



Joining forces for action

RCE-ESMO-ESO Training Course for Rare Cancer Patient
Advocates 2022

Cancer care: ensuring that digitalization benefits rare cancer patients

**Telepathology and telemedicine: what has changed during
Covid-19 for rare cancer patients?**

**Giancarlo Pruneri, University of Milan, NCI Milan
giancarlo.pruneri@unimi.it**

Digital pathology before the pandemic

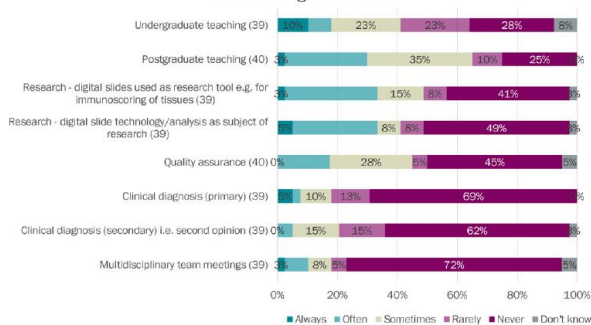
Short report



Digital pathology access and usage in the UK: results from a national survey on behalf of the National Cancer Research Institute's CM-Path initiative

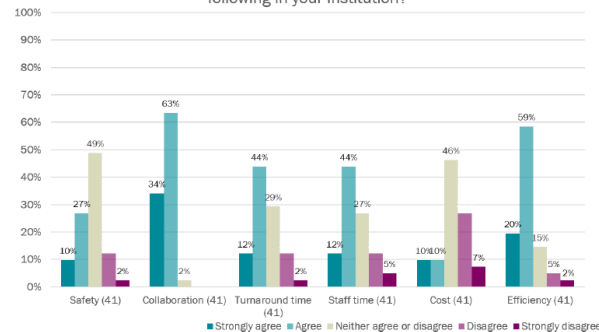
Bethany Jill Williams,¹ Jessica Lee,² Karin A Oien,³ Darren Treanor⁴

Today, to what degree does your institution use digital slides for the following scenarios?



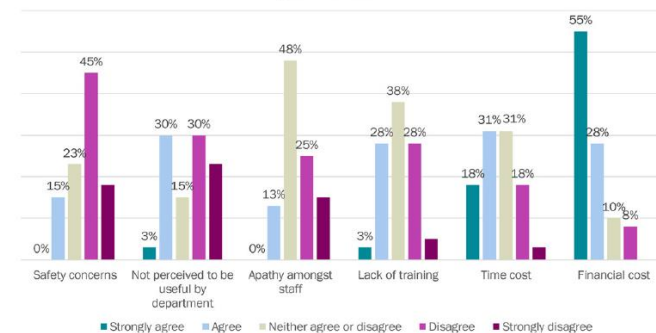
Current use, research > routine

In your opinion, do you think digital pathology would improve the following in your institution?



High efficiency, high costs

What are the current barriers to wider digital pathology usage at your institution?

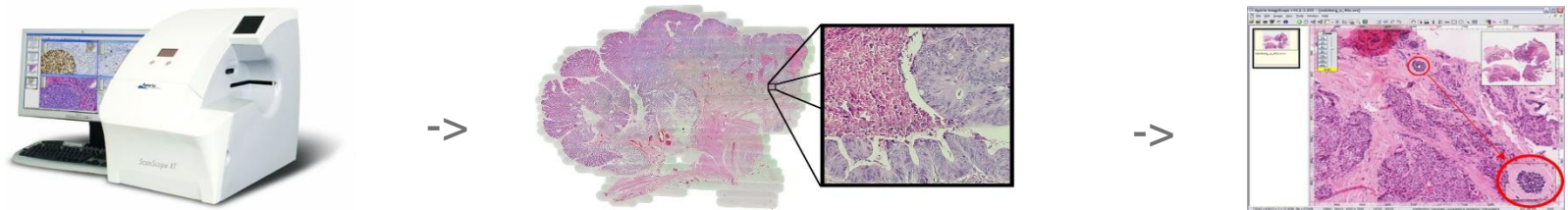


Money is the barrier

A new workflow

Digital pathology

Dynamic, image-based environment enabling acquisition, management and interpretation of pathology information generated from a digitized glass slide



Whole-Slide Imaging (WSI)

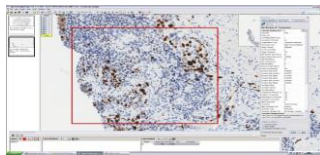
Single, high magnification digital image of an entire microscopic slide
WSI technology allows glass slides to be scanned and viewed on a computer screen via dedicated software
Information generated from the digitized glass slide, beyond the traditional microscope paradigm

Digital pathology, pros and cons

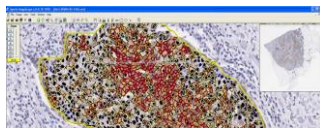
- Digitalized archive
- Virtual repository
- Integrated within the electronic clinical record
- Records for genomic analysis (tumor area, cellularity)
- Virtual intra-dept second opinion
- Patient documentation
- Slides preparation
- Trained and committed personnel
- Overall personnel attitude
- *Costs*

Telepathology for rare tumors

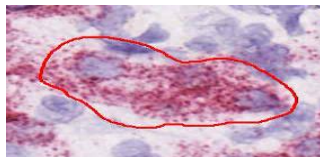
- Quick sharing of digital slides
- It uses telecommunications technology to facilitate the transfer of slide pathology data to distant locations for the purposes of research, education and diagnosis
- Digital slides are inherently easier to share than physical slides.
- Telepathology could be used for a wide spectrum of clinical applications:



Second opinion diagnosis

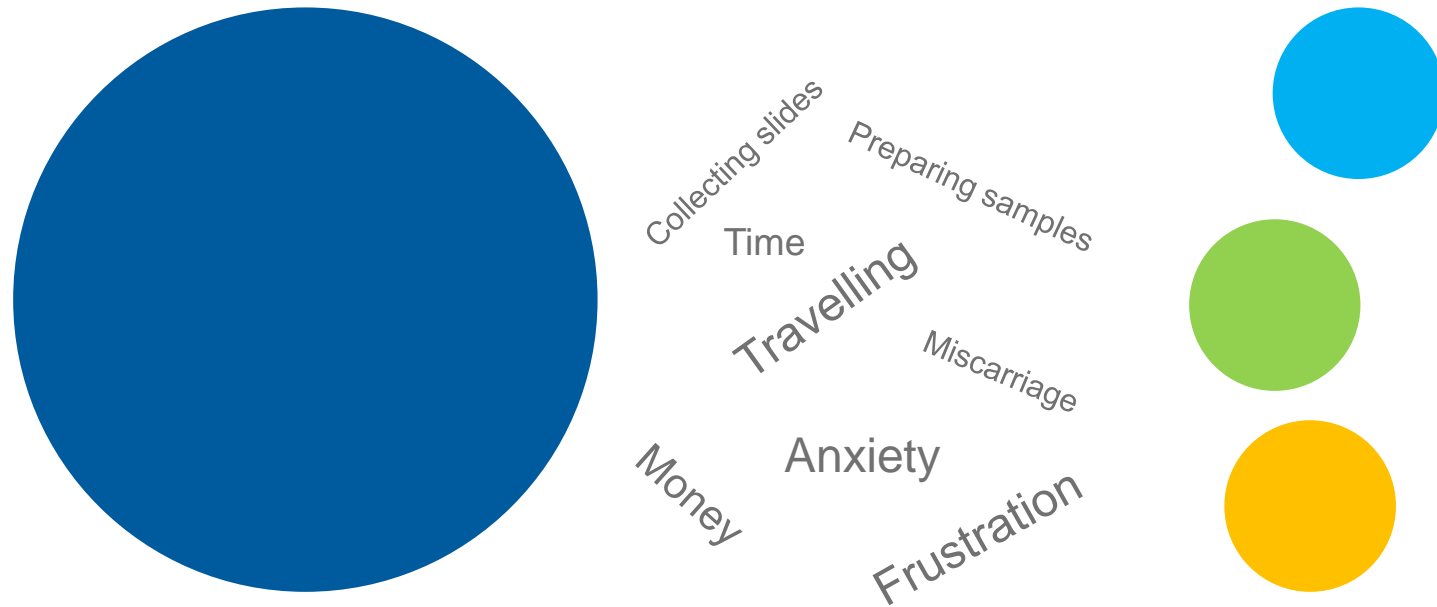


Education

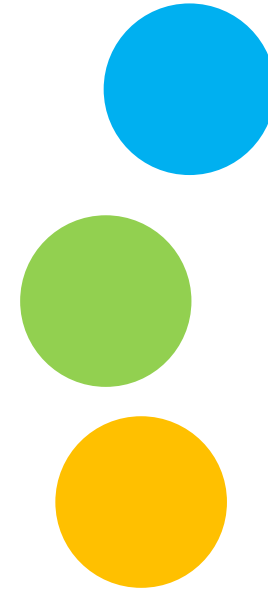
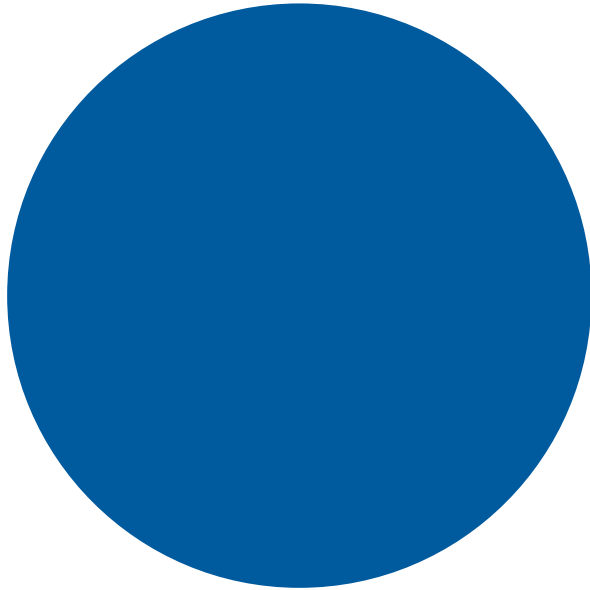


Research

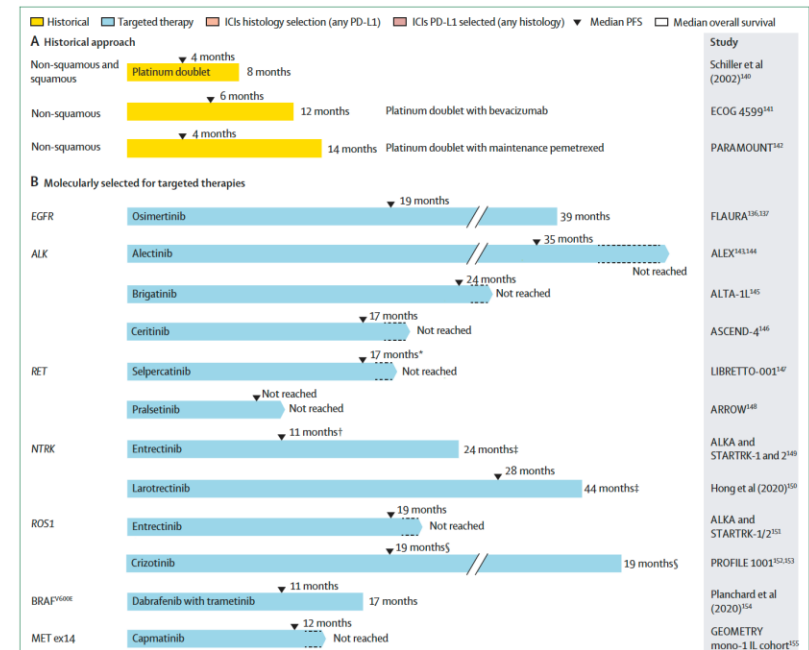
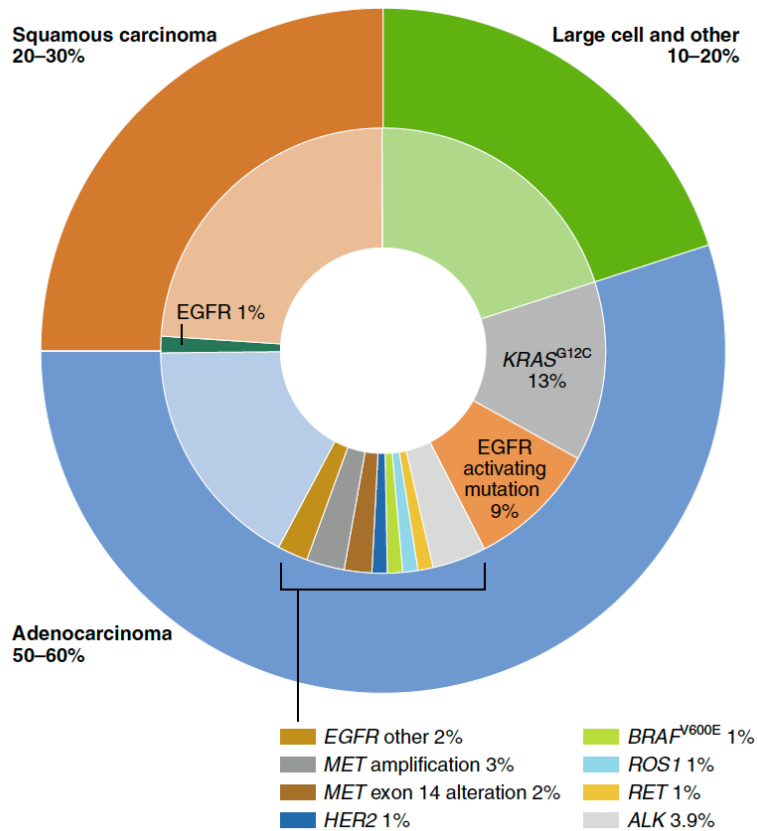
Second opinion in rare cancers: from the backs of patients...



...to the digital pathology network



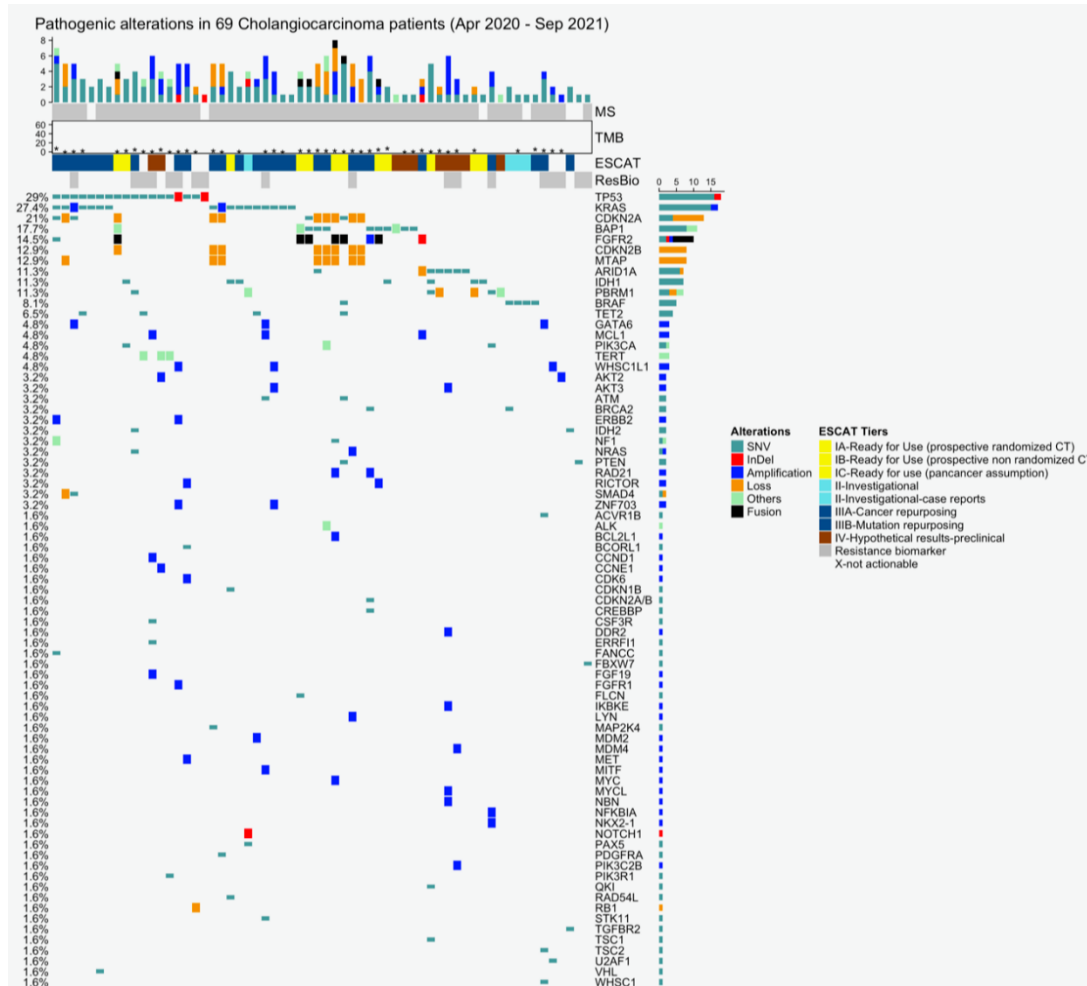
Rare (in common tumors as well) biomarkers



Wang, Nat Med, 2021

Thai, Lancet, 2021

INT institutional molecular tumor board: first patient discussed April, 29th, 2020



Networking is the solution for rare tumors and biomarkers

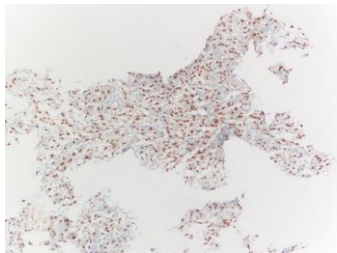
87 patients NTRK IHC/NGS	NGS + (fusion detected)	NGS - (WT/no fusion)
IHC + (25)	10 (40%)	15 (60%)
IHC - (62)	1 (2%)	61 (98%)

IHC cut-off 1%

Overall concordance rate: 81.6%

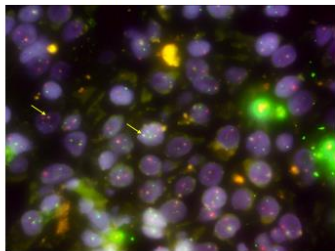
NPV 98.3% (MSKCC 383 cases 2020 97%)

PPV 40% (MSKCC 49%)



ETV6-NTRK3 fusion FISH

NTRK_Roche_INT_#81
2/2

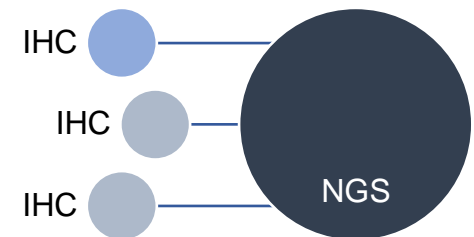
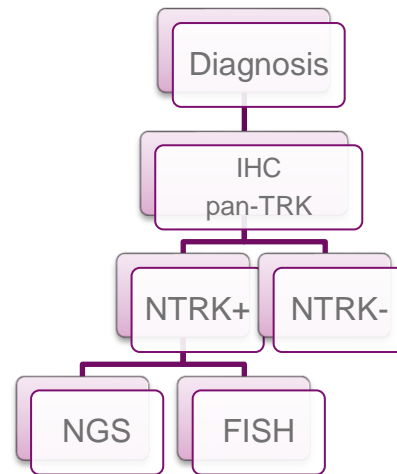


NGS

ETV6 NTRK3



ETV6 NTRK3



Digital pathology after pandemic

Improve diagnosis

Reduce TAT

Rationalize resources

Network

Education

Treatment

Prognosis