric ultrasounds (age-standardised rate of 356 per 10,000 females) in England. Regional variation in the use of GP direct access can be seen in Figures 1 & 2 and high referral rates for GP direct access chest X-rays also have low referral rates for GP direct access non-obstetric ultrasounds.

There are a number of reasons why this variation may be happening but it has been hypothesised that GPs practicing in areas with an above average incidence of lung or ovarian cancer are more likely to see suspected cases of cancer. Therefore they are more likely to know about the GP direct access route and will send their patients via this route. Table 1 shows the relationship between the quintiles for GP direct access chest X-rays and non-obstetric ultrasounds. There is a clear relationship between the propensity to refer for both types of scans particularly in the lowest and highest quintiles. For example 8% of GP practices are in the lowest quintile for ultrasounds and the lowest quintile for chest X-rays. Practices in the lowest quintile for sending patients via GP direct access may be sending their patients with suspected lung or ovarian cancer via other routes. This could increase the time between the presentation of symptoms and a diagnosis of cancer. Practices with high usage of the GP direct access pathway may be referring too many patients via this pathway which could lead to increased demand on hospital diagnostic services.

DID is a relatively new dataset so there may be some data quality issues affecting this analysis. DID data does not include information on why a diagnostic test was ordered so we can’t conclusively say that a GP direct access chest x-ray was ordered following a suspicion of lung cancer, for example. We plan to link these data to cancer registration data (CAS) and hospital episode statistics (HES) to assess whether variations in GP direct access chest X-rays and non-obstetric ultrasounds have an impact on lung and ovarian cancer outcomes such as stage at diagnosis and route to diagnosis.

References:
INTRODUCTION

The facilitator programme aims to support cancer prevention, reduce the barriers to cancer screening and increase early diagnosis. In NHS Greater Glasgow and Clyde, this is achieved through the work of three dedicated facilitators who support practices via individual visits and PLTs through the provision of training, tools and information to improve cancer outcomes. In this area, the programme comprises a partnership between the Health Board, Cancer Research UK (CRUK) and the Scottish Government’s Detect Cancer Early Team.

METHODS

Qualitative evaluation – semi-structured interviews and group discussions with engaged GP practices and key programme stakeholders.

Topics – motivations for engagement, perceptions of support, impact on practice activities and wider influence.

Sample – 36 practice staff (practice managers, GPs, other practice staff), nine stakeholders and the Facilitator Team.

Analysis – Framework analysis by two coders.

RESULTS

4 KEY THEMES:

ENGAGEMENT

• Main motivation – Increasing bowel cancer screening uptake
• Key contact was the Practice Manager
• Extent of contact varied to meet the needs of each practice
• Focused, topic specific meetings most effective
• Joint approach of NHS & CRUK was valued

IMPACT

• Practices took practical steps to increase screening uptake
• Support encouraged within-practice conversations about cancer and early diagnosis
• Good practice & learning shared within practice and with others
• Strategic impact on primary / secondary care interface – taking up issues on behalf of primary care
• The Facilitator Team – seen as knowledgeable, motivated, flexible

ADDED VALUE

• Team were catalysts for change; advising, informing, guiding and supporting
• Developed Local resources – e.g. Bowel screening workbook, Cervical cytology toolkit

PARTNERSHIPS

• Delivery model – reciprocal relationship; CRUK, PCE Team, NHS GGC
• Partnership working e.g. Scottish Cancer Prevention Network, Detect Cancer Early Team, Scottish Bowel Screening Centre

CONCLUSION

The programme delivery model appears to be an effective way of engaging primary care practices in improving cancer outcomes such as bowel screening uptake and the relationship between primary and secondary care.

In this instance, bowel screening provided an initial driver for GP practice engagement with the programme. Identifying local drivers (or hooks) when establishing the programme in other areas may provide similar success.

Using this driver to initially establish relationships and raise the profile of the programme, facilitators were able to provide further support to improve cancer outcomes. The programme is now being rolled out to additional areas in Scotland.

“As a result of using various tools and course we are more likely to order chest x-rays and have probably picked up more cancers from that. This year we’ve had around nine cases of lung cancer, including four lobectomies which is great, especially considering we’ve only had two lobectomies in the previous ten years.”

GP, North West Glasgow

“It’s good we’ve got somebody like that because it helps us. You can complain back every time to secondary care but... [it’s] different consultants each time so there’s nobody getting a general overview of what it’s like.”

GP, North East Glasgow

Health and Social Care Partnerships in Greater Glasgow and Clyde
Data quality has vastly improved over time: from stage unknown at 48.0% in 1985, 11.0% in 1999, and 4.0% in 2010.

**BACKGROUND**

There are data for cancer incidence by stage in the Former Anglia Cancer Network for eleven cancer sites, dating from 1985 to 2010. This is a considerably longer timeframe than in many other areas of the country. Here we examine the changing proportions of stage at diagnosis.

**METHODS**

Data quality pre-1999 was poor, so analyses were performed on 1999–2010 data. We calculated the proportions of cancer diagnoses at Stages I or II (ED%), and then performed piecewise Poisson regressions using JoinPoint. We also assessed the changes in the proportion of diagnoses with Stage Unknown over the same time period.

Cancer sites analysed were:

- Bladder
- Breast (female)
- Cervix
- Colorectum
- Endometrium
- Head and neck (excluding salivary glands)
- Kidney
- Malignant melanoma
- Ovary
- Prostate
- Testis

**RESULTS**

Female percentage at Stage I or II at diagnosis (ED%) slightly declined – this is driven by the decrease in ED% for breast cancer. All other sites for females showed no change in ED% over time.

Male ED% rose – but remains lower than female ED%

Many sites – including bladder, cervix, colorectum, and malignant melanoma - showed no significant change in ED% over time.

**CONCLUSION**

The following sites showed both significant increases in 10 year net survival between 2000–2001 and 2010-2011 in England but no significant change in ED% in the Former Anglia Cancer Network area between 1999-2010: cervix, colorectum, kidney (females only), malignant melanoma, ovary, and testis.

Where no change in ED% was shown, this suggests that any survival gains over this period for those sites would likely be largely due to other causes, such as improved treatment.

The only site to show a statistically significant ED% change between 1999-2010 for females was breast. The sites that showed a statistically significant ED% change for males were head and neck, kidney, and prostate. ED% rose between 1999 and 2010 for kidney and prostate but dropped for head and neck.

The slight decrease in female ED% for all sites combined may be linked to the fall in breast screening uptake seen at a national level. Although male ED is increasing, it is still lower than female ED%.

**REFERENCES**


**Figure 1.** ED%, all sites combined, by sex, 1999–2010, Former Anglia Cancer Network

**Figure 2.** Breast and Endometrium ED%, females only, 1999-2010, Former Anglia Cancer Network

**Figure 3.** Stage at diagnosis%, all sites combined, 1999-2010, Former Anglia Cancer Network
SURVIVAL IMPROVEMENT FROM EARLIER DIAGNOSIS

Katie Connor1, Jodie Moffat2, Nick Ormiston-Smith3, Lucy Ironmonger4
1Cancer Intelligence, Cancer Research UK, 2Early Diagnosis, Cancer Research UK, 3Formerly Cancer Intelligence, Cancer Research UK

BACKGROUND
Cancer Research UK is aiming to reach a target of 3 in 4 people diagnosed with cancer surviving their disease for 10 years or more by 2034. To achieve this, earlier diagnosis will be a key factor. This analysis explores the impact of a shift in stage-specific survival (e.g., from stage IV to III, or from stage II to I) on cancer survival.

RESULTS
For all seven cancer sites combined for which 10-year survival by stage data were available, shifting 1% of cases from stage IV to III increased survival by 0.31%. That is equivalent to 367 more people surviving their disease for 10 years or more in England (based on 2014 incidence data) [2].

METHODS
We used incidence by stage (for patients diagnosed 2006-10) [1] and 10-year survival by stage data (patients diagnosed 2002-06) [1] for bladder, breast, cervical, colorectal, endometrial, malignant melanoma and ovarian cancer in the former Anglia Cancer Network. While incidence by stage and 5-year survival by stage was used for prostate, lung and kidney cancer (in the absence of 10-year survival data) [1].

To investigate the impact improvement in earlier diagnosis would have on survival, 1% of cases were shifted as if they were diagnosed one stage earlier. Two stage shifts were modelled: from stage IV to III and from stage II to I. Survival by stage figures were applied to the adjusted proportion of cases at each stage to calculate an adjusted survival estimate for all stages combined. Adjusted survival estimates were compared to the original survival percentages, with differences showing the survival benefit associated with each stage shift.

CONCLUSIONS
Shifting just 1% of cases a stage earlier has a positive impact on cancer survival. This analysis highlights the importance of examining data at individual staging level, rather than solely in the groupings of ‘early’ versus ‘late’ stage. It reinforces the potential value of securing earlier diagnosis for patients at all stages, as well as highlighting the importance of improving stage-specific survival through the optimisation of treatment, which is key for some cancers.

There is a greater benefit for survival in shifting stage IV cases to stage III for some cancers, rather than shifting early cases even earlier. This has implications for early diagnosis-related policy and practice, including the role and nature of symptomatic approaches to earlier diagnosis and efforts to ensure the service is equipped to deliver a streamlined pathway to diagnosis and treatment for all cancer patients.

This analysis is based on limited data, with data only available for a selection of cancer types in the East of England. Further work will look at more up to date data to provide more accurate and relevant estimates of survival improvements.

REFERENCES
1. Data were provided by the former National Cancer Registration Service Eastern Office on request.
2. Data were provided by the Office for National Statistics on request, June 2016.

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