Driving Evidence into Practice

Cancer Research UK's Early Diagnosis Conference 2024 Report

CANCER RESEARCH UK

Together we are beating cancer

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Introduction

The goal of Cancer Research UK's Early Diagnosis Conferences has always been to encourage dialogue, collaboration and action. We bring together researchers, health professionals, policy makers, people affected by cancer, and many others, all of whom play crucial roles in driving reductions in late-stage diagnosis.

Across the two days, presentations, posters and workshops highlighted evidence from across the cancer pathway. It was fantastic to see emphasis on translating emerging evidence into policy and practice.

We've been grateful to receive feedback from many in attendance, and combined with our own reflections, we wanted to share a few takeaways:

- There is huge appetite for actionable insights from research. Cross-discipline engagement can support the development of meaningful actions.
- We have more relevant early diagnosis cancer data than ever before but are we making the most of it? Adding intelligence to the data should be a focus.
- Speakers across many of the sessions highlighted significant barriers in timely access to high quality data for their research and for cancer service improvement. Efforts to address these challenges should be a priority.
- Innovation is key to achieving earlier diagnosis ambitions, but critical appraisal is needed from the development of technologies to adoption in the health system. This is so that we ensure a focus on meaningful improvement in outcomes.
- Deepening our knowledge on where inequalities exist and using that insight to develop tailored approaches to variation, is a key focus for this community. There should be emphasis on facilitating sharing and learning, as well as continuing to ensure active engagement and involvement with groups affected by inequalities.

This is not an exhaustive list of reflections but gives a flavour of some emerging themes. We are committed to taking these away, and working with you all to champion, address and advocate for progress in these areas, and others not listed. If you'd like to hear more about our plans and get involved with some of our activities, please do reach out.

Given the recent pause to our in-person events due to the pandemic, we were thrilled to see a huge amount of interest in the lead up to the event. There was a real buzz from the 330 delegates in the room. It was clear that the early diagnosis community thrived from building in-person connections with colleagues who share many of the same objectives.

We would like to thank everyone who attended the conference and chose to support CRUK in its mission to diagnose cancers earlier. From the planning team and to the speakers, to our chairs, delegates and people affected by cancer, everyone played their part in contributing towards a successful, engaging and forward-thinking conference. We look forward to welcoming you back again soon.

Sam Harrison
Cancer Research UK's Early Diagnosis Conference Lead
Head of Strategic Evidence and Lead for the International Cancer Benchmarking Partnership, Cancer Research UK

Strategic approaches to early diagnosis

Chair: Dr Owen Jackson, Cancer Research UK

Following a welcome to the conference by **Naser Turabi**, Cancer Research UK's Director of Evidence & Implementation, the first plenary session delved into strategic approaches to early diagnosis, helping to set the scene for the conference. Referencing CRUK's manifesto for cancer research and care, **Longer, Better Lives**, session chair **Dr Owen Jackson** highlighted the importance of a robust cancer strategy in improving outcomes and emphasised the need for action across a range of fronts to achieve earlier diagnosis.

Dr Jackson noted that NHS England were unable to present during the plenary session due to pre-election considerations, and signposted delegates to a timely summary of the NHS Cancer Programme's progress towards the delivery of their ambitions in the form of their **Spring 2024 progress update**.

Professor Tom Crosby OBE, National Cancer Clinical Director for Wales, reflected on both the proud history of supporting free and equitable access to health care in Wales, and ongoing reform and policy change in the Welsh NHS. As well as highlighting the case for improving cancer outcomes, Professor Crosby acknowledged the significant pressures in the system affecting performance and noted his support for the **Single Cancer Pathway** programme in Wales which aims to drive the quality and timeliness of care for all patients.

Next, **Nicola Barnstaple**, Associate National Director – Cancer Performance and Early Diagnosis in Scotland, reflected on the cancer control landscape in Scotland, particularly noting the impact of deprivation on incidence and outcomes. Nicola shared the vision for earlier diagnosis in Scotland, emphasising that this is a key area of the **Cancer Strategy for Scotland**. A whole system approach is being taken, which includes action on public education and empowerment, support for primary care, screening optimisation, improvements to diagnostic pathways and investment in innovation.

Pressures on the system, funding and decision making were noted as key challenges in Northern Ireland by **Dr Tomas Adell**, Director of Elective Care and Cancer Policy at the Department of Health. Despite these challenges, Dr Adell highlighted several areas of progress including **hot off the press routes to diagnosis data**, the rollout of rapid diagnosis centres, the development of an optimal pancreatic cancer pathway and action on genomics.

The plenary panel were joined by **Professor Sir Mike Richards CBE** who reflected on progress in early diagnosis over the years and the challenges facing the system today. Noting an increased focus on reducing late-stage diagnosis as a positive step, Professor Richards remarked on the potential to do things differently, alongside the vital need to increase diagnostic capacity, to drive improvements in cancer care.

Implementation was a key theme in the Q&A as panellists reflected on successful translation of policy into practice, and the need for scale and pace on the ground. Improving quality of, and access to data was another strong theme and all panellists responded with "data" when asked for a call for action at the end of the session.

Patient speaker

Michael Anderson spoke about his experience of early diagnosis of anal cancer in 2020 and his work with **Bottom Line**, a support charity for people affected by the disease. He shared insights from other people affected by anal cancer where a lack of awareness of symptoms, late presentation to primary care and similarity of symptoms with benign conditions make anal cancer hard to detect, leading to later diagnosis. This in turn can lead to more aggressive treatment and, in some cases, a need for end-of-life care. To support earlier diagnosis, Michael called for more public information to support help-seeking, better tools in primary care to support decision making and increasing access to innovations which can support faster diagnosis and more effective treatment.

Improving understanding of risk associated with clinical features in primary care including symptoms and investigations

Chair: Professor Brian Nicholson, University of Oxford

Chair **Professor Brian Nicholson**, University of Oxford, set the scene for the session on research to improve understanding of risk associated with clinical features in primary care. Highlighting the need for substantial innovation to improve triage testing in primary care, Professor Nicholson noted several opportunities to optimise existing tests as well as the promise of novel tests and, importantly, the need for implementation science to ensure equitable implementation of proven tests.

Dr Matt Barclay, University College London, presented research providing estimates of risk of cancer diagnosis within 12 months associated with 15 different presenting symptoms. The analysis identified the age at which risk exceeds a 3% threshold, finding, for example, that haemoptysis exceeds a 3% risk for any cancer diagnosis in men with a smoking history at 55 compared to 60 in men without a smoking history. Smoking status was found to have a big impact on risk associated with non-specific symptoms. This research also suggests that symptom presentation is often associated with similar risks of non-cancer and cancer death, raising a question of if (or how) risk of non-cancer death should affect referral decision making.

High platelet count is well established as a marker of undiagnosed cancer but what is unclear is the optimal threshold that needs to be reached, (taking account of natural variation) ahead of clinical action. Research by **Associate Professor Sarah Bailey**, University of Exeter, builds on the existing evidence base by identifying age- and sex-stratified thresholds for platelet count at which cancer could be considered in primary care. Platelet counts corresponding to a 1-year cancer incidence of 7% had a cancer yield of 9.5% in UK audit data, with a similar pattern observed in Canadian and Australian data.

Dr Pradeep Virdee, University of Oxford, presented research on the diagnostic accuracy of blood test trends in patients with unexplained weight loss presenting in primary care. Using longitudinal data to look at changes over time in patients' blood test results, this analysis found that an increasing blood test trajectory was associated with increased cancer risk for several blood tests, with a decreasing trajectory associated with increased risk for others. For most studied blood tests, trends were found to be more accurate than high/low abnormality suggesting that monitoring trends could enhance cancer risk stratification.

The final presentation in the session from **Dr Garth Funston**, Queen Mary University of London, focused on the diagnostic accuracy of prostate specific antigen (PSA) for the detection of prostate cancer in primary care. This analysis estimated the positive predictive value of PSA and suggests that the level of risk at which men in different age groups are referred varies significantly. Further analysis will explore performance in difference groups, such as ethnicity, and using different outcomes, including diagnosis of clinically significant cancer.

Understanding and developing interventions to address inequalities in cancer

Chair: Dr Pawan Randev, East Midlands Cancer Alliance, Leicester, Leicestershire and Rutland ICB

In the first of two parallel sessions, **Dr Pawan Randev**, Cancer Research UK GP, opened with a presentation highlighting inequalities in care and outcomes, drawing from a range of different sources. Dr Randev also talked about work in his local area that aims to understand and develop interventions to address inequalities in cancer, particularly noting activity to understand differences in oral cancer diagnosis between different ethnic groups and providing information in different languages on how to take part in bowel screening.

Dr Yin Zhou, Queen Mary University of London, presented analysis investigating the association between presenting symptoms and stage in people diagnosed with bladder and renal cancers. Non-haematuria symptoms such as UTI were associated with higher risk of advanced stage at diagnosis for bladder cancer, with no association observed for renal cancer. Women also had a higher risk of advanced stage bladder cancer diagnosis, potentially explained, at least in part, by sex differences in presenting symptoms.

Research presented by **Dr Bettina Friedrich**, University College London, explored symptom interpretation and help-seeking in people with depression and/or anxiety using a vignette study. Responses suggest that compared to other participants, people with depression and/or anxiety may be more likely to attribute potential cancer symptoms to mental health issues. Respondents with depression and/or anxiety may also be less likely to engage in some help-seeking actions or take up the offer of an invasive test, suggested a need for targeted and tailored interventions to address barriers in this group.

Poor access to specialist care can have a significant impact on outcomes and experience. Research by **Dr Lucy Mitchinson**, Queen Mary University of London and **Dr Samuel Cooke**, University of Lincoln, explores the impact of distance and disadvantage in urban and rural settings on engagement with lung cancer care, identifying several potential targets for intervention. These include communication about the expected pathway and timelines, information on transport, support for carers, financial guidance, and user-friendly guidance on medication.

Dr Mansi Tara, North London and Central and East London Breast Screening Services, described a project designed to increase breast screening uptake among people with learning disabilities. Applying the socio-ecological model, a range of steps were taken to address barriers including pre-visits, resources for carers, health professional training and community awareness events. Working across health promotion and learning disability teams was noted as an important element for success, enabling data sharing and the implementation of reasonable adjustments.

Improving early diagnosis of bowel cancer

Chair: Dr Katherine Elliott, Northern Cancer Alliance

Chair, **Dr Katherine Elliott** kicked off the second parallel session by reminding us of the importance of improving earlier diagnosis of bowel cancer. Dr Elliott emphasised that a significant number of deaths could be avoided with earlier diagnosis, but there are several remaining evidence and implementation gaps. So, 'Further research and evaluation is essential.'

Screen-detected cancers tend to have better outcomes than those diagnosed symptomatically but the extent to which this is affected by lead time bias in FIT-based bowel cancer screening is unclear. Analysis presented by **Joy Li**, Queen Mary University of London, using FIT-based screening data suggests that screen-detection is associated with a significant survival benefit when lead time bias has been corrected for, both overall and for higher grade cancers.

Screening saves lives but we know some groups face barriers to informed participation. **Dr Jazzine Smith**, University College London, shared their work on the development of a chatbot aimed at addressing knowledge gaps, misconceptions and barriers faced by non-responders. A crowdsourcing survey and a co-development workshop informed the chatbot dialogue, and following further refinement, the effectiveness of the chatbot in encouraging people to participate in screening is to be trialled against a static website.

Professor Christian Von Wagner, University College London, presented research focused on supporting community pharmacy to facilitate early diagnosis of bowel cancer. Using nominal group technique to develop consensus, practice guidelines and research recommendations were identified across six themes by workshop participants, a mix of members of the public, primary care and community pharmacy staff. This includes addressing privacy concerns within the pharmacy environment and research on how best to identify at risk customers.

The use of symptomatic FIT has increased rapidly in recent years and there is significant interest in further optimising its use. **Dr Adam Biran** and **Dr Christina Dobson**, Newcastle University, explored healthcare practitioner and patient perspectives as part of the COLOFIT study and found that FIT is generally acceptable and does support clinical decision-making. However, practitioners did express concern about over-use of FIT and the potential to introduce diagnostic delays. There was appetite for further evidence and clearer guidance for some groups and scenarios.

Cancer screening landscape

Chair: Naser Turabi, Cancer Research UK

Naser Turabi, Cancer Research UK, opened the session with a brief presentation on the cancer screening landscape, reflecting on advances in screening in recent years, the future of screening and what's needed to optimise existing programmes.

Evaluation of screening approaches requires long and expensive clinical trials. **Professor Sian Taylor-Philips**, University of Warwick, presented the findings of a systematic review and meta-analysis focused on the accuracy of surrogate endpoints that could be assessed at an earlier timepoint than mortality. These suggest that late-stage cancer incidence has the potential to predict mortality in some circumstances, but the evidence is at high risk of bias. The review suggests more research is needed to adapt surrogate measures for the potential use in screening.

Professor Jo Waller, Queen Mary University of London, presented survey data on attitudes to self-sampling as a choice in future cervical screening. This research explored preferences and attitudes to self-sampling, finding that almost half of respondents indicated that their preference would be to have a recommendation from a healthcare professional. Responses suggested that some groups, including respondents from ethnic minority backgrounds and those with lower levels of education, may be more likely to have negative attitudes about self-sampling.

A feasibility study presented by **Dr Juliet Usher-Smith**, University of Cambridge, explored the addition of abdominal non-contrast CT to screen for kidney cancer to the chest CT offered within lung cancer screening. In this study, uptake was reported as high and participants and healthcare professionals found the combined approach acceptable. Almost two-thirds of participants had normal scans, 0.25% had kidney cancer and a further 0.25% had another cancer. Almost 5% had another serious finding and 6% a new non-serious finding requiring further action. Findings from this study suggest that the addition of a second scan would have a small impact on the amount of time required for screening.

In the last presentation of the cancer screening plenary session, **Professor Fiona Gilbert**, University of Cambridge, focused on challenges in breast screening, particularly related to interval breast cancers which tend to have poorer outcomes. Professor Gilbert highlighted that this is particularly an issue for women with dense breasts where tumours are less likely to be detected by mammogram. Research to understand the best approach to supplemental imaging after normal mammogram in women with dense breasts will report soon but the optimal approach, once identified, would likely require significant resource to implement. The ongoing MyPeBS study aims to help with this by comparing the current standard of screening, with a risk stratified approach to identify the appropriate frequency of imaging and need for supplemental imaging in groups at different levels of risk.

Early Career Researcher spotlight

Chairs: Professor Fiona Walter, Queen Mary University of London (day one) and Professor Peter Murchie, University of Aberdeen (day two)

In the first of two early career researcher spotlight sessions **Dr Rhea Harewood**, Imperial College London, presented analysis exploring the link between distal polyp findings at colonoscopy and future proximal colon cancer that suggests an association for multiple distal adenomas. The evidence for distal hyperplastic polyps was less clear.

Melissa Barlow, University of Exeter, presented a lung cancer prediction model developed using routine primary care data to identify people who may benefit from lung cancer screening. External validation is pending, but analysis to date suggests this model performs better than the current criteria of age and smoking history.

Health economic evaluation informs the optimal use of limited resources, helping to maximise health benefits for a given population. **Esra Erdem**, Swansea University, presented plans for a health economic evaluation of a new diagnostic pathway for prostate cancer in Wales, PROSTAD, which will give an indication of value for money compared to usual care, and the costs and consequences of the pathway if rolled out.

Research conducted by **Dr Owain Jones**, University of Cambridge, explored user and developer views on the role of AI to improve skin cancer diagnosis in primary care. Key themes arising from this work included the aim of using AI, where AI might sit in the pathway, and concerns about missing cancers, false positives, overdiagnosis, and health inequalities.

Combining FIT with other data could improve its precision but research presented by **Andres Tamm**, University of Oxford, suggests that models trained on FIT and routine data don't outperform FIT alone. Promising avenues for further research include considering FIT with another test or focusing on subpopulations where discriminating between cancer and other serious diseases is more difficult.

In the second early career researcher spotlight, **Jennifer Deane**, Newcastle University, presented their research on health literacy and head and neck cancer. Their findings suggest that health literacy plays an important role at different points along the diagnostic pathway, but that system-related factors can pose a significant challenge, even in those who are more health literate.

In a systematic review presented by **Anietie Aliu**, University of Surrey, several key barriers to breast screening experienced by women of Black African and Caribbean descent in the UK were identified, including beliefs about cancer and cancer risk, stigma, and competing priorities. Little research on interventions targeting outliers experienced by this population was identified.

Bea Forder, University of Oxford, presented findings from a systematic review. Several models designed to predict risk of endometrial cancer were identified, some for the general population and others for higher risk groups. Most were found to have moderate-high predictive ability, but few were externally validated suggesting a need for further research.

Emily Haworth, Newcastle University, presented findings from the RURALLY study focused on experience of symptoms and access to healthcare for people living in rural areas. In this research, those living in the least remote areas and larger practices reported more barriers individually, and at a primary care and a system level, with older and the most rural patients most likely to consult.

Continuing the theme of rurality, **Dr Adegoke Alabi**, University of Aberdeen, presented analysis exploring symptom clusters and sociodemographic factors, including urban or rural location. In one of the cohorts studied, an association was found between symptom cluster patterns and location. One heterogenous symptom cluster was strongly associated with urban location but further research is needed to explore the reasons for this.

Dr Rebecca Dennison, University of Cambridge, presented findings from a community jury study which is part of a wider project exploring societal views on risk-based innovation. Though risk-based innovation was perceived favourably, each of the juries noted qualifiers or caveats across several themes including the burden of participating in data collection, concerns about data security and lack of clarity on the option to opt out.

ECR prize winners

Winner

Anietie Aliu

Runner Up

Melissa Barlow

Runner Up

Dr Rhea Harewood

Innovation in cancer

Chair: Professor Richard Gilbertson, University of Cambridge

Professor Richard Gilbertson, University of Cambridge, opened the first plenary session on day two of the conference, which focused on innovation in cancer. Professor Gilbertson reflected on what is meant by the term innovation, and noted several key principles for the successful development and implementation of an innovation. These included developing an innovation with the people who would be impacted by it and having clarity of what impact the innovation should have, themes which were reflected by the other speakers in the session.

Professor Bethany Shinkins, University of Warwick, discussed **Target Product Profiles (TPPs)** as a mechanism that can support the development of cancer diagnostics, which are useful in clinical practice and that align with areas of unmet need. Previous research by Professor Shinkins and colleagues has highlighted key considerations for the development of TPPs, linked to the **Early Detection and Diagnosis of Cancer Roadmap**. Their ongoing work will build on this by identifying priority areas of unmet need, creating TPP templates, developing a TPP and bringing stakeholders together to discuss key issues such as who should be responsible for commissioning and coordinating TPPs development.

Diagnostic information is crucial for making decisions about cancer treatment but turnaround times for molecular testing using tissue biopsy aren't always timely. **Dr Margherita Carucci**, Cardiff University, described the QuicDNA study which aims to evaluate whether testing using circulating tumour DNA (ctDNA) can shorten time to treatment for, and increase the number of advanced lung cancer patients receiving treatment in Wales. Dr Carucci highlighted the collaborative approach being taken across the NHS, academia, industry and charity partners, and the flexible environment in Wales enabling successful delivery of the study.

There's a huge amount of interest in risk-based approaches in early diagnosis and screening, but if implementation is to be successful these approaches need to be acceptable. Research presented by **Professor Jo Waller**, Queen Mary University of London, and **Dr Rebecca Dennison**, University of Cambridge, explored public receptiveness to risk-based innovations using a range of methods to explore views at an individual and societal level and the relative importance of different attributes. Overall, this study suggests that the UK public are receptive and highlights that there are important nuances within this that depend on the innovation, its context and target audience that should be considered.

Spotlight on activity to understand and improve public awareness and help-seeking

Chair: Professor Kate Hamilton-West, Cancer Research UK

The first of three parallel sessions on day two focused on activity to understand and improve public awareness and help-seeking. Chair **Professor Kate Hamilton-West**, Cancer Research UK began the session by discussing the different lenses through which we can build our understanding of, and improve, public awareness and help-seeking. Professor Hamilton-West highlighted the need to develop approaches informed by an understanding of the complex interrelationships between behavioural science and the social, cultural, health and policy context.

One lens through which we can build this understanding is survey research. **Dr Victoria Whitelock**, Cancer Research UK, presented findings from the latest **Cancer Awareness Measure 'Plus' (CAM+) survey** involving more than 4,000 participants. A substantial proportion reported not seeking help for potential cancer symptoms, particularly younger respondents and LGBTQ+ respondents from an ethnic minority background. Service-related barriers and emotional barriers were the most commonly reported findings, which were consistent with previous surveys.

Andy Glyde, Bowel Cancer UK, and **Philippa Williams**, Claremont, described the development of Bowel Cancer UK's 'Tell your GP instead' campaign which encourages people with potential bowel cancer symptoms to seek help. Having used a range of different methods to understand attitudes and barriers for different audiences, messaging and characters were developed with a focus on feeling real to different communities. A pulsing approach with two weeks on and two weeks off was used to deliver the campaign with the aim of helping to sustain the message over a longer period than a more traditional approach.

The LUMEN project in Hywel Dda University Health Board aims to provide a new route for people with potential lung cancer symptoms. **Dr Savita Shanbhag's** presentation focused on efforts to increase engagement with this pathway using Facebook advertisements. Using social media was found to increase engagement and provide an opportunity to target specific needs and barriers, but was resource intensive and may risk introducing or exacerbating existing inequalities.

Identifying areas for improvement in diagnostic pathways and their timeliness

Chair: Jon Shelton, Cancer Research UK

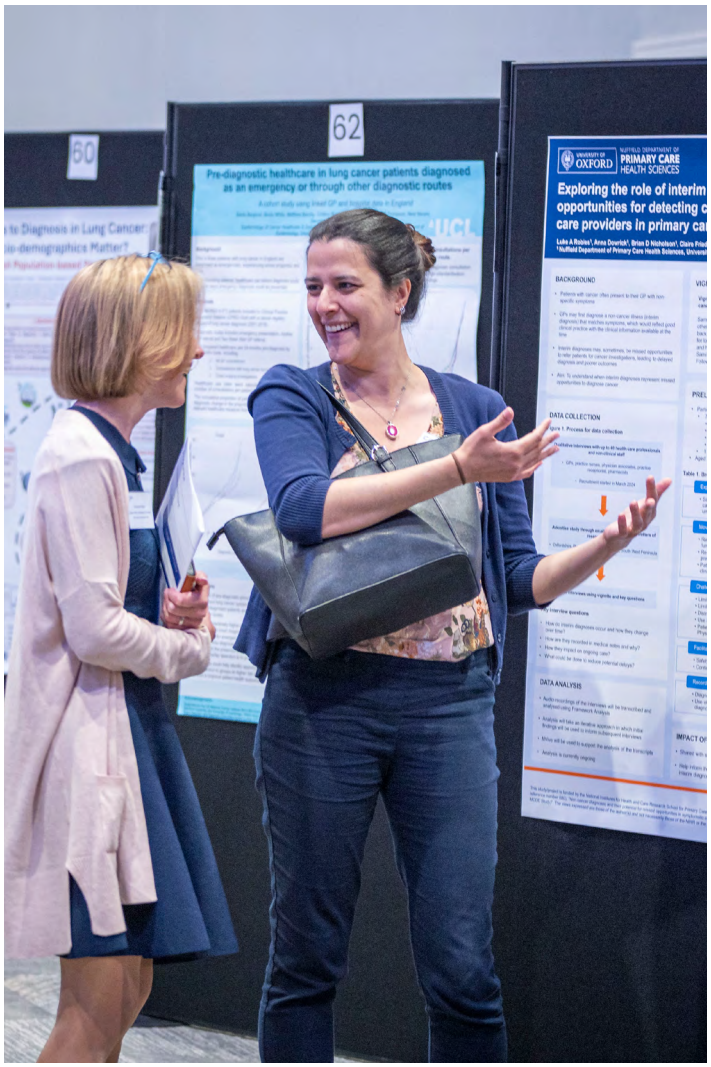
Jon Shelton, Cancer Research UK, chaired the second parallel session which showcased three projects focused on diagnostic pathways and timeliness from the Cancer Research UK and NHS England analytical partnership.

Analysis by **Lorna Wills**, Cancer Research UK, focused on the cohort of patients in England waiting over 104 days from urgent suspected cancer referral to first cancer treatments, known as long waiters. Lorna highlighted that this analysis – which has since been **published** - shows that the proportion of long waiters has grown in recent years, with some variation between pathways and demographic groups. Healthcare-provider initiated delay was found to be the most common reason for delay, and patients were most likely to spend more time in the interval between referral and decision to treat.

The Faster Diagnosis Standard (FDS) in England aims to ensure that patients referred for suspected cancer receive a timely diagnosis. Analysis presented by **Dr Fahmina Fardus-Reid**, Cancer Research UK, aimed to explore how well the FDS performs for different groups, finding that overall, performance was worse for people diagnosed with cancer compared to those that have cancer ruled out. The size of this gap varied between pathways and this analysis also suggests some differences between demographic groups.

Focusing on patients with stage 4 prostate cancer, a cohort with poor outcomes, **Dr Ruth Swann**, Cancer Research UK, presented analysis of **National Cancer Diagnosis Audit (NCDA)** data exploring the characteristics of patients diagnosed through different routes.

In this study, patients from more deprived areas were more likely to be diagnosed via A&E than a GP route and there were some differences in symptom presentation between routes. The largest proportion of patients with an avoidable delay were diagnosed following a routine GP referral, with this delay more commonly occurring after referral.



Spotlighting innovative approaches to diagnostic research and implementation

Chair: Professor Jared Torkington, Moondance Cancer Initiative

Chair **Professor Jared Torkington**, Moondance Cancer Initiative, opened the third parallel session spotlighting innovative approaches to diagnostic research and implementation. He reflected on the challenges people face in accessing the healthcare system, and difficulties in innovating in the system, noting that health systems can be risk averse organisations.

Dr Tanvi Rai, University of Oxford, reflected on the use of ethnicity data in algorithmic decision making, highlighting problems with input, estimation and interpretation that mean that use of such approaches may exacerbate and entrench existing inequalities. Dr Rai concluded that race and ethnicity are socially constructed categories, but health is ethnically patterned so we need to develop approaches that work with and against these categories to ensure responsible development, evaluation and implementation of algorithmic tools.

FIT has had a positive impact on the asymptomatic and symptomatic bowel cancer pathway but uptake is lower in some groups. **Professor Dean Harris**, CanSense, presented the results of mixed methods research exploring the acceptability of an alternative liquid biopsy-based test among homeless people and the Muslim community. Key themes were lack of knowledge around symptoms, a taboo and stigma around discussing cancer, embarrassment, burden associated with doing a FIT and the resources needed for this. This study also suggests a preference among participants for a blood test approach and for opportunistic screening.

Bethany Torr, Institute of Cancer Research, presented the latest results from the North Thames Mainstreaming Breast Cancer Genetic Testing pilot. The pilot aims to expand access to germline genetic testing through provision of resources, a genetic counselling hotline and a saliva-based testing kit, informed by the BRCA-Direct study. Data so far suggest that the pathway rollout is working across different breast oncology units with good uptake among referred patients and that the current test directory eligibility criteria may be missing a significant proportion of actionable variants.

Inequalities in cancer diagnosis

Chairs: Professor Bernard Rachet, London School of Hygiene and Tropical Medicine and Professor Katriina Whitaker, University of Surrey

Opening the inequalities in cancer diagnosis session, co-chairs **Professor Bernard Rachet**, London School of Hygiene and Tropical Medicine, and **Professor Katriina Whitaker**, University of Surrey, reflected on the importance of understanding inequalities and the challenges in doing so considering the complexity of interactions within and between individual characteristics, sociodemographic environment and healthcare. The important role of data, frameworks and co-production in providing a more in-depth and holistic understanding of inequalities was highlighted.

Dr Helen Fowler, University College London, presented research exploring the impact of pre-existing physical and mental health morbidities on healthcare use and stage at diagnosis. This analysis revealed differences between recent-onset conditions and persistent conditions in their association with stage at diagnosis for lung and colon cancer patients. This work also suggests an association between painful conditions and anxiety/depression and advanced stage at diagnosis.

The presentation by **Melissa Barlow**, University of Exeter, and **Auguster Gold**, **Celia Butler** and **Yusra Siddiqui**, Public Patient Involvement and Engagement (PPIE) partners, focused on a different type of insight – to perspectives of people affected by cancer – the value this brings to research. Sharing their personal experiences with cancer, Auguster, Celia and Yusra highlighted several barriers to accessing healthcare and receiving a cancer diagnosis. Auguster reflected on the impact of stigma, religious beliefs and financial challenges. Yusra talked about women potentially feeling uncomfortable discussing symptoms with male healthcare professionals, belief in traditional healing practices and language barriers.

Celia focused on barriers for mothers, particularly time (or lack of), not acknowledging or misattributing symptoms (for example putting tiredness down to having children who don't sleep well), and lack of flexibility in health systems to schedule appointments around work, school and nursery.

Identifying opportunities for timelier diagnosis

Chair: Professor Georgios Lyratzopoulos, University College London

Professor Georgios Lyratzopoulos, University College London, chaired the final session of the conference and opened with a presentation outlining a taxonomy for early diagnosis research. Studies exploring diagnostic windows, routes and intervals, prodromal features and missed diagnostic opportunities were all highlighted as approaches to identifying opportunities for timelier diagnosis, linking to research presented later in the session that focused on supporting patients and supporting GPs.

Dr Meena Rafiq, University College London and University of Melbourne, presented research from several diagnostic window studies in the UK and Australia that aimed to identify opportunities for earlier diagnosis of several cancer types. Several changes in the months before cancer diagnosis were identified as potential opportunities to consider additional assessment including increases in corticosteroid prescriptions, and GP blood test and imaging requests. Increases in abnormalities in some blood tests were found to occur prior to or in absence of anaemia in the months before cancer diagnosis.

Research by **Dr Lucy Brindle**, University of Southampton, investigates patient resistance to investigation through analysis of GP consultation video data. Overt resistance to recommendations or advice most commonly occurred when the characterisation or trajectory of symptoms was discussed or made relevant in the consultations analysed. Misalignment was found to be less apparent for investigations, with safety netting potentially providing an opportunity to resolve any previously unvoiced resistance.

Inclination to refer is a relatively stable characteristic but varies between GPs. **Dr Olga Kostopoulou**, Imperial College London, presented research that uses a vignette approach to explore the psychological factors affecting GPs' inclination to refer urgently, finding that perceived harms, benefits and relative severity of errors influenced inclination alongside risk assessment. Further research is needed to explore the impact of risk calculators on decisions to refer.

Recent research showed that patients with no cancer found after urgent referral have an increased risk of cancer in the years following. Research by **Professor Suzanne Scott**, Queen Mary University of London, explored the acceptability of, and preferences for advice and support for this cohort when no cancer is found. Few participants reported receiving advice but most were willing to receive this. Acceptability was lower in some groups, including those with a lower level of education. Most preferred to receive advice from a healthcare professional, either face to face or over the phone.

Workshop spotlight

A range of workshops were held during the conference, bringing together delegates with different interests and expertise around some key topics within the early diagnosis space.

Drawing on behavioural science and health systems insights to improve timely help-seeking for possible cancer symptoms

Led by Cancer Research UK and Dr Maja Nikšić, University of Kent

Focusing on approaches to address barriers to help-seeking, this workshop considered opportunities and mechanisms for translating this evidence into real world impact and reducing health inequalities. Workshop leads Dr Nikšić and CRUK colleagues shared a range of different insights including data on barriers from the CAM+ survey and actions to encourage help-seeking in the four UK nations, before leading a group discussion on translation to local and national policy and practice.

Optimising non-specific symptom (NSS) pathways

Led by Dr Georgia Black, Queen Mary University of London

Sharing insights was also a key theme in the NSS pathway workshop. Workshop lead Dr Georgia Black shared findings from their ethnographic study on diagnostic safety culture in NSS pathways. Dr Black then launched into discussions with the workshop attendees on the key activities and pinch points in NSS pathways, features of optimal models and the policy landscape around NSS pathways.

Target Product Profiles: prioritising innovation in early cancer diagnosis

Led by Professor Bethany Shinkins, University of Warwick and Dr Jac Dinnes, University of Birmingham

Following their presentation on TPPs in the innovation plenary session, Professor Bethany Shinkins along with colleague Dr Jac Dinnes led an interactive workshop exploring factors that can aid in identifying and prioritising innovation development to address unmet need in the early diagnosis of cancer. The workshop provided valuable insights into key data that are helpful and can inform a prioritisation process.

Equitably improving cancer detection: four key considerations when implementing innovations

Led by Dr Anna Dowrick, University of Oxford

Recognising that many effective interventions are underused or poorly implemented, this workshop focused on key considerations for sustainable implementation of cancer detection initiatives within health systems and clinical practice. Discussions focused on the application of lessons from implementation science and contemporary case studies in practice, covering a range of topics including co-design of innovations with minoritised groups and planning for unintended consequences.

Implementing Lynch syndrome surveillance pathways

Led by Lucy McLaughlin and James Harris, North Central London Cancer Alliance

Providing an opportunity to share on the ground experience and insight, Lucy McLaughlin and James Harris led delegates in discussions around Lynch syndrome surveillance pathways and shared their approach to implementing this in their area. This included transitioning from a pilot to a sustainably commissioned service.

Poster prize winners

People affected by cancer prize

Winner

Sherrice Weekes, North East London Cancer Alliance
You Need to Know Womb Cancer Awareness Campaign

Runner Up

Dr Nigel Sansom, PinPoint
The PinPoint Test: an AI-driven blood test to streamline and accelerate the patient journey to diagnosis and treatment

Runner Up

Nerissa Thomas, Cansense
Development of a label-free liquid biopsy for early-stage cancer detection

Delegate prize

Winner

Andrew Prentice, St Mark's Hospital NHS Bowel Cancer Screening Programme
Using CRC diagnosis audit to inform Public Health strategy – a five-year audit

Runner Up

Ashley Jackson, University of Oxford
Positive MCED test results associated with later cancer diagnosis in participants in the SYMPLIFY study

Conference organisers

The Cancer Research UK Early Diagnosis Conference was organised by the Evidence & Implementation department at CRUK.

The Evidence & Implementation department uses their knowledge and expertise in data analysis, evidence synthesis, horizon scanning, insight gathering and stakeholder engagement to support our objective to drive scientific discoveries forward into interventions that improve cancer outcomes for everyone.

You can get in touch with the conference team at **EDconference@cancer.org.uk**

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CANCER RESEARCH UK

Together we are beating cancer