Early Diagnosis: Serious but non-specific symptom pathway

Lily Megaw  
Becky Gokce  
Karen Fitzgerald  

Geraint Jones  
Luigi de Michele  
Arun Takhar
This is a five year programme

Based on Cancer taskforce ambitions:

• Fewer people getting avoidable cancers
• More people surviving cancer for longer after a diagnosis
• More people having a positive experience of care and support
• More people having a better long-term quality of life

ACHIEVING WORLD-CLASS CANCER OUTCOMES
A STRATEGY FOR ENGLAND 2015-2020

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Key messages

• We are making radical changes, as part of a five-year plan to improve NHS cancer services

• We’re making rapid progress – but know there is more to do

• We’re on track to make long term changes that will put NHS cancer services up with the best in the world.
What are ‘serious but non-specific’ symptoms’?

- Weight loss
- Non-specific abdominal pain
- Nausea/ loss of appetite
- Fatigue
- GP ‘gut feeling’
What is the current problem?

Multiple urgent referrals

Non-urgent referrals

A&E
How do we solve this?

• Work out how services need to be designed to meet patient needs

• Multidisciplinary diagnostic centres (or equivalent), with
  • Faster access to specialists
  • Holistic approach to reach a diagnosis
  • Patient support through pathway navigators
  • Fewer visits to hospital, with the right tests, first time
We are testing service models

- **20 plus** services are being developed by Cancer Alliances
- **Five** pilot areas in the ACE Wave Two programme
- **Two** pilots have been running in Wales

- Process and health economic evaluations are underway
## Today’s presentations

<table>
<thead>
<tr>
<th>Topic</th>
<th>Presenter</th>
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</thead>
<tbody>
<tr>
<td>Vague symptoms pathways</td>
<td>Becki Gokce, Clinical Nurse Specialist, Cheshire &amp; Merseyside Cancer Alliance</td>
</tr>
<tr>
<td>Multi-disciplinary diagnostic centres</td>
<td>Karen Fitzgerald, ACE Wave Two Programme</td>
</tr>
<tr>
<td>Rapid Access Diagnostic Clinic</td>
<td>Dr Luigi De Michele and Gerraint Jones</td>
</tr>
</tbody>
</table>
Cheshire and Merseyside
Becki Gokce, Cheshire and Merseyside Cancer Alliance
Across the alliance

1. Royal Liverpool University Hospital
2. Countess of Chester NHS Foundation Trust & Wirral University Teaching Hospital NHS Foundation Trust
3. Aintree University Hospitals NHS Foundation Trust & Southport & Ormskirk Hospital NHS Trust
4. Warrington & Halton Hospitals NHS Foundation Trust and St Helens and & Knowsley Teaching Hospital NHS Trust
5. Mid Cheshire Hospitals NHS Foundation Trust

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Vague symptom structure

Trust lead
Implementation groups

VS steering Group

Patient
- Project Clinical Lead
- Support Workers
- Project Manager
- 4 VS Clinical Nurse Specialist

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There is variation across sites on how the Vague Symptoms Service is delivered – HOWEVER in order for the project to be evaluated the Oversight Steering Group agreed the below key principles:

- Patient referral criteria for patients presenting with vague symptoms
- Standardised referral form
- Standard investigations to be carried out in primary care prior to referral
- A minimum dataset to be collected to help support evaluation
Virtual service

- GP has direct access to order CT in parallel to VS Referral
- Referral form is triaged and follows up CT Scan
- The CT is reviewed and discussed in an VS MDT
- GP is informed of the outcome of the MDT
Outpatient clinic

- GP refers to Vague Symptom Service – CNS triages referral form
- Contact made with the patient – Consultant made aware of referral
- Diagnostic investigation or further bloods arranged
- Patient seen in out patient clinic by either general medic or geriatrician – two slots per work identified for VS patients in an existing clinic
- GP is informed of the outcome of the investigations / next steps
Where are we now?

• Two Trusts have rolled out the service to all GP practices in their localities

• One Trust has been running the Vague Symptoms Services for 6 GP practices and is now rolling this out across the patch

• Five Trusts will be starting to pilot the service from September 2018
We have learned...

- Local level clinical buy-in is essential for the project to develop.
- Local implementation groups shaped pathways – taking in to consideration the key principles.
- Further work is required on primary care education ie. Pathway knowledge.
- Cancer diagnoses are being picked up through the service – 10% of referrals - but not to forget a non-diagnosis of cancer is just as important.
- Positive patient and GP experiences are already evident.
- The VS CNS and Support Worker are key to pathway management.

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Next steps

• Continue to evaluate the roll out of the service across the area
• Work with primary care on promoting the service
• Further development and roll out of using the Electronic Referral System for referrals
ACE Wave Two: MDCs

Karen Fitzgerald, ACE Programme Director
A view from our GPs using the MDC referral pathway
The ACE Programme

• An early diagnosis of cancer initiative supported by:
  NHS England
  Cancer Research UK
  Macmillan Cancer Support

• Set up in 2014 to Accelerate, Coordinate and Evaluate
  a range of innovative approaches across England

• Wave Two is focused on piloting MDC-based pathways
  for patients with non-specific but concerning symptoms;
  part of NHS E’s cancer strategy

The ACE programme takes a partnership approach to service innovation that
brings together: policy makers, clinicians, academics and charity ‘policy to
practice’ influencers

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10 MDC pilot sites

Airedale, Wharfdale & Craven
MDC site: Airedale General Hospital

Greater Manchester
MDC sites: Manchester University NHS Foundation Trust (Wythenshawe Hospital) and The Northern Care Alliance (Royal Oldham Hospital)

Leeds
MDC site: St James University Hospital (Specialist Cancer Centre)

London
MDC sites: North Middlesex University Hospital, University College London Hospital (Specialist Cancer Centre), Southend University Hospital, Queens (BHRUT) and the Royal Free Hospital

Oxford
MDC site: Oxford University Hospital Trust (Specialist Cancer Centre)

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The problem: outcomes

Vague cohort more frequently diagnosed at late stage than obvious cohort

Source: National Cancer Diagnostic Audit, 2014
Bespoke analysis to create ‘proxy comparator’: obvious cohort = 10,333 / vague cohort = 2,865
The problem: referral

Higher emergency presentations and fewer ‘two week wait’ referrals in vague vs obvious cohort.
The problem: time to diagnosis

<table>
<thead>
<tr>
<th></th>
<th>Vague</th>
<th></th>
<th>Obvious</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Median days (5-95%)</td>
<td>n</td>
<td>Median days (5-95%)</td>
</tr>
<tr>
<td>Presentation to referral</td>
<td>1,489</td>
<td>14 (0 – 193)</td>
<td>7,101</td>
<td>2 (0 – 148)</td>
</tr>
<tr>
<td>Presentation to diagnosis</td>
<td>1,679</td>
<td>57 (6 – 331)</td>
<td>7,706</td>
<td>40 (6 – 331)</td>
</tr>
<tr>
<td>Presentation to first seen</td>
<td>1,546</td>
<td>29 (0 – 231)</td>
<td>7,260</td>
<td>19 (0 – 199)</td>
</tr>
</tbody>
</table>

Vague cohort experiences longer diagnostic intervals than obvious cohort
MDC high-level design

- Rapid referral
  - Patient (mainly) presents to GP (non specific but concerning symptoms)
  - Initial filter tests (blood, urine, CXR) & Low Dose CT (Oxford)

- Patient navigator
  - Triage using CNS assessment
  - Triage (Oxford: led by radiographer (CT and other tests results))

- Multidisciplinary
  - Further diagnostic tests in quick succession, based on patients’ needs; (watch and wait, MDC safety netting (Leeds))

- Responsible for resolving symptoms
  - Diagnosis (appropriate cancer pathway, non cancer pathway, return to GP, all clear given)
## MDC interim results (28 Feb 2018)

<table>
<thead>
<tr>
<th>MDC</th>
<th>Number of cases</th>
<th>Number of cancers</th>
<th>Conversion rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airedale</strong></td>
<td>187</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td><strong>Great Manchester</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Oldham</td>
<td>119</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Wythenshawe</td>
<td>187</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Leeds</td>
<td>326</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td><strong>London</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queens (BHRUT)</td>
<td>119</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>North Middlesex</td>
<td>103</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Royal Free</td>
<td>8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>UCLH</strong></td>
<td>281</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Oxford</td>
<td>293</td>
<td>43</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,623</td>
<td>142</td>
<td>9</td>
</tr>
</tbody>
</table>

9% cancer conversion, consistent with 8% conversion rate for 2WW referrals.

NB: Different/staggered ‘go-live’ dates, from Dec 16 to Jan 18.

Interim results: 28th Feb 2018.
Cancer diagnoses

Cancers associated with broad symptom signature, with varying or low predictive values

<table>
<thead>
<tr>
<th>Broad cancer category</th>
<th>Main cancer type within top 4 categories</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper GI</td>
<td>Malignant neoplasm of pancreas</td>
<td>11</td>
</tr>
<tr>
<td>Lung</td>
<td>Malignant neoplasm of bronchus and lung</td>
<td>25</td>
</tr>
<tr>
<td>Urology</td>
<td>Malignant neoplasm of kidney, except renal pelvis</td>
<td>11</td>
</tr>
<tr>
<td>Haematology</td>
<td>Follicular (nodular) non-Hodgkin's lymphoma</td>
<td>6</td>
</tr>
</tbody>
</table>

Interim results: 28th Feb 2018
## Non-cancer diagnoses

<table>
<thead>
<tr>
<th>Broad Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diseases of the digestive system</td>
</tr>
<tr>
<td>Symptoms and findings not elsewhere classified</td>
</tr>
<tr>
<td>Diseases of the respiratory system</td>
</tr>
<tr>
<td>Diseases of the genitourinary system</td>
</tr>
<tr>
<td>Neoplasms (benign)</td>
</tr>
<tr>
<td>Diseases of the musculoskeletal system and connective tissue</td>
</tr>
<tr>
<td>Diseases of the circulatory system</td>
</tr>
<tr>
<td>Certain infectious and parasitic diseases</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic diseases</td>
</tr>
<tr>
<td>Mental, behavioural and neurodevelopmental disorders</td>
</tr>
<tr>
<td>Diseases of the blood and blood forming organs</td>
</tr>
</tbody>
</table>
Early findings

- Main presenting symptoms were: weight loss; nausea and loss of appetite; abdominal pain
- 53% reported symptoms had started more than three months prior to MDC referral (based on 2/3 records)
- 60% of cases have staging data, of those 25% are early stage
- Over 34% of patients were given at least one non-cancer diagnosis
- 85% of patients responded positively to the question ‘Effectiveness of people working together to provide the best possible care for patients (61.2% CPES 2016)
Planned evaluation

**Symptoms**
- Unmet need of patients with non-specific but concerning symptoms, based on NCDA analysis

**Disease**
- Cancer diagnoses by centre / cancer type
- Stage of cancer diagnoses
- Non cancer diagnoses within the MDC

**Tests**
- Sequencing of tests

**Model**
- Descriptive paper on models and tests across the programme
- Economic characteristics of the MDC pathway
- Patient experience and qualitative research

Learning delivered through a series of published and discussion papers from winter 2018/19

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In conclusion, MDCs …

- Provide a rapid diagnostic pathway for *complex patients*, with non-specific but concerning symptoms
- Achieve comparable cancer conversion (9%) rates to existing urgent referral pathways
- Potentially provide a route to *earlier* diagnosis
- Offer improved *patient experience*

[cruk.org/ACE](cruk.org/ACE)  @changecurves

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Guy’s and St Thomas’ NHS Foundation Trust

Dr Luigi De Michele, Consultant
Geraint Jones, Advanced Nurse Practitioner/ Service Lead
Rapid Access Diagnostic Clinic

- Initially a one year pilot funded by Lambeth and Southwark CCG’s, now covers all South East London CCG’s.

- Broad primary care and commissioner communication and participation – close links between RADC and primary care.

- RADC has a broad referral criteria including WL, Iron deficiency anaemia, malaise/ fatigue, raised inflammatory markers and GP ‘gut-feeling’. 
Emerging evidence

- Service live for 18 months – over 800 patients reviewed so far.
- RADC cancer conversion rate is 7.5%
- Over 300 onward referrals for serious but benign symptoms including HIV, MS and TB.
- Between 20-25% of cancer diagnosed is at an early stage
- Rate of detection is becoming earlier as no early cancer was detected in the first 6 months of RADC.
Patient presents to GP with non-specific but concerning symptoms.

GP follows structured assessment and organises first tier investigations to inform clinical management.

Blood test, X-ray, US (if appropriate) tests completed and results reported to GP in 72hrs.

Cancer or serious condition still suspected so referral to RDAC.

Appointment 1 RADC reviews clinical presentation with patient and arranges investigations.

CT, blood, endoscopy results reported in seven days.

Appointment 2 consultant shares test results and discusses next steps with patient.

Specific cancer type indicated 2WW.

Cancer diagnosis suspected patient referred on to cancer pathway with responsible MDT.

Significant disease excluded lifestyle intervention given to patient by RADC. Patient referred to GP.

Non cancer diagnosis confirmed Follow up or referral arranged.

No specific diagnosis found Shared follow up plan with patient.

Day 1

Clinical Responsibility: Primary Care

Clinical Responsibility: Secondary Care

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Service development

• Recently incorporated mental health assessment to ensure our patients are cared for holistically.

• Soon to open a second clinic in SEL to ensure population based healthcare is achieved.
Lessons learned

- Complexity of obtaining a financial assessment of the RADC
- Importance of internal and external referral/advice pathways
- Importance of comprehensive dialogue with primary care and commissioners
- Regular service evaluation to meet local population need
- ANP has to work in a traditional CNS style role
- Importance of mental health screening tool and onward referral pathways
Next steps

• Data sharing with ACE team to ensure joined up approach to vague symptoms

• Work with NHS England towards a standardised national vague symptom model

• Continue GP education and ensure services are utilised and understood

• Continued promotion in SEL and continue to work closely with CCGs and primary care
Next steps for the NHS
Cancer Team
Arun Takhar
There are different ways we need to grow our evidence

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proof of principle</strong></td>
<td>Is this intervention effective at improving outcomes?</td>
</tr>
<tr>
<td><strong>Pathfinder</strong></td>
<td>How can the intervention be implemented? What is the preferred model?</td>
</tr>
<tr>
<td><strong>Demonstrator</strong></td>
<td>Can this be implemented in a number of selected (well performing) sites?</td>
</tr>
<tr>
<td><strong>Wider roll-out (process)</strong></td>
<td>Can the preferred model be implemented more widely? Is it effective across a range of sites?</td>
</tr>
<tr>
<td><strong>Wider roll-out (impact)</strong></td>
<td>What is the overall impact of rolling out the preferred model? What are the direct costs, benefits, and the impact on the desired outcomes?</td>
</tr>
</tbody>
</table>
Q&A

• What are the core requirements of this service?

• What are the key lessons you’ve learned from implementation?

• What are the main challenges you’ve faced and how have you addressed these?