The next paradigm in cancer diagnosis: introducing the CanTest Collaborative
‘from the ‘how’ to the ‘who’

Fiona Walter
GP & NIHR Clinician Scientist
University of Cambridge

CRUK Early Diagnosis Research Conference 2017

National ambition to achieve earlier diagnosis

- ‘This will require a shift towards faster and less restrictive investigative testing, quickly responding to patients who present with symptoms, by ruling out cancer or other serious disease.
- We recommend setting an ambition that by 2020, 95% of patients referred for testing by a GP are definitively diagnosed with cancer, or cancer is excluded, and the result communicated with the patient, within four weeks.’
- **Delivering this will require a significant increase in diagnostic capacity, giving GPs direct access to key investigations**
Little evidence for cancer tests in primary care

- NICE guidance (2015) - about 30 systematic reviews, little evidence
- Using secondary care data risks spectrum bias, with different populations and the disease earlier in its evolution
- In primary care we don’t know
  - false-positive/negative rates
  - psychological sequelae
  - health-economics
  - potential over-diagnosis

Paradigm shift

CanTest: ‘Offering the right patient the right test, at the right time, and in the right setting’
The CanTest Collaborative

- Increase capacity and sustainability of cancer detection research
- International School for Cancer Detection Research in Primary Care
- Identify existing and emerging tests, and alternative international models of care delivery related to cancer diagnosis, and assess potential for UK
- Evaluate the availability, acceptability (to patients and PCPs), accuracy, and cost-effectiveness of cancer tests, including optimising the use of new tests, existing tests, tests used in specialty care
- Quantify any possible harms arising from increased testing for cancer in primary care, & create strategies to balance harms & benefits

Institutions and capacity

- Leeds, UK
  Neal
- Cambridge, UK
  Walter Sutton
- Exeter, UK
  Hamilton Abel, Spencer
- UCL, UK
  Lyratopoulos
Training and development

- INTERNATIONAL SCHOOL FOR CANCER DETECTION RESEARCH IN PRIMARY CARE
  - Use the senior faculty to teach at annual residential meetings
  - Develop & mentor future cancer research leaders to establish personal research programmes

- The CANTEST BURSARY will annually award competitive KNOWLEDGE TRANSFER FELLOWSHIPS to:
  - Support CanTest researchers to visit other institutions
  - Support researchers from other institutions & countries to attend the International School

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Priorities

- ‘Difficult-to-diagnose’ cancers e.g. ovary, pancreas, gastric, myeloma
- Point-of care tests e.g. FBC, Ca125, CA19.9, SNP panels
- Applications of new/existing imaging technology e.g. teledermoscopy, USS
- Primary care management of tests undertaken in hospitals e.g. CXR, low-dose CT scan
- Implementation e.g. e-clinical decision support

‘Laboratories’ for primary care studies

NIHR
- Clinical Practice Research Datalink (CPRD)
- Clinical Research Network (CRN) facilitating practice-based cohort/s
- BioResource

International
- UW Primary Care Innovations Lab
- Houston VA Quality Informatics Program
- Australia- VicRen network
- Denmark- CaP network
Example: melanoma

SIAscopy + primary care algorithm = the MoleMate system

RCT in general practices
- No difference in appropriateness of referral
- Clinicians: simple, cost-effective, easy, fast, unlikely to worry
- Patients: not anxious; diagnostic aid users more thorough, better communication, reassuring care
- Economic assessment: equipoise
- Lower specificity of the MoleMate system led to increased referrals = NOT RECOMMENDED

CanTest- similar studies for dermoscopy?

- Dermoscopy used routinely by specialists
- Dermoscopy use being promoted for GPs
  - Takes time to train in dermoscopy use
  - Training dropout rates are high
  - Needs regular use
- Recent advances, new modalities
  - Digital dermoscopy, artificial intelligence, telemedicine

Could patients presenting in primary care have their skin lesions more accurately, safely and cost-effectively assessed by GPs using dermoscopy, leading to more appropriate referrals and reassurance, and more timely detection of melanomas?
CanTest- novel risk assessment approaches?

- Increasing evidence for utility of early detection strategies among people at increased risk
- Collecting data on the melanoma risk profile of the general population in UK primary care is feasible & acceptable
- Risk stratified surveillance in primary care?
  - by GP, specialist or practice nurse
  - Using checklist, photographs, dermoscopy

Could a melanoma risk assessment tool provide safe, accurate personalised melanoma risk information and tailored guidance on recommended surveillance strategies for people at higher risk?

Usher-Smith et al. Cancer Epidemiol Biomarkers Prev, 2014
Usher-Smith et al. Brit J Derm, 2017
CanTest Collaborative
London 22nd February 2017