

Preventing emergency presentations

**3rd NAEDI Research Conference
26th and 27th March 2015**

**Una Macleod
Professor of Primary Care Medicine
Hull York Medical School
University of Hull**



This session

- **Gary Abel, University of Cambridge**
 - *Cancer-specific variation in emergency presentation by sex, age and deprivation across 27 common and rarer cancers*
- **Tom Newsom-Davies, Chelsea & Westminster Hospital**
 - *Emergency Diagnosis of Lung Cancer: A European Problem*
- **Claudia Oehler, National Cancer Intelligence Network**
 - *Major resections by routes to diagnosis*

What is an emergency presentation?

- One in which a patient is diagnosed with cancer during an **unscheduled** hospital admission. The admission may have been initiated by:
 - Self-referral – where the patient or relative/carer seeks management of a cancer symptom through an accident and emergency department with that contact resulting in an admission, and cancer is subsequently diagnosed during that admission;
 - Primary care – where the patient is admitted as an in-patient by a primary care practitioner (including out of hours and Bed Bureau) either via an emergency department or directly to an acute medical or surgical unit for management of a cancer symptom, and is subsequently diagnosed with cancer during that admission;
 - Secondary care – where a patient is admitted directly from a consultant outpatient clinic where they have been referred with a relevant symptom, and cancer is subsequently diagnosed during that admission.

NCIN Data Briefing. Routes to Diagnosis: Exploring Emergency Presentations, NCIN, 2013.

Routes to diagnosis for cancer – determining the patient journey using multiple routine data sets

L Elliss-Brookes¹, S McPhail^{1,2}, A Ives³, M Greenslade³, J Shelton², S Hiom⁴ and M Richards⁵

¹Avon, Somerset, and Wiltshire Cancer Services, South Plaza, Marlborough Street, Bristol BS1 3NX, UK; ²National Cancer Intelligence Network, 18th Floor, Portland House, Bressenden Place, London SW1E 5RS, UK; ³South West Public Health Observatory, Grosvenor House, 149 Whiteladies Road, Bristol BS8 2RA, UK; ⁴Cancer Research UK, Angel Building, 407 St John Street, London EC1V 4AD, UK; ⁵National Cancer Action Team, 18th Floor, Portland House, Bressenden Place, London SW1E 5RS, UK

BACKGROUND: Cancer survival in England is lower than the European average, which has been at least partly attributed to later stage at diagnosis in English patients. There are substantial regional and demographic variations in cancer survival across England. The majority of patients are diagnosed following symptomatic or incidental presentation. This study defines a methodology by which the route the patient follows to the point of diagnosis can be categorised to examine demographic, organisational, service and personal reasons for delayed diagnosis.

METHODS: Administrative Hospital Episode Statistics data are linked with Cancer Waiting Times data, data from the cancer screening programmes and cancer registration data. Using these data sets, every case of cancer registered in England, which was diagnosed in 2006–2008, is categorised into one of eight 'Routes to Diagnosis'.

RESULTS: Different cancer types show substantial differences between the proportion of cases that present by each route, in reasonable agreement with previous clinical studies. Patients presenting via Emergency routes have substantially lower 1-year relative survival.

CONCLUSION: Linked cancer registration and administrative data can be used to robustly categorise the route to a cancer diagnosis for all patients. These categories can be used to enhance understanding of and explore possible reasons for delayed diagnosis.

British Journal of Cancer (2012) **107**, 1220–1226. doi:10.1038/bjc.2012.408 www.bjcancer.com

Published online 20 September 2012

© 2012 Cancer Research UK

Keywords: diagnosis; pathways; referral; survival; emergency; route

Improving cancer survival is a key challenge identified in different presentation routes and help our understanding of how

Routes to Diagnosis: Exploring Emergency Presentations

NCIN Data Briefing

Background

The Routes to Diagnosis study¹ showed that 24% of newly diagnosed cancers in 2006-2008 (excluding non-melanoma skin cancer) first presented into secondary care as an Emergency Presentation. Relative survival estimates for Emergency Presentations were significantly lower than for other Routes across all sites. The Emergency Presentation Route comprises different emergency pathways into secondary care, including A&E attendance, emergency GP referrals to an inpatient setting (non – two week wait referrals) and emergency admissions to either an inpatient or outpatient setting.

This data briefing looks at the breakdown of Emergency Presentations by the different emergency pathways and explores whether there are differences by cancer site and whether outcomes differ by each emergency subgroup.

Emergency subgroups

In the Routes to Diagnosis study Emergency Presentations are assigned using inpatient and outpatient HES data. When assigning a Route several pathways are grouped together into the Emergency Presentation Route. These different pathways are assigned as emergencies based on the source of referral (for pathways which started as a referral to an outpatient setting) or admission method (for pathways which started as a referral to an inpatient setting). Table 1 shows these different emergency pathways. Some pathways are similar in nature and contain a very small proportion of patients and they have therefore been grouped together into emergency subgroups.

For all cancers combined, nearly 60% of Emergency Presentations were inpatient admissions following an A&E attendance (A&E), 30% were inpatient admissions following an emergency referral from a GP (GP), 4% were other emergency admissions to inpatients (IP emergency) and 6% were emergency referrals to outpatients (OP emergency).

Table 1: Breakdown of Emergency pathways by admission method or source of referral

Admission method or source of referral	Description	Distribution (all cancers)	Emergency subgroup
Emergency: via Accident and Emergency (A&E) services	Admitted to inpatients from the A&E department	59.4%	A&E
Emergency: via general practitioner (GP)	Admitted to inpatients from a GP as an emergency referral	30.4%	GP
Emergency: via Bed Bureau, including the Central Bureau	Admitted to inpatients from the Bed Bureau ² as an emergency referral	2.8%	IP emergency
Emergency: via consultant outpatient clinic	Admitted to inpatients from a consultant outpatient clinic	1.3%	IP emergency
Following an accident and emergency attendance	Referred from A&E attendance to outpatients under the care of referring consultant	0.3%	OP emergency
Following an emergency admission	Referred to outpatients following an emergency inpatient admission	3.1%	OP emergency
Referral from an accident and emergency department	Referred from A&E attendance to outpatients under the care of different consultant	2.6%	OP emergency



KEY MESSAGE:

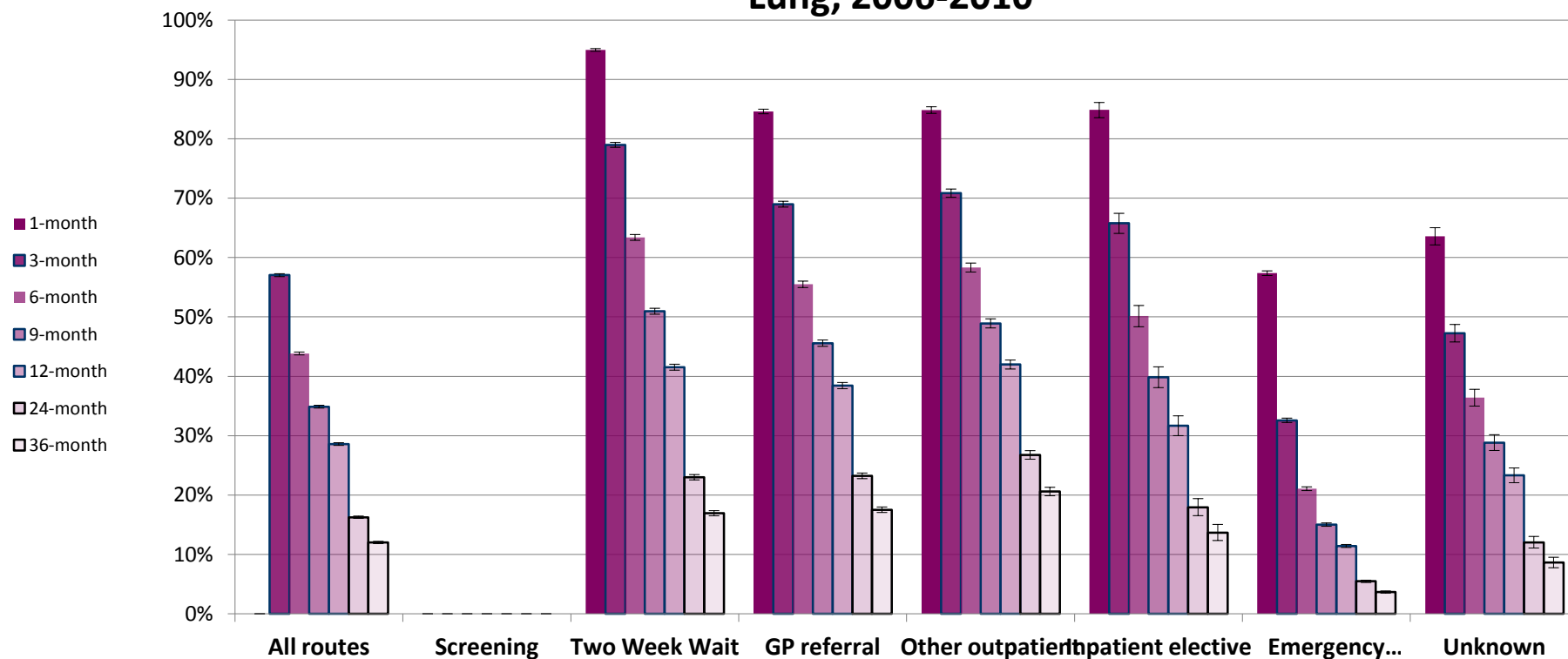
Nearly 60% of Emergency Presentations resulting in a new diagnosis of cancer come through A&E, with 30% being emergency referrals from GPs.

Emergency referrals to outpatients are higher for certain cancers. Survival estimates for this group are higher than other emergency subgroups and more comparable to survival from "managed" Routes.

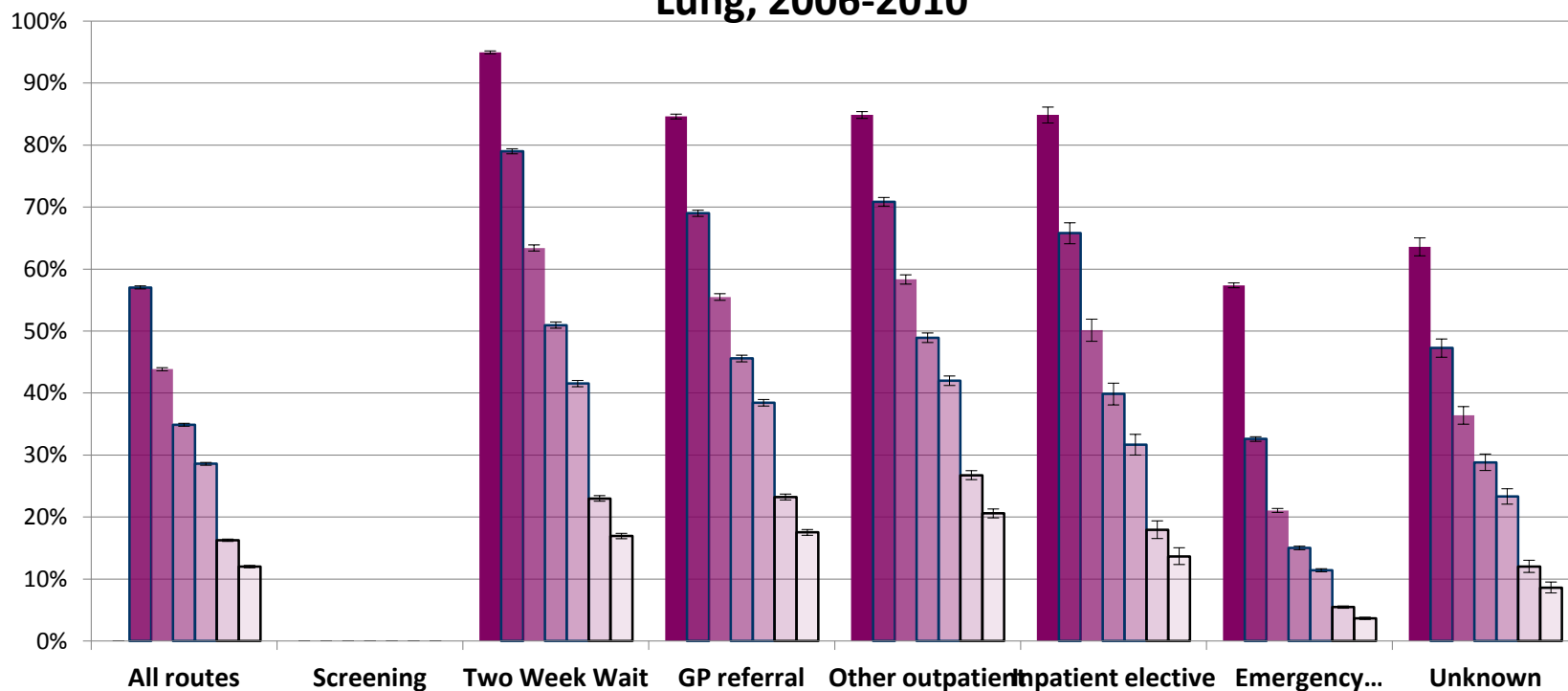
Routes to diagnosis by cancer type for all malignant diagnoses, excluding C44 (non-melanoma skin cancer) and multiples, in England, 2007

All Persons	Screen detected	Two Week Wait	GP referral	Other outpatient	Inpatient elective	Emergency presentation	Death Certificate Only	Unknown	Total	Number of patients	
Acute leukaemia		3%	17%	14%	4%	57%	0%	4%	100%	2,551	
Bladder		32%	28%	15%	2%	18%	0%	4%	100%	7,665	
Brain & CNS		1%	17%	14%	4%	58%	0%	6%	100%	4,147	
Breast	21%	42%	12%	9%	0%	4%	0%	12%	100%	34,232	
Cervix	14%	16%	25%	16%	2%	12%	0%	13%	100%	2,085	
Chronic leukaemia		10%	30%	12%	2%	30%	1%	16%	100%	2,869	
Colorectal		26%	24%	15%	4%	25%	1%	6%	100%	27,903	
Kidney		20%	29%	18%	1%	24%	1%	6%	100%	5,172	
Larynx		31%	32%	21%	1%	12%	0%	3%	100%	1,583	
Lung		22%	20%	13%	1%	38%	1%	5%	100%	29,420	
Melanoma		41%	29%	11%	1%	3%	0%	16%	100%	8,117	
Multiple myeloma		13%	27%	15%	1%	38%	0%	6%	100%	3,145	
Non-Hodgkin's lymphoma		16%	30%	17%	2%	28%	0%	7%	100%	7,777	
Oesophagus		25%	21%	17%	10%	21%	1%	4%	100%	6,001	
Oral		26%	28%	30%	1%	6%	0%	9%	100%	3,062	
Other		14%	25%	15%	2%	36%	1%	7%	100%	27,730	
Ovary		26%	22%	15%	1%	29%	1%	6%	100%	5,012	
Pancreas		13%	18%	12%	2%	47%	1%	6%	100%	5,989	
Prostate		20%	38%	16%	3%	9%	0%	14%	100%	28,362	
Stomach		17%	21%	16%	7%	32%	1%	5%	100%	5,841	
Testis		48%	14%	16%	2%	10%		10%	100%	1,569	
Uterus		35%	31%	16%	1%	8%	0%	8%	100%	5,733	
Total		3%	25%	24%	14%	2%	23%	1%	8%	100%	225,965

Relative survival estimates by presentation route and survival time, Lung, 2006-2010



Relative survival estimates by presentation route and survival time, Lung, 2006-2010



Keywords: colorectal cancer; survival; early death; prognostic factors

Early mortality from colorectal cancer in England: a retrospective observational study of the factors associated with death in the first year after diagnosis

A Downing^{1,2}, A Aravani², U Macleod³, S Oliver^{2,4}, P J Finan^{5,6}, J D Thomas⁶, P Quirke⁷, J R Wilkinson² and E J A Morris^{1,2}

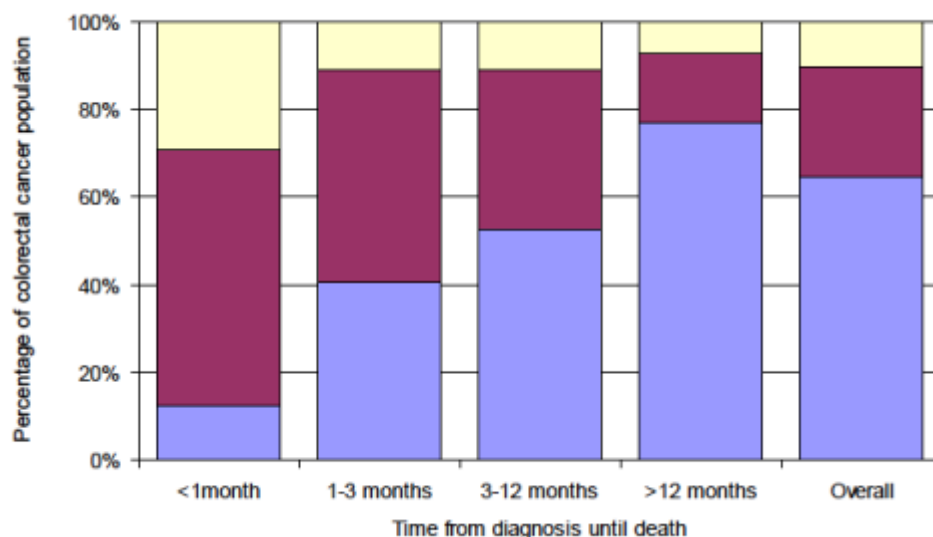
¹Centre for Epidemiology and Biostatistics, University of Leeds, Level 6, Beley Wing, St James's University Hospital, Leeds LS9 7TF, UK; ²Northern and Yorkshire Cancer Registry and Information Centre, St James's University Hospital, Leeds LS9 7TF, UK; ³Hull York Medical School, York YO10 5DD, UK; ⁴Department of Health Sciences, University of York and the Hull York Medical School, Kingston, York YO10 5DD, UK; ⁵John Goligher Colorectal Unit, St James's University Hospital, near Intelligence Network, 18th Floor Portland House, Bressenden Place, London SW1E 5RS, UK; ⁶Leeds Institute of Molecular Medicine, Level 4 Wellcome Trust Brenner Building, St James's University Hospital, Leeds LS9 7TF, UK

Colorectal cancer performs poorly in international comparisons of colorectal cancer survival with much of the excess mortality occurring in the first year after diagnosis. This retrospective cohort study investigates the patient, disease and treatment factors associated with death in the first year after diagnosis of their disease.

We investigated the factors associated with death in the first year after diagnosis of colorectal cancer in England between 2006 and 2008 using the National Cancer Data Repository. Multivariable logistic regression was used to investigate the odds of death in the first year after diagnosis.

For both cancer sites, older age, stage at diagnosis, deprivation and emergency presentation were associated with death in the first year after diagnosis. Individuals who died shortly after diagnosis were also more likely to have missing data about treatment. As disease stage and treatment.

In order to improve outcomes for patients, we have identified some important areas relating to colorectal cancer, which merit further research.



Admission method or source of referral	Description	Distribution (all cancers)	Emergency subgroup
Emergency: via Accident and Emergency (A&E) services	Admitted to inpatients from the A&E department	59.4%	A&E
Emergency: via general practitioner (GP)	Admitted to inpatients from a GP as an emergency referral	30.4%	GP
Emergency: via Bed Bureau, including the Central Bureau	Admitted to inpatients from the Bed Bureau ⁱⁱ as an emergency referral	2.8%	IP emergency
Emergency: via consultant outpatient clinic	Admitted to inpatients from a consultant outpatient clinic	1.3%	IP emergency
Following an accident and emergency attendance	Referred from A&E attendance to outpatients under the care of referring consultant	0.3%	OP emergency
Following an emergency admission	Referred to outpatients following an emergency inpatient admission	3.1%	OP emergency
Referral from an accident and emergency department	Referred from A&E attendance to outpatients under the care of different consultant	2.6%	OP emergency

NCIN Data Briefing. Routes to Diagnosis: Exploring Emergency Presentations, NCIN, 2013.



[Home](#) | [News](#) | [U.S.](#) | [Sport](#) | [TV&Showbiz](#) | [Femail](#) | **[Health](#)** | [Science](#) | [Money](#) | [RightMinds](#)

[Health Home](#) | [Health Directory](#) | [Health Boards](#) | [Diets](#) | [MyDish Recipe Finder](#)

Why are one in four cancer patients only diagnosed when they end up in A&E?

By [JO WATERS](#)

PUBLISHED: 00:03, 2 April 2013 | UPDATED: 03:22, 2 April 2013



Share



Tweet



+1



Share

120 shares



6

View comments

Debbie Taaffe was in agony as another wave of searing pain cut through her stomach. 'I was at work on the children's ward and was bent over double because the pain was so intense,' Debbie, a paediatric nurse, told the Mail.

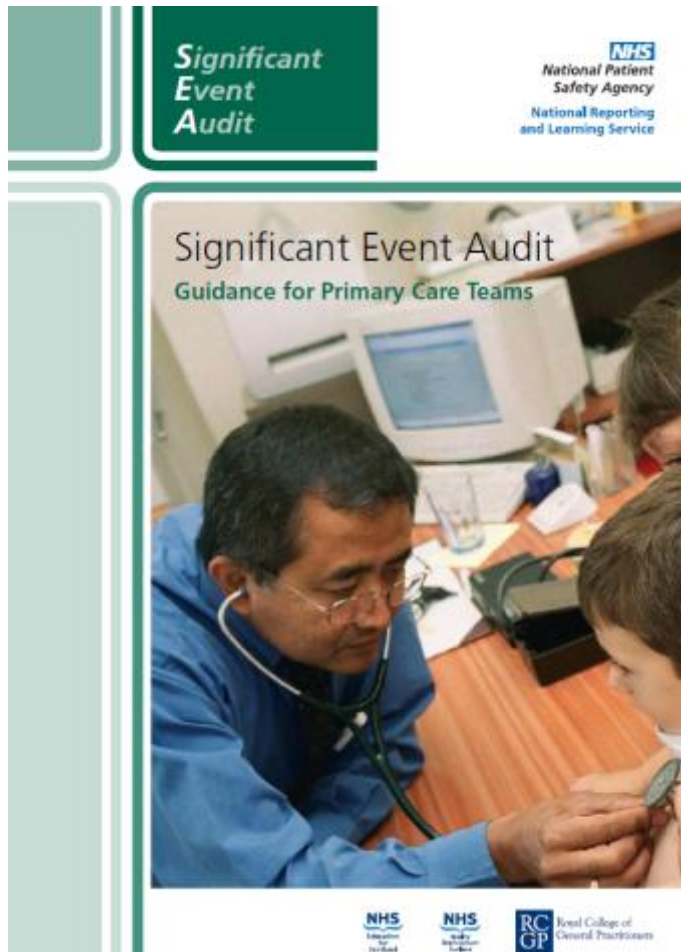
'And my stomach was so bloated and swollen I



A couple of key questions

- What do we know about what is happening in general practice pre-emergency presentation?
 - Synthesis of significant event audits
- What do we know about risk factors for emergency presentation?
 - Systematic literature review

Significant Event Audit



- Embedded within UK general practice.
- Asks the questions:
 - What happened?
 - Why did it happen?
 - What has been learned?
 - What has been changed?

Objective

To use Significant Event Audit reports as a means of identifying primary care involvement prior to emergency presentation with cancer:

- Consider presenting factors for patients diagnosed as emergencies.
- Consider practice or service related issues for these patients.
- Identify factors that may be amenable to intervention.
- Identify key learning points that practices have drawn from considering these diagnoses, along with any changes introduced to their practice.

Methods

- Worked with three cancer networks and one SCN in England.
- Developed cancer orientated SEA tool
- Combined SEA data from four projects carried out between 2008-2014
- In each project, GPs were asked to complete a cancer-specific SEA template relating to the last patient in the practice with a relevant cancer diagnosis

Keywords: emergency presentation; significant event; primary care; qualitative

The role of primary care in cancer diagnosis via emergency presentation: qualitative synthesis of significant event reports

E D Mitchell¹*, G Rubin², L Merriman³ and U Macleod⁴

¹Centre for Health Services Research, Leeds Institute of Health Sciences, University of Leeds, Charles Thaddeus Building, 101 Clarendon Road, Leeds LS2 9LJ, UK; ²Durham University, School of Medicine, Pharmacy and Health, Wolfson Building, Queen's Campus, University Boulevard, Stockton-on-Tees TS17 6BH, UK; ³North Derbyshire Clinical Commissioning Group, The Springs Health Centre, Recreation Close, Clowne, Chesterfield S43 4PL, UK and ⁴Hull York Medical School, University of Hull, Hartford Building, Cottingham Road, Hull HU6 7RX, UK

Background: Patients diagnosed with cancer in the context of an emergency presentation (EP) have poorer outcomes. It is often assumed that such patients present to the emergency department without consulting their general practitioner (GP). Little work has been done to identify primary care involvement before hospital attendance.

Methods: Participating primary care practices completed a significant event audit (SEA) report for the last patient diagnosed with cancer as a result of an EP. Accounts were synthesised and a qualitative approach to analysis undertaken.

Results: SEAs for 222 patients were analysed. A range of cancers were included, the most common being lung (32.4%) and upper gastrointestinal (19.8%). In most cases, patients had contact with their practice before diagnosis, primarily in the period immediately before admission. In only eight cases had there been no input from primary care. Accounts of protracted primary care contact generally demonstrated complexity, often related to comorbidity, patient-mediated factors or reassurance provided by negative investigations. Learning points identified by practices centred on the themes of presentation and diagnosis, consultation and safety-netting, communication and system issues, patient factors and referral guidelines.

Conclusions: There is extensive primary care input into patients whose diagnosis results from EP, and for the most part potential 'delay' in referral can be reasonably explained by the complexity of the presentation or by coexisting patient factors.

One of the key factors in determining outcome from many cancers is the route to diagnosis. In the United Kingdom, the main routes to diagnosis are screen detected, urgent '2-week wait' (2WW) referral, routine general practitioner (GP) referral, onward referral from another speciality and emergency presentation (EP). In the 2WW pathway (Department of Health, 2000), patients are referred urgently by their GP and can expect to be seen by a specialist within 2 weeks,

although there was considerable variation across cancer types (National Cancer Intelligence Network, 2013).

Improving the pathway to diagnosis for patients diagnosed during an EP should improve outcomes, not only for this patient group but also in terms of the United Kingdom as a whole, which is known to have poorer cancer survival than that of comparable countries (Sant *et al.* 2009; Coleman *et al.* 2011). Despite this, we

Data collection

- Data source 1 (2008/2009) :
 - 32/132 lung cancer SEAs.
 - 9/32 teenager/young adult cancer SEAs.
- Data source 2 (2010/2011) :
 - 24/78 upper GI cancer SEAs.
 - 18/68 ovarian cancer SEAs.
- Data source 3 (2012):
 - 39 emergency presentation specific SEAs (any cancer type).
- Data source 4 (2014):
 - 100 emergency presentation specific SEAs (any cancer type).

Data analysis

- A qualitative approach to analysis was adopted:
 - Each SEA represents a narrative account of a specific event and the context surrounding it.
- As part of the original projects, an Interpretative Matrix was developed for each cancer group:
 - Facilitated identification of common and diverse aspects of presenting feature / pathways of care.
- Meta-synthesis of the key findings across the data sources was then conducted.

CHARACTERISTICS OF 222 INCLUDED PATIENT DIAGNOSES

Gender		Cancer site	
Male	107 (48.2)	Lung	72 (32.4)
Female	107 (48.2)	Upper GI	28 (22.9)
Not reported	8 (3.6)	Gynaecological	25 (11.2)
Age at diagnosis		Haematological	22 (9.9)
Range	10–92	Colorectal	21 (9.4)
Mean / SD	65.4 / 17.2	Urological	11 (4.9)
Status		Brain / CNS	10 (4.6)
Alive	127 (57.2)	Unknown primary	9 (4.1)
Dead	87 (39.2)	Melanoma	2 (0.9)
		Breast	2 (0.9)
		Bone / sarcoma	2 (0.9)
		Carcinoid	1 (0.5)
		Head and neck	1 (0.5)

Symptoms at EP

- Many patients presented with symptoms related to the eventual cancer diagnosis.
- Others presented with symptoms not immediately suggestive of cancer, including vague or non-specific symptoms.
- Almost half of patients had multiple symptoms at emergency presentation.

Gastrointestinal

SYMPTOM TYPE	BRAIN	CRC	GYN	HAEM	LUNG	UGI	UROL
Abdominal distension		●	●	●		●	
Abdominal or iliac fossa pain		●	●	●	●	●	●
Anal pain		●					
Bowel obstruction		●	●			●	
Constipation		●			●	●	
Diarrhoea			●		●		
Dysphagia						●	
Jaundice						●	
Nausea		●	●		●	●	
Vomiting		●	●	●	●	●	●
Weight loss (inc. cachetic)		●	●		●	●	

General

SYMPTOM TYPE	BRAIN	CRC	GYN	HAEM	LUNG	UGI	UROL
Abnormal bloods (except anaemia)				●	●	●	
Anaemia			●			●	
Appetite loss		●			●	●	●
Back or joint pain				●	●	●	●
Bleeding			●			●	
Bruising				●			
Dehydration or not drinking					●		●
Generalized pain			●		●		
Itching, pruritus						●	
Swelling, lump or mass		●		●	●	●	

Primary care input

PATHWAYS TO EMERGENCY PRESENTATION

Source of referral	Patients (%)
Practice arranged	65 (53.3)
OOH arranged	6 (4.9)
Self-referral to A&E	31 (25.4)
Unclear	20 (16.4)

Primary care input	Patients (%)
Arranged hospital attendance	116 (52.3)
Prior contact with practice	99 (44.6)
No input from practice	7 (3.1)

Insights into presentation

- Accounts where there was protracted contact with primary care in the main demonstrated complex presentations.
- This was often related to elderly patients.
- There were few 'classic' presentations.
- Where earlier intervention may have been possible, there were often reasonable explanations involved.

“Delayed” intervention

Reasons for this included:

- Patients refusing earlier referral.
- Referral being made, but the patient is subsequently admitted before the clinic visit.
- Reassurance provided by negative test results.
- Improvement of initial symptoms or a change in the focus of symptoms.
- Sudden deterioration prior to arranged review.
- Patients not presenting with symptoms related to the cancer with which they were diagnosed.
- Complexity related to co-morbidity.

Risk factors for emergency presentation

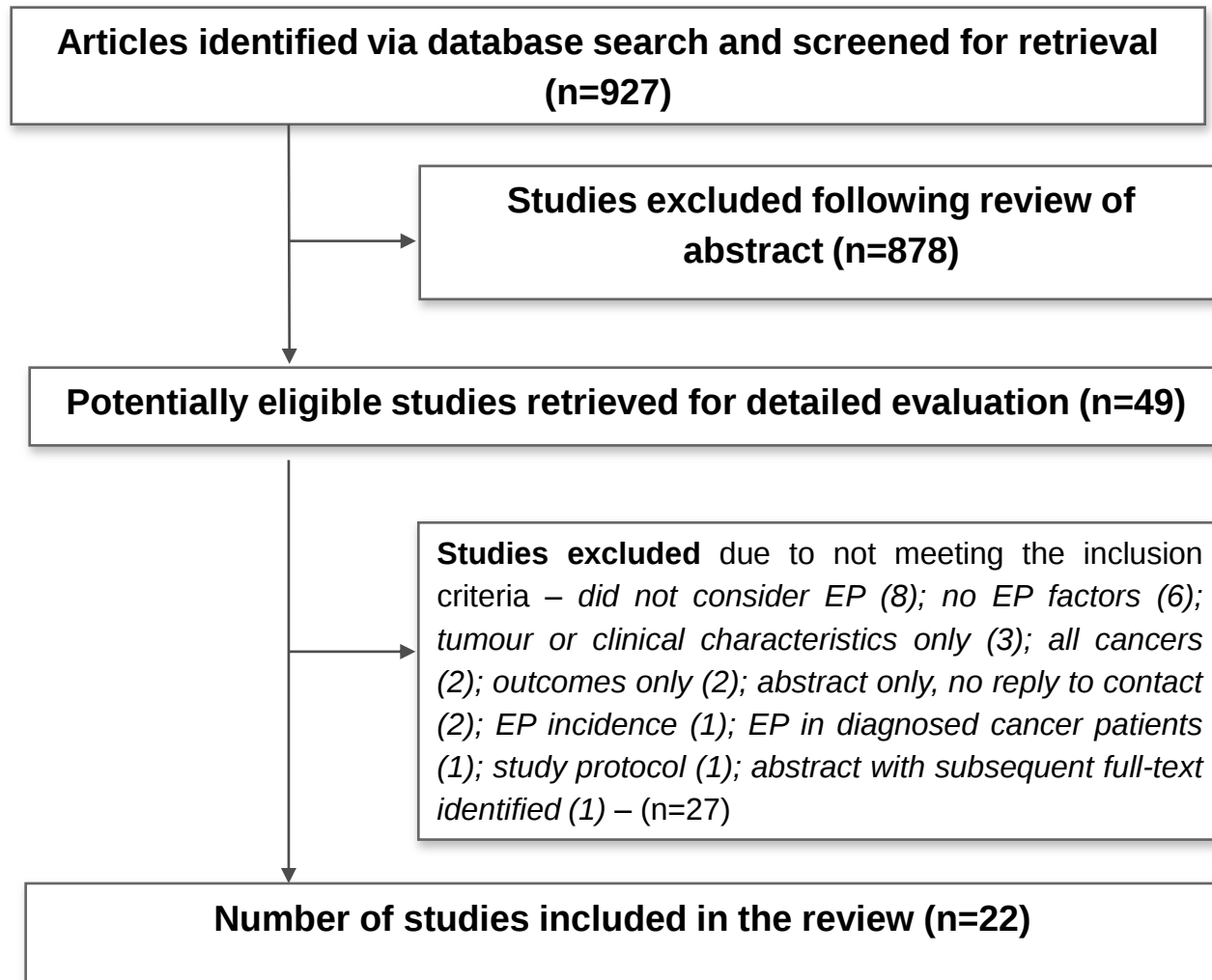


- **Objective:** To identify the patient and practitioner factors that influence lung and colorectal cancer diagnosis via emergency presentation
- **Design:** Systematic review of the world literature
- **Data sources:** MEDLINE, EMBASE, CINAHL, EBM Reviews (including the Cochrane Database of Systematic Reviews), Science Citation Index, Social Sciences Citation Index, Conference Proceedings Citation Index–Science and Conference Proceedings Citation Index–Social Science and Humanities
- 1996-2014

Mitchell ED, Pickwell-Smith B, Macleod U. Risk factors for emergency presentation with lung and colorectal cancers: a systematic review. *BMJ Open* In press

Study selection

- Studies of any design assessing factors associated with diagnosis of colorectal or lung cancer in the context of an emergency presentation
- Studies describing an intervention designed to impact on emergency cancer presentation.
- The study population was individual or groups of adult patients or primary care practitioners.
- **EXCLUDED** studies involving patients with a previous cancer diagnosis, or assessing only the effectiveness of specific referral pathways, outcomes related to diagnosis or management following emergency presentation.



RISK FACTOR	COLORECTAL CANCER	LUNG CANCER
DEMOGRAPHIC		
Age (older)	● ● ● ● ● ● ● ● ● ○ ○	● ● ● ○
Gender (female)	● ● ● ● ● ○ ○ ○ ○ ○	● ● ●
Deprivation (higher)	● ● ● ○ ○	● ● ●
Annual income – household, individual (lower)	● ● ○ ○	○
Ethnicity (non-white origin)	● ○ ○	●
Enrollment in health insurance	● ●	○
Marital status (unmarried, divorced, widowed)	● ● ○	
Education level (lower)	● ○	
Social class (lower)	○	
Residence (ownership, location)	○	
Childlessness	●	
HISTORY		
Cancer site (colon)	● ● ○	
Symptom type	● ● ●	●
Symptom type (pain)	● ●	
Symptom type (weight loss)	● ●	
Symptom type (obstruction)	●	
Symptom type (bleeding)	○	
Help seeking at initial symptom	● ○	
Co-morbidity	● ● ○ ○	● ○
Performance status (poorer)		●
Smoking history	○	
BMI (extreme)	●	
Primary care utilisation (lower)	● ●	●
Secondary care utilisation (higher)	● ○	●
Previous screening / investigation	● ○	
Family history of cancer	○ ○	

Derived from studies providing evidence rated as ‘strong’, ‘strong-’ or ‘moderate’.
Key: ● study reports association with EP; ○ study reports no association with EP.

Main findings

- Older patient age was associated with EP (lung and colorectal)
- Women were more at risk of EP (lung)
- Higher deprivation increased the likelihood of EP (lung)
- Being unmarried (or divorced/widowed) increased the likelihood of EP (colorectal cancer)
- Symptoms determined likelihood of EP
 - pain, obstruction and weight loss (colorectal)
- Lower use of primary increased likelihood of EP (lung and colorectal)

Keywords: colorectal neoplasms/diagnosis; emergencies; emergency treatment/statistics & numerical data; cohort studies

Comparing primary and secondary health-care use between diagnostic routes before a colorectal cancer diagnosis: Cohort study using linked data

J R Sheringham^{*1,2}, T Georgiou¹, X A Chitnis³ and M Bardsley¹

¹Nuffield Trust, 59 New Cavendish Street, London W1G 7LP, UK; ²University College London, 1-19 Torrington Place, London WC1E 7HB, UK and ³The Royal Marsden NHS Foundation Trust, Downs Road, Sutton SM2 5PT, UK

Background: Survival in cancer patients diagnosed following emergency presentations is poorer than those diagnosed through other routes. To identify points for intervention to improve survival, a better understanding of patients' primary and secondary health-care use before diagnosis is needed. Our aim was to compare colorectal cancer patients' health-care use by diagnostic route.

Methods: Cohort study of colorectal cancers using linked primary and secondary care and cancer registry data (2009–2011) from four London boroughs. The prevalence of all and relevant GP consultations and rates of primary and secondary care use up to 21 months before diagnosis were compared across diagnostic routes (emergency, GP-referred and consultant/other).

Results: The data set comprised 943 colorectal cancers with 24% diagnosed through emergency routes. Most (84%) emergency patients saw their GP 6 months before diagnosis but their symptom profile was distinct; fewer had symptoms meeting urgent referral criteria than GP-referred patients. Compared with GP-referred, emergency patients used primary care less (IRR: 0.85 (95% CI 0.78–0.93)) and urgent care more frequently (IRR: 1.56 (95% CI 1.12; 2.17)).

Conclusions: Distinct patterns of health-care use in patients diagnosed through emergency routes were identified in this cohort. Such analyses using linked data can inform strategies for improving early diagnosis of colorectal cancer.

In England, more than a quarter of patients with colorectal cancer are diagnosed as an emergency presentation, that is, following a visit to Accident and Emergency (A&E) or an emergency admission to hospital (Ellis-Brookes *et al.*, 2012). Short term survival in these cases is poor when compared with other routes to diagnosis even when age and case mix are taken into account (Downing *et al.*, 2013; McPhail *et al.*, 2013). This has led to the interpretation of emergency presentations as an indicator of preventable diagnostic delay in colorectal cancer. As such, there could be scope to improve survival in colorectal cancer by reducing their prevalence (Hamilton, 2012). Although patient characteristics associated with emergency diagnosis are relatively

well characterised, the factors that lead to an emergency presentation and the extent to which they are tractable are less well understood.

McPhail *et al.* (2013) propose that an understanding of how patients use primary and secondary care before their diagnosis is needed to develop effective strategies to improving cancer survival by reducing emergency presentation. Strategies have been developed to promote GP recognition of symptoms (Hamilton *et al.*, 2013) and greater access to diagnostics has shown some effect on reducing diagnostic intervals (Neal *et al.*, 2014). However, cancers in those diagnosed as emergencies may manifest in different ways to those diagnosed through GP-referred routes (Cleary *et al.*, 2007).

*Correspondence: Dr J R Sheringham; E-mail: j.sheringham@ucl.ac.uk

Received 8 May 2014; revised 20 June 2014; accepted 3 July 2014

© 2014 Cancer Research UK. All rights reserved 0007–0920/14



Table 2. Prevalence of primary care use and relevant symptoms coded before diagnosis by diagnostic route

	Route to diagnosis								P
	Emergency		GP		Consultant/ other/unknown		Total		
	n	(%)	n	(%)	n	(%)	N	%	
Patients with consultations									
In the 6 months before diagnosis	197	84.40	489	91.23	142	79.33	825	87.49	0.008
In the 12 months before diagnosis	203	89.04	508	94.78	156	87.15	867	91.94	<0.001
With any 'relevant' symptom coded within 12 months before diagnosis ^a	165	81.28	481	94.69	121	77.56	768	88.58	<0.001
With specific symptoms coded within 12 months before diagnosis									
Reported anaemia	93	40.79	269	50.19	50	27.93	412		
Anaemia tested but values in normal range or not reported	32	14.04	114	21.27	44	24.58	190		
Constipation	55	24.12	91	16.98	20	11.17	166		
Abdominal pain, swelling, investigation	50	21.93	87	16.23	19	10.61	156		
Rectal bleeding	6	2.63	96	17.91	12	6.70	114		
Diarrhoea	14	6.14	48	8.96	10	5.59	72		
Other bowel (e.g., rectal mass, flatulence, altered bowel)	5	2.19	58	10.82	4	2.23	67		
Weight loss or fatigue	6	2.63	15	2.80	5	2.79	26		
No symptom reported but record of colorectal diagnostic investigation referral	5	2.19	14	2.61	8	4.47	27		
N	228		536		179		943		

Abbreviation: GP = general practitioner.

^aThe percentage is calculated using all those that had a consultation for any reason before diagnosis as the denominator population.

Cancer diagnosis via Emergency Presentation a case-control study



AIM: to identify whether there are differences in the pathway to diagnosis between patients who are diagnosed with *lung* or *colorectal* cancer during an emergency presentation compared to those diagnosed via the 2WW pathway.

RESEARCH QUESTIONS:

- What are the characteristics of patients with colorectal and lung cancer diagnosed as a result of EP, compared to those diagnosed through the 2WW referral pathway?
- What are the primary health care experiences of patients with colorectal and lung cancer diagnosed as a result of EP, compared to those diagnosed through the 2WW referral pathway?



Design



- Multi-centre case-control study in the North of England.
- Cases - patients diagnosed with colorectal or lung cancer following EP.
- Controls - patients diagnosed following urgent referral for suspected colorectal or lung cancer (2VVV).
- We plan to recruit a total of 460 colorectal cancer patients (230 cases and 230 controls) and 400 lung cancer patients (200 cases and 200 controls).

In summary

- There is extensive primary care input into the pathway to diagnosis for patients presenting as emergencies.
- Older women who live alone seem most at risk of emergency presentation.
- Synthesis of SEA reports has demonstrated the complexity involved in many of these cases.
- Contradicts the view that patients are reluctant to consult their GP when they become ill.
- In particular, the narrative that patients choose to present to A&E rather than to their GP is clearly wrong.

This session

- **Gary Abel, University of Cambridge**
 - *Cancer-specific variation in emergency presentation by sex, age and deprivation across 27 common and rarer cancers*
- **Tom Newsom-Davies, Chelsea & Westminster Hospital**
 - *Emergency Diagnosis of Lung Cancer: A European Problem*
- **Claudia Oehler, National Cancer Intelligence Network**
 - *Major resections by routes to diagnosis*