Diagnostic approaches to cancer and/or non-cancer disease in five Multidisciplinary Diagnostic Centre (MDC) projects in England

Accelerate **C**oordinate **E**valuate

The ACE Programme

Working collaboratively to support innovation in cancer services

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Contents

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Introduction

Patients presenting with non-specific but concerning symptoms (NSCS), such as unexplained weight loss or persistent fatigue, often do not fit referral criteria for specific tumour pathways in England [1]. In some instances, these patients fit the referral criteria for multiple pathways, making appropriate diagnostic decision-making difficult. As part of a joint national collaboration between Cancer Research UK, Macmillan Cancer Support and NHS England, the 'Accelerate Coordinate Evaluate' (ACE) Programme [2] evaluated Multidisciplinary Diagnostic Centre (MDC) pilots for patients presenting with non-specific symptoms across five projects in England.

The MDC approach offered a range of diagnostic tests under the care of the same clinical team to provide a faster diagnosis for patients without recognised site-specific alarm symptoms. Published initial results [3] focus on the associations between patient demographics, presenting features and cancer diagnoses. They indicate that rapid referral for non-specific symptomatic presentation diagnoses a broad range of cancers, with many of these relating to less common types [4].

Learning from the pilots has informed the current national implementation of Rapid Diagnostic Centres (RDC) in England [5]. RDCs form an important part of NHS England's broader strategy to deliver faster and earlier diagnosis and improved patient experience [6].

The remit of this report is to describe diagnostic activity within the MDC pathway, in order to illustrate potential differences between MDC pathway approaches. It considers the use of CT Scan (full body) by MDC projects, the type of cancer and non-cancer diagnoses, the stage of disease and pathway interval times.

Methods

Project and Programme structure

The programme was set up as a service evaluation, with a degree of heterogeneity introduced by the MDC projects to assess pathway adaptability. A defining condition for all projects was that patients had to be considered as being of clinical concern and not sufficiently clear to indicate an appropriate tumour-specific referral pathway [1].

Overall, the ACE MDC projects developed a core set of referral criteria, with projects configuring their pathways to reflect local clinical priorities and catchment area requirements. Eligible referral

routes into the MDC differed at project level, as did the positioning and type of filter tests applied as part of this process; for example, in some projects, referrals included blood tests only, whereas others also included imaging tests as part of the filter function (Appendix 1).

If further diagnostic tests were required for a patient, the knowledge gained from the filter tests and a detailed patient assessment informed the selection of the appropriate diagnostic test, or sequence of tests, within the MDC.

Pathway commonalities and distinctions, which can be broadly represented by 3 approaches, have been described in detail as part of a suite of published MDC resources by the ACE Programme [3, 7].

Data collection

At a programme level, a dataset was agreed across the projects to ensure a robust evaluation. It was broadly collated for the duration of the evaluation, which, for some pilots, was as early as January 2017. It included data items based on the English Cancer Outcomes and Services Dataset (COSD) [8], and additional project-specific items focusing on secondary care presentation, diagnostic process of cancers and other diseases. Data management and collation arrangements at programme and project level have been described in detail [3].

The current analysis is based on overall MDC referrals up to 31st March 2019. The overall number of records varies from those published as part of the evaluation's initial results [3] because of the inclusion of additional diagnoses which occurred after the original evaluation period to 31st July 2018.

To support effective data analysis, and to benefit from larger sample sizes representing the MDC projects, pilot sites in Oldham and Wythenshawe have been grouped as Greater Manchester (GM), and pilot sites in North Middlesex, Barking, Havering and Redbridge hospital (BHRUT), University College London Hospitals (UCLH), Southend and Royal Free have been grouped as London. Thus, this report describes MDC activity at a project and programme level only.

The programme did not mandate causation in terms of reporting either cancer or non-cancer diagnoses, though this is assumed. Cancer and non-cancer diagnoses were reported as discovered and allowance must be made for the screening effect of testing having led to incidental diagnosis discovery as well. Whilst cancer stage was expected, no severity score for non-cancer diagnoses was required as part of the programme's evaluative arrangements.

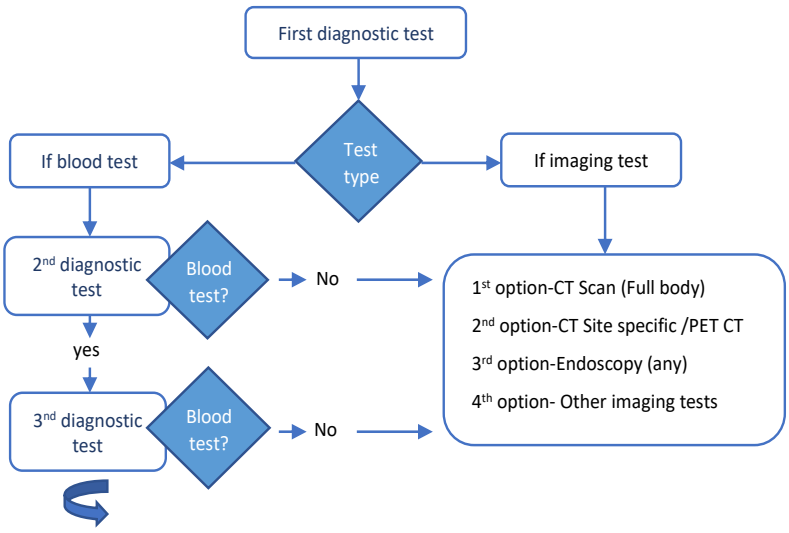
Use of CT Scan (full body) as standard imaging diagnostic test

Due to the complexity of analysing diagnostic tests at programme level, and the heterogenous nature of MDC projects themselves (including data recording approaches), a classification of the data was adopted to establish a degree of commonality for interpretation. The ordering of diagnostic tests seeks to categorise diagnostic tests data, which was applied to enable differences in diagnostic strategies at project level to be described, but does not infer a hierarchy of tests.

The use of CT Scan (full body) was considered as the standard initial imaging test, CT site specific (and PET CT) as second and endoscopic procedures as third, and finally 'other imaging' tests, with these tests representing the options available for the initiation of diagnostic imaging investigations. In records where no imaging test was recorded, 'other' diagnostics such as bloods or microbiological tests were detailed. In a number of records, no tests were reported; this could mean either that no tests were undertaken or that the recording of tests was not complete, for reasons such as 'patient no show' or administrative error. It should also be noted that Oxford used low dose CT Scan (full body) as part of their pathway approach [9].

As a result, the first diagnostic test for each record was considered to identify the type of test undertaken. If bloods were recorded as the first diagnostic test, the second diagnostic test was considered, and potentially the third and fourth diagnostic tests, until a first imaging test was identified. In parallel, once the first imaging test was identified, CT Scan (full body) was considered as the first option and selected. The following options were, in order, CT specific site (and PET CT), endoscopy procedure (any type) and other imaging tests (Figure 1).

Figure 1: Diagnostic test selection



Results

Overall cohort description

5,134 referrals into the five MDC projects during the evaluation period were recorded, with a median age of 69 years old, and 56% recorded as female. 379 malignant tumours were diagnosed as a result of the referrals – including one patient presenting with 2 primary tumours. Two MDC projects were unable to provide data relating to performance score and comorbidity 27 score; in addition, several records did not provide this information. Therefore, around 25% of the records were without data for these 2 data items.

At project and programme level, the proportion of females referred to the MDC was higher than that of males. Airedale MDC had an older population than any of the other MDCs, with 44% of patients being 75 and above , as well as reporting a higher rate of mild comorbidity.

Table 1: Cohort details by MDC projects (N (%))

		Airedale	GM	Leeds	London	Oxford	Total
Sex	**Female**	213 (57)	339 (57)	639 (52)	1,077 (58)	620 (59)	2,888 (56)
	Male	163 (43)	255 (43)	586 (48)	784 (42)	438 (41)	2,226 (44)
	Not recorded		1		1	18	20
Age group	**Below 50**	30 (8)	101 (17)	170 (14)	372 (20)	83 (8)	756 (15)
	50 to 74	179 (48)	300 (50)	634 (52)	922 (50)	584 (54)	2,619 (51)
	75and above	167 (44)	194 (33)	421 (34)	568 (31)	409 (38)	1,759 (34)
Performance	**0**	189 (51)	320 (60)	352 (48)	1,079 (70)	Not given	1,940 (61)
	1	123 (33)	111 (21)	192 (26)	274 (18)	Not given	700 (22)
	2	49 (13)	59 (11)	104 (14)	125 (8)	Not given	337 (11)
	3	13 (3)	39 (7)	68 (9)	49 (3)	Not given	169 (5)
	4	-	5 (1)	15 (2)	4 (0)	Not given	24 (1)
	Not recorded	2	61	494	331	1076	1,964
Comorbidity	**None**	100 (28)	153 (29)	Not given	438 (33)	177 (17)	868 26
	Mild	218 (60)	246 (46)	Not given	508 (38)	448 (43)	1,420 (43)
	Moderate	42 (12)	112 (21)	Not given	260 (20)	270 (26)	684 (21)
	Severe	2 (0)	24 (4)	Not given	127 (10)	159 (15)	312 (10)
	Not recorded	14	60	1,225	529	22	1850
Total		**376**	**595**	**1,225**	**1,862**	**1076**	**5,134**

First imaging test undertaken as part of the diagnostic process

As described in the methods, a classification of the diagnostic tests was applied to each record in order to identify the first imaging test undertaken as part of the diagnostic process, with CT Scan (full body) considered as the standard initial imaging test. This classification was applied to overall referrals and types of cancer.

374 records did not have a first diagnostic test reported or a date of first test or any diagnostic tests reported and were excluded from this analysis; six of these related to records with a cancer diagnosis.

CT Scan (full body) was the most frequent first imaging test used in four of the MDC projects (Airedale, GM, London and Oxford), while CT Scan (site specific) and 'other imaging' tests were predominantly used in Leeds – this pattern was evident when considering all referrals, as well as cancer diagnoses specifically. In addition, a broader range of 'other imaging' tests, including X-rays, ultrasound and MRI, were more frequently used in Leeds – endoscopic procedures were predominantly used in London.

Table 2: Use of CT Scan (full body)/ CT site specific / PET CT / Endoscopy (any) / others; all referrals and cancer diagnoses (N (%)) by MDC projects

	Diagnostic test type	Airedale	GM	Leeds	London	Oxford	Total
Cancer diagnoses	CT Scan (full body)	31 (89)	43 (100)	-	91 (88)	108 (100)	273 (73)
	CT Scan (site specific)	2 (6)	-	53 (65)	4 (4)	-	59 (16)
	PET CT	-	-	5 (6)	(0)	-	5 (1)
	Endoscopic procedure	1 (3)	-	3 (4)	6 (6)	-	10 (3)
	Other imaging test**	1 (3)	-	17 (21)	1 (1)	-	19 (5)
	Other***	-	-	4 (5)	2 (2)	-	6 (2)
	No test	-	-	6	-	-	6
	Total	**35**	**43**	**88**	**104**	**108**	**378***
All referrals	CT Scan (full body)	295 (87)	553 (95)	-	1,110 (67)	1,076 (100)	3,034 (64)
	CT Scan (site specific)	10 (3)	6 (1)	386 (35)	102 (6)	-	504 (11)
	PET CT	-	-	12 (1)	1 (0)	-	13 (0)
	Endoscopic procedure	11 (3)	13 (2)	62 (6)	299 (18)	-	385 (8)
	Other imaging test**	12 (4)	8 (1)	455 (41)	97 (6)	-	572 (12)
	Other***	10 (3)	1 (0)	184 (17)	57 (3)	-	252 (5)
	No test	38	14	126	196	-	374
	Total	**376**	**595**	**1,225**	**1,862**	**1,076**	**5,134**

** Based on patients*
***Other imaging test: X-rays, Ultrasound, MRI*
****Other: Blood test, microbiological test*

Overall diagnoses across the MDCs

The data presented in Table 3 show the distribution of Two Week Wait (TWW) cancer groups. The diagnoses include new and recurrent cancer diagnoses. Details of type of cancers by cancer groups are provided in Appendix 2.

A wide range of tumour types were diagnosed across the MDC projects, but the main type was Upper GI tract (85, including 63 diagnoses relating to HPB (hepato-pancreato-biliary) cancers).

Table 3: Cancer diagnoses across MDC projects (N)

TWW Tumour type	Airedale	GM	Leeds	London	Oxford	Total
Brain	1	-	-	-	-	1
Breast	1	2	7	7	9	26
Gynaecology	1	-	1	4	3	9
Haematology	5	6	18	10	15	54
Head and neck	-	1	1	-	-	2
Lower Gi tract	4	3	8	17	16	48
Lung	5	10	16	15	27	73
Other	3	3	9	2	1	18
Sarcoma	2	-	4	1	2	9
Skin	3	1	-	-	1	5
Upper Gi tract	2	4	3	10	2	21
Upper Gi tract – HPB	3	7	9	26	18	63
Urological	6	6	12	7	14	45
Not specified	-	-	-	5	-	5
Total	**36**	**43**	**88**	**104**	**108**	**379***

**Data based on tumours*

Based on the recording of non-cancer diagnoses, Table 4 below shows the number of records containing at least one diagnosis description; however, a number of records had more than one non-cancer diagnosis; the overall number was used to present the data in Figures 2 and 3 below.

Table 4: Non-cancer diagnoses across MDC projects (N)

	Airedale	GM	Leeds	London	Oxford	Total
At least one diagnosis description given	256	245	336	814	409	2,060
No diagnosis description given	31	18	11	531	10	601
Total	287	263	347	1,345	419	2,661

Figure 2 illustrates the range of non-cancer diagnoses by MDC project (smaller numbers of diagnoses have been grouped under 'other').

GM and London have the largest proportions of disease of the digestive system (K), Oxford recorded a high proportion of symptoms, signs and abnormal clinical and laboratory findings (R), which mainly related to the identification of lung nodules. Leeds diagnosed the highest proportion of mental, behavioural and neurodevelopment disorders (F) and, overall, a wider range of non-cancer disease. These results may relate to the differing diagnostic approaches used by the MDC projects; for example, higher endoscopic use, compared to the universal use of CT as an initial test, compared to tailored investigations (including observation only).

At programme level, almost half (42%) of non-cancer diagnoses were of digestive origin, including gastritis and duodenitis.

Figure 2: Distribution of non-cancer disease groups by MDC projects

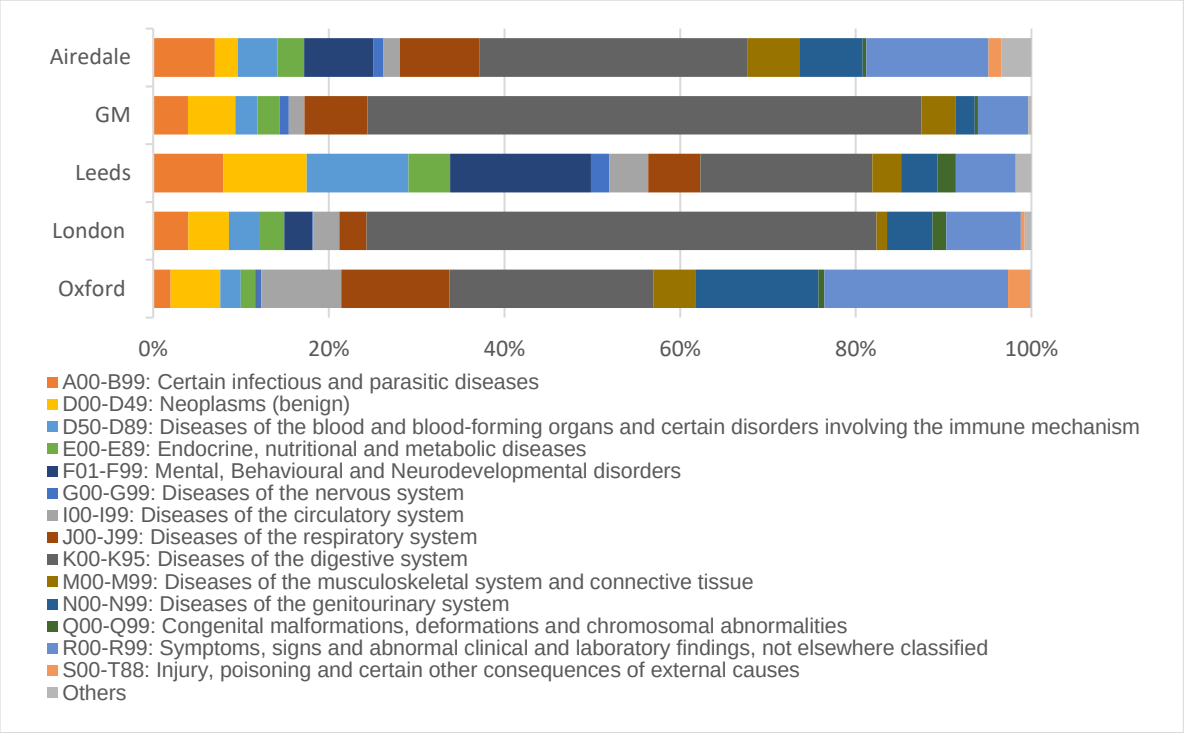
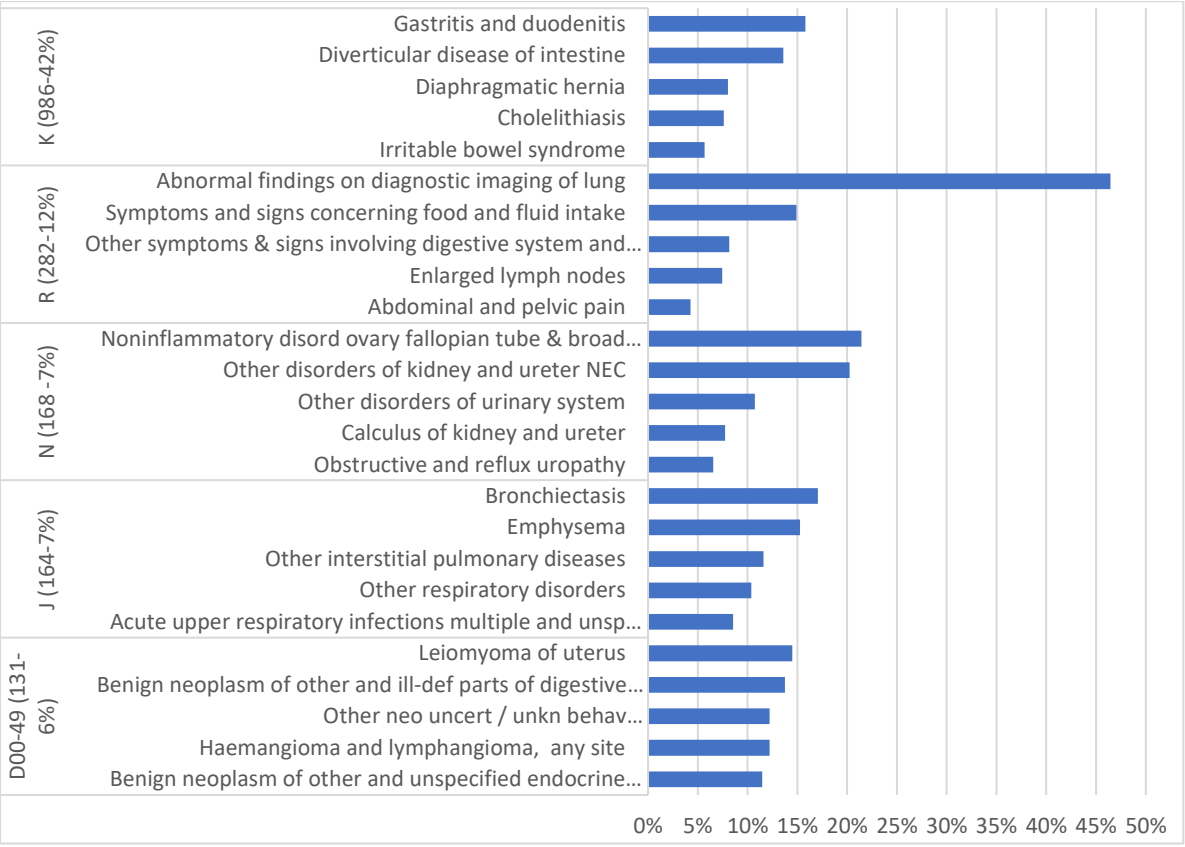


Figure 3: Distribution of main non-cancer diagnoses within the 5 most frequent disease groups at programme level



Onward referrals

While data was only available from four MDC projects, 38% of onward referrals for non-cancer diagnoses were for general medical practice and 31% were for gastroenterology, with these two specialties representing the two main onward referral routes for non-cancer diagnoses.

Cancer diagnoses by early or late stage and by age group

Table 5 provides a breakdown of cancer diagnoses by early and late stage by age group. At programme level, the proportion of early and late stage diagnoses was the same in each age group (23% vs 77%). Although it is important to consider the distribution of early versus late stage diagnoses at a programme level, it is essential to remember the overall mix of the cancers diagnosed and staging implications.

Table 5: Cancer diagnoses by early and late stage disease and age group (N)

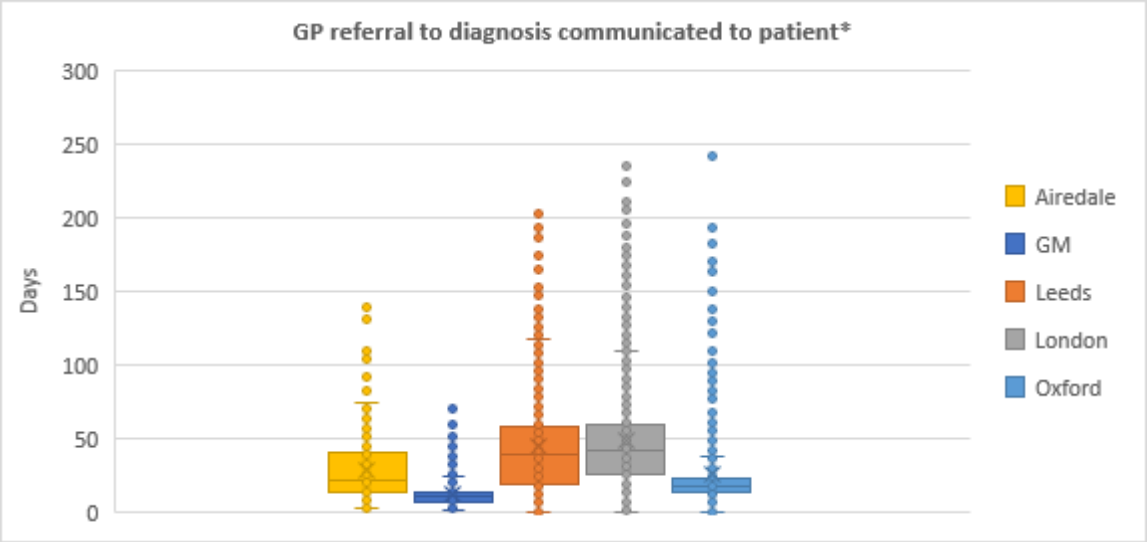
	Stage	Airedale	GM	Leeds	London	Oxford	Total
Under 50	Early stage	-	-	-	-	-	-
	Late stage	-	-	1	3	2	6
	Unknown	1	-	-	4	1	6
	Subtotal	**1**	-	**1**	**7**	**3**	**12**
50 to 74 years old	Early stage	-	6	9	5	15	35
	Late stage	9	17	31	27	31	115
	Unknown	4	4	4	15	4	31
	Subtotal	**13**	**27**	**44**	**47**	**50**	**181**
75 years and older	Early stage	2	5	9	9	6	31
	Late stage	14	8	25	21	35	103
	Unknown	6	3	9	20	14	52
	Subtotal	**22**	**16**	**43**	**50**	**55**	**186**
Total		**36**	**43**	**88**	**104**	**108**	**379**

**Data based on tumours*

Interval times by age group

Two national NHS targets were calculated, the Faster Diagnostic Standard (FDS) (28 days from GP referral to diagnosis communicated to the patient) and the 62 Day Standard target (GP referral to start of cancer treatment) [10]. The latter applied to cancer diagnoses only and patients referred via other routes such as emergency or secondary care were excluded - the data are presented in the Figure 4 (a & b) and Table 6 below. However, it should be noted that at the time of MDC evaluation, the FDS was not an established target, and that many trusts in England were still developing the processes required to measure this target. This data should be treated with appropriate caution, though the MDC approach shows promise.

Figure 4 (a & b): Interval times by MDC projects



**Over 250 days outliers removed*

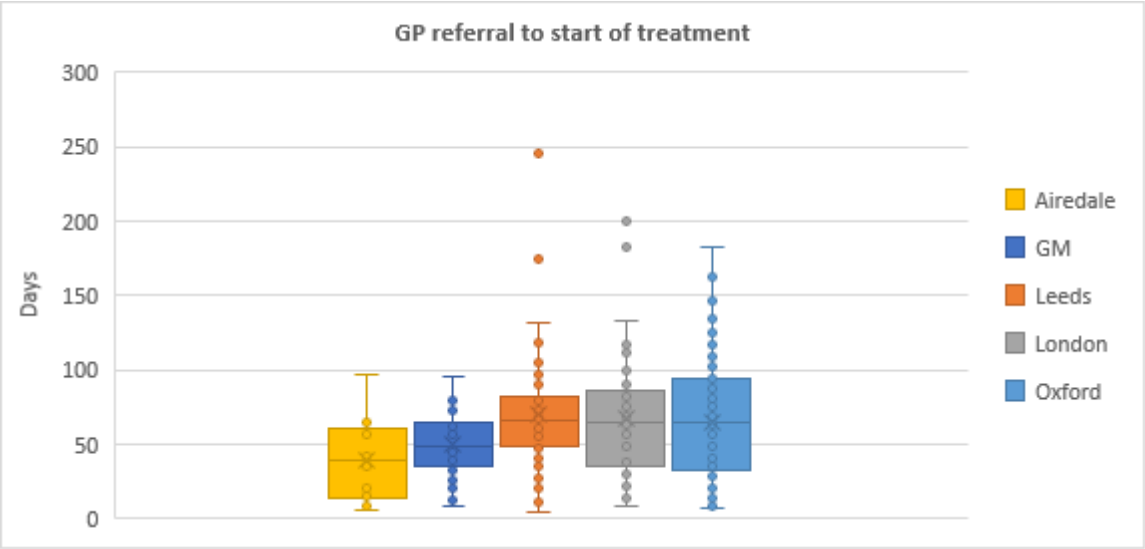


Figure 4 shows that GM and Oxford have shorter interval times from GP referral to the communication of a diagnosis than Leeds and London, while there is no difference across the MDC projects in terms of interval time from GP referral to treatment. It should be noted that palliative care is included as part of the treatment given, which might have a shortening effect on the median time in some MDC projects. At programme level, both targets – Faster Diagnostic Standard and GP referral to treatment – were achieved.

In order to provide a balanced and robust description of pathway intervals, and to account for outlier records, rates have also been provided for median, mean, IQR and 90% centile values.

Table 6: Interval times by MDC projects

GP referral to diagnosis communicated (All records) (days)							
	Median	N	Range	Mean	Q1	Q3	90%
Airedale	22	297	2-139	28.5	13	40	56.4
GM	11	592	1-75	12.5	7	14	22
Leeds (1 outliner removed)	39	981	0-203	44.7	20	58	91
London (17 outliners removed)	42	1,663	0-240	48.9	26	60	90
Oxford	17	708	0-242	25	13	23	48.3
Total (18 outliners removed)	27	4,241	0-242	37.4	14	51	79
GP referral to start of treatment (Cancer diagnoses) (days)							
	Median	N	Range	Mean	Q1	Q3	90%
Airedale	39	18	6-97	39.1	16.5	59	65.5
GM	48	43	9-95	50.5	36	63	78.4
Leeds	66	50	4-245	70	49	81.5	110.8
London	64	48	8-200	67.5	35	84.75	114.2
Oxford	64	91	7-182	64.2	33.5	93.5	110
Total	61	249	4-245	61.7	35	80	109.2

Data limitations

Whilst arrangements were established for homogenous data collection at programme level, the evaluative nature of the analysis, and variation in local project arrangements relating to data collection and interpretation (including the use of different software to record data) all require consideration.

Consequently, the overall data analysis needs to consider these local variations, and, within the context of this report, several points must be noted:

- Data analysis shows that the date of clinical diagnosis was interpreted differently at project level and did not consistently correspond to the definition given in the initial dataset; this has limited its use in terms of, for example, tests undertaken between referral and clinical diagnosis, and interval time analysis.
- Similarly, the recording of diagnostic tests after the initial assessment varied across MDC projects and prevented potential analyses focusing on certain areas, such as the sequencing of tests.
- This report is based on the results of a service evaluation and, whilst measures were taken to support robust data collection and reporting, some variation in data completeness and interpretation was identified.
- While at programme level there was a notable number of cancer diagnoses recorded, the sample size did not allow for in depth analysis regarding diagnostic tests per cancer type, and similarly with staging data.

- Finally, due to the time-limited duration of the evaluation, and the agreed scope of the programme's evaluation plan, programme findings did not provide survival data for the patient cohort or subsequent cancer diagnoses arising post-discharge from MDC review. Due to this follow-up data being unavailable, it has also not been possible to confirm or refute the accuracy of no-cancer diagnoses within this report, or to consider potential 'missed cancers'.

Discussion

This report highlights that differing diagnostic strategies, as demonstrated across the five MDC projects, can all offer viable rapid referral pathways for patients presenting with non-specific symptoms. Therefore, pathway specification and implementation at local level should be designed to address local clinical priorities and catchment area characteristics, as well as practical considerations such as available resources and the ability to run such a service.

Regarding the recorded diagnostic yield for cancer and non-cancer disease, it is important to consider the pathway design and the referral criteria applied across the MDC projects; for example, a large proportion of hepato-pancreato-biliary cancer diagnoses were concentrated in a few centres, while other centres had a broader approach to diagnostic test selection and possibly a wider range of diagnoses as a result. However, the report largely supports the notion that a broad referral cohort for non-specific symptoms enables a broad diagnostic yield for both cancer and non-cancer diseases, including the diagnosis of wide range of cancer types with a high percentage of rare and less common malignancies.

While the use of CT Scan (full body) can be considered as the standard test for many MDC pilot sites, the use of imaging tests differed between projects. However, these differences seemingly had little impact on areas such as stage of disease and interval time from GP referral to treatment, with no benefit attributed to any specific initial diagnostic test selection. It should be noted, however, that data limitations do not allow for calculation of individual MDC diagnostic sensitivity or accuracy.

At programme level, targets relating to both the Faster Diagnostic Standard and GP referral to treatment were achieved. This positive aspect of the pathway is to be noted. Whilst the pathways' compliance with the national 62 day wait guidelines is important, it must be acknowledged that several of the cancers diagnosed were of late stage and therefore probably required fewer diagnostic tests prior to treatment.

Conclusion/key messages

The report has concluded that:

- The MDC pathway can be configured to reflect local arrangements and/or clinical priorities without seemingly affecting overall pathway outcomes;
- A broad referral route for non-specific symptoms supports the diagnosis of a broad range of cancer and non-cancer disease;
- At programme level, the pathway meets both the FDS and 62 day standard; importantly, varying approaches to pathway configuration don't appear to affect the overall time to treatment for cancer.

Future research areas

This report provides a useful and representative summary of diagnostic activity and yield within the five ACE MDC projects. When considered in conjunction with published data on the pathway's early results and on diagnoses of less common cancers, programme findings demonstrate the potential of non-specific symptoms-based referral as an approach for diagnosing a broad range of cancer and non-cancer disease.

However, non-specific symptoms-based pathways remain in an early stage of development, and further research is required to enhance the evidence-base to enable further pathway interpretation and evaluative assessment.

In particular, future research activity to address the following areas would be beneficial:

Data

- Developing a viable and robust comparator to enable a thorough assessment of non-specific symptomatic pathway impact and health economics
- Evaluating approaches to consolidating and sharing clinical data in a timely and robust manner, including the automation of clinical and operational data to support clinical decision-making and improve the efficiency and effectiveness of national evaluation activities. This should include both primary and secondary care and bridge the interface between them.

- Investigating how best to achieve robust datasets within a service evaluation context, and how real-world learning and data can be configured to inform and drive decision-making within the NHS

Clinical impact

- Continuing larger scale research into non-specific symptoms to enable studies to assess the predictive value of presenting symptoms, both in isolation and combination, and on how this may be affected by patient demographic factors. It would be helpful to build upon ongoing research in this field, for example, with regards to the potential limitations of using unexplained weight loss in isolation as a trigger for referral onto suspected cancer pathways [11, 12].
- Undertaking longer term studies to assess the clinical impact of rapid investigation of non-specific symptoms, both in terms of the pathway's ability to achieve early or earlier diagnosis of cancer and regarding its effect on longer term patient survival, including the clinical benefits of diagnosing late stage cancers in the context of non-specific symptoms
- Undertaking similar studies regarding pathway potential to achieve earlier and faster diagnosis of benign disease, which accounts for a large proportion of the pathway's diagnostic yield

Pathway impact

- Further consideration of the relationship between differing diagnostic approaches, pathway maturity and reported interval times, including an assessment of whether current systems capacity and access to specialist treatment are affecting the potential to accelerate times to cancer treatment
- Understanding how best to ensure successful adoption of a new intervention within a wider healthcare system, including the required interface between a broad inclusive diagnostic pathway and subsequent disease-specific services
- Further work to investigate any relationship between pathway diagnostic configuration and subsequent diagnoses of certain cancer types
- Further studies on the impact of the availability of non-specific symptoms-based pathways on primary care referral behaviour would also be additive in assessing any movement towards earlier symptoms recognition and referral, with this work considering any subsequent impact on earlier diagnosis
- Further work to consider costs incurred by non-specific symptomatic referral pathways, and the broader health economic value of pathway impact relating to both cancer and non-

cancer disease, should be undertaken to support organisations considering the adoption of similar pathways.

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Appendices

Appendix 1: MDC pathway diagnostic imaging test and blood test details by project

Standard filter function tests	Airedale MDC1	GM MDC2	Leeds MDC3	London MDC4	Oxford MDC5
Beta HCG					
Bone Profile					
Calcium					
Clotting Profile					
Coeliac Screen					
CRP					
eGFR					
ESR					
FBC					
Ferritin					
FIT					
Gamma-GT					
Folate & Vit. D					
SPEP					
Glucose					
HIV					
INR					
LDH					
LFT					
Phosphate					
Plasma Viscosity					
TFT					
TSH					
U&E					
Urine BJP					
Urine Dipstick					
CA125					
HBA1c					
PSA					
Chest X-ray					
Low dose CT					

GP Standard

MDC Standard test

Appendix 2: Description and number of cancer diagnoses across the MDCs

	IDC 10 code and description	Total
Brain/CNS	C71 Malignant neoplasm of cerebrum, brain, unspecified	1
Breast	C50 Malignant neoplasm of breast	24
	D05 Malignant neoplasm of breast	2
Gynaecological	C55 Malignant neoplasm of uterus, part unspecified	1
	C56 Malignant neoplasm of ovary	6
	C57 Malignant neoplasm of other and unspecified female genital organs	2
Haematology	C81 Hodgkin's disease	5
	C82 Follicular non-Hodgkin's unspecified lymphoma	9
	C83 Diffuse non-Hodgkin's lymphoma	14
	C84 Mature T/NK-cell lymphomas	2
	C85 Other and unspecified types of non-Hodgkin's lymphoma	3
	C88 Malignant immunoproliferative diseases and certain other B-cell lymphomas	1
	C90 Multiple myeloma and malignant plasma cell neoplasms	11
	C91 Lymphoid leukaemia	1
	C92 Acute myeloblastic leukaemia	1
	C94 Other leukaemia of specified cell type	3
	C96 Other specified primary malignant neoplasm of lymphoid or hemopoietic tissue	4
Head and neck	C02 Malignant neoplasm of other and unspecified parts of tongue	1
	C06 Malignant neoplasm of other and unspecified parts of mouth	1
Lower Gi Tract	C17 Malignant neoplasm of small intestine	1
	C18 Malignant neoplasm of colon	40
	C19 Malignant neoplasm of rectosigmoid junction	4
	C20 Malignant neoplasm of rectum	3
Lung	C34 Malignant neoplasm of bronchus and lung	68
	C37 Malignant neoplasm of thymus	1
	C39 Malignant neoplasm of upper respiratory tract, part unspecified	1
	C45 Mesothelioma	3
Other	C74 Malignant neoplasm of adrenal gland	1
	C76 Malignant neoplasm of other and ill-defined sites	1
	C79 Secondary malignant neoplasm of other sites	1
	C80 Malignant neoplasm without specification of site	15
Sarcoma	C41 Malignant neoplasm of pelvic bones, sacrum and coccyx	1
	C48 Malignant neoplasm of retroperitoneum	7
	C49 Malignant neoplasm of other connective and soft tissue	1
Skin	C43 Malignant melanoma of the skin	5
Upper GI Tract	C15 Malignant neoplasm of oesophagus	9
	C16 Malignant neoplasm of stomach	11
	C26 Malignant neoplasm of other and ill-defined digestive organs	1
Upper GI Tract-HPB	C22 Malignant neoplasm of liver and intrahepatic bile ducts	11
	C23 Malignant neoplasm of gallbladder	6
	C24 Malignant neoplasm of biliary tract, unspecified	3
	C25 Malignant neoplasm of pancreas	43
Urological	C61 Malignant neoplasm of prostate	14
	C64 Malignant neoplasm of kidney, except renal pelvis	25
	C65 Malignant neoplasm of renal pelvis	1
	C67 Malignant neoplasm of bladder	5
Unknown	No information	5
	Total	**379**