

# Impact of the COVID-19 pandemic on patients and staff in radiation oncology departments in Belgium: a national survey

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(on behalf of the Belgian College for Physicians in Radiation  
Oncology and BeSTRO)

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College van Geneesheren  
Radiotherapie-Oncologie

Collège des Médecins  
Radiothérapie-Oncologie



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# Introduction to radiotherapy

- Radiotherapy (RT) is recommended as part of treatment for **more than 50%** of cancer patients (alone or as a compliment to other treatments).
- RT is **loco-regional treatment** that uses high energy ionising radiation to target and destroy tumour cells
- RT treatment is delivered in minimum **one session** and up to 35 sessions (10-30 minutes/session)
- **RT team** composed of:
  - Radiation oncologist (RO)
  - MPE (Medical physicists) and MPA (Medical physicist assistant)
  - Radiation therapist (RTT=nurse and technologists)
  - Secretaries
  - Engineers, psychologists...



# *Is there an impact of COVID-19 on radiotherapy treatments?*

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Radiothérapie-Oncologie

**BeSTRO**   
BELGIAN SOCIETY FOR RADIOTHERAPY & ONCOLOGY

# Impact of COVID-19 on RT?

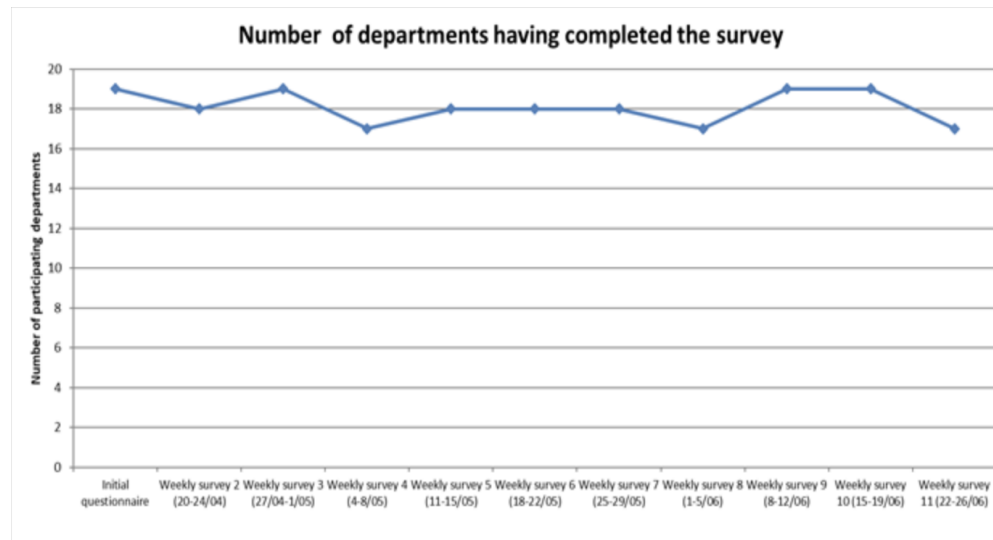
## Use of a national survey

- All 26 RT departments were invited to complete a survey that was initiated on **March 2nd** and was **re-submitted weekly** for 4 months (REDCap electronic data capture tool).
- Survey captured data on:
  - the **COVID-19 status** of staff and patients
  - the **management** of clinically suspected COVID **patients** and COVID positive **patients**
  - the impact of COVID-19 on **RT activities** (number of treatments, treatment starts...)
  - the impact of COVID-19 **radiotherapy indications** and **fractionation schemes**

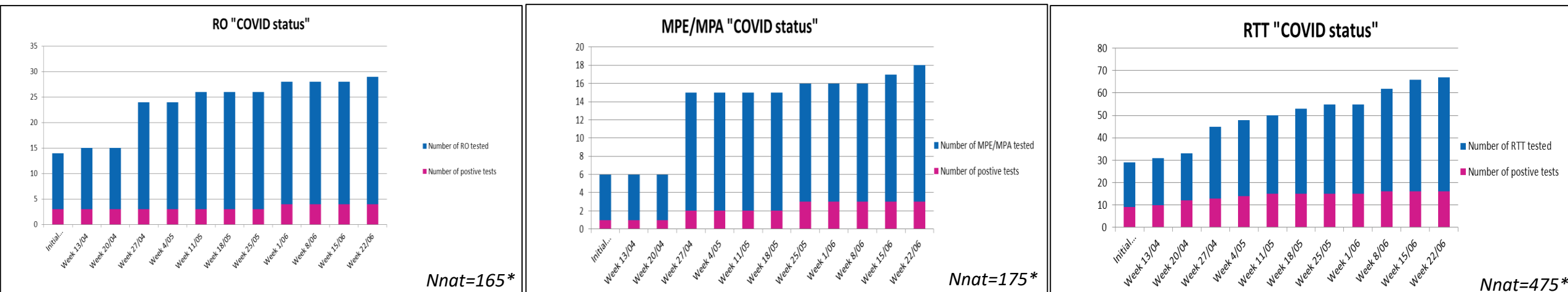
# Impact of COVID-19 on RT?

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- Survey captured data on:
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  - the impact of COVID-19 on RT activities (number of treatments, treatment starts...)
  - the impact of COVID-19 radiotherapy indications and fractionation schemes



# COVID-19 status of staff



Cumulative number of RTD staff members tested and number of staff tested positive for COVID-19

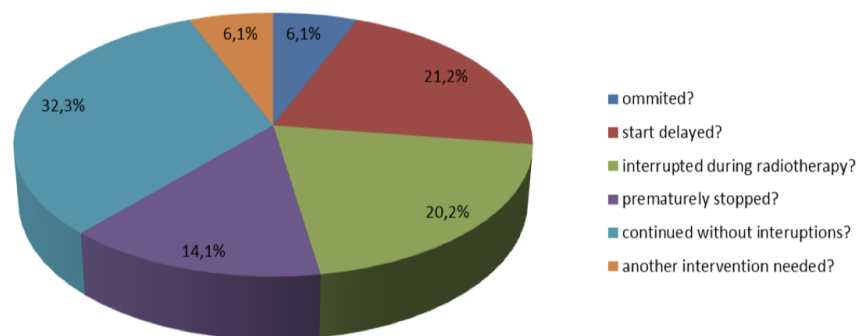
- Number of tested staff increased over time
- Among all staff tested, the higher positivity rate was among RTTs (4% of RTT staff).

\*: number of staff based on 2019 QI data (n= 23 departments)

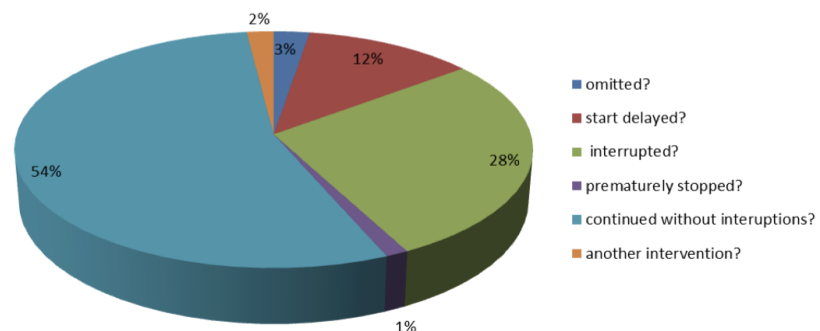


# COVID-19 status and RT treatment of patients

RT treatment management for COVID+ive patients

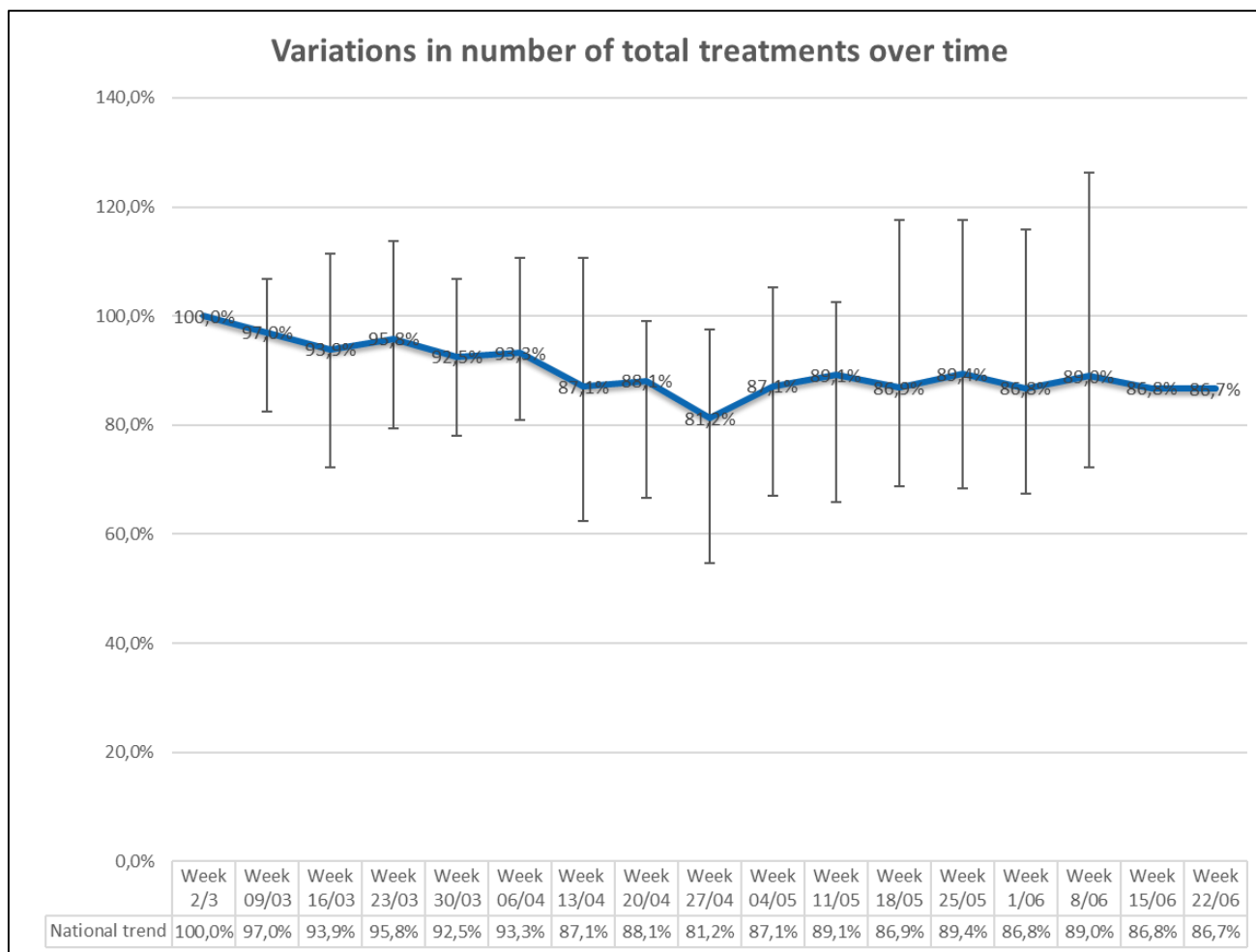


Treatment management for COVID suspected patients



- The number of tested patients increased significantly from week one to last week of data collection (500% increase)
- Positivity rate of 40% → 15%
- For COVID+ patients:
  - 32,3% continued their treatment without interruption
  - +-20% experienced either treatment delays or interruptions
  - Treatment was stopped for 14% of patients
  - +- 6% had no RT or required another intervention
- For clinically suspected COVID+ patients:
  - 54% continued their treatment without interruption
  - 28% experienced treatment interruptions
  - 12% experienced treatment start delays
  - 3% had no RT or required another intervention

# Impact of COVID-19 on number of RT treatments

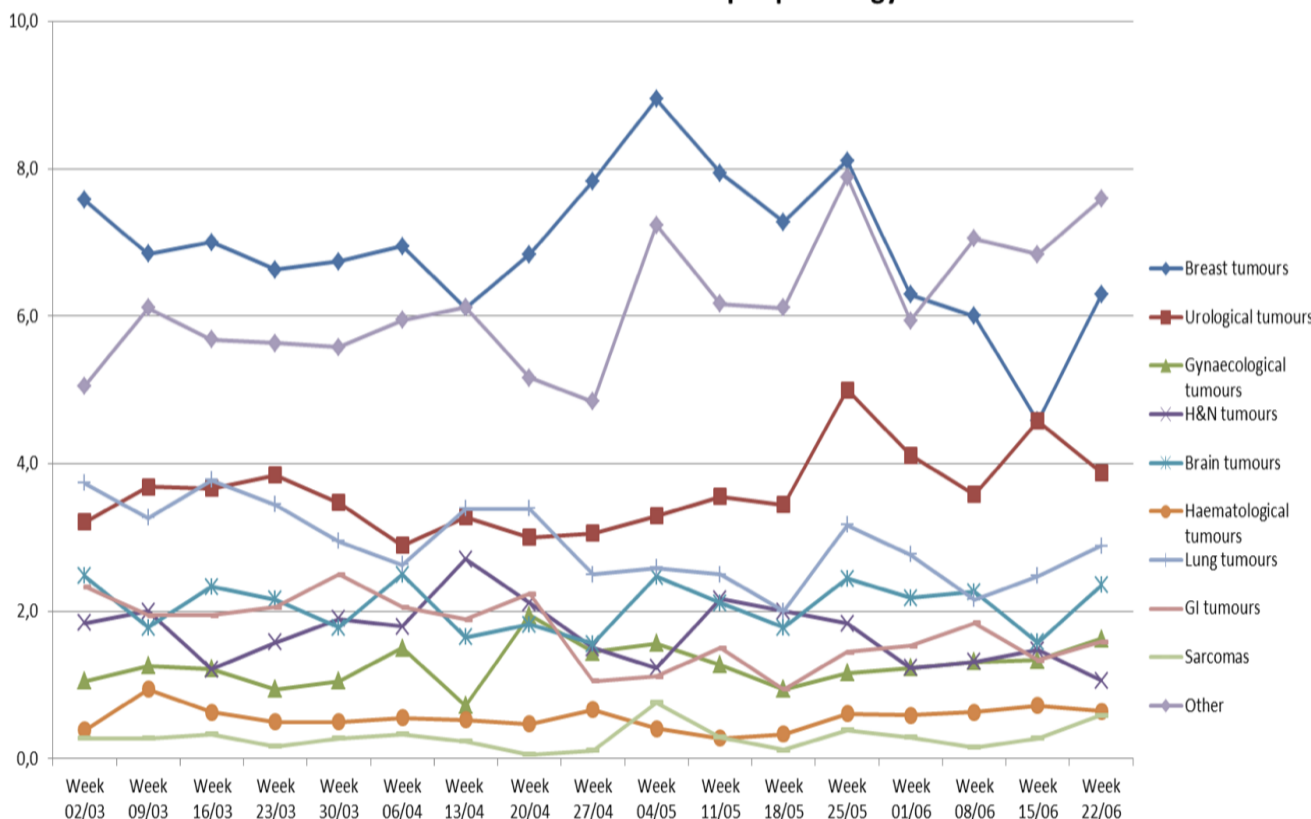


- Overall, maximum national decrease in RT treatments observed during the week of April 27th (**19% decrease**)
- Large differences between departments



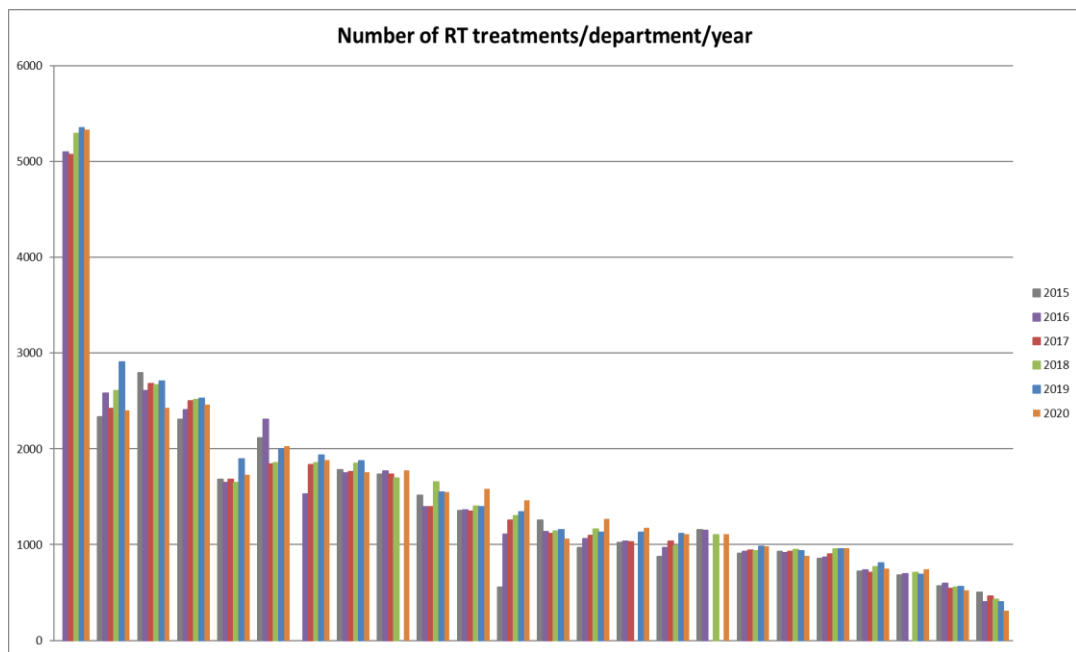
# Number of treatment starts/pathology

Mean number of treatment starts per pathology over time



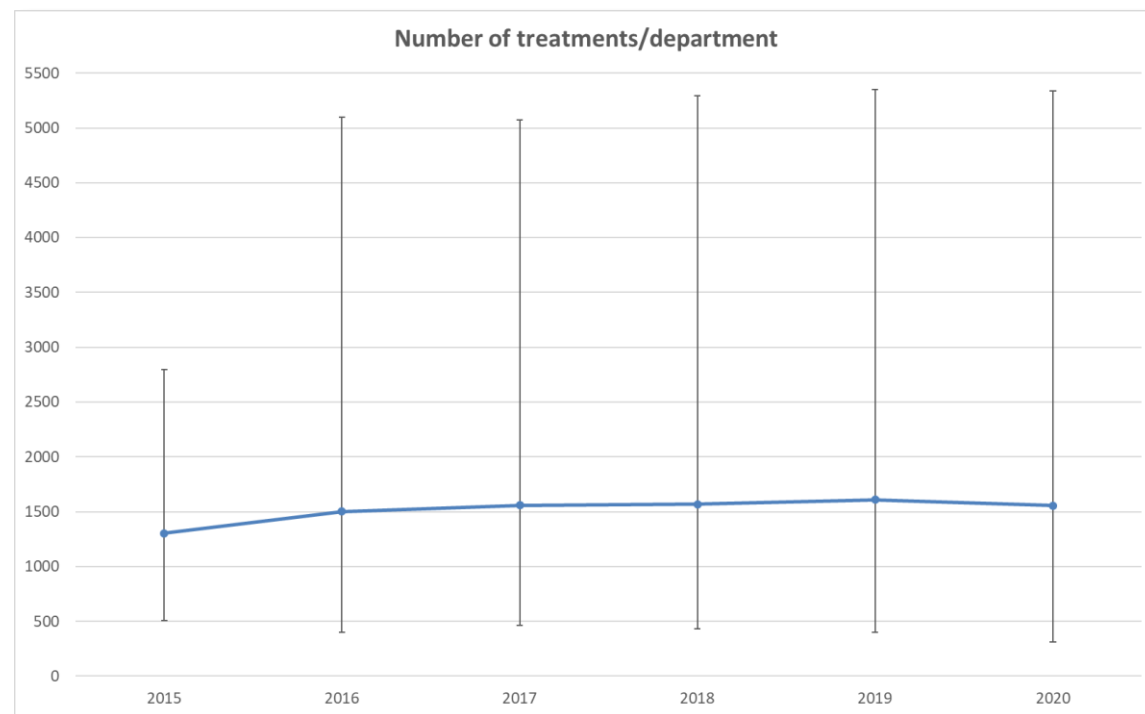
- Decrease in the number of treatment starts for lung, GI and "other" tumors from the week of April 20th until the week of May 18<sup>th</sup> (inaccessibility of diagnostic/interventional procedures)
- Drop in the number of treatment starts for breast cancer patients as of June 2020

# Was there a drop of RT treatments in 2020?

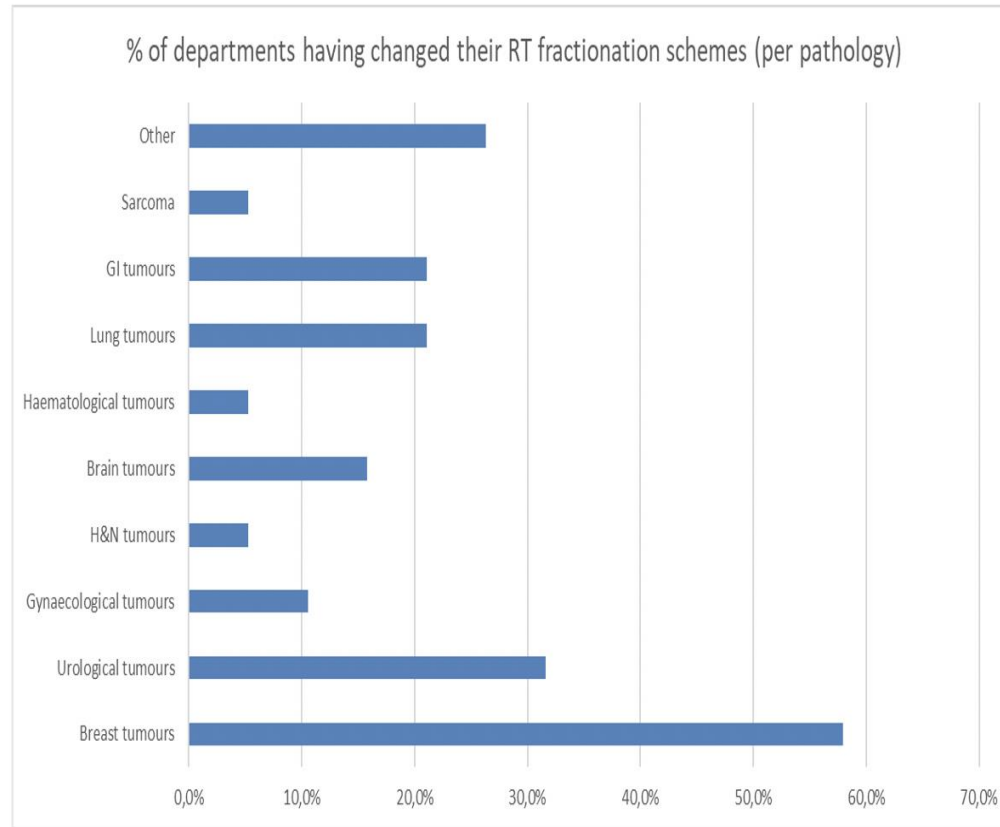
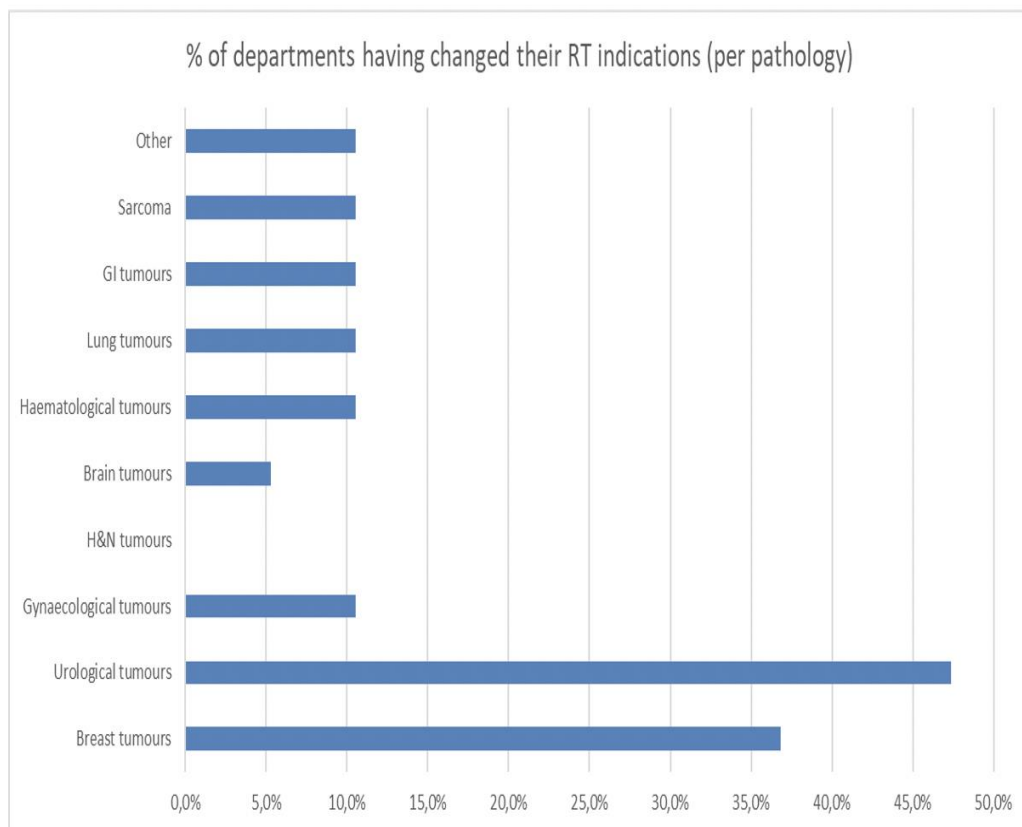


- Variability across departments
- Overall difference of -3% in radiotherapy treatments/department (compared to 2019)

## National RT quality indicator project



# Impact of COVID-19 on radiotherapy indications and fractionation schemes



- 47,4 % of departments reported changes in radiotherapy indications (mostly for urological tumours)
- 68,4% made changes in fractionation schemes (mostly for urological and breast tumours)

# Conclusions

- *The highest positivity rate was observed in the RTT group but this remained low*
- *32,3% of COVID+ patients continued their treatment without interruption*
  - *54% of clinically suspected COVID + patients experienced no interruption in their treatment*
- *COVID-19 caused a 19 % decrease of the national RT treatment activity at the end of April 2020*
  - *With an overall decrease in treatment activities in 2020 estimated at 3%*
- **Indications and fractionation schedules** of radiotherapy were rapidly **incorporated** in the different RTD.
  - *47,4 % of departments reported changes in radiotherapy indications (Mostly for urological tumours)*
  - *68,4% made changes in fractionation schemes (mostly for urological and breast tumours)*

→ Overall, RT departments were able to rapidly adapt their workflow in order to minimize the impact of COVID-19 on RT treatment activities

*Thank You*

- Vaandering Aude, Ben Mustapha Selma, Lambrecht Maarten, Van Gestel Dirk, Veldmeman Liv. Impact of the COVID-19 Pandemic on Patients and Staff in Radiation Oncology Departments in Belgium: A National Survey. Frontiers in Oncology ; 2021. URL=<https://www.frontiersin.org/article/10.3389/fonc.2021.654086>