Hull Lung Health Check

Stakeholder Event

Friday 26th November 2021

Humber, Coast and Vale

Welcome

Yvonne Elliott

Managing Director

Humber, Coast and Vale Cancer Alliance

House Keeping

- Please set mobile phones to silent
- Fire exits and assembly points
- Toilets

Live Stream

- The event is being live streamed and a recording will be circulated after the event.
- There will be a question and answer session following each set of presentations.
- Anyone watching the event online is welcome to submit questions to comms.hcvcanceralliance@nhs.net.

Aims

- Recognise and celebrate the work that has taken place to establish lung health checks in Hull
- Recognise the work that has taken place to continue the service despite the impact of Covid-19 and ongoing pressures
- Share best practice and key learnings from lung health checks in Hull
- Look to the future of lung health checks across Humber, Coast and Vale
- Facilitate relationships and networking across the patch
- Provide an opportunity to tour the mobile units and engage with external delivery partners

NHS Targeted Lung Health Checks

Dan Cariad

Deputy Director

NHS Cancer Programme

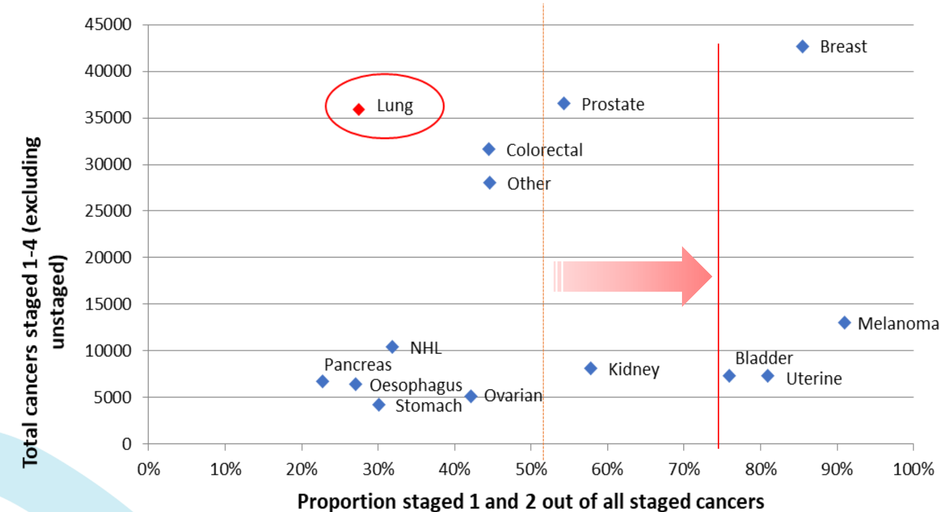
NHS
Lung
Health
Checks
in Hull

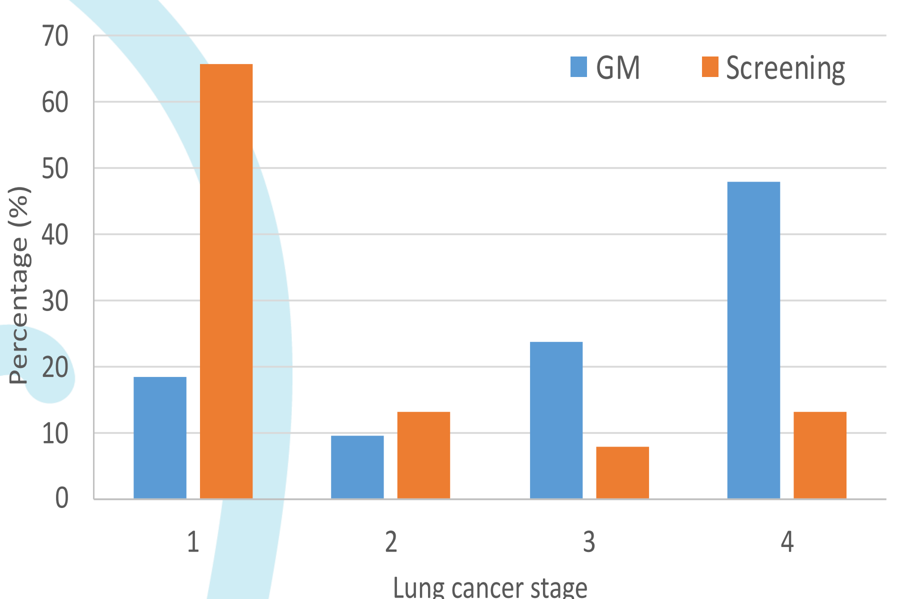
Early Diagnosis and the Long Term Plan

The NHS Long Term Plan: transforming cancer care

Two ambitions set by the government. By 2028:

- An extra 55,000 people each year will survive for five years or more following their cancer diagnosis.
- Three in four cancers (75%) will be diagnosed at an early stage.
- Currently **28.9%** of lung cancers are diagnosed at stages one and two*.
- GM pilot programme showed early diagnosis rates up to 80%.





*Reference *Cancer Stats 2 – most recent data 2018*

Targeted Lung Health Check Programme

Phase 1 & 2 TLHC locations

Newcastle & Gateshead
Blackburn with Darwen
Blackpool
Salford
Tameside & Glossop
Manchester
Liverpool
Knowsley
Halton
Coventry & Rugby
Stoke

LEEDS LUNG HEALTH CHECK
YLST Trial

Bradford District & Craven
North Kirklees
Hull
Doncaster
Mansfield & Ashfield
Corby
Luton
Thurrock

lungsforliving
UCLH SUMMIT Study

Hillingdon
Hammersmith & Fulham
Sutton
Southampton

Key:
- CCG in national programme
- Research studies
- TLHC live

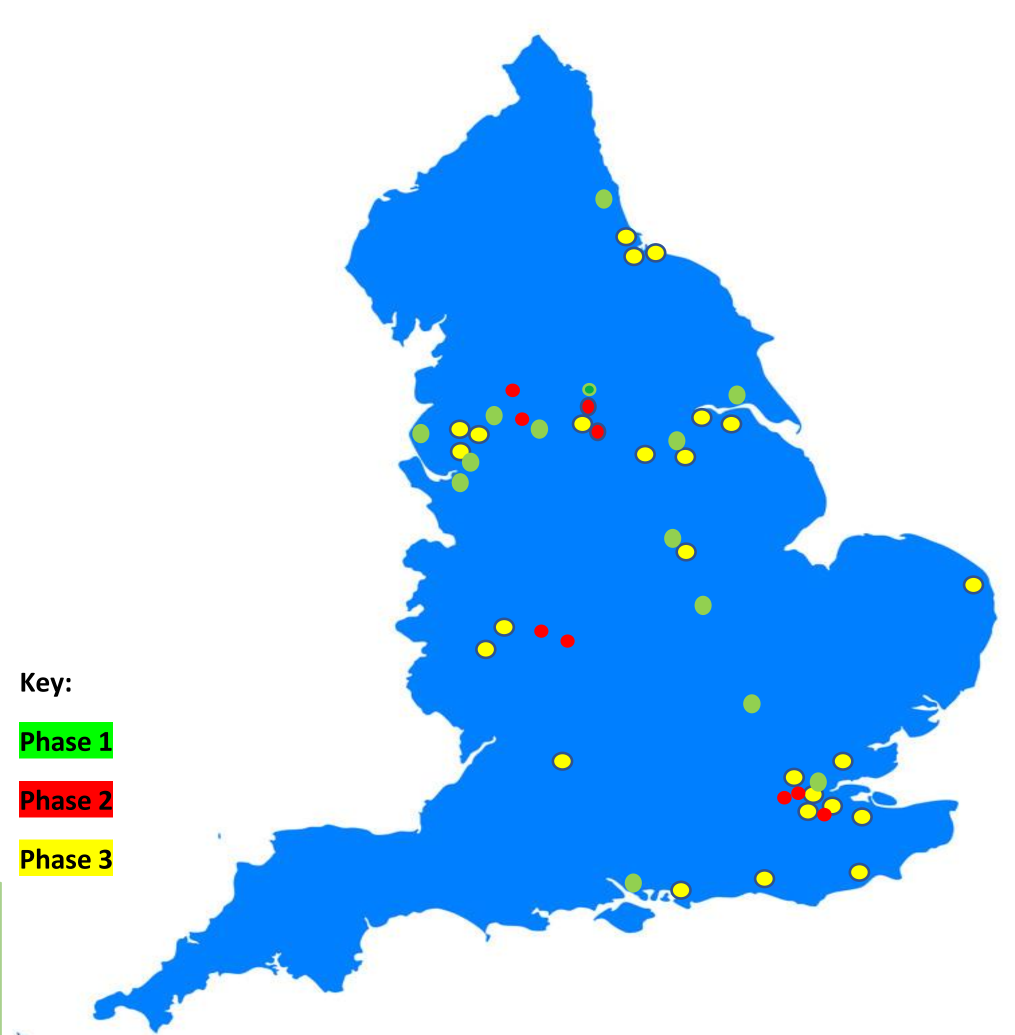
November 21:

23 out of 23 phase 1&2 places live
TLHCs now confirmed in additional 20 places as part of phase 3 expansion – due to go live Q1 22-23

Phase 1, 2 & 3 TLHC locations

Region	Cancer Alliance	CCG
North West	LSC	Blackburn and Darwen
		with Blackpool
		East Lancashire
	GM	Tameside and Glossop
		Salford
		Manchester
	C&M	St Helens
		South Sefton
		Knowsley
		with Halton
		Liverpool
NE&Y	Northern	Newcastle Gateshead
		Sunderland
		South Tyneside
		Tees Valley
	WYH	North Kirklees
		Bradford with Craven
	HCV	Hull
		NE Lincolnshire
		North Lincolnshire
	SYB	Doncaster
		Barnsley
		Rotherham
		Bassetlaw

Region	Cancer Alliance	CCG
Mids	EM	Corby
		with Mansfield & Ashfield
		Nottingham
	WM	Coventry
		Stoke
		Black Country & West Birmingham
		Birmingham and Solihull
EoE	EoE N	North East Essex
		Great Yarmouth
	EoE S	Southend
		Thurrock
		with Luton
South East	Surrey & Sussex	Brighton & Hove and Hastings
	Thames Valley	Swindon
	Kent & Medway	East Kent
	Wessex	Portsmouth
		Southampton
South West	SWAG	Whole Alliance
	Peninsula	Kernow
London	RM Partners	Hammersmith and Fulham
		Hillingdon
		Sutton
	SE London	SE London
	NE London	NE London
	NC London	NC London

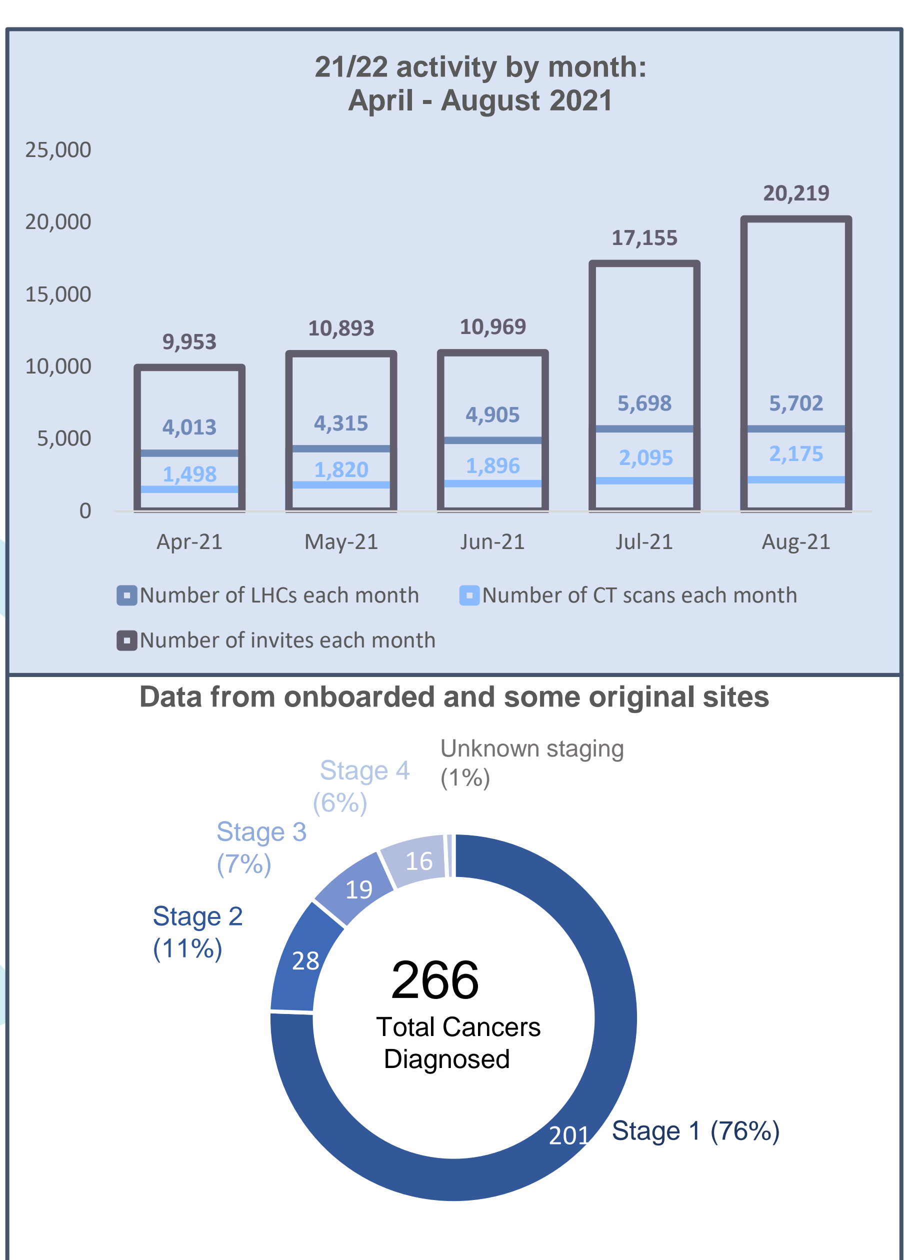


Phase 3 expansion extends coverage of the TLHC programme to 17.5% of the eligible population in England.

Management Information Data Outcomes

Data from programme start to August 2021

Indicator	National
Invited to Lung Health Check	**148,519**
Accepted a Lung Health Check	47,735
Attended a Lung Health Check	**46,382**
Attended a face-to-face Lung Health Check	15,432
Attended a telephone Lung Health Check	30,950
Did not attend LHC	**4,298**
Did not attend a face-to-face LHC	1,369
Did not attend a telephone LHC	2,929
Total number of scans performed	**28,646**
Initial LDCT scan performed	17,971
Follow up scan performed	10,675
3 month follow up LDCT scan performed	2,242
12 month follow up LDCT scan performed	8,337
24 month follow up LDCT scan performed	96
Incidental findings	**961**



Data caveats:
Some projects are experiencing data submission issues, so some of the data items displayed on this slide are incomplete.
Cancer diagnosis data is missing from Luton, Thurrock, Mansfield & Ashfield and Blackpool. We hope this will be reported on in November's submission.

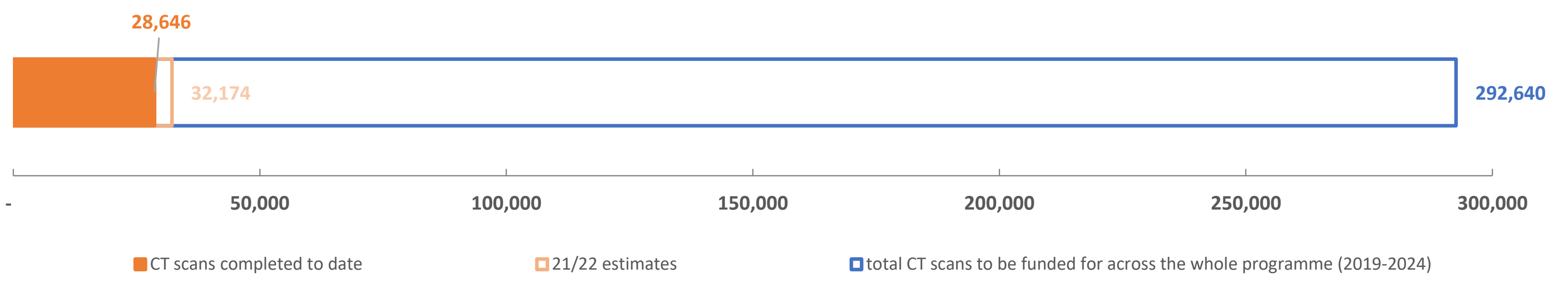
Total Cumulative Activity data

Overall Number of CT scans completed up to August 2021

Number to complete each month to hit target by December

NHS

TLHC Overall Performance: Total number of CT scans completed up until Aug 2021



TLHC Overall Performance: Total number of CT scans completed up until Aug 2021

- Projects are ramping up in Q3 and Q4 and anticipating higher scanning throughput
- Scans need to more than double between now and end of December to reach target
- It is hoped that sending out more invites + methods to increase uptake will help close the gap

*data missing from some sites

292,640 total funded CT scans for across the whole programme (2019-2024)

70,000
60,000
50,000
40,000
30,000
20,000
10,000
0

11,129
11,147
12,849
14,040
19,162
28,646
32,174
39,316
65,788

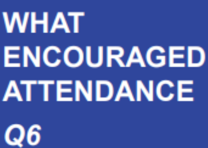
32
1,365
305
235
423
533
474
512
4,136
1,498
1,820
1,896
2,095
2,175
9,286
9,286
9,286
9,286

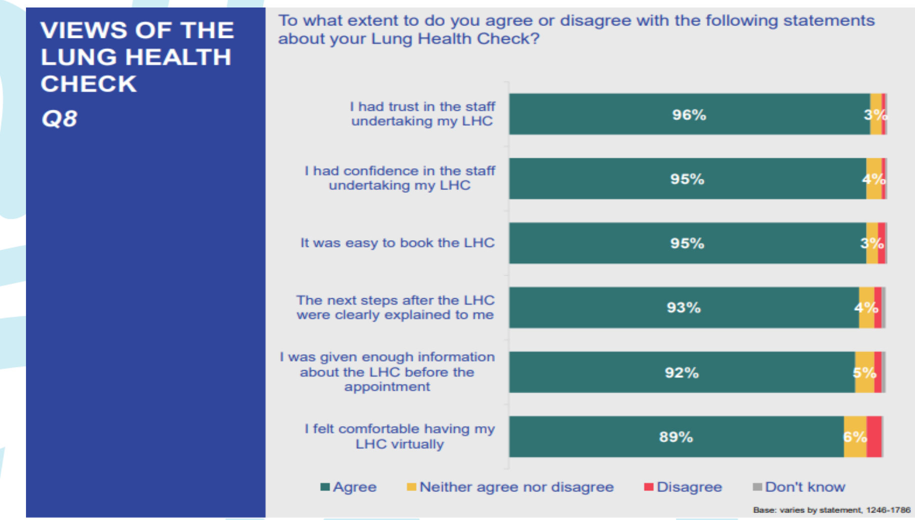
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21

number of actual CT scans completed each month
cumulative total number of actual CT Scans completed
cumulative local estimated number of CT Scans to be completed in 21/22

KEY:
- All participants
- Participants who had a CT scan
- Participants who received smoking cessation advice

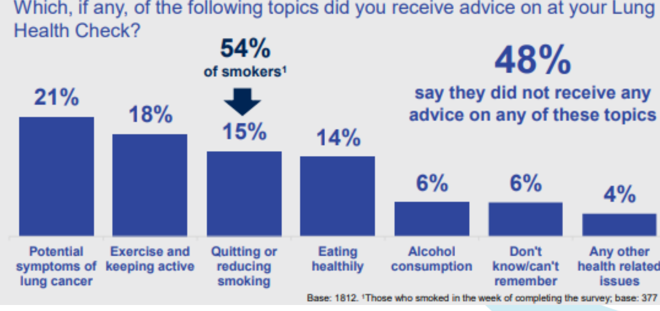
Ipsos MORI Attendee survey Q1 programme-level findings





TOPICS PARTICIPANTS RECEIVED ADVICE ON

Q9



CONFIDENCE IN NOTICING A SYMPTOM OF LUNG CANCER

Q13

Lung Health Checks in Humber, Coast and Vale

Dr Stuart Baugh

Programme Director

The impact of lung cancer on the HCV communities: In numbers

England		HCV
*Incidence of lung cancer:	76.6	81.8
Mortality rate:	55.6	62.6
Smoking prevalence:	14.4	16.7

HCV has higher than the national average incidence & mortality rate of lung cancer

New cancers diagnosed is expected to rise from 8,348 in 2013 to **12,000** in 2030

c.**55%** of all lung cancers occur in people aged 55-74

200 lung cancers could be detected earlier if regular CT scanning of high risk people aged 55-74 is in place

617 more lives saved after the first year & **301** more lives saved after 5 years by improving early detection of lung cancer in HCV

In the first 2 quarters of 20/21 there has been the largest decrease in diagnosing Lung Cancer **(104)**

Between April - October 2020 there has been a reduction in 62 day treatment volumes of **625 (18%)**

26% fewer 2ww referrals made between April-Oct 2020 (COVID Impact)

Early detection of cancer in HCV can lead to an annual savings of **£575,000**

East Riding of Yorkshire

Vale of York

Hull

North Lincolnshire

North East Lincolnshire

Mortality & incidence higher than national average

Smoking prevalence higher than national average

Hotspots

*Incidence per 100,000, Mortality per 100,000, Percentage of adults (18+ years) smoking

Source: YCR, Summary Report, 2020, Humber Coast & Vale

COVID-19 Impact

The recent publication of the Covid-19 Matters report by the Lung Cancer coalition, outlined some of the key challenges related to the impact of Covid-19 on the lung cancer pathway, and ultimately diagnosis.
Key challenges included:

- **Delayed patient presentation**
- **Reduction in 2 week wait referrals**
- **Changes in diagnostic and treatment capacity**
- **Impact of stopping lung cancer screening programmes**

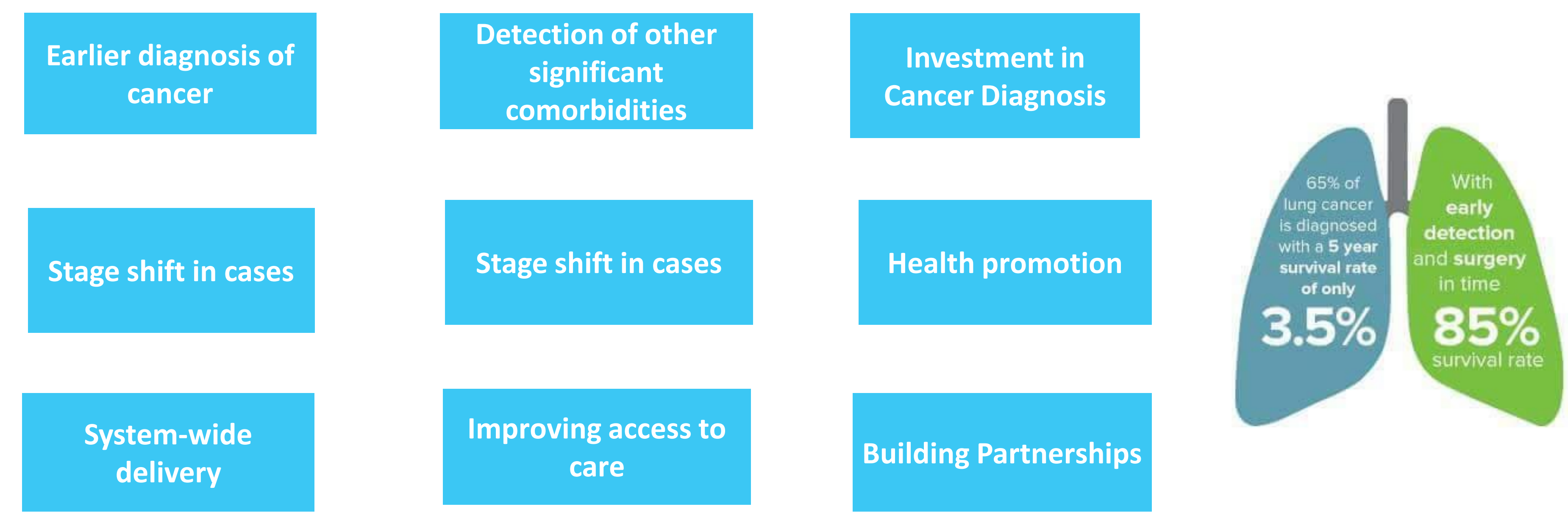
One of the key recommendations in the report for national NHS bodies was:

'Where they are operational, lung cancer screening programmes should be supported to resume at the earliest opportunity. As well as directly benefiting patients, this will enable the development of the necessary evidence base to support the wider roll-out of a national screening programme across all four of the devolved nations.

Source: COVID-19 Matters

Benefits and Opportunities

The Alliance has always held the ambition to roll out TLHCs across Humber, Coast and Vale. There is a great opportunity now as part of Phase 3 of the National TLHC expansion to roll out the service to North and North East Lincolnshire.



Additionally, the TLHC programme will support with addressing the key challenges as a result of the impact of COVID-19 Pandemic on the lung cancer pathway.

Current Service

- Searches done on GP register (formerly done by CCG but moving to NECS)
- Individuals invited for a free lung check delivered on mobile units in their local community
- Participants ring in to Hull University Teaching Hospitals NHS Trust booking team who book LHC appointments (currently telephone)
- Lung health check delivered via telephone with risk assessment. If at high risk – appointment for CT scan made
- Following the lung health check those assessed as high risk are offered a low dose CT scan
- Scan reported using AI (outsourced to Heart and Lung Health)
- Results go into Hull University Teaching Hospitals NHS Trust Hub
- Radiology review meetings with respiratory clinician\radiologist and nurse
- MDT
- Treatment as per two week wait pathway\non-cancer pathways
- Hub nurse\clinician go through results and letters sent to GP\participants or telephone conversation as necessary.

System Support to Enable Delivery

- Promoting this initiative within your organisations and networks
- Engagement with the project team as required
- Support with accessing the available local data
- Support with making stakeholders available as required

Christine and Danny's story

https://youtu.be/DebuC8YK8UM

Commissioning of TLHC

Phil Davis

Strategic Lead Primary Care

NHS Hull Clinical Commissioning Group

Smoking in Hull

- Estimated that there are around 45,000 adults aged 18+ years who are *current* smokers in Hull
- Smoking rate falling *but* 24.9% v England rate of 13.9%
- Smoking rates correlated with deprivation
- Many ex-smokers also at an increased risk of smoking-related illnesses and premature death.

Smoking in Hull

Group	Current smoker (%)
Overall	24.9
Male	26.2
Female	23.5
16-24	26.5
25-34	30.5
35-44	28.5
45-54	28.5
55-64	23.3
65-74	16.7
75+	9.0
Working	23.4
Student	17.7
Retired	14.0
Looking after family or home	31.1
Unemployed or not allowed to work	45.0
Long-term sick or disabled	48.1
Most deprived fifth	35.7
Second most deprived fifth	32.1
Middle fifth	26.1
Second least deprived fifth	20.8
Least deprived fifth	13.2
Single person	38.0
Lone parents	38.8
Households (65+)	13.4
Other households	23.8

Lung Cancer incidence in Hull

Age standardised incidence rate for lung cancer per 100,000 population

200
180
160
140
120
100
80
60
40
20
0

2001-2003, 2002-2004, 2003-2005, 2004-2006, 2005-2007, 2006-2008, 2007-2009, 2008-2010, 2009-2011, 2010-2012, 2011-2013, 2012-2014, 2013-2015, 2014-2016, 2015-2017, 2016-2018

Hull males — Hull females — England males — England females

Lung Cancer mortality in Hull

Age standardised mortality rate for lung cancer per 100,000 population

180
160
140
120
100
80
60
40
20
0

2001-2003 2002-2004 2003-2005 2004-2006 2005-2007 2006-2008 2007-2009 2008-2010 2009-2011 2010-2012 2011-2013 2012-2014 2013-2015 2014-2016 2015-2017 2016-2018

Hull males — Hull females — England males — England females

TLHC - Equality Impact Assessment

- Undertaken at outset of programme
- Discussion groups and a Community Stakeholder event held with people in eligible group - provided valuable insight into:
  - Literature to be used
  - Community locations for the service
  - Approaches to engaging with different communities
- Use of Cancer Champions
- Access to Interpretation Services - double appointments

TLC Modelling (best estimate)

- 16,134 LHC appointments
- 14,843 LHCs will be performed
- 8,063 initial CT scans will be undertaken
- 346 lung cancers will be found over the 4 years
- 5,332 patients with emphysema will be identified + a range of other lung conditions
- 6,047 patients will have some form of coronary artery calcification

Developing the CCG Business Case

- LHC resources cover:
  - Searches in primary care
  - Invite and eligibility confirmation process
  - Lung Health Check – at unit / by telephone
  - Low dose CT and follow-up scans
  - Smoking cessation services & lifestyle advice

- Onward pathways - funding required from CCG and Specialised Commissioning Team

Developing the Business Case

- Need to understand *all* potential onward pathways:
  - Where scan indicative of lung cancer – 2ww
  - Other clinical anomalies detected:
    - Other Cancer
    - Other Respiratory and Cardiac
  - Direct to most appropriate service:
    - Primary care / secondary care / community services
  - Direct referral where possible

Cost elements and funding source

Item	Lung Health Check	CCG	Specialised Commissioning
Cancer Services Management & Nursing		√	
Clinical Investigations (Radiology)	√	√	
Lung Cancer Pathway		√	√
Lung Nodule Pathway		√	
Non Cancer Findings		√	
Surgery			√
Radiotherapy & Clinical Oncology			√
Clinical Investigations (Pathology)		√	
Nursing for the Mobile Unit & Booking Team	√		
Cardiology Pathways		√	

Summary and key messages

- Public engagement and communication will make programme more successful
- Engage with all key stakeholders in planning - primary care are key to successful implementation
- Understand and plan for the full impact of the TLHC – all potential pathways – Lung Cancer, other Cancer and non-Cancer
- Work with Acute Trust and Specialised Commissioning in developing business case

Communications and Engagement

Emma Shakeshaft
Head of Communications,
NHS Hull CCG

Sarah Rowland
Communications and Engagement Officer
Humber, Coast and Vale Cancer Alliance

Aims and objectives

- To deliver genuinely **inclusive engagement** so the lung health check service includes views of patients, the public, staff, and other stakeholders
- To **raise awareness and understanding** of lung health checks across our internal and external stakeholders
- To **develop and raise the profile,** visual identity and key messages of the lung health check
- To ensure staff, patients and carers have had the **opportunity to co-produce** the new service with commissioners and clinical leads at an early stage
- To use social marketing approaches across our communication and engagement activity to **encourage people to attend a lung health check**
- To continually promote positive feedback from the service to **enhance its reputation** across the health community and wider public

Our approach in Hull

Pre-launch

April 2019 to December 2019

Full launch

January 2020

Ongoing communications

January – March 2020

April 2021 onwards

Pre-launch

April 2019

December 2019

Communication and engagement plan developed

Stakeholder mapping
Equality Impact Assessments (EQIA)
Budget established

Working group established

Cancer Alliance
NHS Hull CCG
Hull University Teaching Hospitals NHS Trust
Cancer Research UK
Macmillan Cancer Support
Healthwatch
GP Practice Manager
LHC Programme team
NHS Cancer Programme Communication team

Materials and resources developed

Key messages
Local branding
Website
Leaflets
Animation
Participant Booklet
Videos to support engagement/social media
Frequently asked questions

Engaged with internal stakeholders

Presented at key meetings, including Protected Time for Learning
Written briefings
Media training
GP Information pack
CRUK practice visits
Patient Relations

Engaged with external stakeholders

Introduction event for voluntary and community groups
Volunteers trained
Reference group established
Attended community group events and linked with existing groups
Circulated a comms toolkit
Other Clinical Commissioning Groups and Trusts

GP Information Pack – Letter from GP Lead, pathway information, banners, posters, animation for TV screens, leaflets, core script for practice staff, social media, GP FAQs, sample MJOG messages

Full Launch

Communications

Social Media

Paid advertising
Live tweeting
Launch video
News release/interviewees
Branded launch pack, bag and cups

Radio Advertising

Viking FM using local actors

Billboard

Hull City Centre
KCOM Stadium – Hull FC vs Hull KR

Articles

Hull Mag
Partners, community and council newsletters

Launch Event January 2020

National and local speakers

Tours of the mobile unit

Ongoing Communications

Relaunch of Lung Health Checks

All resources updated to reflect service changes, including website and participant booklet

Virtual Walkthrough video

Frequent communication

Clinically led blogs and articles

Cancer awareness days and national campaigns (Help Us Help You)

Paid social media boosting

Patient stories

Graham's story

Catherine's story

Relaunch media event

Katie Hermann
DAVE and myself have had a free lung check nurses putyou at ease it is worth having it done xxxx
5
Like · Reply · 13 w

Uptake levels and participant feedback is frequently monitored and used to influence communication and engagement activities.

What worked well

Partnership working
Frequently involving key stakeholders
Working with Cancer Champions and Hull Champions programmes
Community reference groups (for leaflets and location of LHC unit)
Patient stories
Media activity
Community magazines

Challenges

Local and national alignment of branding and publicity
Impact of Covid-19 and ongoing system pressures
Managing public expectations

What's next?

Announcement of additional funding
Relocation of mobile unit in North Hull
Continue to encourage uptake
Highlight programme successes

Get in touch
comms.hcvcanceralliance@nhs.net

Invitation and Bookings

Mel Leedham
Clinical Administrative Manager
Hull University Hospitals NHS Trust

Rachel Iveson
Project Manager
Humber, Coast and Vale Cancer Alliance

Targeted Lung Health Check - Hull Pathway

Inclusion Criteria*
- 55 to 74 and 364 days
- Ever smoked
- Able to undertake LDCT
- Able to & provides consent
- $PLCO_{m2012}$ risk of ≥1.51% over 6 years or LLP_{ver2} 5-year risk of ≥2.5%

Exclusion Criteria*
- Full thoracic CT scan within the last 12 months or planned in the next 3 months
- Weight >200kg
- Participant unable to lie flat
- Poor physical fitness

Data Extract – CCG/NECS
Searches written for S1 and EMIS
- Review and QA by GP
- Data extract sent to bookings team (HUTHT)
- Data governance in place

→

Bookings team send:
First invitation, if no response -
Second invitation, if no response -
Follow up telephone call

→ **No response or turn down** → Discharged

Patient books appointment and team check if ever smoked → If never smoked → Discharged

↓

Telephone Lung Health Check completed by nurse
- Risk assessment
- (Spirometry paused)

→ **Low risk** → Discharged / Current smokers referred to smoking cessation

↓

High risk → Low Dose CT Scan
- Mobile unit
- Inc/exc criteria

Targeted Lung Health Check – GP Searches

- Searches of SystmOne and EMIS initially conducted by the GP Practice with CCG support but resource is limited
- About to transfer to the North East Commissioning Support Unit (NECS) and conducted remotely – search includes:
  - Inclusion criteria
  - Exclusion criteria
  - Flags people resident in the nursing/residential home for review by GP
  - GP checks/amends list and sends back to NECS
  - NECS send the final list to the bookings team at HUTHT
- Data sharing agreements in place
- Covered in the GP contract

Administration Structure

Role	Whole Time Equivalent
Hub Manager	0.6
Team Leader	0.8
Senior Administrator	3.0
Administrator	5.0

Time was taken by the clinical team to share the knowledge and the purpose of the programme.
All of the administrators are committed and enthusiastic to support and are clear on the positive outcomes the LHC can bring.

Participant Invitation Process (carried out by administrators)

- A referral is created for each participant identified from the GP search and added to the appropriate ‘access plan’ for booking dependant on the location of the van.
- Our system links to the NHS spine as we enter the patient record, so we do not invite any RIP patients or patients who have moved outside of the area
- Invitation letters are sent to participants to call in to book an appointment. This is calculated by the number of vacant nurse telephone appointment slots in the next six weeks plus 40% uplift for non responders.
- If the participant does not contact us within 14 days we will send a reminder letter.
- 15 days after the reminder, we make a call to the participant
- If the participant accepts, we continue the call to book if eligible, if declines, we close the referral
- If the participant doesn’t answer, we will leave a voicemail where possible and close the referral as no response

Call Handling Process (carried out by administrators)

- When a participant calls we introduce ourselves, thank the participants for their interest in taking part and we give the patients a brief explanation of the project and what is a Lung Health check
- Authentication of name, NHS number, date of birth and postcode
- Consent is taken – we ask if we may ask further questions in line with the script
- The appointment is booked if eligible and a confirmation letter is sent
- A text reminder is sent 7 days prior to the appointment

- If the patient asks medical questions we will hand over to the nursing team to discuss symptoms , past history of illness or anything else not covered by the script.

Receptionist on the Van

- Check the participants have no covid symptoms and rebooked any appointment where needed
- Provided face covering unless the participant is exempt
- Authenticates and arrives all patients to the clinic
- Greet any unexpected ‘walk ins’ and explain the service and the appointment system
- Clean down the waiting area, hand rails in line with infection control
- Distribute consent forms

Administration of Clinic Appointments

- All rescheduling by participant or by provider is managed by the administrators and recorded on the Patient Administration System in line with the cancellation protocol
- All clinics have a dedicated administrator to ensure all arrivals and departures are updated as close to real time as possible (KPI – within 24 hours)
- All participants who do not attend are managed in line with the agreed protocol

Cancellation Protocol

Telephone Cancelled X 1 = Rebook next available

Telephone Cancelled X 2 = Inform the patient they will be discharged from LHC and inform GP.

Baseline Scan Cancelled X 1 = Rebook next available
Baseline Scan Cancelled X 2 = Ask participant reasons for cancellation; if they are unwell, discuss with nurse rebook timescale. If the participant does not want to attend then discharge and inform GP.

Follow up Scan Cancelled x1= Rebook next available
Follow up Scan DNA x2= Ask participant reasons for cancellation; if they are unwell, discuss with nurse rebook timescale. If the participant does not want to attend then discharge and inform GP.

Did Not Attend (DNA Protocol)

Telephone DNA X 1 =

- Call participant and rebook
- If unable to contact them, book and send details of new appointment
- Send notification to GP of DNA

Telephone DNA X 2 = DNA discharge letter to GP and patient
Baseline Scan DNA X 1 = Auto rebook with 3 weeks' notice
Baseline Scan DNA X 2 = DNA discharge letter to GP and patient. The administrator will email the LHC Nurse Hub inbox to advise of DNA The Nurse will edit the DNA letter and send out to participant. The administrator will close the access plan and referral with DNA comments recorded accordingly.
Follow up Scan DNA x1= Call patient to rebook, if no answer book and send details of new appointment
Follow up Scan DNA x2= The administrator will email the LHC Nurse Hub inbox to advise of DNA. The Nurse will edit the DNA letter and send out to participant. The administrator will close the access plan and referral with DNA comments recorded accordingly.

Follow on actions from the initial nurse appointment (administrators)

- Daily check that each clinic has a departure outcome for each participant
- Every patient must be discharged, reappointed, booked in for a scan or onward referred.
- All patients scan bookings must be entered onto the Patient Administration System with the test placed

We check all patients booked for a scan appointment to see if they have had any other scans in the last 365 days due to the exposure to radiology.

In the event they have we will seek clinical advice on when the scan should be booked, it may be delayed or cancelled.

Results Management

- Any potentially serious findings are acted upon immediately and tracked on to their next care event; MDT or clinic appointment
- All participants with an urgent follow up plan are contacted by phone and a results letter sent within 7 days
- All participants with a non urgent outcomes are sent a results letter within 14 days

- The tracking process is managed by the senior administrators and any issues are escalated daily to the Team Leader and Hub Manager

- We have devised a suite of failsafe reports to ensure every participant is moved along their journey efficiently and the episodes are closed at the conclusion.

Panel Q&A

Dr Stuart Baugh
Programme Director
Hull Lung Health Checks

Mel Leedham
Clinical Administrative Manager
Hull University Hospitals NHS Trust

Rachel Iveson
Project Manager
Humber, Coast and Vale Cancer Alliance

Phil Davis
Strategic Lead Primary Care
NHS Hull Clinical Commissioning Group

Emma Shakeshaft
Head of Communications,
NHS Hull CCG

Sarah Rowland
Communications and Engagement Officer
Humber, Coast and Vale Cancer Alliance

Short break

Nurse Led Lung Health Check

Joanne Thompson
Lead Respiratory Nurse Specialist
Programme Responsible Assessor

Nursing Team

- **Nurse establishment;**
- WTE 0.5 Band 7
- WTE 8.0 Band 6
- Currently WTE 6.0 Band 6.

- **Recruitment**; oncology, acute medicine, community, intensive care, chest medicine, roles complimenting one another - staff having knowledge of cancer and lung health.

- **Training;**
  National; ARTP National Spirometry registered, Communicating with High-Risk Individuals, Good Clinical Practice, Ionising Radiation (Medical Exposure) Regulations Practitioner.

- *Local;* TLHC aims and objectives, Training for Radiology & Nuclear Medicine Referrers, Respiratory History Taking, Consultation skills, National Centre for Smoking Cessation and Training (NCSCT) online, Very Brief Advice on Smoking, additional spirometry performance and interpretation, Lung Cancer Red flags, Clinical Data Capture Form, LDCT/research consent, IT/Excel, EBUS, PET, Bronchoscopy, Lung Cancer clinics (physician/specialist nurse), ensuring nursing staff have full exposure to the whole cancer pathway.

What *Worked Well*

- **First round;**
- B7 extended current role in asthma/COPD to include TLHC lead nurse/responsible assessor; recruitment, engagement with the wider team, evolving the service, developing protocols, standard operating procedures in line with NHS England 'Standard Protocol for the Targeted Lung Health Checks Programme'.

- B6 recruited together, 3 months training/upskilling, enthusiasm, team building, increased collaboration and engagement**,** passion.

- *Community based*; close to home, perceived to be less invasive, face to face comprehensive lung health assessment engaging participants in their lung health, spirometry, smoking cessation, LDCT if eligible, all at the same appointment.

- Operated well, though did not run long enough to evaluate full effectiveness/outcomes, ceasing the programme March 2020 due to the COVID-19 pandemic.

- Staff rotation between clinics and lung health check hub.

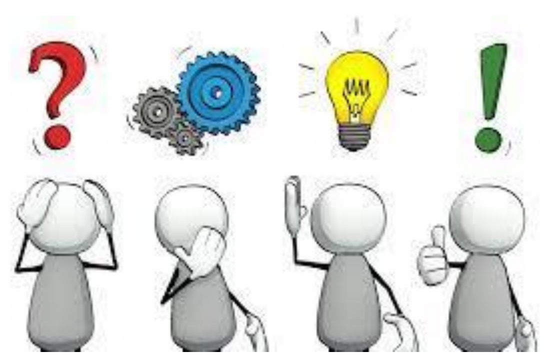
Programme Pause/Challenges

- **March 2020;**
- Staff redeployment.
- Completion of LHC hub workload.
- Poor staff morale, anxiety, distress, communication breakdown, team collapse, reduced contact with B7 lead resulting in perceived lack of support.
- Staff retention.
- B7 additional role COVID-19 follow up lead; service development, staffing, SOPs…etc.
- B7 maintain support and engagement of staff being managed in other areas.
- At risk staff role adjustment to COVID follow up.

Programme Pause/Positives

- Opportunity to develop and extend skill base e.g. Home Ventilation Team, Level 2 NIV/CPAP, Acute Respiratory Assessment Service, COVID fu pathway, knowledge/understanding of respiratory symptoms.
- Subsequent flexible workforce, good for the programme/HUTH.
- 1:1 B7 meetings with the team, candidness and honesty.
- Shifting experiences to positivity.
- Team building – supported by HUTH coaching lead.
- Improved self awareness/morale across the team.

Restoration



- Adapt/review service delivery.
- No spirometry – AGP, no F2F LHC assessment/smoking cessation.
- Recruitment; factoring in training needs whilst providing LHC delivery model.
- Staff shortages; sickness, maternity leave, delivery short falls provided with OT, minimal flexibility.
- Telephone clinics; restricted office/clinic space, vital to keep the team together
- Participant perception – "how can you asses my lungs over the telephone", "no thank you, during COVID", "I'm not coming to the hospital during the pandemic",
- Triggers for LDCT; further appointment.
- Upskilling staff; develop assessment skills over the telephone, CT report interpretation, radiology MDT, action cancer/non-cancer findings, supervision from respiratory consultants.

Today

- Collaborative teamwork and communication across all partners.
- Close partnership working with administrative staff.
- Mobile unit returned to the community, vandalism.
- Telephone clinics continue, mobile unit/offices, social distancing remains challenging.
- Staff sickness; 19 participants per telephone clinic cancellations, Hub staff sickness results in telephone clinic cancellations.
- Longer periods spent in the hub on rotation.
- Participants requiring hoists are scanned in the trust.
- Double telephone slots for interpreters/mobility difficulties attending the unit.
- Paper LDCT consent / research paper and e-consent.

Learning and Guidance

- Recruitment of staff with good knowledge of IT systems, staff turnover - timely recruitment.
- Now appreciated as part of the cancer pathway reducing the chances of further staff redeployment.
- Regular team meetings.
- Build in staff breaks within delivery model.
- Provide time and realistic expectations for new starters training.
- Emergency downtime; no electricity/no wifi.
- Ensure participants understand the programme.
- Contacting participants for reassurance/explaining results is timely, something that we didn't consider at the start of the programme.
- Suggest WTE 1.0 B7; service development is ongoing, SOPs, staff leadership, quarterly responsible assessor reports, quality assurance, spots checks, training refreshers.
- Suggest WTE 2.0 B6 for hub outcomes, MDTs, ordering CT scans.
- Prepare for the risks, sickness.
- Good resources, clear SOPs reviewing regularly.
- Monthly internal meetings; consultants, admin, nursing, business managers.
- Let the service grow and mature.

Overall ……

- Achieving service success following restoration during unprecedented times.
- Essential service.
- Teamwork with all partners continue.
- Some challenges remain, staff willing and able to support overcoming them.
- Great staff morale, dedicated team working extremely hard to deliver a high quality service to the community of Hull.

Friends & Family Test

- 99.1% of LHC participants feel positive about the service, rating it as 5 star.
- *Comments;*
- Everyone was friendly, put you at ease if you are scared. A pleasant experience.
- Not waiting long.
- Friendly staff and efficient.
- On time, clean pleasant, quick, no problems, so straight in and out.
- Early detection is a good thing.
- It is a good opportunity to check for problems, plus the experience is quick and painless.
- Friendly staff, put me at ease.

THANK YOU

Impact on Primary Care

Dr Masood Balouch

GP, NHS Hull CCG

Stages of Primary Care Involvement

Pre assessment

Assessment

Post assessment

Generating and reviewing lists of eligibility

Aged 55-74 +364 days and ever smoked

Exclusion criteria

- on Palliative Care Register
- previous lung cancer in last 5 years
- metastatic cancer (excluding metastatic prostate cancer)
- CT scan in last year (this is pulled from GP data but also checked on RIS by HUTHT)

For GP review prior to referral

- at risk of severe frailty
- resident in a residential, care or nursing home

Patient Communications

Train practice staff about Lung health check programme

Increase awareness among patients

Patients queries about the process

Central helpline run by lung health check team

Additional Impact on Primary Care

Dealing with Incidental finding
Agreed codes across primary care for pts notes.

Emphysema

Coronary Artery calcification

Adrenal lesion

Aortic Valve Calcification

Bronchiectasis

Hepatic Steatosis (Simple Fatty Liver)

Osteoporotic Fracture

Pleural Plaques -

Respiratory Bronchiolitis associated Interstitial Lung Disease (RBILD)

Thoracic Aortic Aneurysm

Thyroid Nodules – Lump in *Right / Left* Thyroid gland

Communication with Secondary Care

Anything different

- Extra help to deal with incidental findings.
- Provide more information at initial stage to reduce primary care workload later.

Preliminary Service Evaluation

Kanwal Tariq
Gavin Anderson
Consultant Respiratory Physicians
Hull University Hospitals Trust

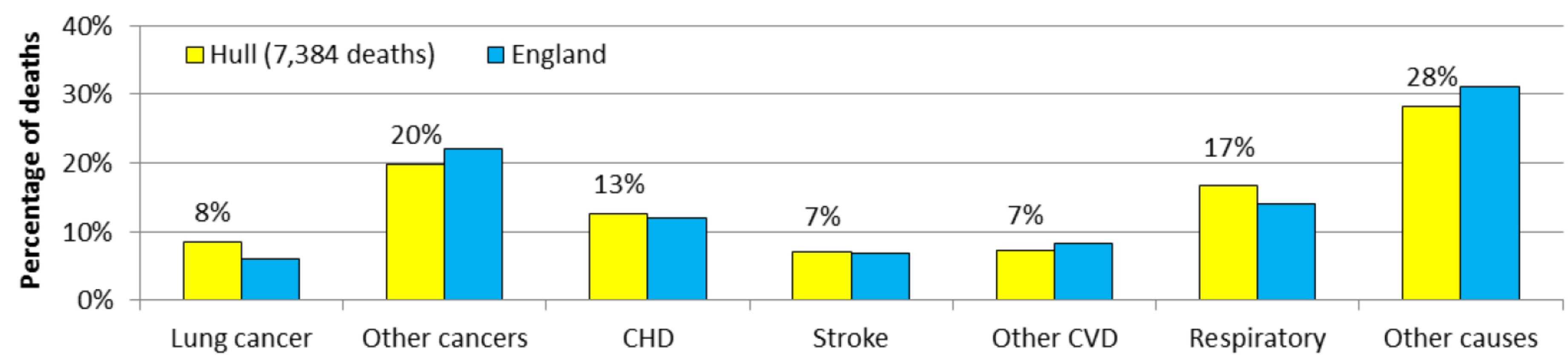
Reflection on and evaluation of Hull LHC Service:

- Delivery of LHC (***without disrupting other services***)
- Acceptability to participants
- Outcomes: finding cancers and other serious pathology

Why necessary in Hull?

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	–	85,336	56.3	55.9	56.6
Yorkshire and the Humber region	–	9,951	65.8	64.5	67.1
Kingston upon Hull	–	641	106.6	98.5	115.3
Manchester	–	861	105.9	98.9	113.3
Liverpool	–	1,114	99.9	94.1	106.0
Knowsley	–	389	97.9	88.3	108.3
Newcastle upon Tyne	–	634	96.3	88.9	104.2
Middlesbrough	–	315	90.2	80.5	100.9
Hartlepool	–	243	89.7	78.7	101.8
Sunderland	–	717	89.2	82.7	96.0
Gateshead	–	522	87.8	80.4	95.7
South Tyneside	–	398	87.2	78.8	96.2
Halton	–	289	85.5	75.8	96.1
Tameside	–	503	85.4	78.1	93.3
North Tyneside	–	517	84.2	77.1	91.8
Oldham	–	473	83.7	76.3	91.7
Stoke-on-Trent	–	535	82.0	75.2	89.3
Salford	–	456	81.6	74.2	89.4
Doncaster	–	712	81.3	75.4	87.5
Rochdale	–	441	80.8	73.4	88.7
Blackpool	–	349	80.4	72.2	89.3
Redcar and Cleveland	–	355	79.5	71.5	88.3
Blackburn with Darwen	–	262	79.1	69.7	89.4
Nottingham	–	472	79.0	72.0	86.6
Wigan	–	692	76.2	70.6	82.2
County Durham	–	1,210	76.0	71.8	80.5

Remarkable people.
Extraordinary place.



2018 - Joint Strategic Needs Assessment Summary Hull February2018

Faster and more efficient Lung Cancer Pathway

- Emulate the RAPID pathway demonstrated by South Manchester
  - Resource
  - Team behaviours

- Triage of 2ww and MDT to MDT referrals

- Radiology are key to success
  - GP CXR requests: radiographer asks cancer referral questionnaire… if cancer triggered hot reporting then to CT direct.
  - On site PETCT

HUTH Lung Cancer Investigation Pathway

Remarkable people.
Extraordinary place.

Unfinished business

- Burden of LHC on top of existing work varies with cycle of LHC, particularly related to quantity of scans

- RAPID Pathway
  - Variation in Respiratory Med resource…phased working away, not really compatible with frenzied acute care.
  - Investigation bundles
  - Streamlining MDT

- More resource required
  - Radiology
  - Oncology
  - Thoracic Surgery
  - Chest Medicine, less fragmentation…juggling too many balls

COVID Disruption

- Helped
  - Disruption helped with change in behaviours
  - Remote working and not sticking with clinic time frame…test result back, act on it
  - Referral triage to ensure likely cancer goes (a) to fully supported cancer clinics and (b) a CT is available at first appointment for likely lung cancer.

- Hindered
  - Increase delays across the investigation pathway with potential for symptoms and fitness prone to change over time, so further face to face review necessary before treatment MDT..

  - **Redeployment:** Paused from beginning of first wave April 2020 to April 2021
  - **Primary care working**: large drop off in referrals, then altered members of team reviewing and making referrals, less able to make alternative diagnosis such as COPD. Still numbers of referrals without CXR.
    - **CXR:** Much debate in utility of CXR in excluding lung cancer…but remains important tool in *investigating unexplained respiratory symptoms* which is how most of the cancer patient's journey starts…if cancer suspected as most likely cause of course a CXR with 80% positive is insufficient. So, important to deploy a CXR if not sure about cancer or other respiratory pathology. In Hull the use of CXR ~halved mirroring the decline in referrals.
    - Now back to and slightly above normal treatment rates.

Patient Feedback:
We are excellent

The Friends and Family Test

Service Report: Oct 2021

Service

Lung Health Check CHH

Star Rating

Positive: 100.00%

Negative: 0.00%

Overall Scores

Response Option	Responses	Percentage
1 - Very good	557	98.41%
2 - Good	9	1.59%
3 - Neither good nor poor	0	0.00%
4 - Poor	0	0.00%
5 - Very poor	0	0.00%
6 - Don't know	0	0.00%

Breakdown

Gender

Female	180
Male	287
Total:	467

Eligible Patients: 566

Response Rate: 100.0%

Total Responses: 566

Department: All Departments

01/10/2021 to 31/10/2021

Location / Service / Ward: MEDICINE > Castle Hill Hospital > Respiratory medicine > Lung Health Check CHH

Absent friends

- Radiology

Don’t start……before you have properly planned

- Unless/until you can protect symptomatic lung cancer pathway
  - Ensure that pathway is performing reasonably

- Remember its not just about doctors and nurses doing the screening
  - Patient navigators, trackers, CNSs, radiology; reporting, biopsies, PETCT, surgical capacity/theatre capacity
  - IT solutions for LHC nurse risk assessment, and incidentals letters….

- Big knock on for other specialisms and particularly Primary Care
  - Engagement with other tumour sites via MDTs
  - Intermediate service resource to manage incidentals;
    - Airways/COPD community team for diagnosis and management
    - Coronary artery calcification

Outcomes

- Preliminary findings
  - Pre-pandemic
  - April –July 2021

LHC April 2020 (Pre Pandemic)

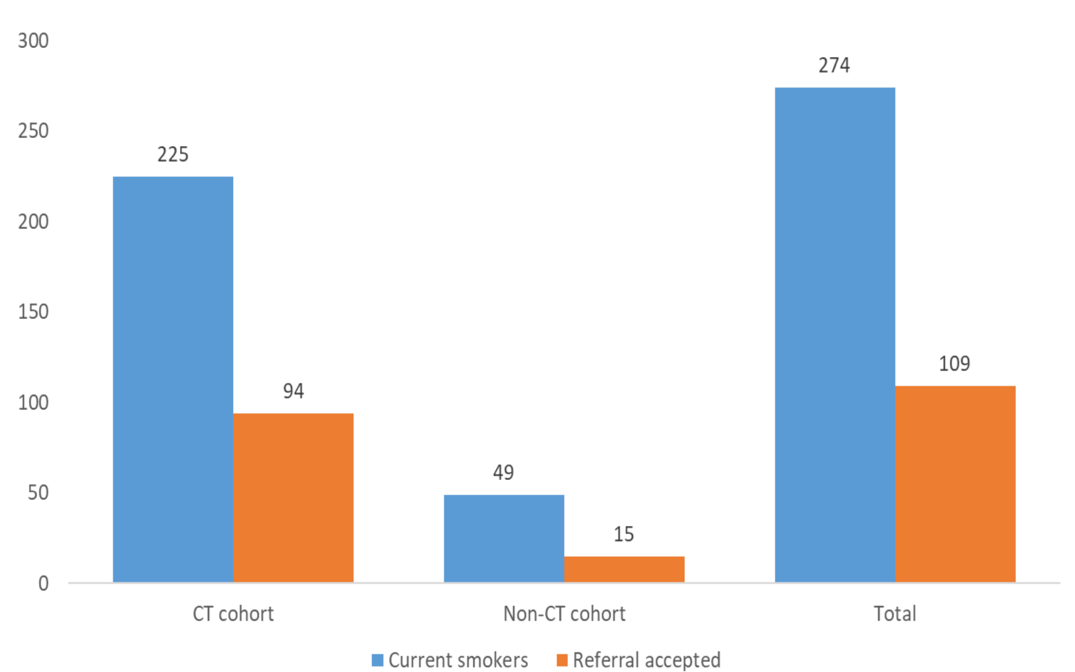
- 5 weeks
- LHC Assessment 848
- LDCT 485 (57%)
- Lung cancer 8 (1.6%)
  - 87.5% received curative treatment (Surgery/SABR)
- Non-Lung Cancer 10

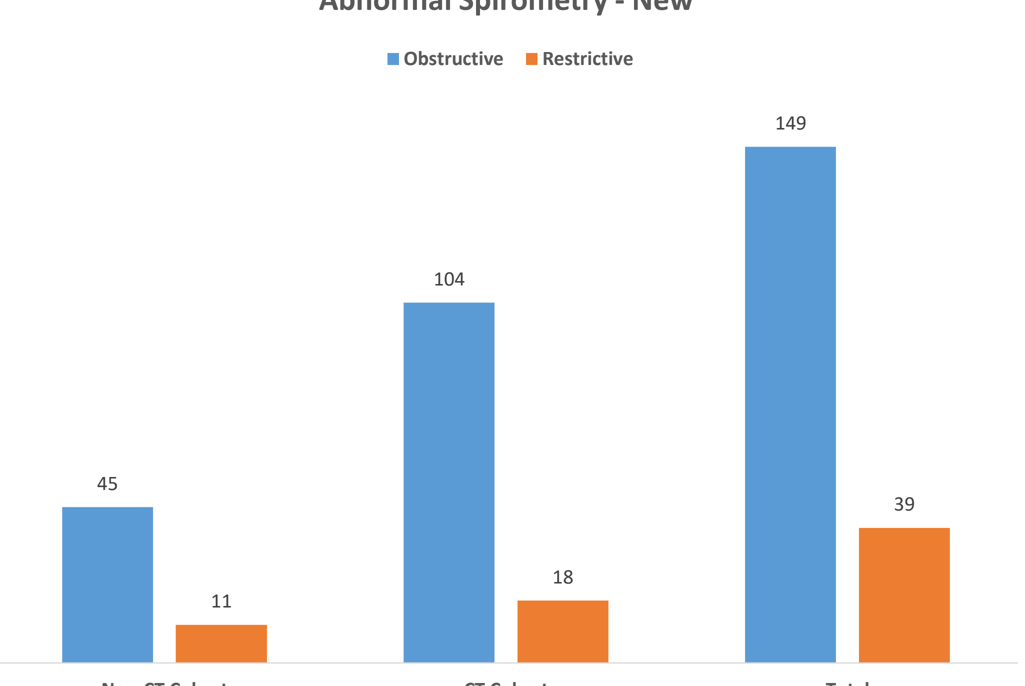
32% Current smokers

40% accepted referral to smoking cessation team

22% abnormal spirometry -New

79% Obstructive



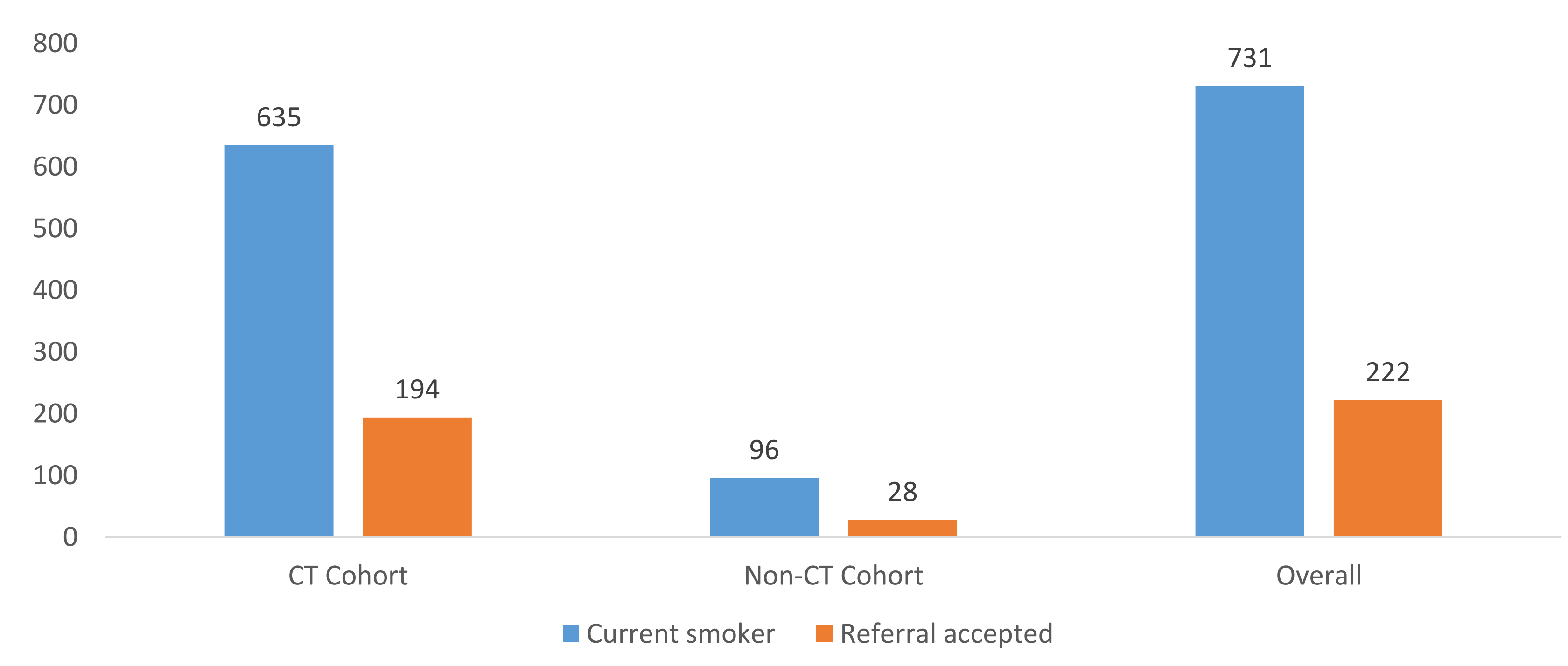


Remarkable people.
Extraordinary place.

LHC April –July 2021

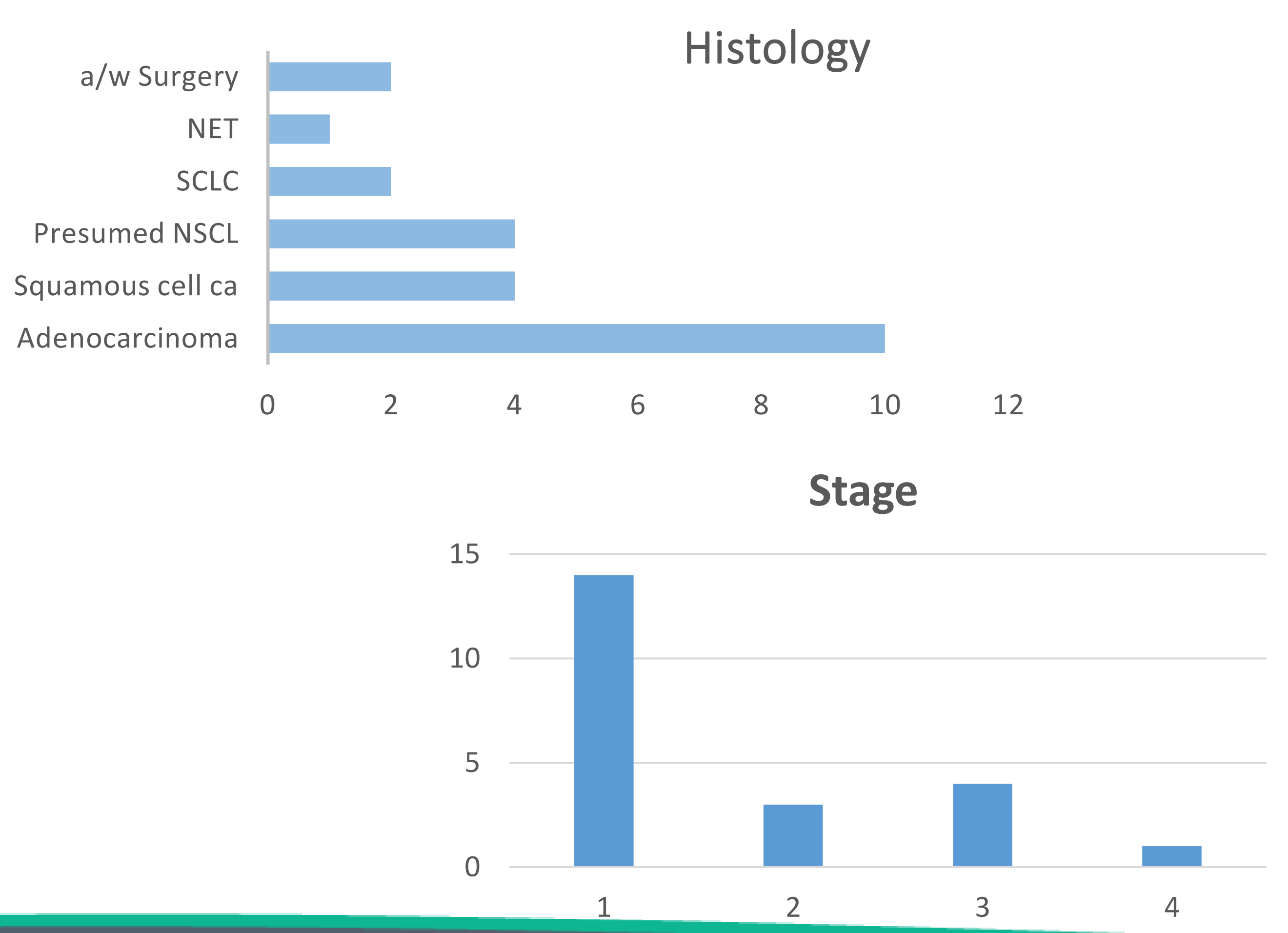
- LHC assessments 2283
- LDCT Triggered 1447 (63%)
  - LDCT performed 1361 (60%)
  - LDCT DNA/Declined 86 (6%)
- 9.6% Normal CT requiring no further action
- 16.5% required interval CT (majority lung nodule)
- 82% will be back for 24-month CT
- **141 (10%)** required one or more of investigation/referral/clinical review

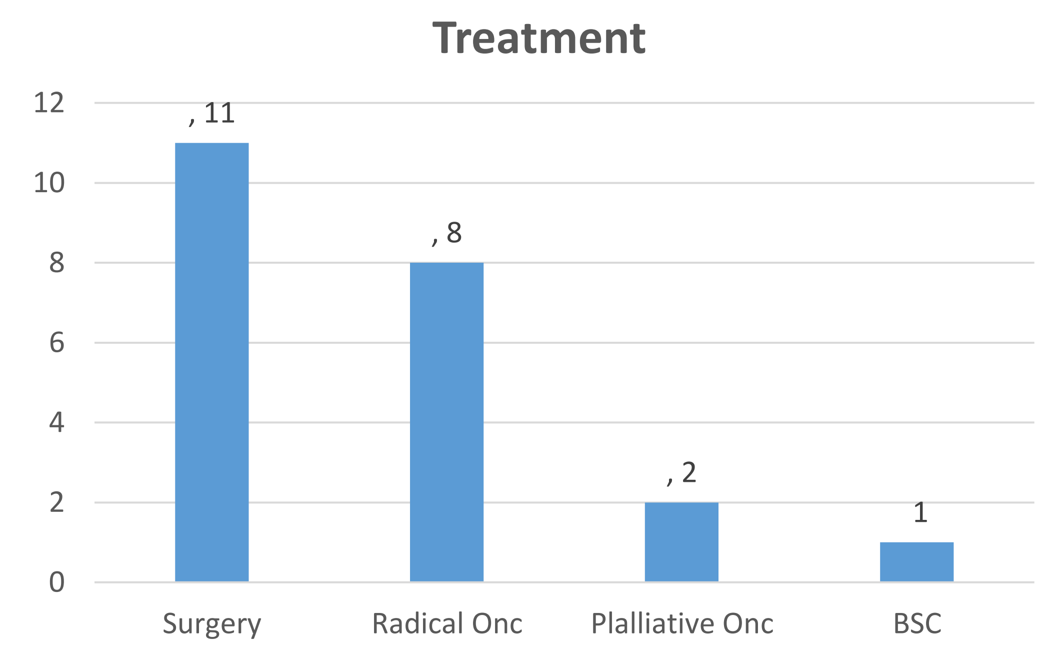
33% Current smokers
30% accepted referral to smoking cessation team



Remarkable people.
Extraordinary place.

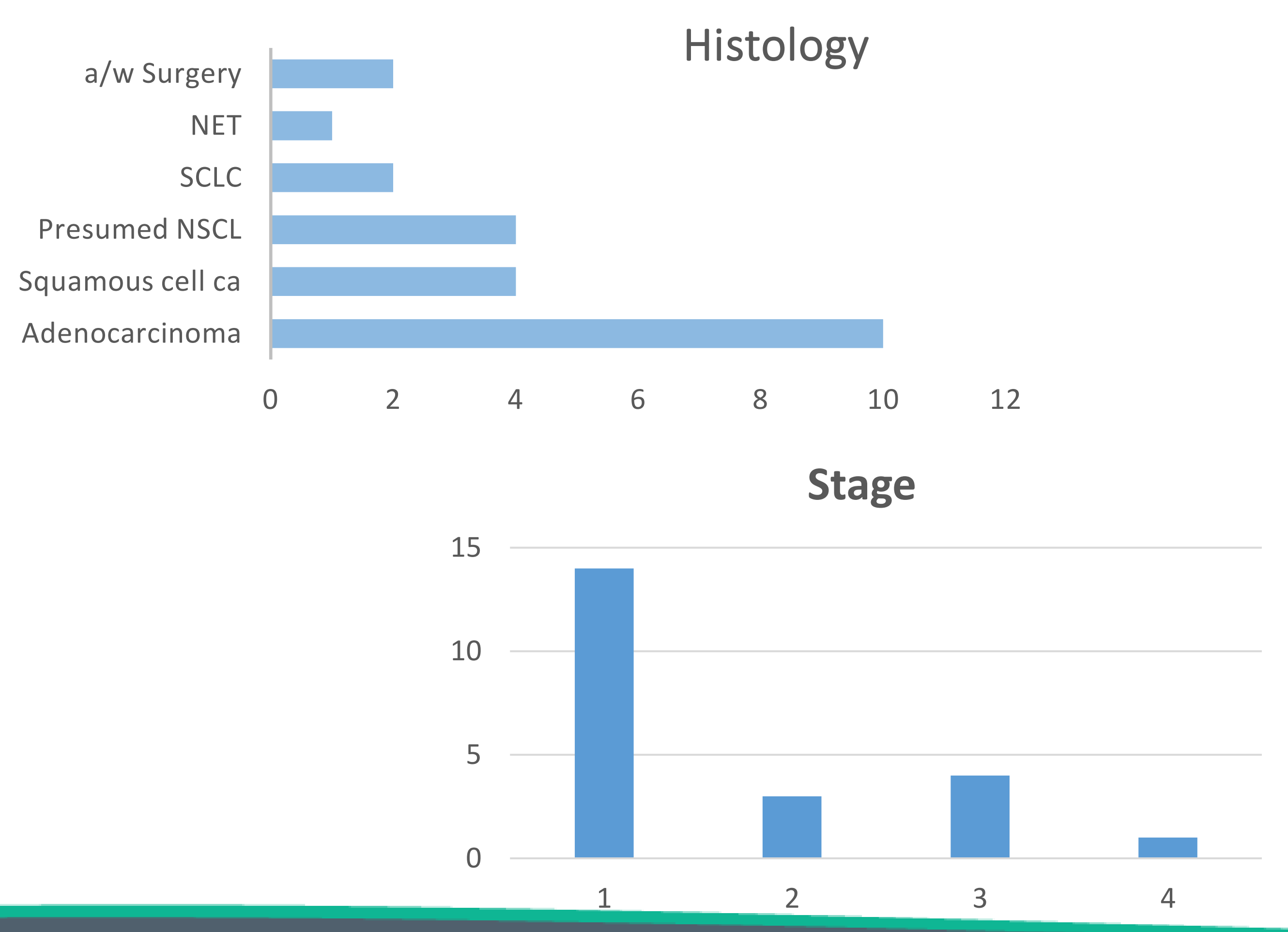
LHC April –July 2021 Lung Cancer - 23

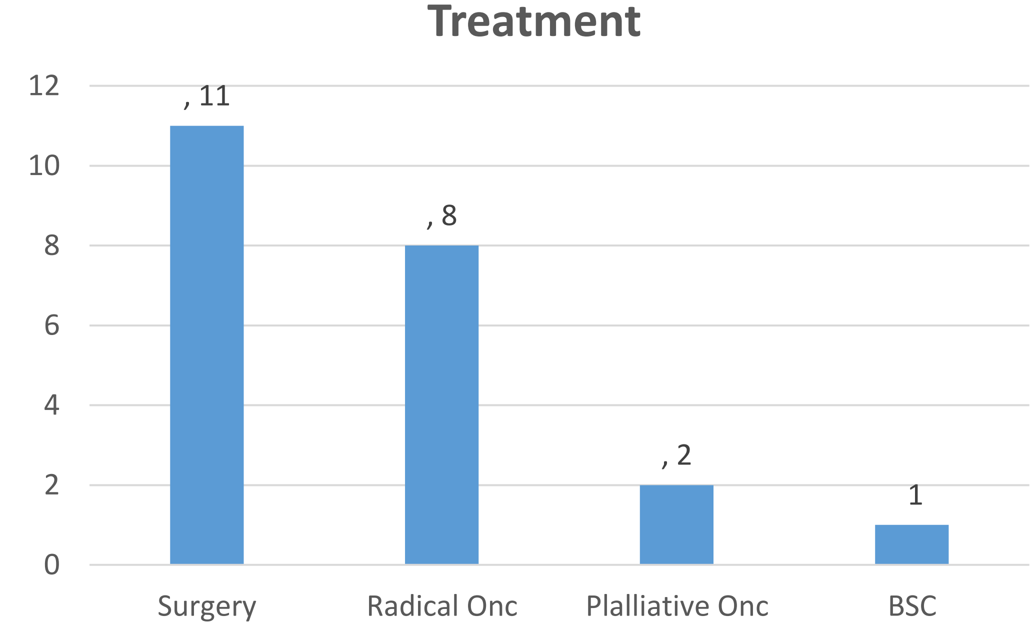




Remarkable people.
Extraordinary place.

LHC April –July 2021 Lung Cancer - 23

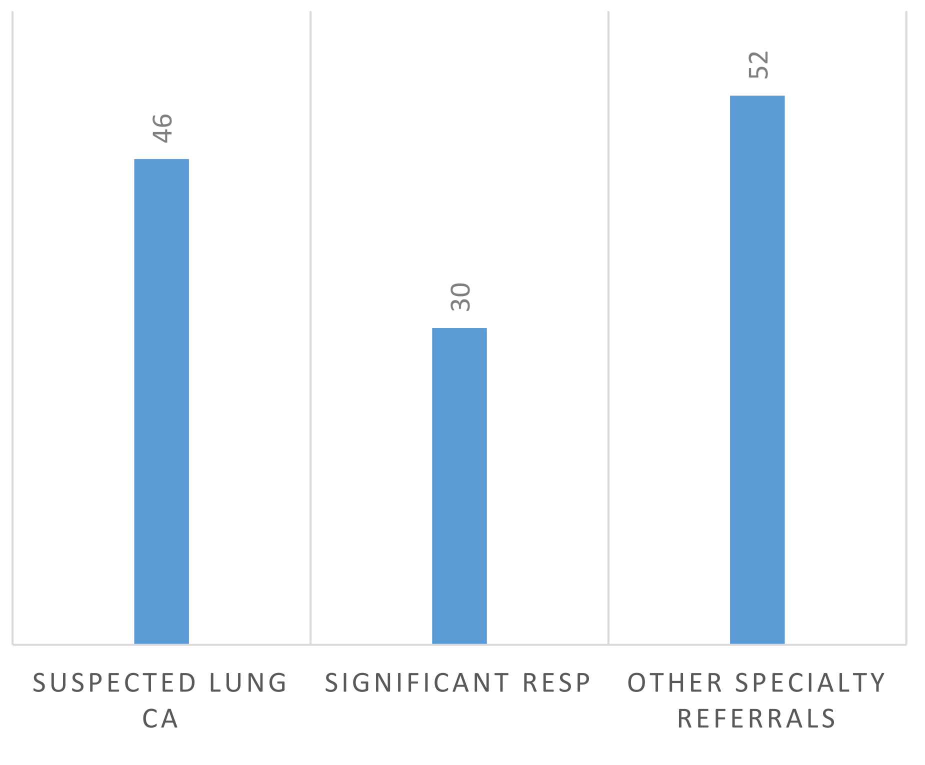




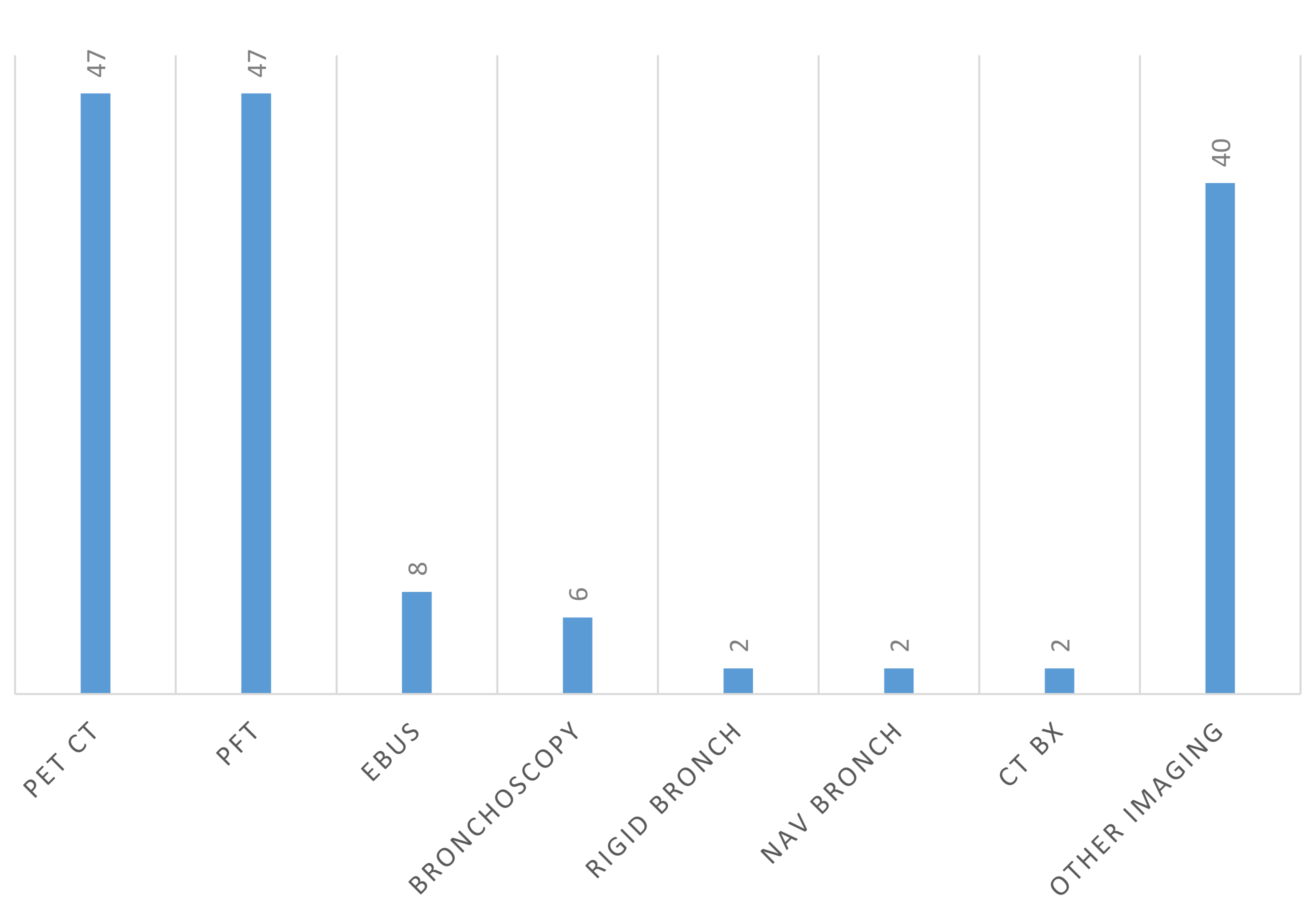
Non-Lung cancer – 1 (CLL)
Benign requiring surveillance - 9
7 probable Thymoma, 1 IPMN, 1 GIST

Remarkable people.
Extraordinary place.

Referrals/LHC clinics



Investigations



	HULL 2020	HULL 2021	MANCHESTER T0	MANCHESTER T1	UKLS
Lung cancer incidence	1.6%	1.6%	1.5%	1.6%	1.7%
Stage 1		61%	-	79%	66.7%
Stage 1 or 2		74%	78%	-	85.7%
Surgery		48%	-	42%	-
SABR		13%	-	26%	-
Radical Radiotherapy		4.3%	-	5%	-
Curative Treatment	87.5%	83%	89%		

Legacy?

- What is the point of all this work in setting up a pilot and running if the work does not continue….

- Still need to make it sustainable..

Panel Q&A

Joanne Thompson
Lead Respiratory Nurse Specialist
Programme Responsible Assessor
Hull University Teaching Hospitals NHS Trust

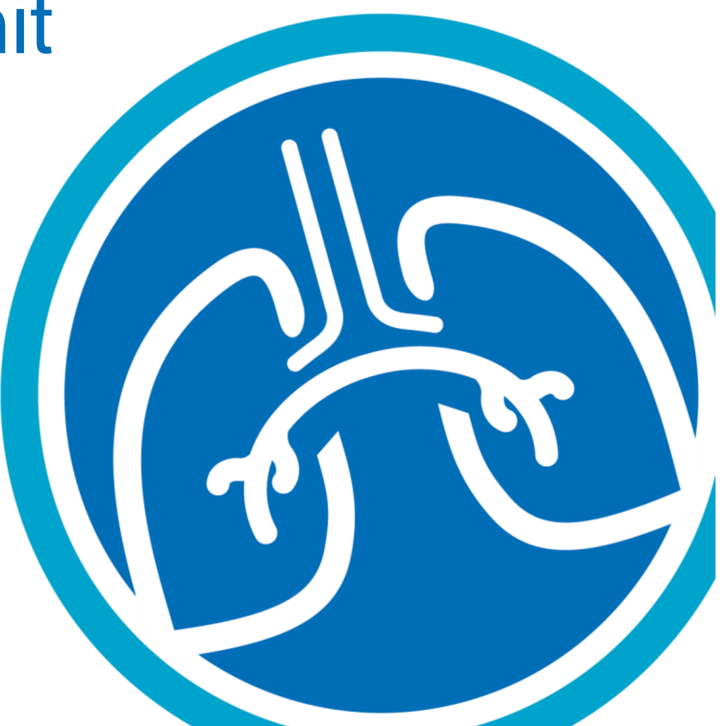
Dr Gavin Anderson
Consultant Respiratory Physician
Hull University Teaching Hospitals NHS Trust

Dr Masood Balouch
GP, NHS Hull CCG

Dr Kanwal Tariq
Consultant Respiratory Physician
Hull University Teaching Hospitals NHS Trust

Lunch

Including tours of the mobile unit



Hull Lung Health Checks Stakeholder Event

A Community based CT service

Cobalt Health

- Medical Charity
- Imaging Centre - Cheltenham
- MRI Research Centre - Birmingham
- Mobile CT and MRI
- Image 110,000 patients each year
- Provide training and education
- Fund and participate in research
- Support local oncology and dementia services

Cobalt Health

Why lung health checks?

As a medical charity, Cobalt's objectives include:

- To introduce new imaging technology to support the NHS
- To ensure imaging services are available all regardless of location and socio economic group
- To participate in and facilitate research into early diagnosis
- To providing training and education to healthcare professionals

Lung Health Checks

Cobalt supports a number of LHC programme across the UK as follows:

Humber Coast and Vale Cancer Alliance

Commenced in January 2020, working in partnership with the Cancer Alliance, Hull University NHS Foundation Trust

Mobile Units

Mobile Units - CT

- Siemens Somatom go. CT
- 6 mobiles
- Patient friendly
- Efficient
- Footprint
- High image quality
- Ultra-Low Dose

CT Scanner – Radiation dose

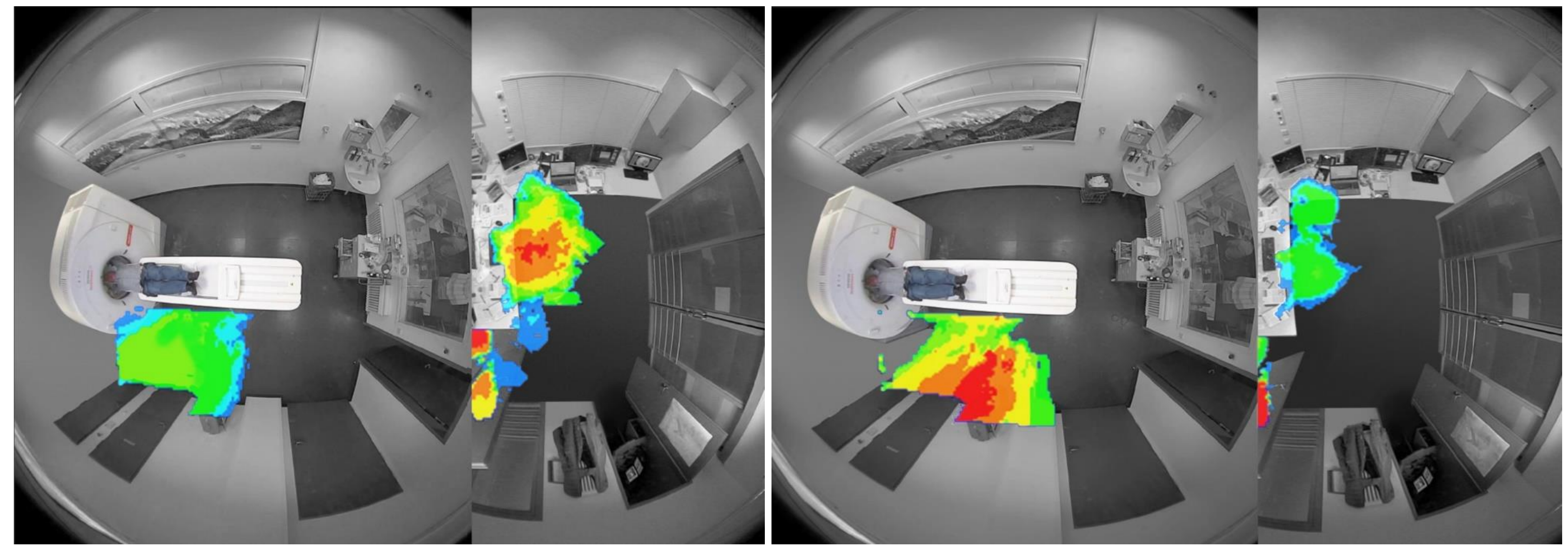
Tin Filter

CT Scanner

You will be asked to hold your breath for a few seconds

Mobile Units - Patient experience

Siemens Somatom go. CT



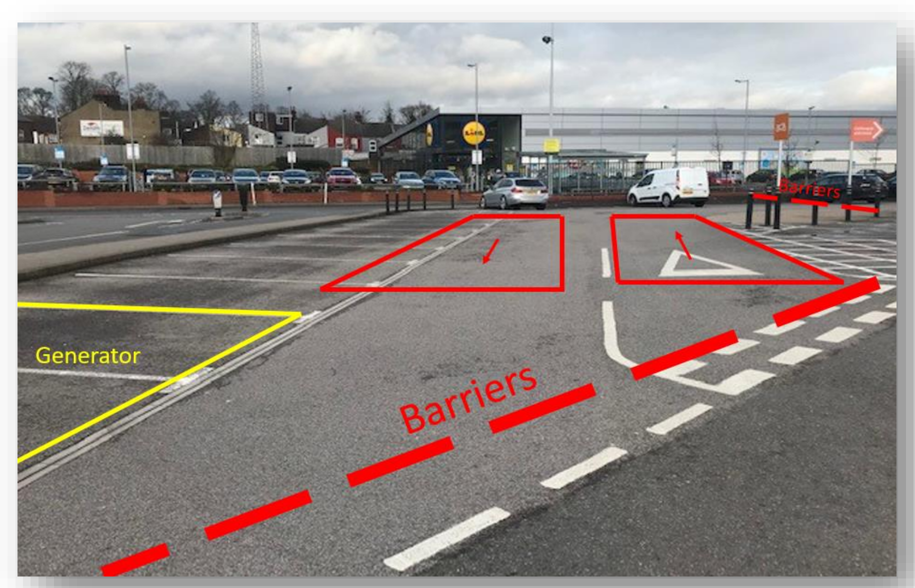
Standard workflow

Mobile workflow

Mobile Units - Support Units

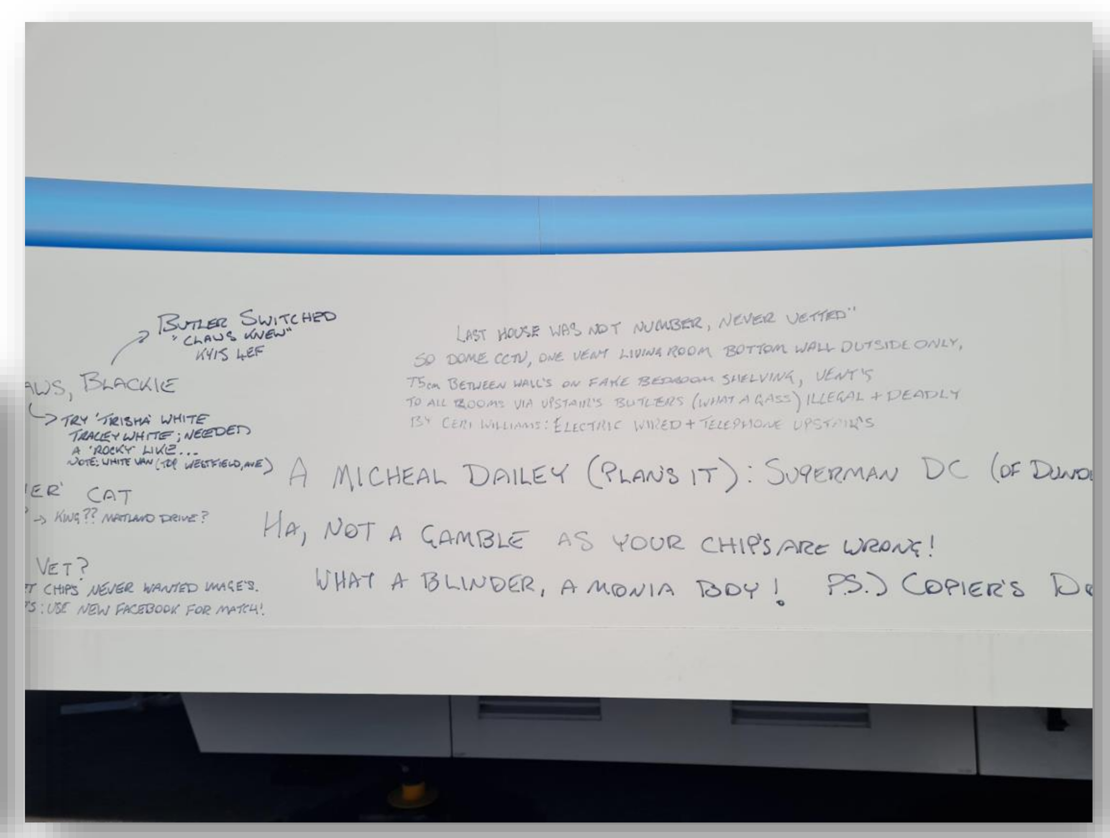
Mobile Units - Logistics

- Location
- Site planning
- Transport
- Power
- Water – Fresh and drainage



Mobile Units - Logistics

Security



IT Solution

Access to Trust IT via VPN/Wi-Fi

Scanner has CT worklist

Access to CRIS on mobile

Scanner Sends to Mobile Gateway

Mobile Gateway

CIMAR Cloud PACS

Images Upload to Cloud PAC via 4G Connection

Trust PACS Gateway

Trust PACS

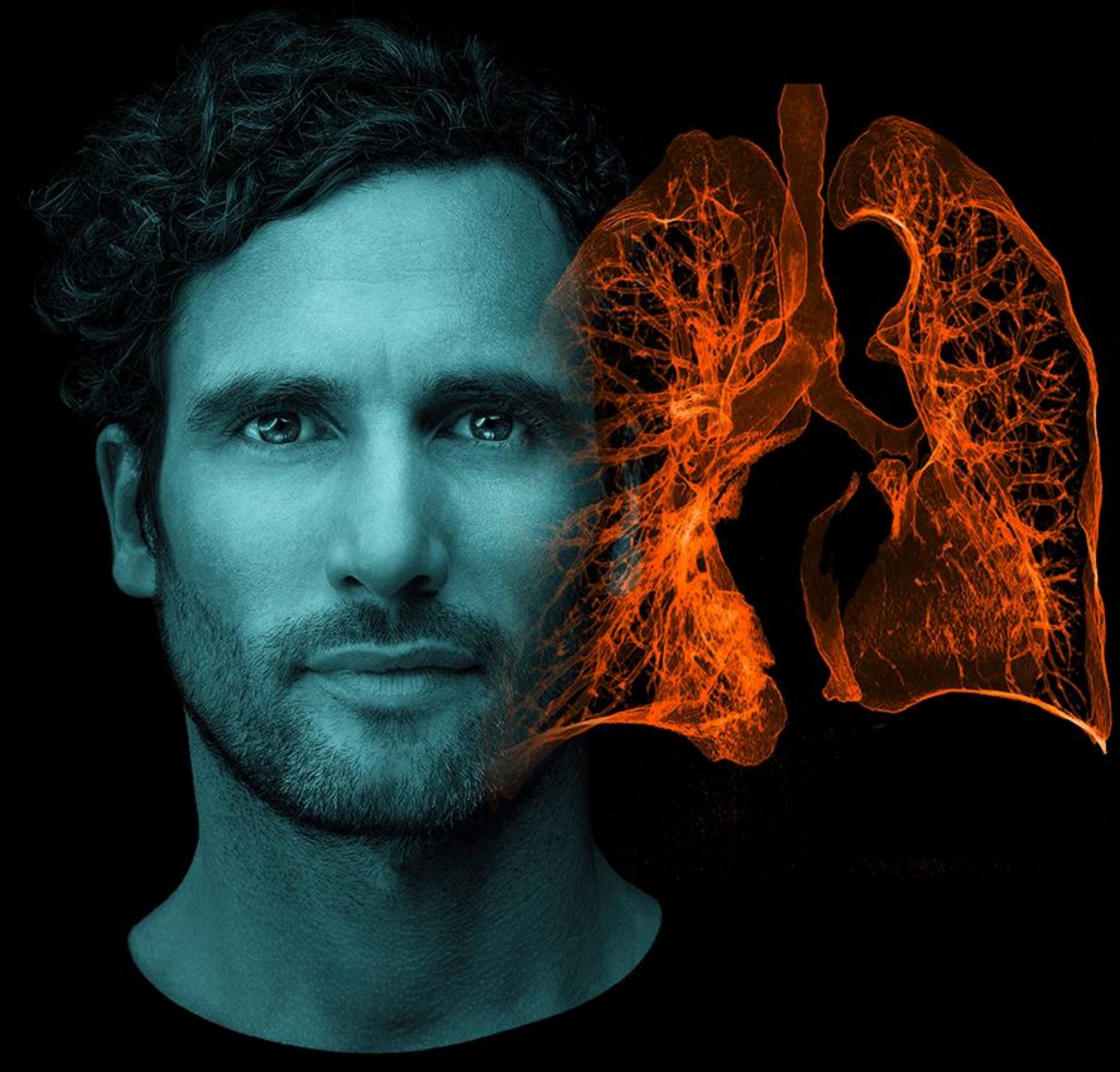
The key to success is partnerships

Cobalt
Medical Charity
Diagnosis • Research • Education

Lung Cancer

Darren Buckley – Regional Director

Hull November 2021



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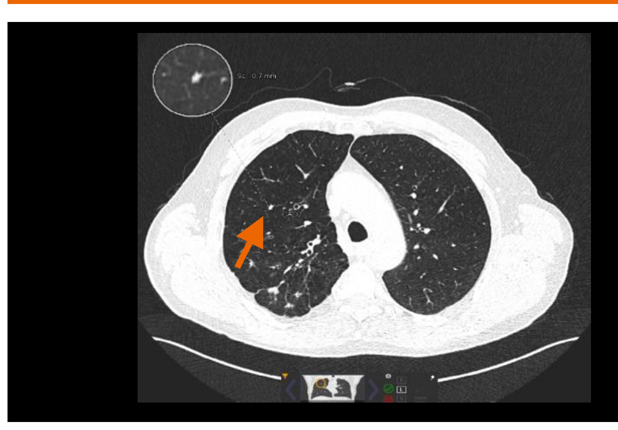
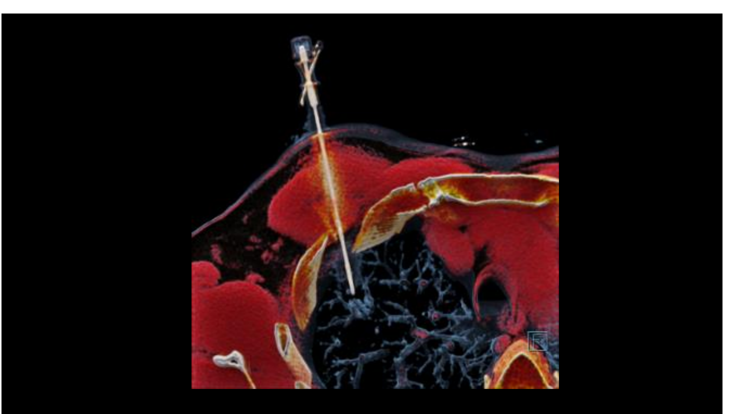
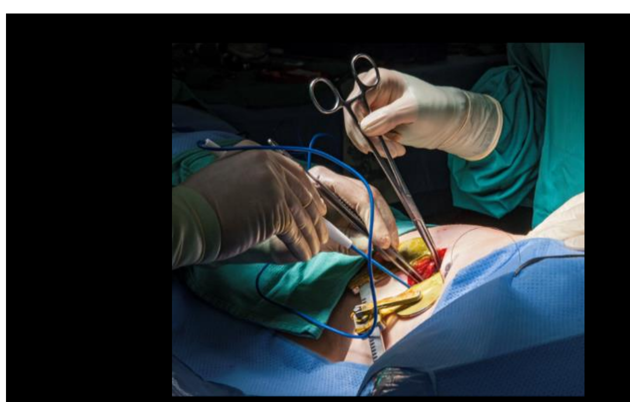
Impact of emerging trends in lung cancer care

Today	Lung cancer diagnosis after symptoms	Majority of patients with advanced tumors	Open surgery and lobectomy
Trends	Increasing number of lung cancer screening programs	More patients with small nodules	Early stage patients require a different mix of treatments
			

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Impact of emerging trends in lung cancer care

Today	Lung cancer diagnosis after symptoms	Majority of patients with advanced tumors	Open surgery and lobectomy
Trends	Increasing number of lung cancer screening programs	More patients with small nodules	Early stage patients require a different mix of treatments
Challenges	Low-dose screening CT / More accuracy in diagnosis / High patient throughput	Accurate biopsy procedures	Provide treatment capabilities and availability - Minimally invasive treatments

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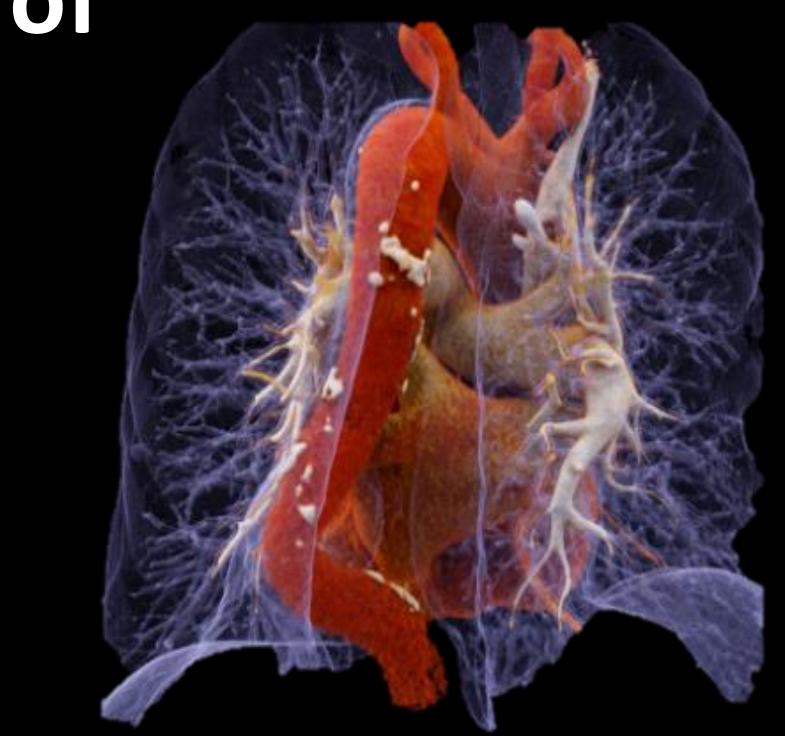
Siemens Healthineers

helps you to shape the future of lung cancer care



Courtesy of Erlangen University Hospital, Erlangen, Germany

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We are the most relevant provider of holistic solutions along the lung cancer pathway

Screening & Diagnosis

Low-dose CT with Tin Filter
- SOMATOM scanners

AI-based automated image interpretation
- AI-Rad Companion Chest CT
- *syngo.CT* Lung CAD

Staging & Therapy decision

SOMATOM X.platform*

PET/CT Solutions

myNeedle Companion* for CT-guided interventions

Therapy planning & Treatment

Radiation therapy planning
- SOMATOM go.Sim
- SOMATOM go.Open Pro

Image guided therapy – Interventions/Surgery

varian

Radiation therapy solutions

Follow-up & Survivorship

Low-dose CT with Tin Filter
- SOMATOM scanners

AI & digital tools

*SOMATOM X.ceed and myNeedle Companion are 510K pending and are not yet commercially available in all countries.

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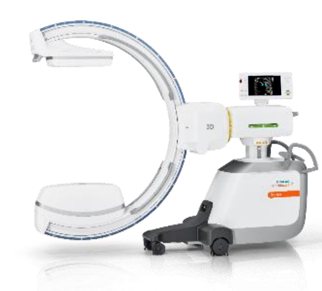
Portfolio for lung cancer interventions

Interventions/ablations

SOMATOM X.cite
For percutaneous biopsy and ablation



Cios Spin
For Endobronchial biopsy

Artis ceiling
For percutaneous and vascular interventions

Image-guided surgery

ARTIS pheno

Radiation therapy

SOMATOM go.Sim
SOMATOM go.Open Pro
For radiation therapy planning

varian
Radiation therapy solutions

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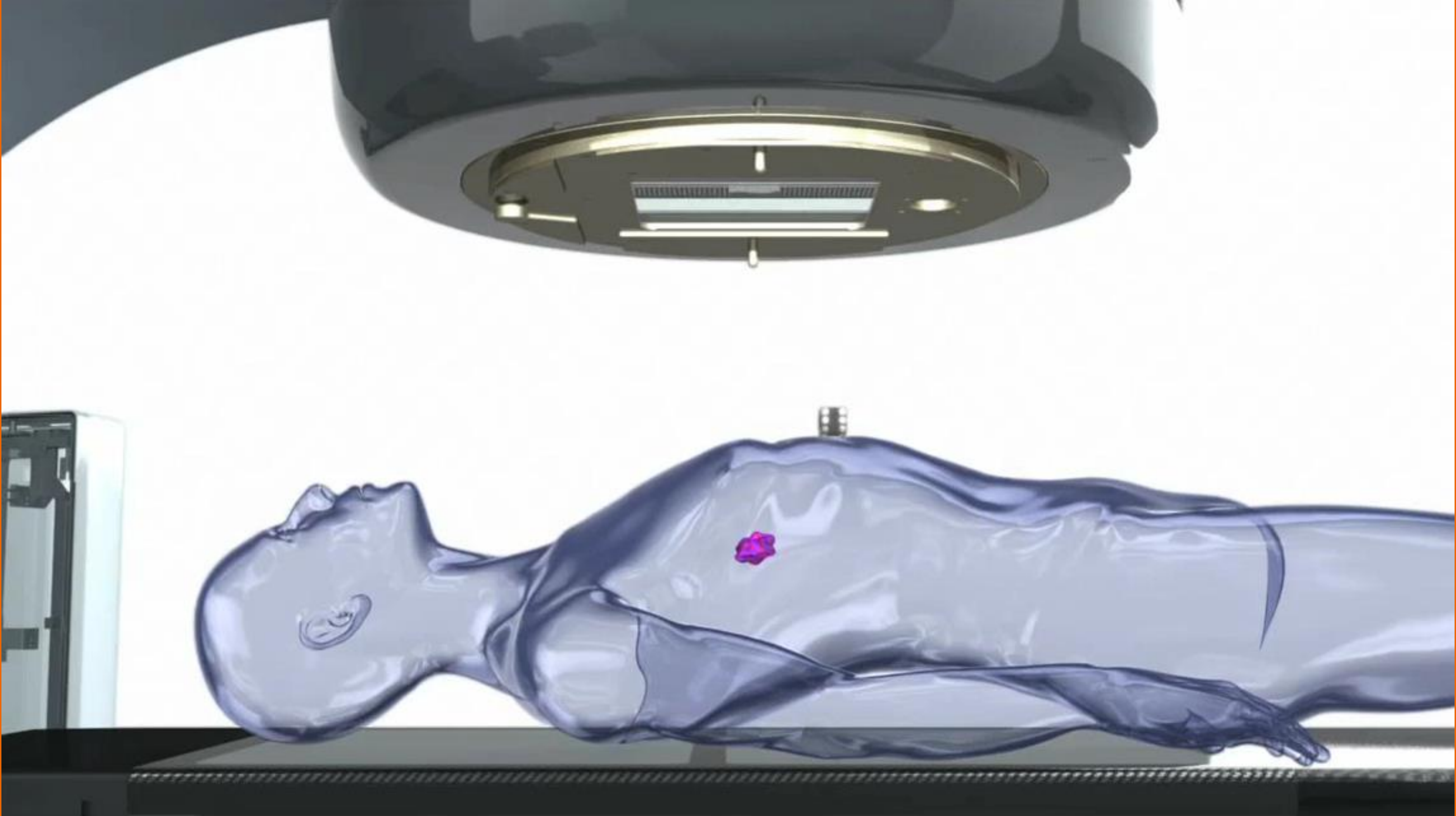
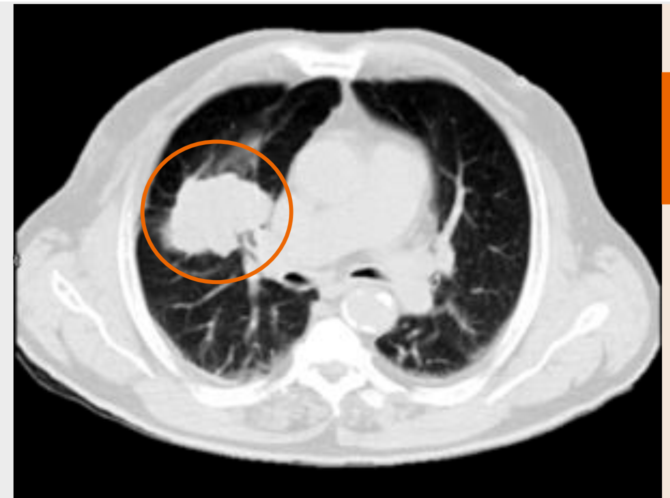
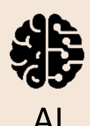
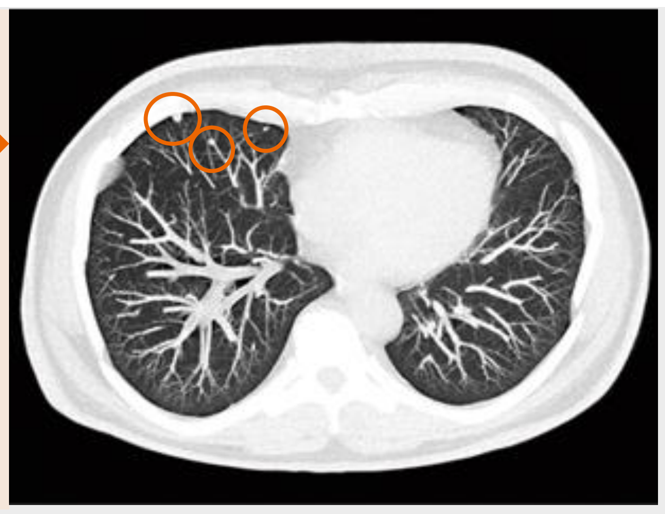


We are the partner of choice for lung cancer care
Summary



Shift of patient population with lung cancer screening programs





- **Stage 4** – Diagnostic after symptoms
- Survival rate **<20%** (5-years)[1]
- **Metastasis** to other regions **limiting options for therapy**[2]

We can shape the future of lung cancer care together

- **Stage 1-2** – Detection by screening
- Survival rate of **70-90%** (5-years)[1,3]
- **Less patient complications** due to options for **minimally invasive and early stage systemic therapies**[4]

1.https://www.cancer.org/cancer/lung-cancer/detection-diagnosis-staging/survival-rates.html
2.https://www.cancercenter.com/cancer-types/lung-cancer/stages/stage-iv-lung-cancer
3.Knight, S.B. et al. Progress and prospects of early detection in lung cancer. Open Biol. 2017 Sep; 7(9): 170070. doi: 10.1098/rsob.170070
4.https://news.cancerconnect.com/lung-cancer/treatment-of-stage-i-iiia-non-small-cell-lung-cancer-bXpb2DBLu0-jU9cGOPVoGg

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Thank you

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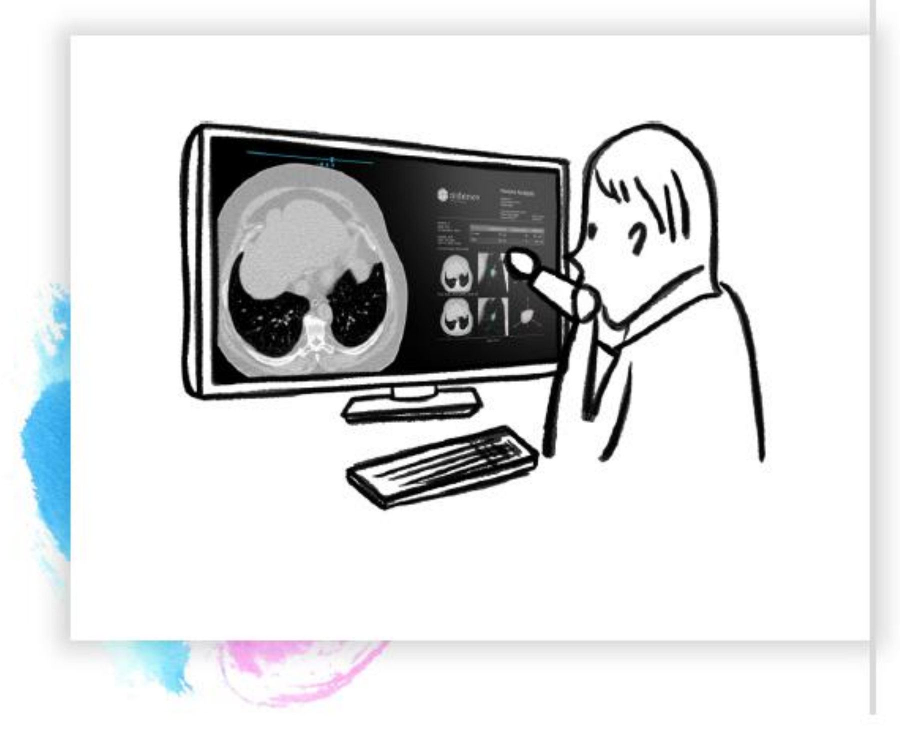
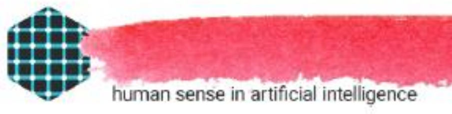
Aidence & NHSE - Targeted Lung Health Checks

Jack Dann
UK Business Manager

aidence
human sense in artificial intelligence



About
Aidence



About Aidence

- Established Nov 2015
- Based in the Netherlands and UK
- Diverse and international team of 60+ people

- Deployed across 50+ hospitals in Europe
- Multi-year NHS contract for adoption of AI
- Partner for Lung Cancer Screening programs in UK/EU

- Industry renowned QA/RA
- Award winning technology (Kaggle/Google)

We provide intelligent software that empowers healthcare and pharmaceutical professionals to deliver faster, more precise diagnostics and treatments.

Our Mission

Veye Lung Nodules
Pulmonary Nodule Management

Fully automatic nodule analysis:
- Detection (3mm-30mm)
- Classification of composition (solid vs sub-solid)
- Quantification (diameters, volume)
- Growth (percentage and VDT)
- Custom settings: operating point and size filters

Scalable & Accessible AI:
- Direct PACS integration
- *Anyone, Anytime, Anywhere*

User-centric design
- Input from leading radiology depts throughout UK & EU

[1] : Globocan 2020 Lung, International Agency for Research on Cancer
[2]: NCBI, Cost burden associated with advanced non-small cell lung cancer in Europe and influence of disease stage
[3]: BMJ Thorax, Second round results from the Manchester 'Lung Health Check' community-based targeted lung cancer screening pilot
[4]: The New England Journal of Medicine, Reduced Lung-Cancer Mortality with Volume CT Screening in a Randomized Trial

Veye Reporting

Interactive report based on NHSE TLHC template:

Faster reporting:

- Prepopulated with results from Veye Lung Nodules
- Automatic VDT & Brock score calculations

Control your report:

- Choose which nodules to include/exclude in your report
- NHSE QA incidental findings & free text

Easily share & review reports:

- PDF of your final report sent to PACS automatically
- Paste text report directly into RIS
- Exportable Excel file of all reports for QA & auditing

Accession number 156408
Name 091439*LSS
Sex –
Date of birth 03/03/1983
Age 37
Participant ID 100032
Last modified 20/04/2020 11:05
Reader Lloyd O'Mahony
Status draft
Save

Scan information
Clinical Information
Clinical history

Type of scan	Baseline · 3 month · 12 month · 24 month
Scan quality	Adequate · Inadequate due to breathing artefact · Inadequate coverage
Was CAD available?	Yes · No - software failed to process study · No - other
Emphysema extent	None · Mild · Moderate · Severe
Family history of lung cancer	Yes · No
History of extrathoracic cancer	Yes · No

Previous 1 3 2 + Next

Nodule 1 N/A Brock score + Add to report **Prior scan**

		Prior scan
Image		
Slice	41	42
		Solid
Lobe	RUL · RML · RLL · LUL · LLL	160 mm³ · Automated volumetry reliable
Position	Subpleural · Intraparenchymal · Endobronchial	6 mm x 6 mm · 6 mm
Type	Solid · Part-solid · Pure ground glass · Intrapulmonary Lymph Node · Inflammatory consolidation	

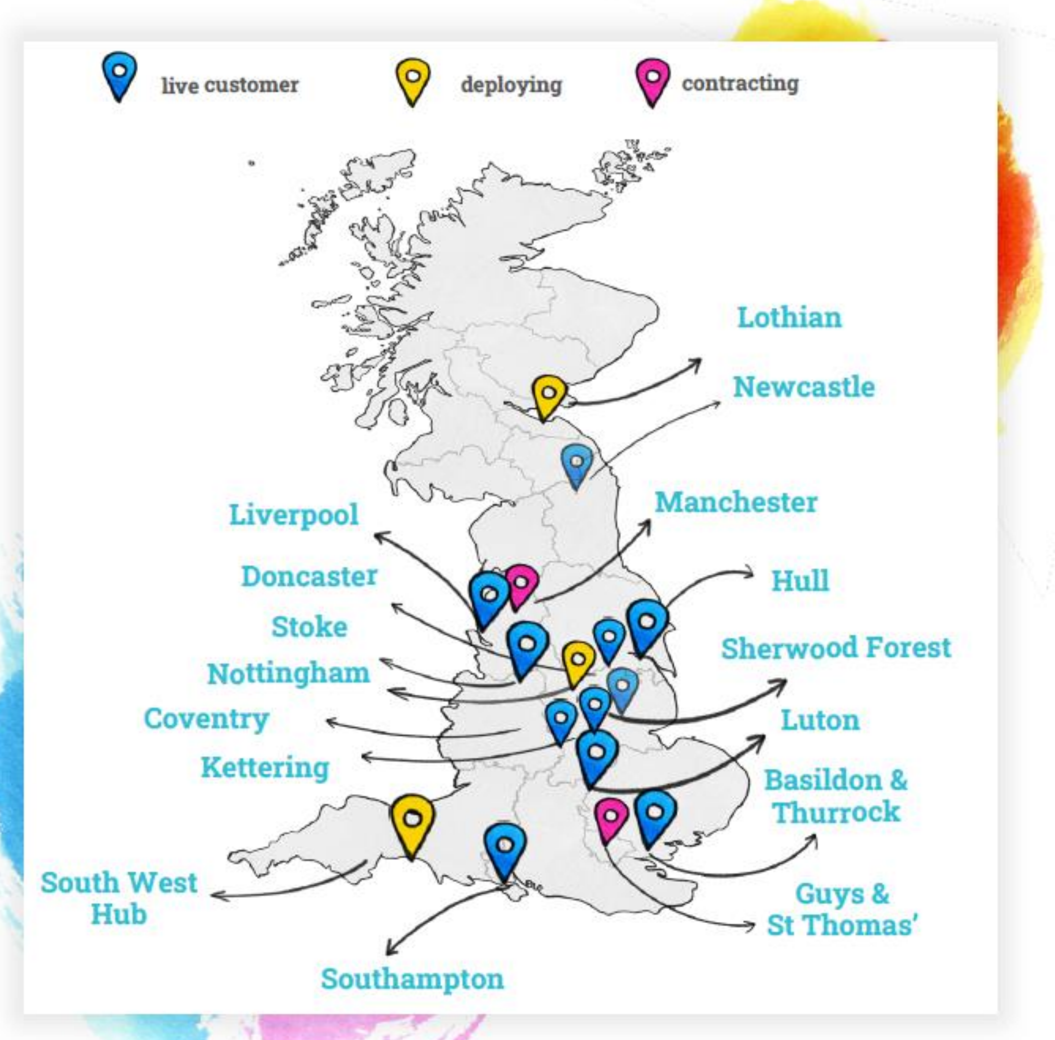
Aidence & the UK

User Community:

- 15 TLHC's Programme's Live
- Growing Customer base for Routine care

UK timeline:

- **2018:** clinical validation study at NHS Lothian & QMRI
- **2020:** NHS^{X}/AAC "AI Award" funding to generate added-value evidence in NHS Trusts
- **2021:** 20+ NHS Trust customers



The Aidence & Hull TLHC Programme Journey

How have we succeded?

A strong collaborative approach, listening to our customers has been crucial to our joint success.

Why have we had such success

- Veye Reporting – A product built specifically for the NHSE TLHC Programme's with Hull. Now used across 15 TLHC Programmes.
- Seamless Integration into the existing workflow
- A quick, simple and efficient Implementation process
- The relationship between our teams

Visit to Hull’s mobile CT

The Aidence & Hull TLHC Programme Journey

What does Success look like?

For the Care Providers

- Automated Workflow increases efficiency
- A significant amount of time saved in reporting
- Empowering Clinicians to easily follow the screening Protocols
- Continued ability to allow remote working for clinicians
- Supports the required QA Process

For the Population

- Increasing the detection of early stage lung cancers

TLHC Programme's & Aidence – What's next?

Continue to empower our partners to enhance the TLHC Programme Workflow

- Listen to our customers feedback – what is working, what isn't working
- Keep using our own experiences to see what we can do better

Work with our partners on new and innovative ways to improve on what we offer

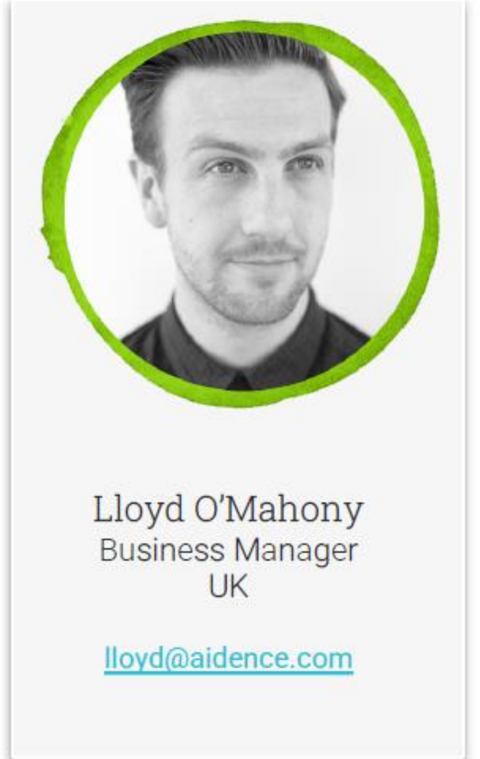
- We developed Veye Reporting with Hull in 2012 – What new requirements may be in the horizon

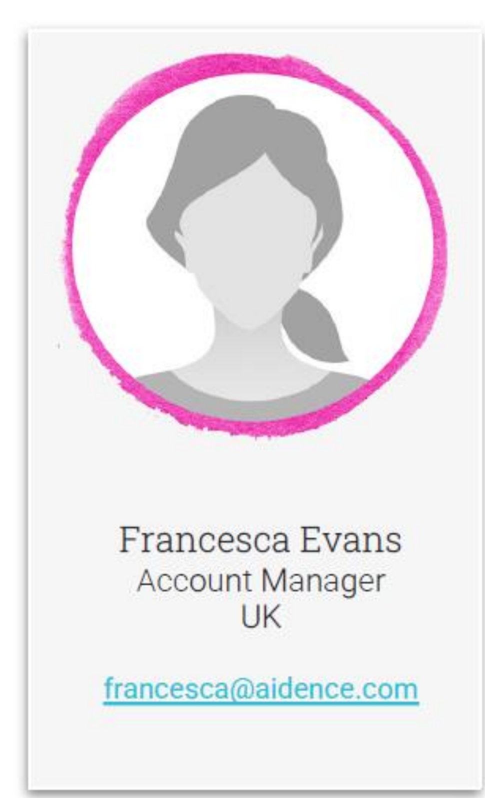
Bring multiple new TLHC Programmes on the journey with us in 2022

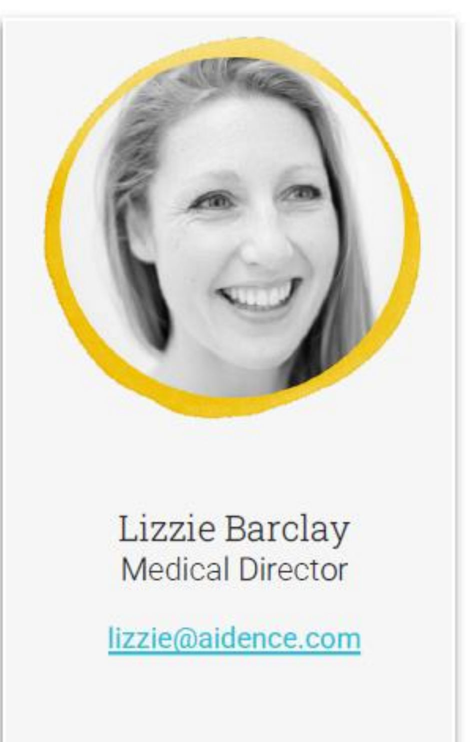
- We're hoping to not only continue on our journey with our existing TLHC sites, but to begin on our journey with many more in 2022.

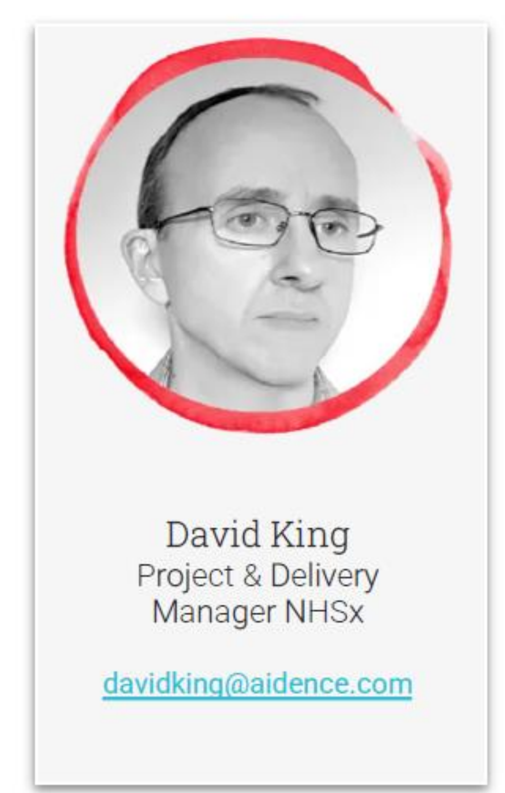
AI – Not just a 'Buzz Word'

Aidence's UK team









Jack Dann
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Close

Dr Stuart Baugh
Programme Director
Hull Lung Health Checks

Yvonne Elliott
Managing Director
Humber, Coast and Vale Cancer Alliance

Thank You