

NC Research Institute

Established by: Dr Bridget S Wilkins On behalf of the ECMC Cellular Molecular Pathology Network Group Chairperson: Dr Karin Oien

Cellular and Molecular Pathology are Vitally Important for Cancer Patients



- Almost every cancer patient requires a histological or cytological test from pathology for initial diagnosis
- Many additional clinically suspect lesions are confirmed by such tests not to be malignant
- There is a rapidly increasing need for innovative testing to assess prognosis and to support stratified/ personalised medicine approaches
- Pathology needs to integrate new technologies and 'omics' into diagnostic assessments of cancer

The Future is Molecular (and the Future is Digital)





Cellular Pathology needs to modernise and innovate – and to keep doing so at pace

Where are the innovators? **Decline in academic pathology is greatest** of all clinical specialities

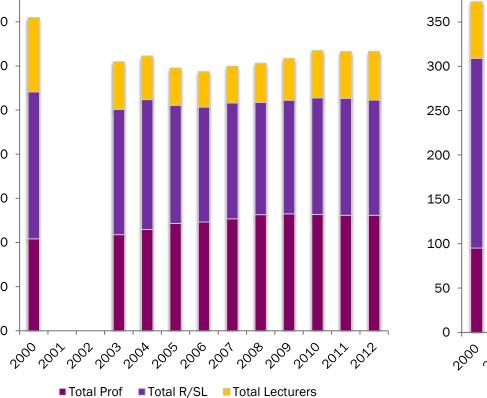


12 Lecturers

~ 20° 20° 20¹⁰ 20¹¹ 20¹¹

All academic posts Academic pathology posts in the UK 2000-2012 4000 400 3500 350 3000 300 2500 250 2000 200

in the UK 2000-2012 2012/3: 148 FTE 66 Professors 70 Readers/Snr Lecturers



Prof Reader/SL Lecturer

2004

2005

2006 2001

2001

2002

2003

1500

1000

500

0

Delving deeper into Cellular Pathology Decline in academic Cellular Pathology appears to be worst affected



Self-declared academic cellular pathology posts 2015



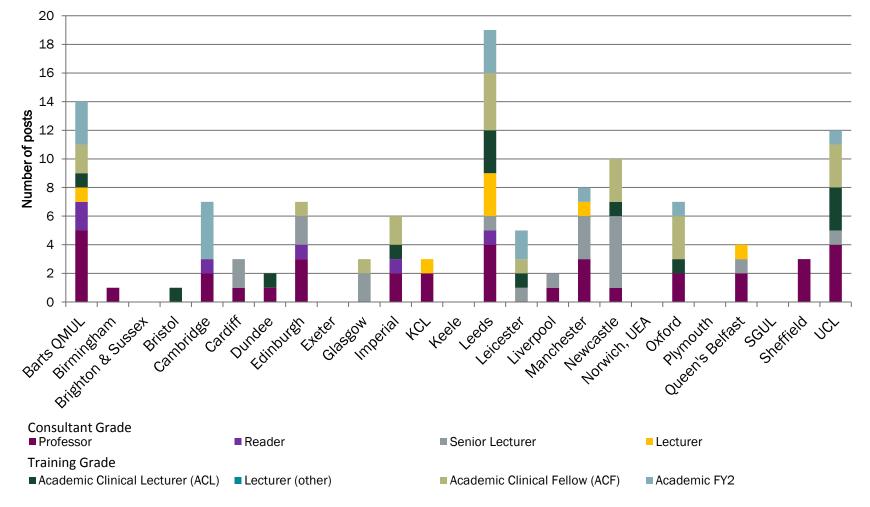
Delving deeper into Cellular Pathology

Variation in academic cellular pathology posts

across centres







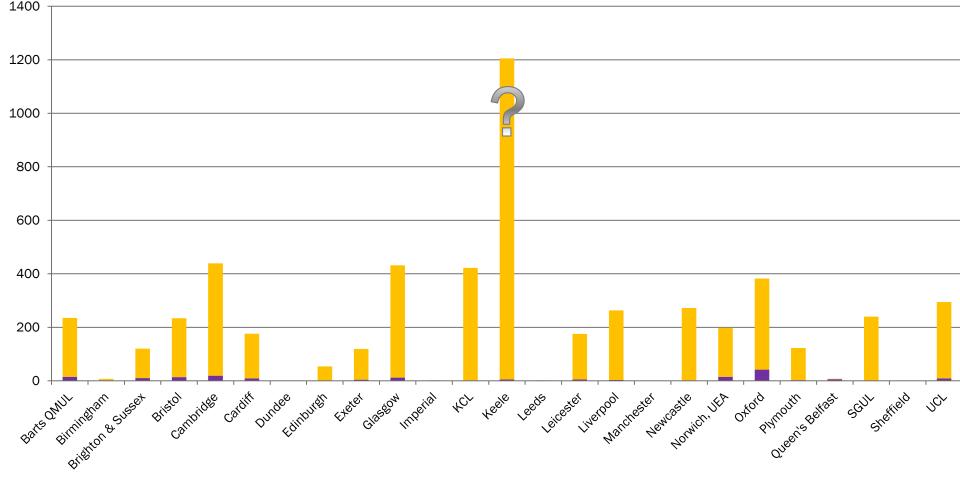
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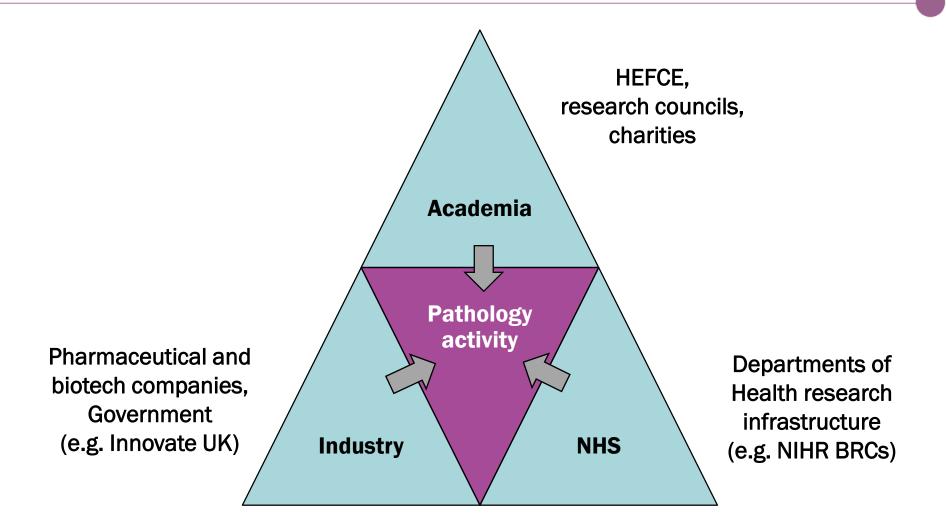
Cellular Molecular Pathology Initiative

Programmed Activities (PA) for research against Pathology Dept total PAs 2015



Where are the Resources?





Is there research desire?

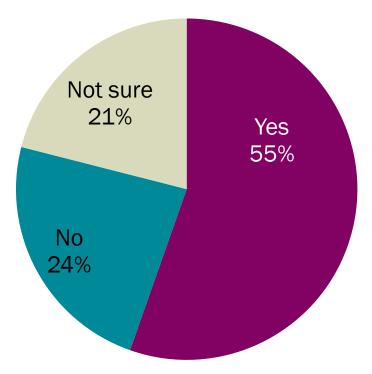
Survey on research attitudes and access within the Cellular Pathology community



Within your role as a consultant cellular pathologist, do you wish to undertake research? - Research Attitudes Survey 2015

Not sure 13% Yes 70%

Within your role as a consultant cellular pathologist, do you wish to supervise/mentor others undertaking research? - Research Attitudes Survey 2015



Survey circulated to RCPath membership with 197 responses

No

17%

What are the barriers? Survey on research attitudes and access within the Cellular Pathology community



100

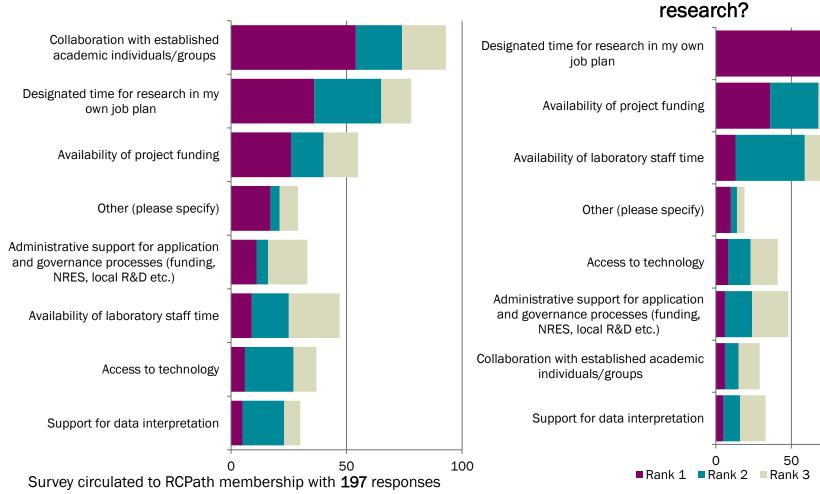
150

Absence/limitation of which three factors

in your job plan and work environment are

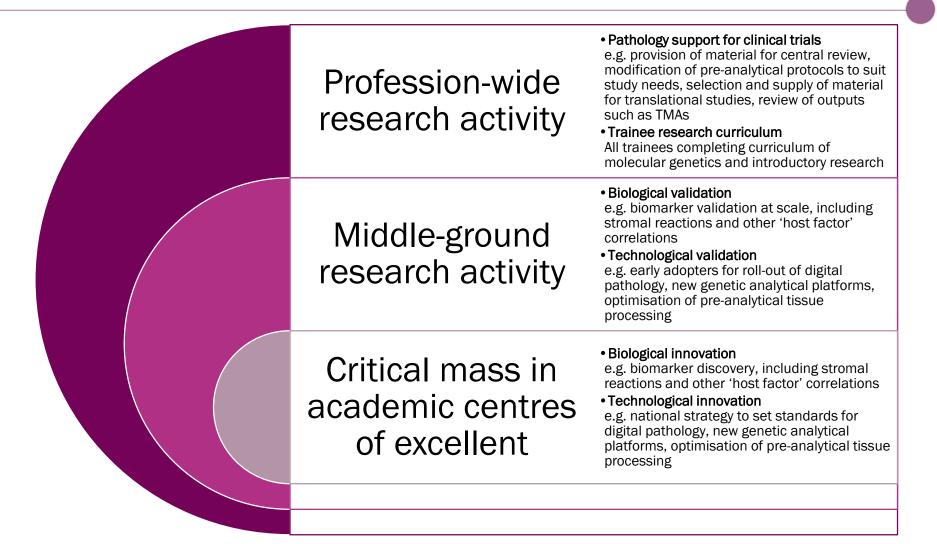
least favourable to your undertaking

Presence of which three factors in your job plan and work environment are most favourable to your undertaking research?



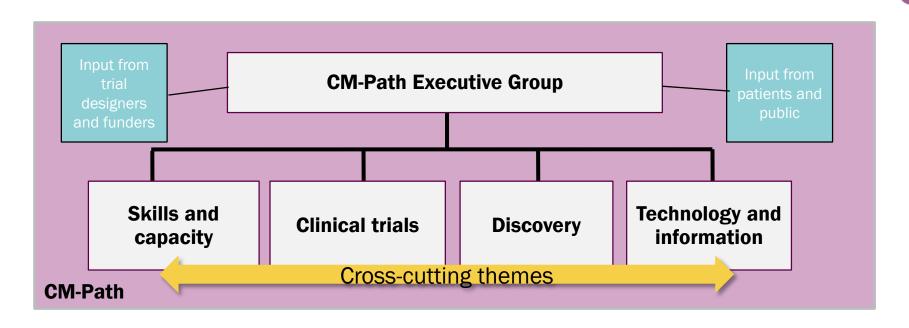
What do we need for the future in Cellular (Molecular) Pathology research?





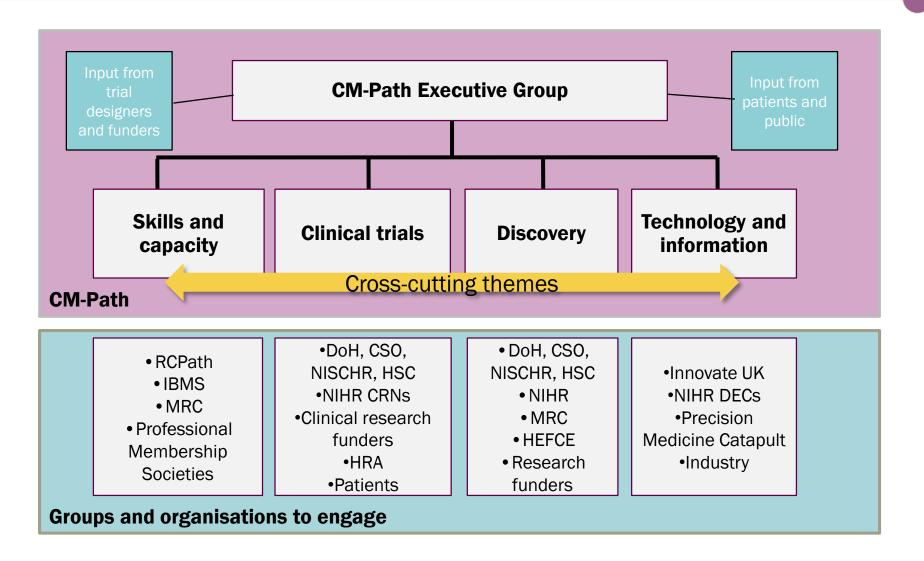


CM-Path Structure



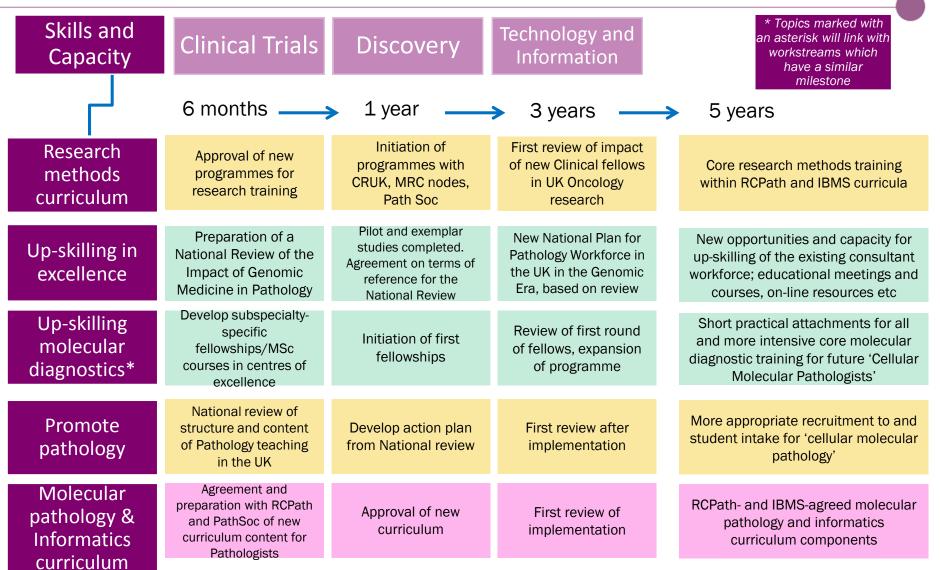


CM-Path Structure and Relationships





Workstream 1 – Skills & Capacity





Workstream 2 – Clinical Trials

Skills and Capacity	Clinical Trials	Discovery	Technology and Information	* Topics marked with an asterisk will link with workstreams which have a similar milestone
6 months \longrightarrow 1 year \longrightarrow 3 years \longrightarrow 5 years				
Protocol review*	Named contact for tissue collection in clinical trials for each CSG	CSG-CM-Path link established	CM-Path attending CSG meetings to advise on tissue collection aspects of new trials	Cellular Molecular Pathology Advisory Group to appraise trial protocols established
Optimising tissue-based research	Contact major funding organisations offering Advisory group as pilot	Catalogue the calls for proposals sent out by funders	CM-Path attending funding committees to offer prospective advice	Opportunities for tissue-based translational research maximised in clinical trials and tissue requirements supported
Fit-for-purpose sampling	Survey current methods and test different fixation protocols for molecular analysis	Analyse results and propose 'optimal' or 'best practice' fixation	CM-Path to advise pathology departments on fixation protocols	Standards and guidance available for tissue pre-analytical handling to ensure trial samples are fit-for- purpose
Pathology case studies (value added)	ldentify 'opportunities' and 'challenges' for pathologists participating in clinical trials	Develop 'The Role of the Pathologist in Clinical Trials' course	Share information and successful strategies case studies and review course	Publication of pathologists' experience contributing to clinical trials, including organisational aspects facilitating efficient participation
Protocols and standards*	Build database of pathologists actively engaged in clinical trials for sharing experiences	Regular updates to network on best practice and standards	Draw and disseminate recommendations from tissue standards	New networking opportunities to share best practice and update information about tissue requirements



Workstream 3 – Discovery

Skills and Capacity	Clinical Trials	Discovery	Technology and Information	* Topics marked with an asterisk will link with workstreams which have a similar milestone
6 months — 1 year — 3 years — 5 years				
Protocol review*	Establish group and undertake first brainstorming and pilot appraisal	Establish CSG-CM- Path links	Review of group and protocol review process	Cellular Molecular Pathology Advisory Group to appraise research protocols established
Discovery themes	First meetings of interest groups	Review of function of groups	Review and restructure of groups and topics according to activity/ need	Pathology-led themes in discovery research e.g. in 'multi-omics', liquid biopsy, tumour heterogeneity
Monitor academic growth/ decline	Identify forward plans with Medical schools	Develop residential course for trainee academic pathologists	Assess any growth/ decline in NIHR/CRUK/MRC PhD applications for fellowships	Number of pathologists applying for Clinical Lecturer posts and academic sessions increased
Support biobanking activity	lssue guidance of value of pathologists to biobanks	Develop transparent funding model to reimburse histopathology departments for contributions to biobanks	Review of progress of biobanking in the UK against international practice	Best-practice and responsive biobanking supported throughout the UK
Up-skilling in excellence*	Identify scheme co- ordinators and start first attachments	Attachments occurring in all grades	Review process, role of nodes, pace of increase and barriers to expansion	Short term research attachments taking place in centres of academic excellence

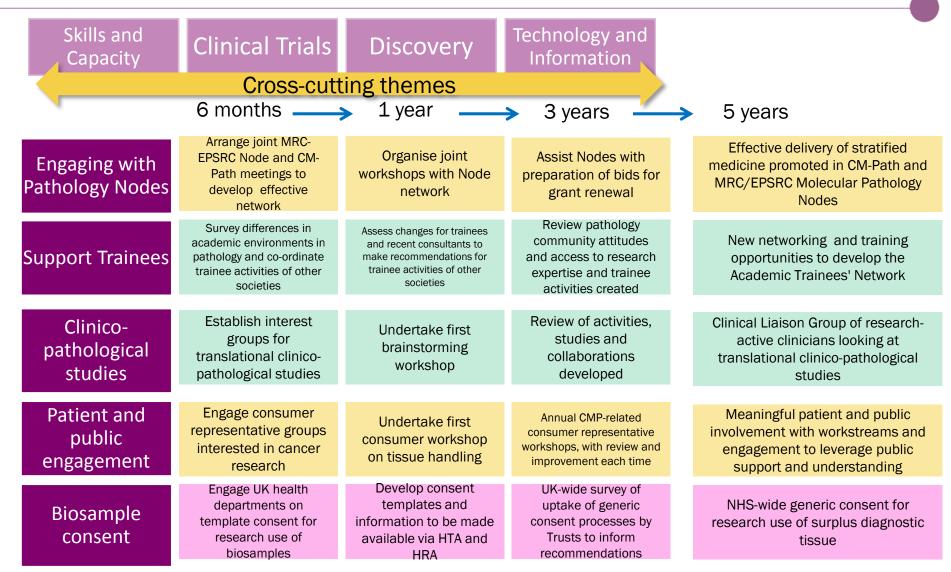


Workstream 4 – Technology & Informatics

Skills and Capacity	Clinical Trials	Discovery	Technology and Information	* Topics marked with an asterisk will link with workstreams which have a similar milestone
	6 months	1 year	3 years	→ 5 years
Horizon scanning	Assess current availability of equipment and facilities and the surgical specimen pathway	Establish advisory and pathology liaison panel for industry and UK infrastructure on diagnostics and associated technologies	Stimulate active engagement of pathologists with industry in defining the next phase of emerging technologies	Horizon scanning for emerging technologies to stimulate modernisation of cellular molecular pathology
Protocols and Standards*	Assess pathology community needs (hardware, software, key reagents) and how to implement new technologies	Stimulate discussion between CM-Path Exec and industry on how to implement new pathology- based tests	Standardise image analysis algorithms for quantitative assessment of digitalised immunostains or FISH slides for accurate scoring	Protocols and standards to support disseminating new technologies faster and more efficiently published
Evaluation and adoption*	Define infrastructure, regulatory and workflow requirements for digital pathology adoption in NHS laboratories	Establish health economic impact of digital pathology integration in primary diagnostics and quantitative tissue imaging	Review other emerging technologies for evaluation/ adoption	Collaborative evaluation and information- sharing to incorporate new tests/technologies/pre-analytical processes into patient care pathways more quickly supported
Incorporating informatics	Scope availability of IT systems and capability for pathology in NHS	Establish Pathology Informatics as a specialist subject within key centres, with basic training and research pathways available	Review IT systems and training in informatics subjects within pathology	Support for informatics approaches to maximise interpretation of research- acquired information for patient management
Integrated pathology reporting	Identify exemplar integrated diagnostic report formats and look at integration options	Assess automation of IHC and FISH analysis for integration into pathology reporting	Develop links with companion diagnostic companies developing softwares and services for correlation between molecular findings and clinical relevance	Integration of multi-parameter data into pathology reports, with algorithms to guide interpretation and action
Digital Pathology*	Assess current availability of digital pathology and establish a Digital Pathology Forum to make recommendations	Establish subspecialty- centric digital pathology hubs	Review of availability, uptake and use of digital pathology	Access to digital pathology technologies increased and standardised

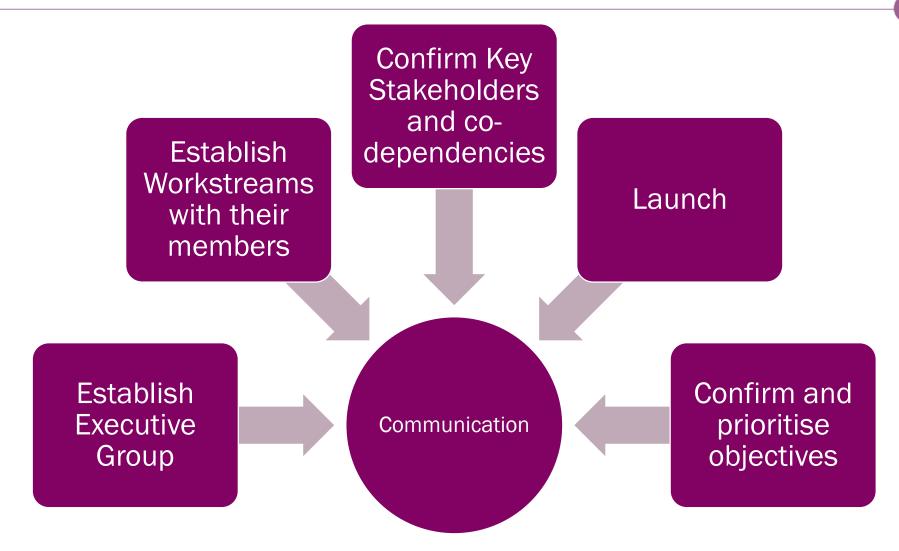


Cross-Cutting Themes





Priorities for first 6 months



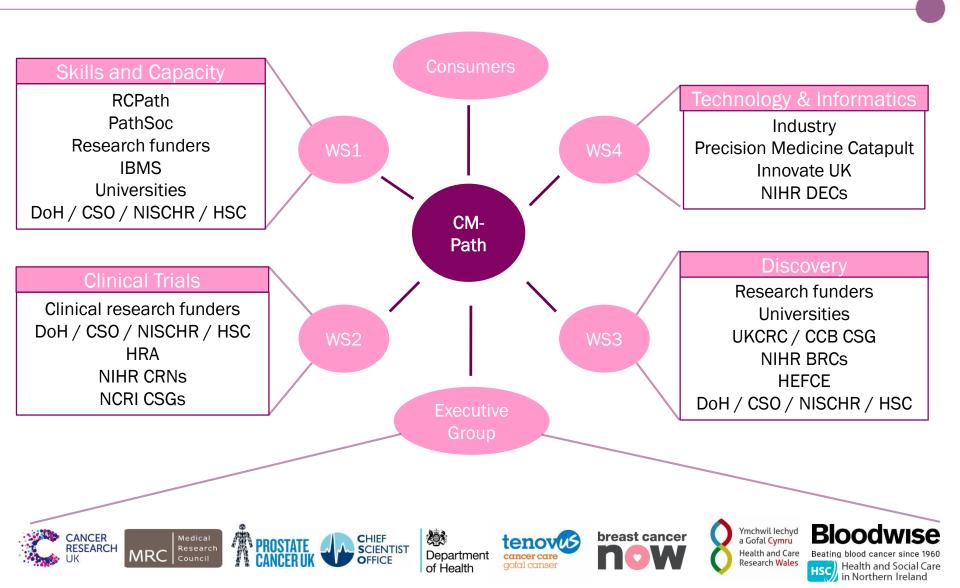


Establishing Executive Group & WSs

Chairperson:	Dr Karin Oien
Workstream 1 co-lead:	Professor Manuel Salto-Tellez
Workstream 1 co-lead:	Professor Louise Jones
Workstream 2 lead:	Dr Alex Freeman
workstream 3 lead:	Professor Gareth Thomas
Workstream 4 lead:	Dr Stefan Dojcinov
RCPath representative:	Dr Bridget Wilkins
PathSoc representative:	To be confirmed
Funder representative:	Dr Rowena Sharpe (CRUK)
Funder representative:	Dr Angharad Kerr (NHS)
Patient representatives:	To be confirmed
Programme manager:	Jessica Lee
NCRI strategic planning:	Dr Susan Kohlhaas



Key Stakeholders





Launch and objectives

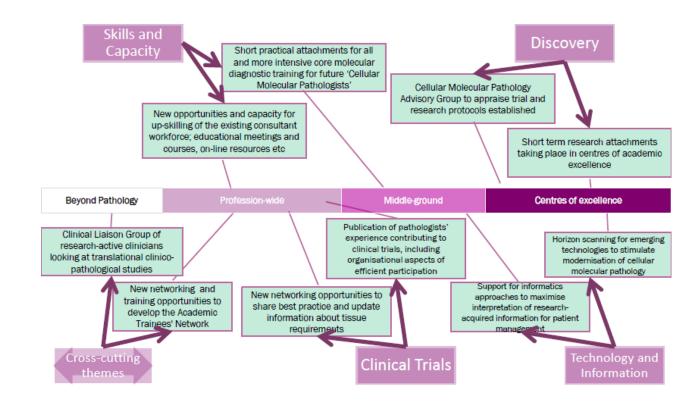
Monday 6 June 2016

- Introduction to CM-Path
- Introduction to NCRI
- Lessons from CT-Rad
- Team-building
- Workstream breakout sessions & reporting back
- Leading to early SMART objectives
- Establishing clear roles and responsibilities, accountability and expectations, especially for "cross-cutting themes"

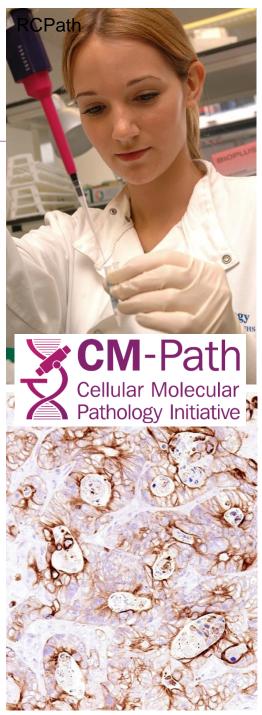




CM-Path: Where we should see activity in 5 years



Legacy





Thank you!



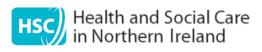
















Beating blood cancer since 1960

