

# Treatment of Cancer Patients during the SARS-CoV2 Pandemic: Learnings and outlook after 18 months

Marie von Lilienfeld-Toal



FACILITATE DEBATE ACTIVATE INNOVATE

## Today's Presenter: **Prof. Marie von Lilienfeld-Toal**

- Professor of Medicine at the University Clinic of Jena in Germany
- Her clinical and scientific focus on haematological malignancies and infectious diseases in immunocompromised patients with a focus on virology.
- The author of the *“COVID-19 Guidelines of the German, Austrian and Swiss Societies of Haematology-Oncology”* and *“EHA SWG Infections in Hematology FAQ Recommendations.”*



# Conflicts of Interest



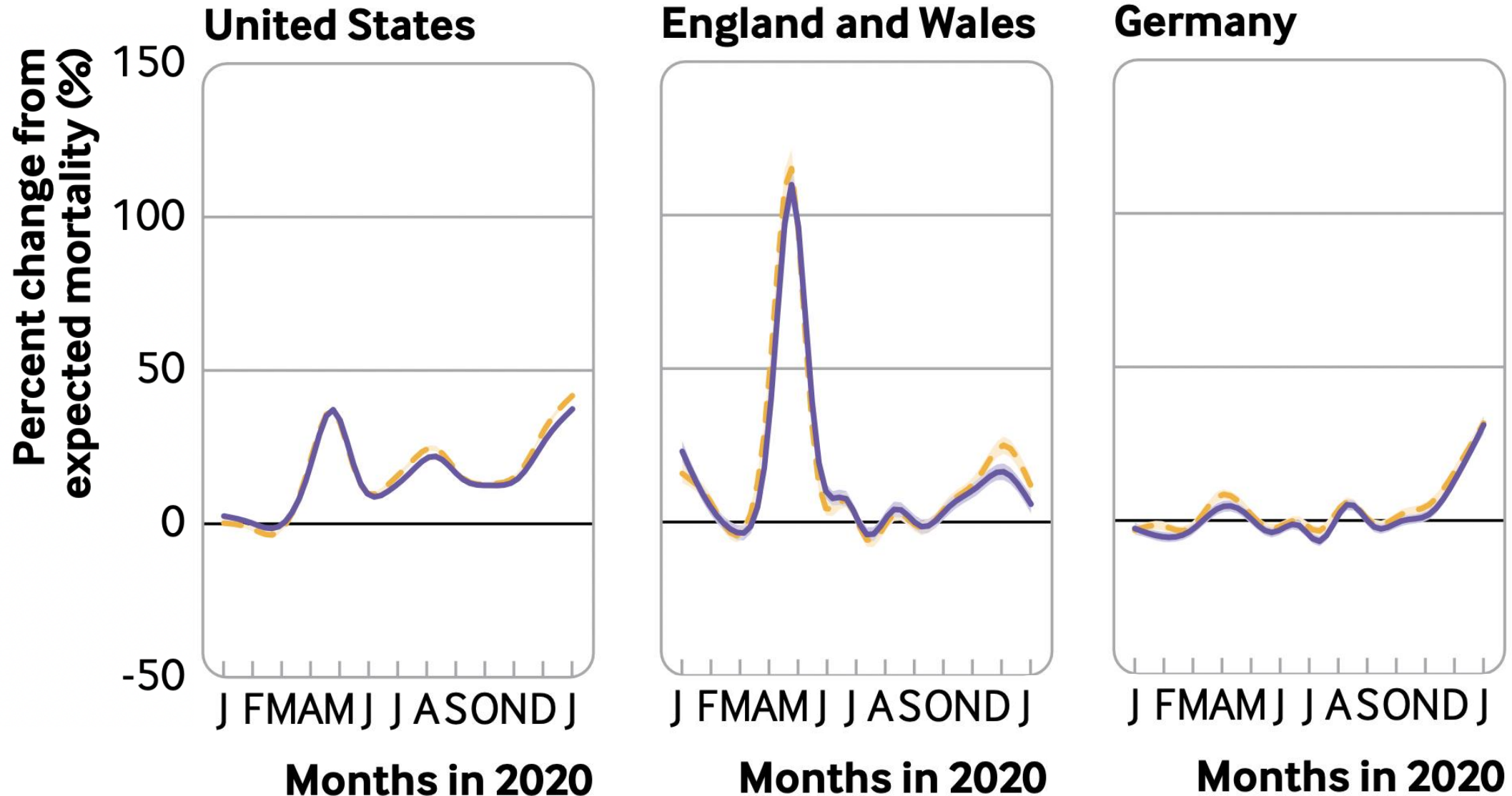
## **Honoraria**

Celgene, Gilead, Chugai, Janssen, Novartis, Amgen, Takeda, BMS, Medac, Oncopeptides, Merck, CDDF, abbvie, AstraZeneca, Pfizer, MSD, 4DPharma, Shionogi

## **Research Funding**

BMBF, Deutsche Jose Carreras Leukämie-Stiftung, IZKF Jena, DFG, Novartis, Gilead, Deutsche Krebshilfe, Celgene, Oncopeptides, Akademie für Lehrentwicklung

# What good can possibly come from this....



# Shift in Priorities in Patient Care



# Poll

To what extent do you agree with the statement:

**In oncology, there are no positive effects whatsoever from the COVID-19 pandemic.**

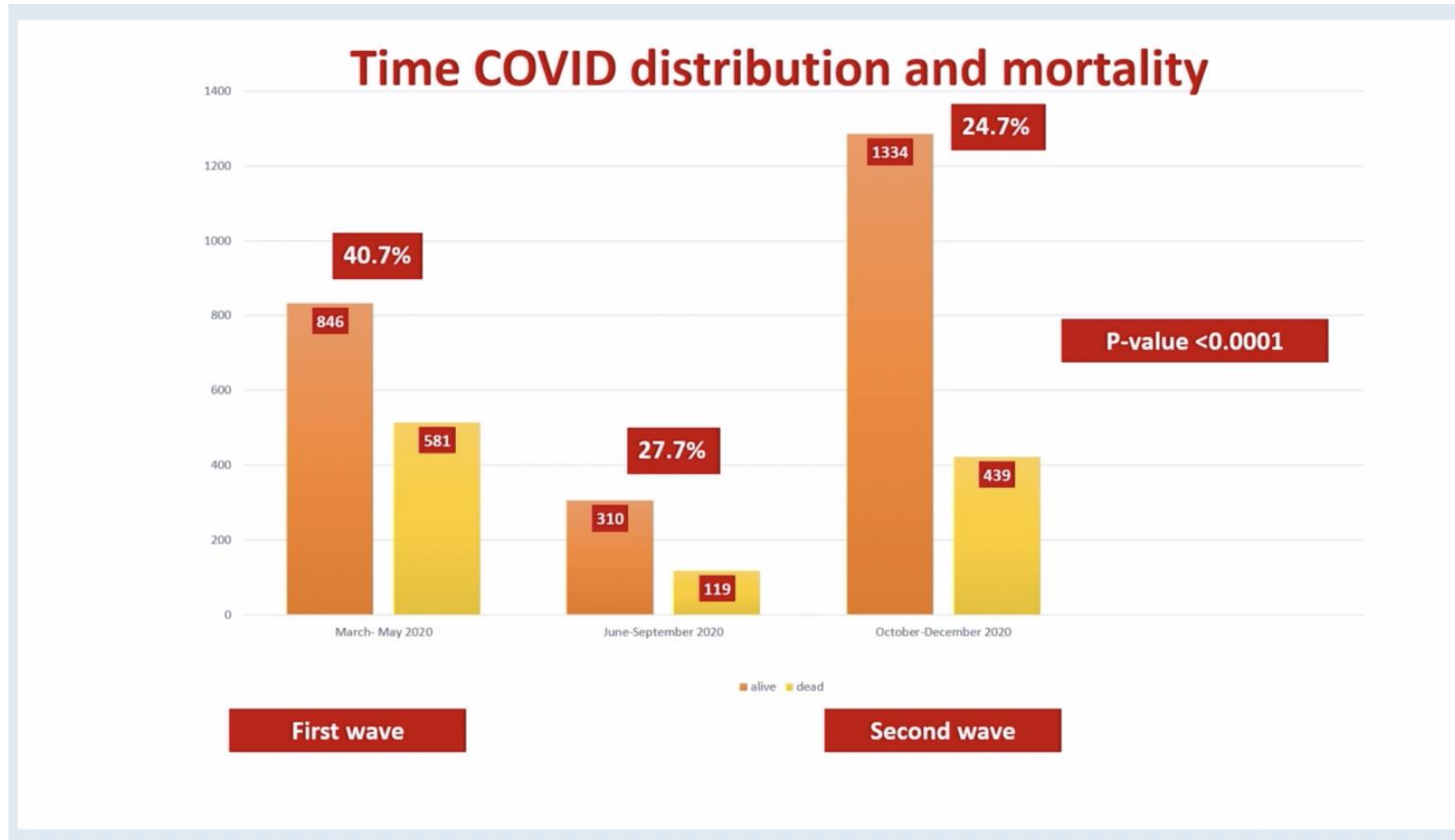
- 1) completely
- 2) mostly
- 3) mostly not
- 4) not at all

# Effects of the Pandemic on Cancer Care



|          | Positive                                                                                                                                                                                                                                                                                                                                                 | Negative                                                                                                                                                                                                                                                                                                                                                        |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Direct   | <ul style="list-style-type: none"><li>• ?</li></ul>                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"><li>• COVID-19 ass. mortality</li><li>• Delay in therapy because of COVID-19 or prolonged shedding</li><li>• Long COVID</li></ul>                                                                                                                                                                                             |
| Indirect | <ul style="list-style-type: none"><li>• No influenza</li><li>• “Choosing wisely” enforced</li><li>• New approaches</li><li>• Telemedicine and virtual meetings</li><li>• Increased focus on disparities</li><li>• Increased focus on shared decision making</li><li>• More research across disciplines</li><li>• Rapid vaccination development</li></ul> | <ul style="list-style-type: none"><li>• Organisational aspects, shortage in staff</li><li>• Shortage in blood products and drugs</li><li>• Delayed diagnoses</li><li>• Reduced recruitment in clinical trials</li><li>• Re-allocation of funds and scientific efforts</li><li>• Loneliness and mental health issues</li><li>• Increase in disparities</li></ul> |

# COVID-Mortality in Cancer Patients

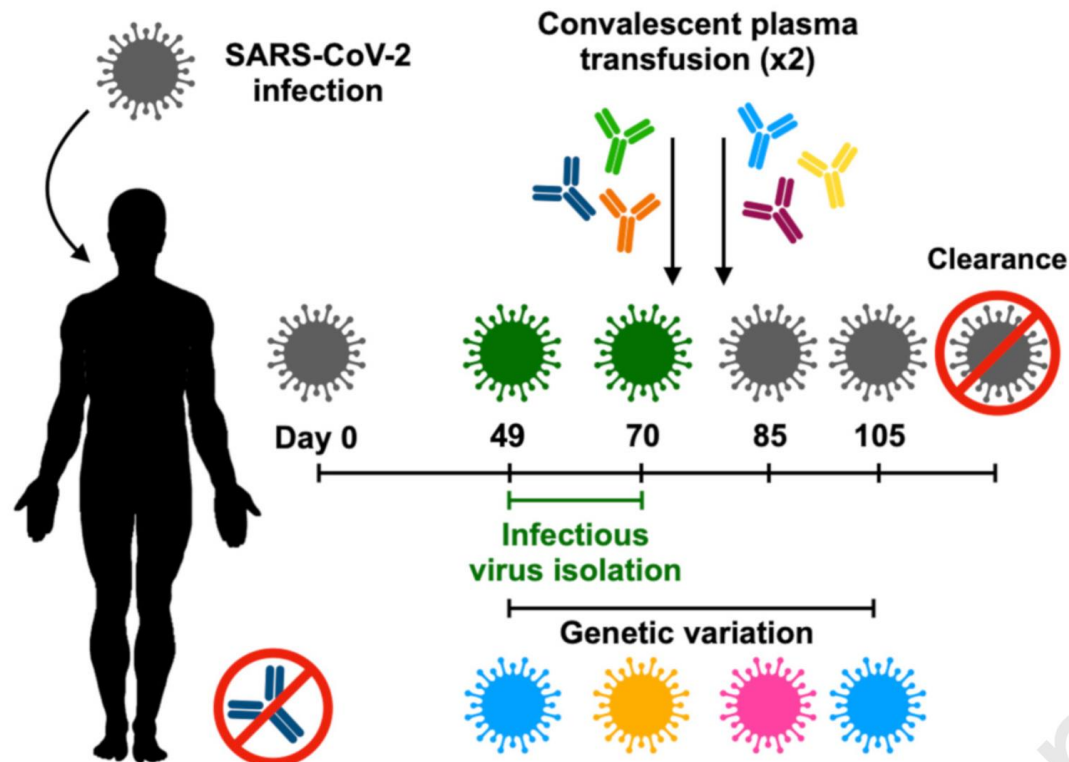


EPICOVIDEHA

Pagano et al.,  
EHA 2021

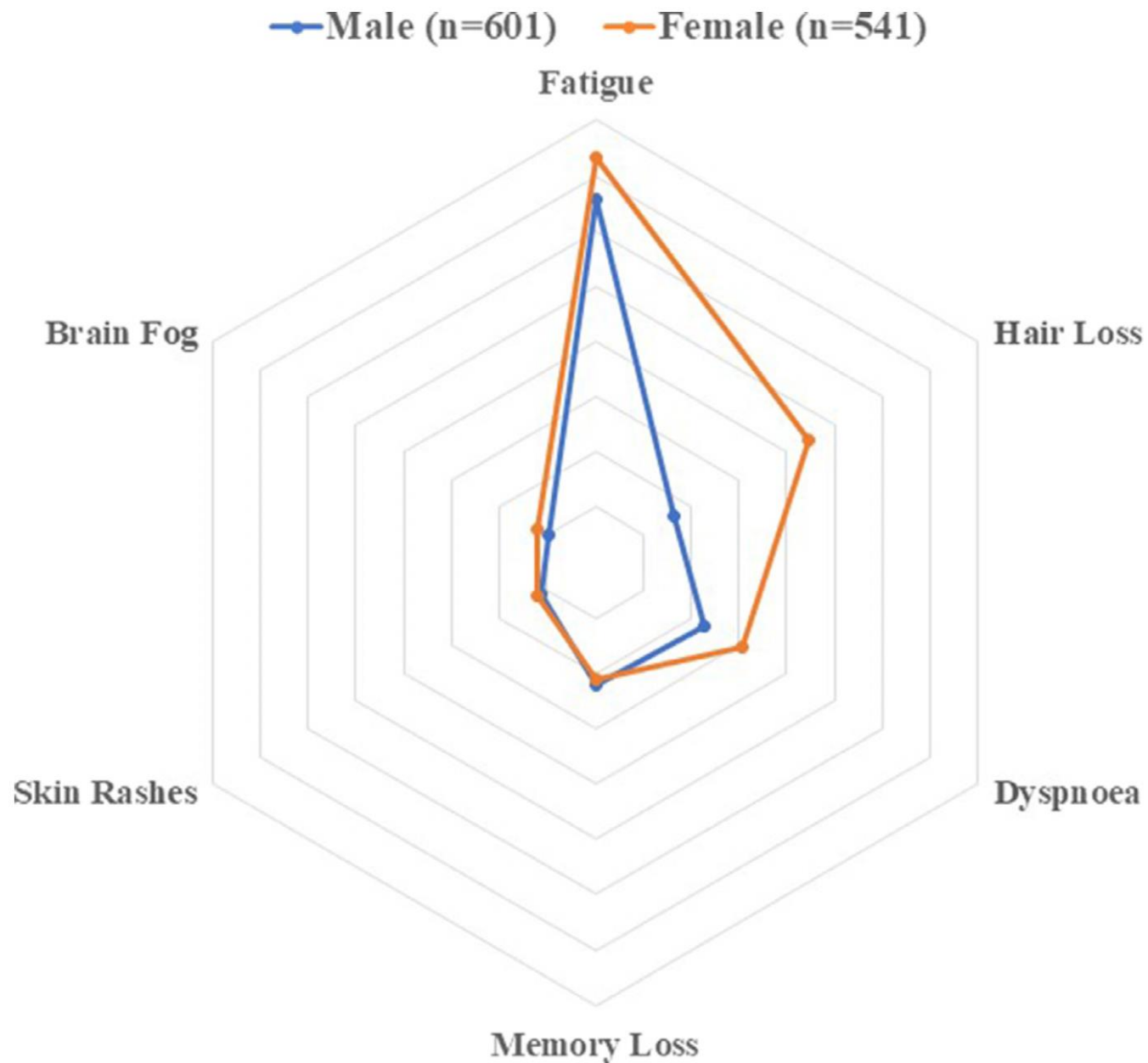
# Prolonged Shedding in Cancer Patients

## Long-term SARS-CoV-2 Shedding



**Immunocompromised individual**

- Cancer (CLL)
- Hypogammaglobulinemia



N=1142

48% women

61 years

7 mo post COVID

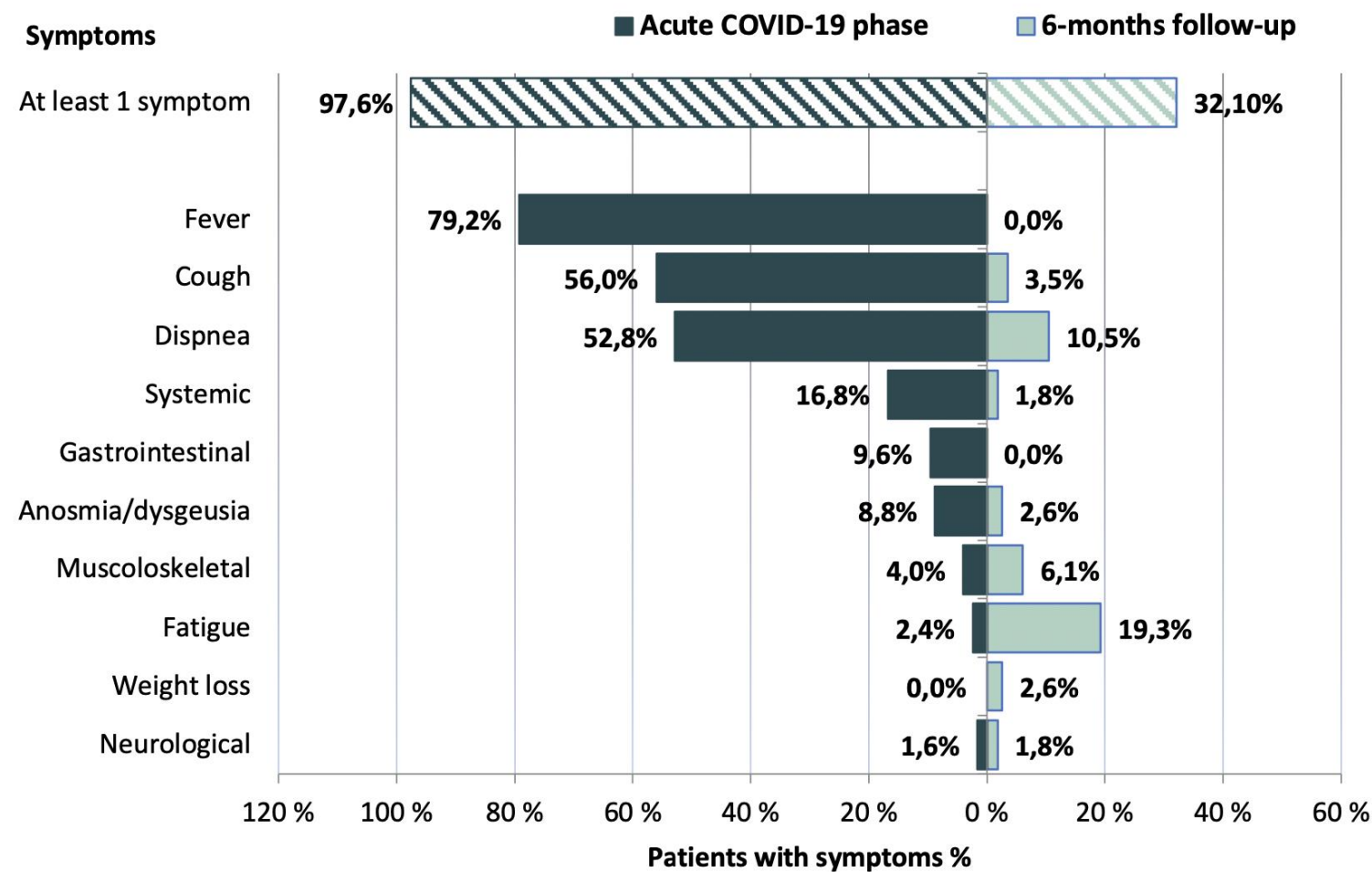
18.6% completely free of symptoms

**Fig. 1.** Distribution of the most prevalent post-COVID symptoms (fatigue, hair loss, dyspnea, memory loss, skin rashes, and brain fog) in male and female patients.

# Long COVID in Cancer Patients



Figure S1. Symptoms at and 6-months after acute COVID-19 phase

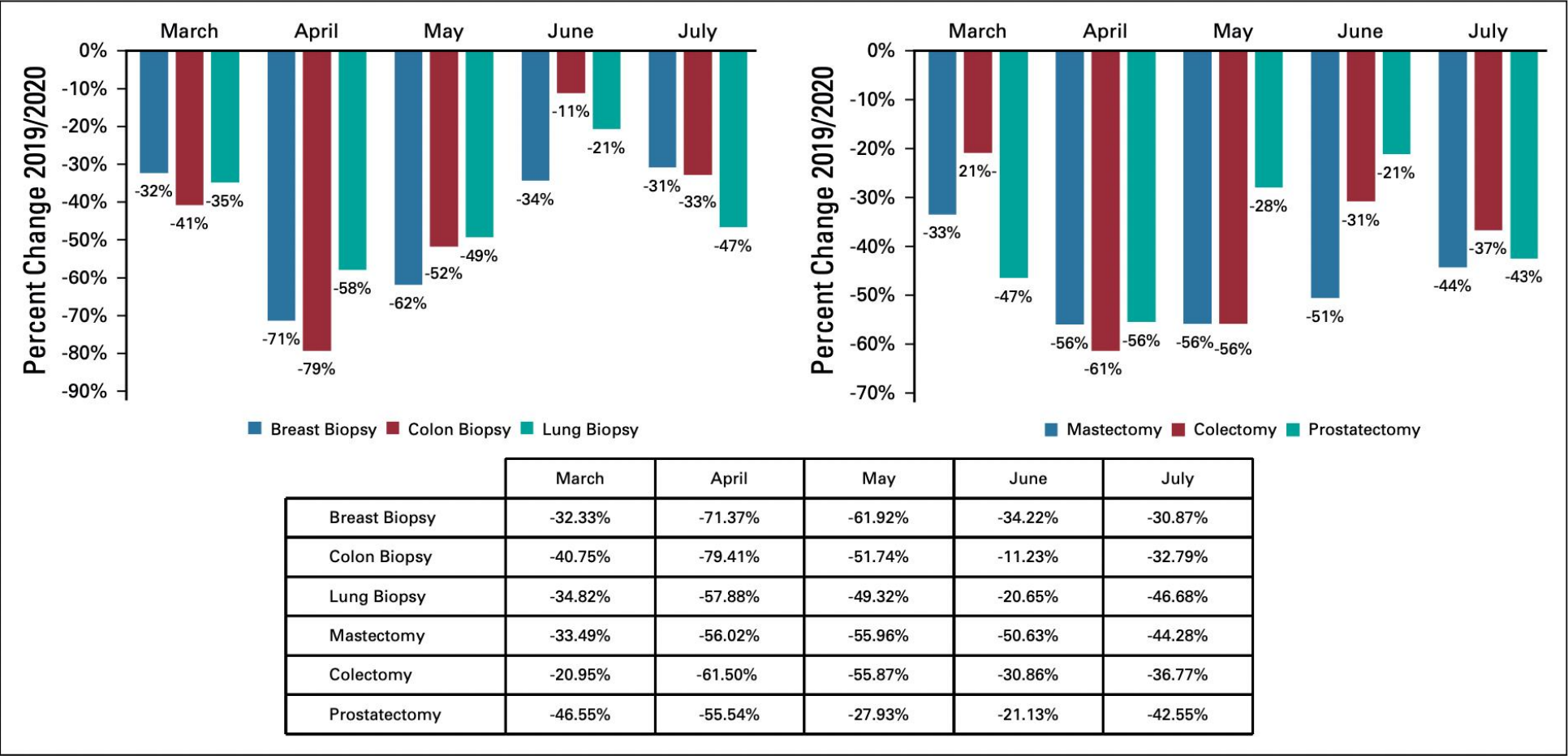


125 MPN patients  
with COVID-19 who  
survived the acute phase

# Shift in Priorities in Patient Care



# Delays in Diagnosis and Treatment

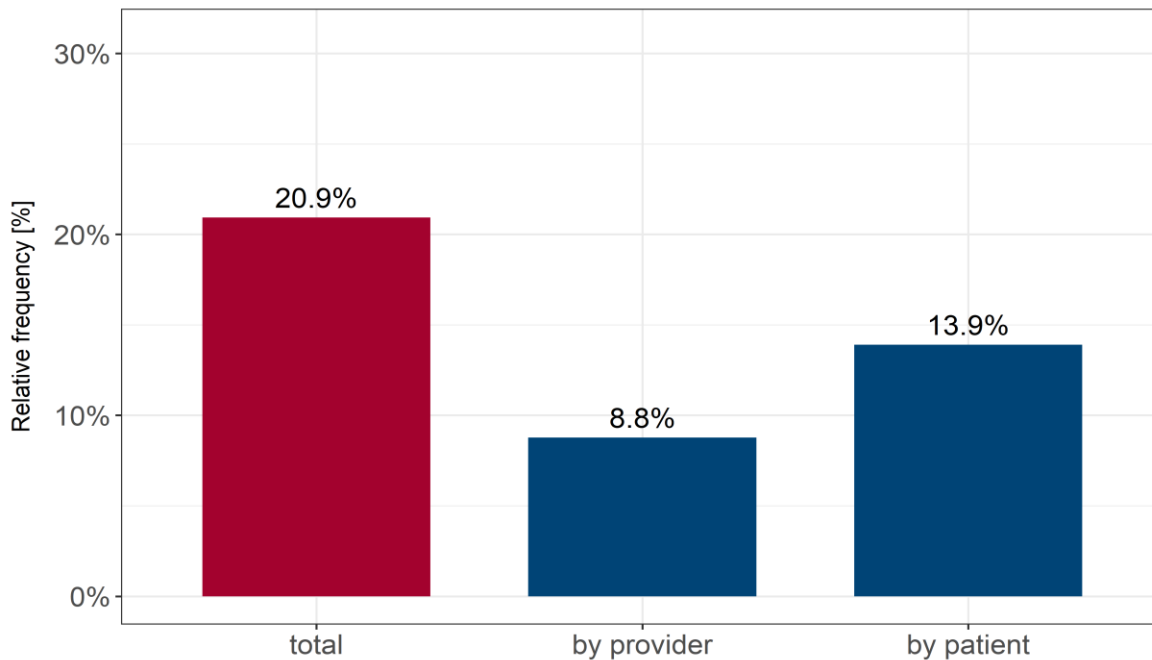


**FIG 3.** Relative change in billing frequencies for cancer-related biopsies and surgeries (March-July 2019/2020). Billing frequencies were classified by type of claim and identified by the following procedure codes: chemotherapy injection (96401, 96402, 96405, 96409); chemotherapy infusion (96413, 96415-96417); and chemotherapy administration (96420, 96425).

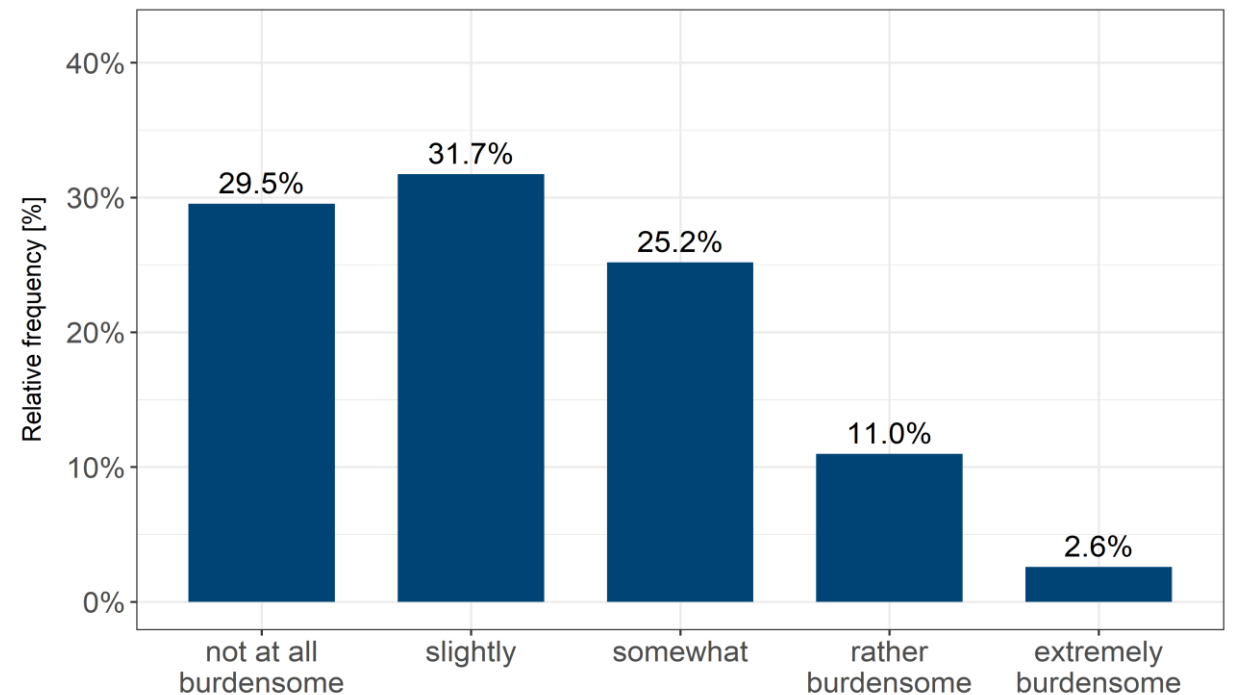
# Delays – Gutenberg COVID Study



Proportion of postponed or canceled appointments in the COVID-19 pandemic



Personal burden due to postponement of examination and treatment appointments by providers



10,250 people between 25-88 years of age from Mainz / Mainz-Bingen  
<https://www.unimedizin-mainz.de/gcs>

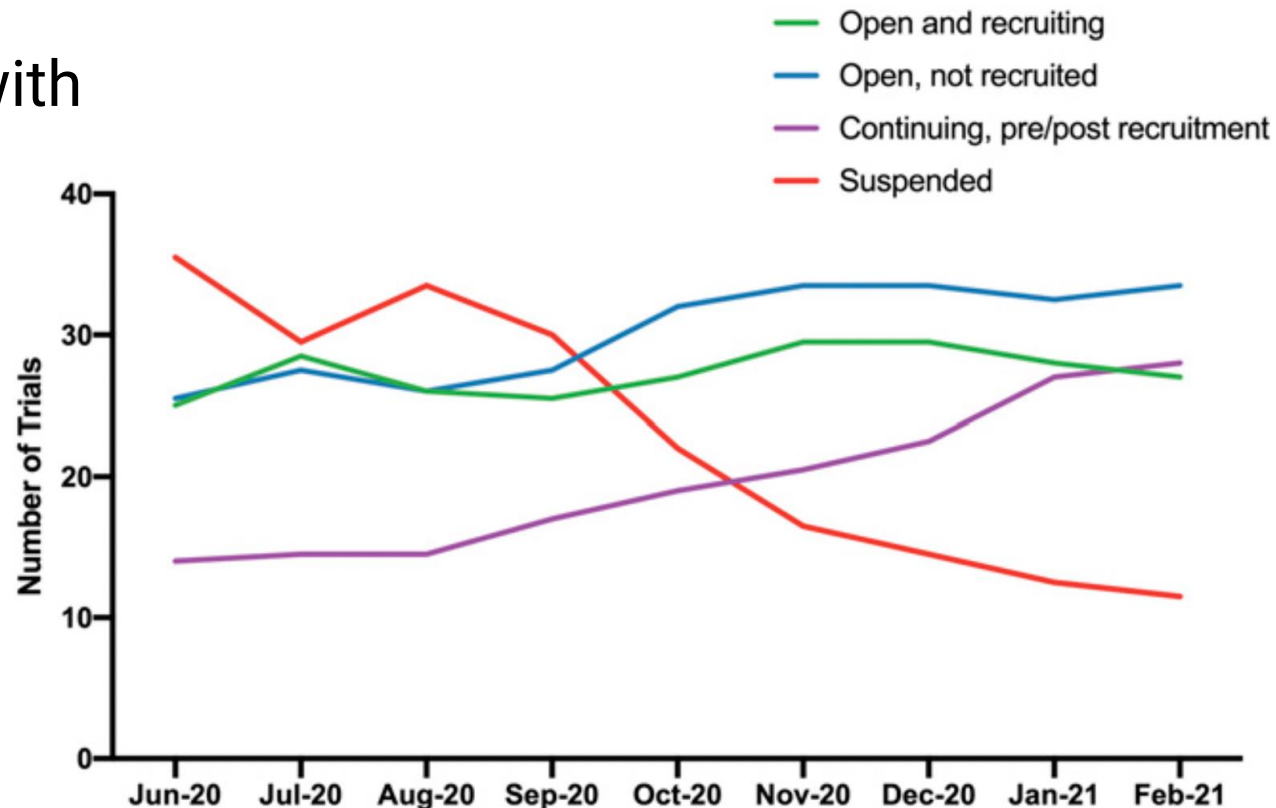
# Impact on clinical trials – example pediatric oncology



After dramatic impact in spring 2020 with

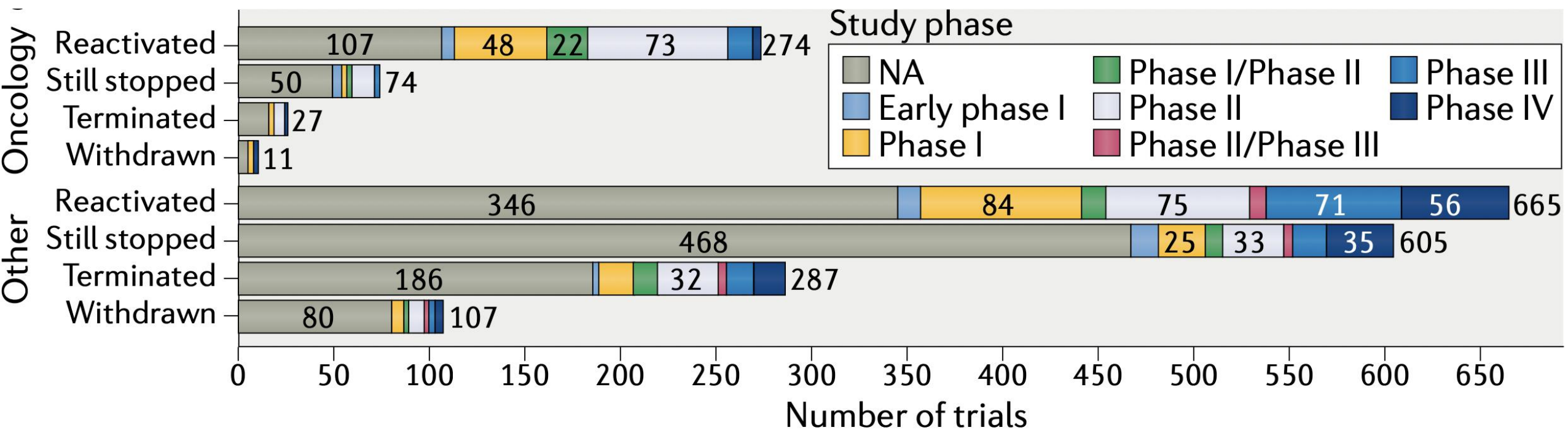
48.5% of phase I trials,  
61% of phase II trials,  
64% of molecular platform trials

closing recruitment in at least one site,  
trial activity picks up again during the  
course of 2020

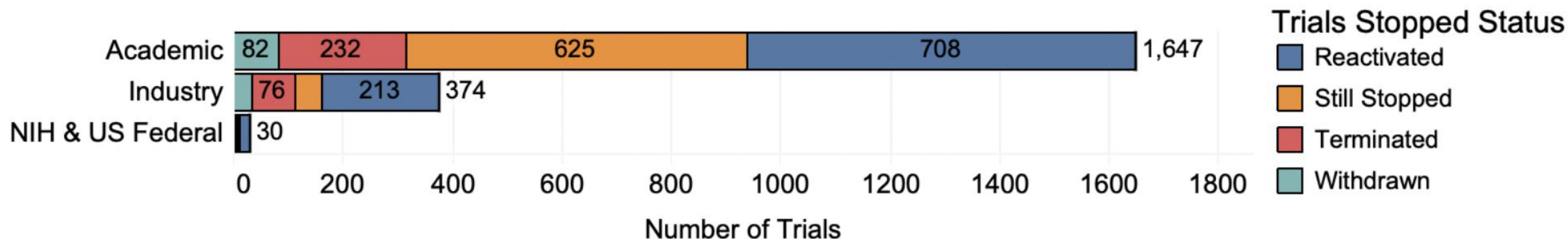


**FIGURE 1. Status of Pediatric Oncology Clinical Trials Across the U.K. National Institute for Health Research Portfolio During the Pandemic**

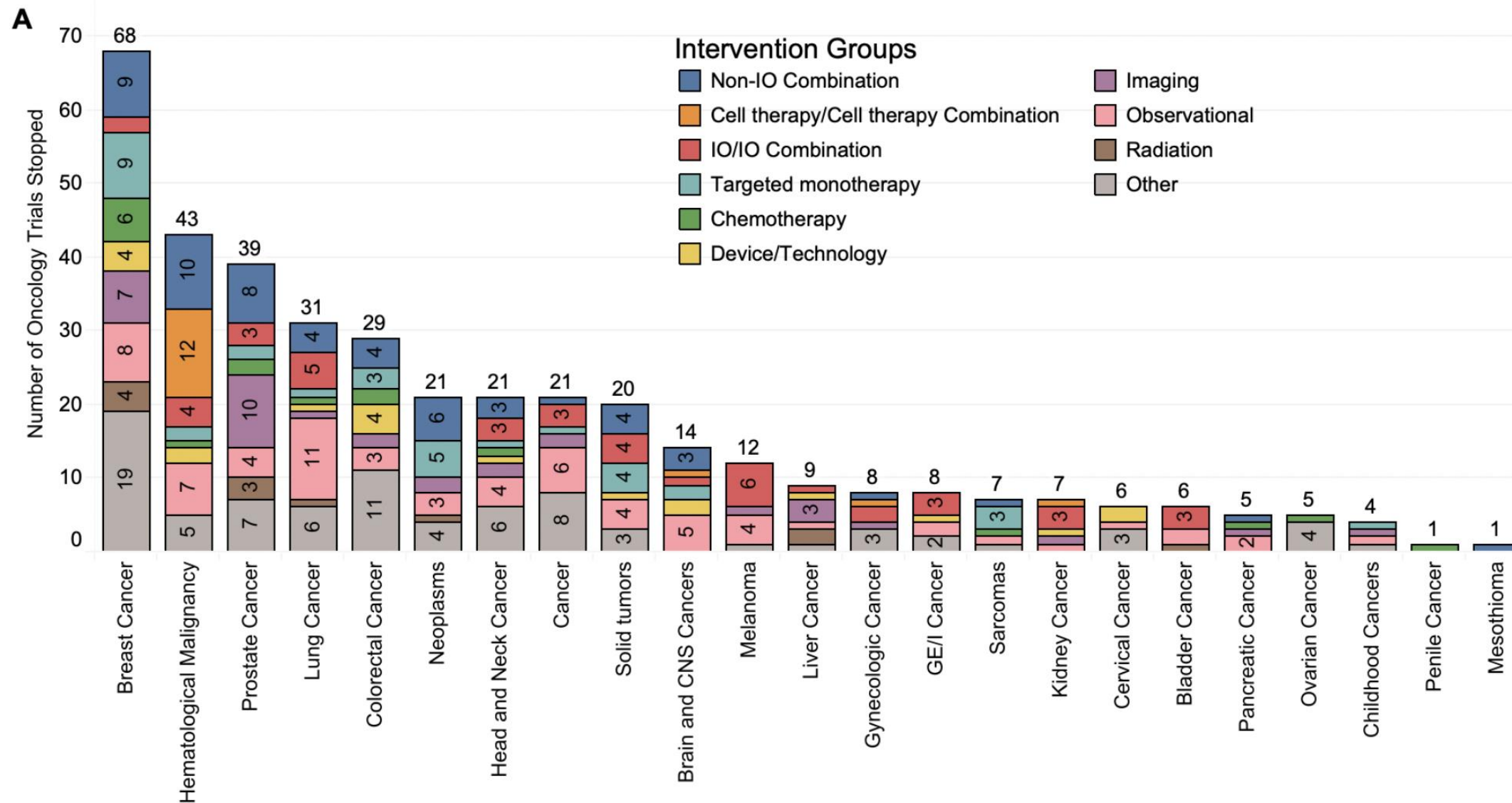
# Impact on clinical trials



# Impact on clinical trials



# Impact on clinical trials



**B**  
data pull from March 2020-April 2021

Upadhaya et al., Nat Rev Drug Discovery 2021

# COVID-19 reshapes cancer clinical research



- Decentralisation: conducting aspects of trials remotely or at local sites
- Remote auditing
- Omitting nonessential data collection
- Beware of adequate representation and diversity in trial participants
- Higher relevance of real world data
- More collaboration

# Effects of the Pandemic on Cancer Care



|                 | Positive                                                                                                                                                                                                                                                                                                                                                 | Negative                                                                                                                                                                                                                                                                                                                                                        |
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# Choosing wisely

Our change in thinking in terms of priorities driven by the urgency of the pandemic reality is, in fact, everyday routine oncology practice in LMICs. That is one of the reasons this pandemic has not brought as much panic to oncology specialists in LMICs as we would imagine it to bring given the degree of alarm surrounding these discussions in resource-rich countries.

Gyawali et al., *JAMA Oncol.* 2020



## COVID-19 Challenges Status Quo for Cancer Care

Due to the COVID-19 pandemic, oncologists have had to balance patients' need for treatment with the risk of contracting the disease, sometimes prompting them to adjust standard treatment and/or rethink its timing. Further complicating the situation, many hospitals have limited surgeries when COVID-19 cases surge and a surgical backlog once cases decrease, requiring tough decisions about the timing of operations.

Several organizations have published recommendations to help with these decisions. But Daniel Spratt, MD, of the University of Michigan School of Medicine in Ann Arbor, notes that such guidelines are typically developed for specific cancers, making

In practice, when Dana-Farber postponed nonurgent surgeries due to COVID-19, Partridge used hormone therapy in patients with breast cancer awaiting surgery, a strategy often used in higher-risk situations. Partridge says they were careful about choosing which treatment regimens to adjust, relying on data from patients with advanced disease: "We didn't do anything crazy."

Stephanie Wethington, MD, of Johns Hopkins University School of Medicine in Baltimore, MD, made similar decisions to delay surgery in her patients. For example, she prescribed hormone therapy for some patients with endometrial cancer so that they could delay a hysterectomy—an accepted, although less common, approach. She also recommended neoadjuvant chemotherapy for patients with ovarian cancer and rescheduled surgeries for precancers and early-stage, less-aggressive malignancies.

# Fast research and guideline development



NIH National Library of Medicine  
National Center for Biotechnology Information

PubMed.gov

Search: cancer guideline covid-19

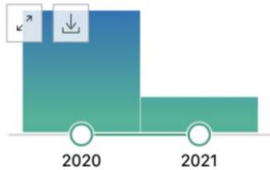
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418 results

RESULTS BY YEAR



TEXT AVAILABILITY

- ☐ Abstract
- ☐ Free full text
- ☐ Full text

ARTICLE ATTRIBUTE

- ☐ Associated data

ARTICLE TYPE

- ☐ 1 **Cancer screening in the U.S. through the COVID-19 pandemic, recovery, and beyond.**  
Cite Crowell JM, Corley DA, Lafata JE, Haas JS, Inadomi JM, Kamineni A, Ritzwoller DP, Vachani A, Zheng Y; National Cancer Institute Population-based Research to Optimize the Screening Process (PROSPR) II Consortium.  
Share Prev Med. 2021 Oct;151:106595. doi: 10.1016/j.ypmed.2021.106595. Epub 2021 Jun 30.  
PMID: 34217414  
COVID-19 has proved enormously disruptive to the provision of cancer screening, which does not just represent an initial test but an entire process, including risk detection, diagnostic follow-up, and treatment. ...Targeting guideline-eligible people w ...
- ☐ 2 **Radiotherapy based management during Covid-19 pandemic - A systematic review of presented consensus and guidelines.**

NIH National Library of Medicine  
National Center for Biotechnology Information

PubMed.gov

Search: cancer guideline influenza

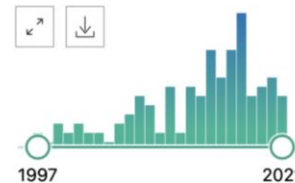
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96 results

RESULTS BY YEAR



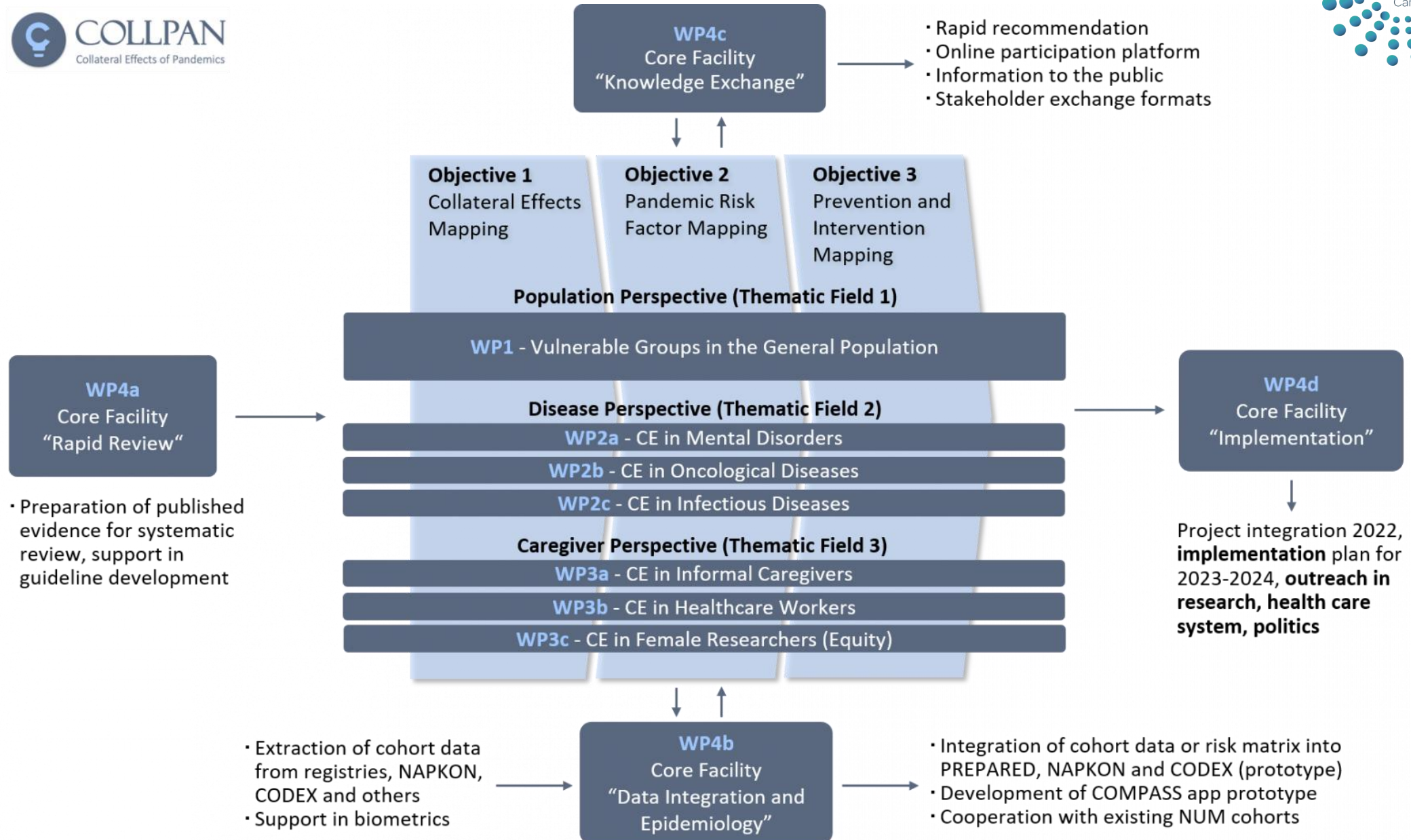
TEXT AVAILABILITY

- ☐ Abstract
- ☐ Free full text
- ☐ Full text

ARTICLE ATTRIBUTE

- ☐ 1 **Assessing vaccine introduction and uptake timelines in Gavi-supported countries: are introduction timelines accelerating across vaccine delivery platforms?**  
Cite Luthra K, Zimmermann Jin A, Vasudevan P, Kirk K, Marzetta C, Privor-Dumm L.  
Share BMJ Glob Health. 2021 May;6(5):e005032. doi: 10.1136/bmjgh-2021-005032.  
PMID: 34045183 **Free PMC article.**  
VPDs and prequalified vaccines analysed included Haemophilus influenzae type b (DTwP-HepB-Hib, pentavalent), pneumococcal disease (pneumococcal conjugate vaccine, PCV), rotavirus diarrhoea (rotavirus vaccine, RVV), cervical cancer (human papillomavirus vaccin ...
- ☐ 2 **COVID-19 infection in cancer patients: what has been the contribution of Associazione Italiana Oncologia Medica (AIOM) to oncological care since the beginning of the first pandemic wave?**  
Cite Silvestris N, Di Maio M, Russo A, Chiari R, De Giorgi U, Del Mastro L, Giuffrida D, La Verde N, Perrone F, Tucci M, Beretta GD, Cinieri S.  
Share ESMO Open. 2021 Apr;6(4):e001000. doi: 10.1016/j.esmoop.2021.100100. Epub 2021 May 10.

# Research across disciplines



# Fast Development of Vaccine, Fast Assessment



## SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness

Published **Online**  
June 14, 2021  
[https://doi.org/10.1016/  
S0140-6736\(21\)01358-1](https://doi.org/10.1016/S0140-6736(21)01358-1)

See **Online** for appendix

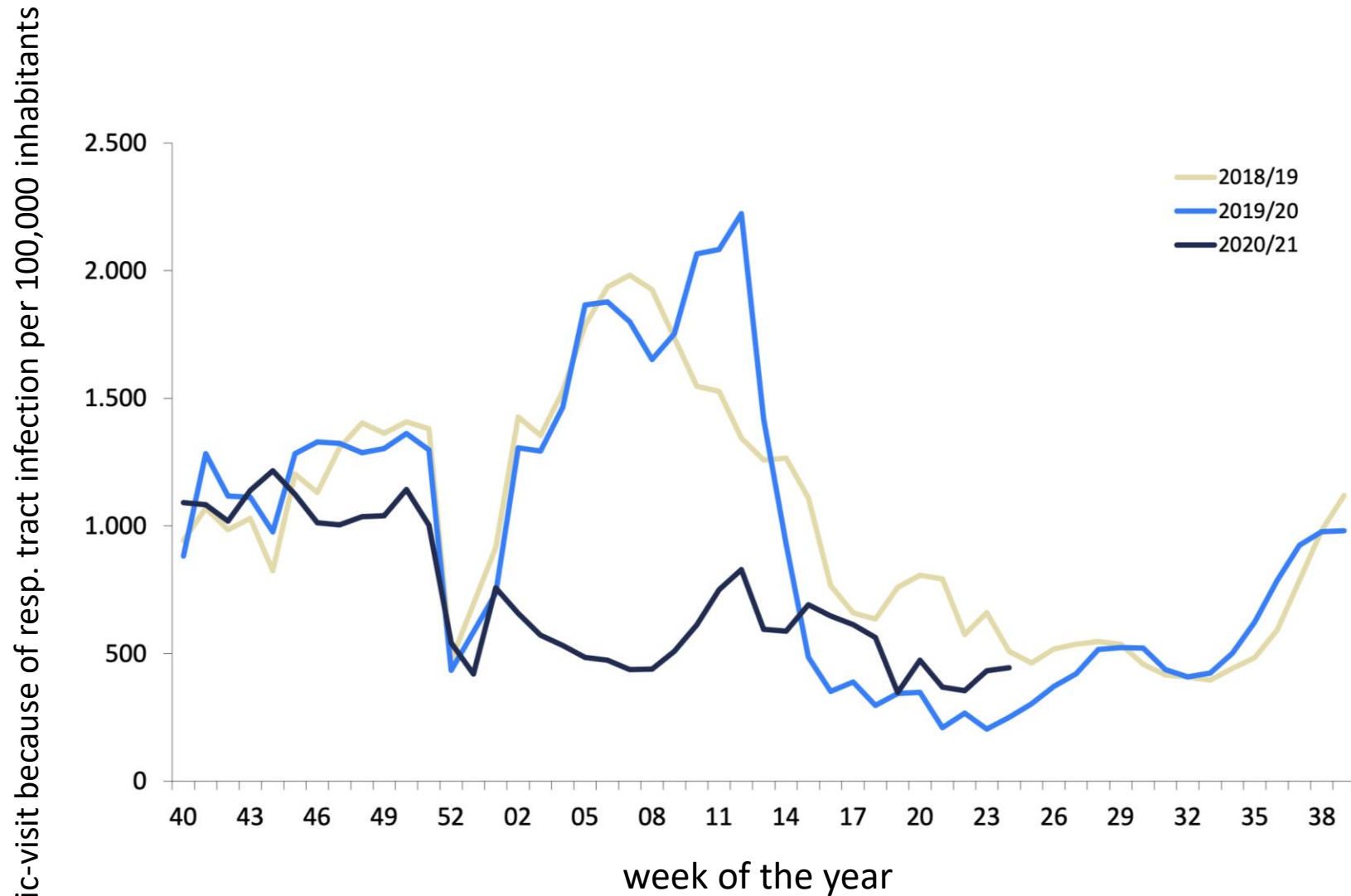
Our analysis covered the period  
from April 1 to June 6, 2021, for the  
demographic distribution of cases. By

5.4 million people included, 19,543 SARS-CoV 2 infections

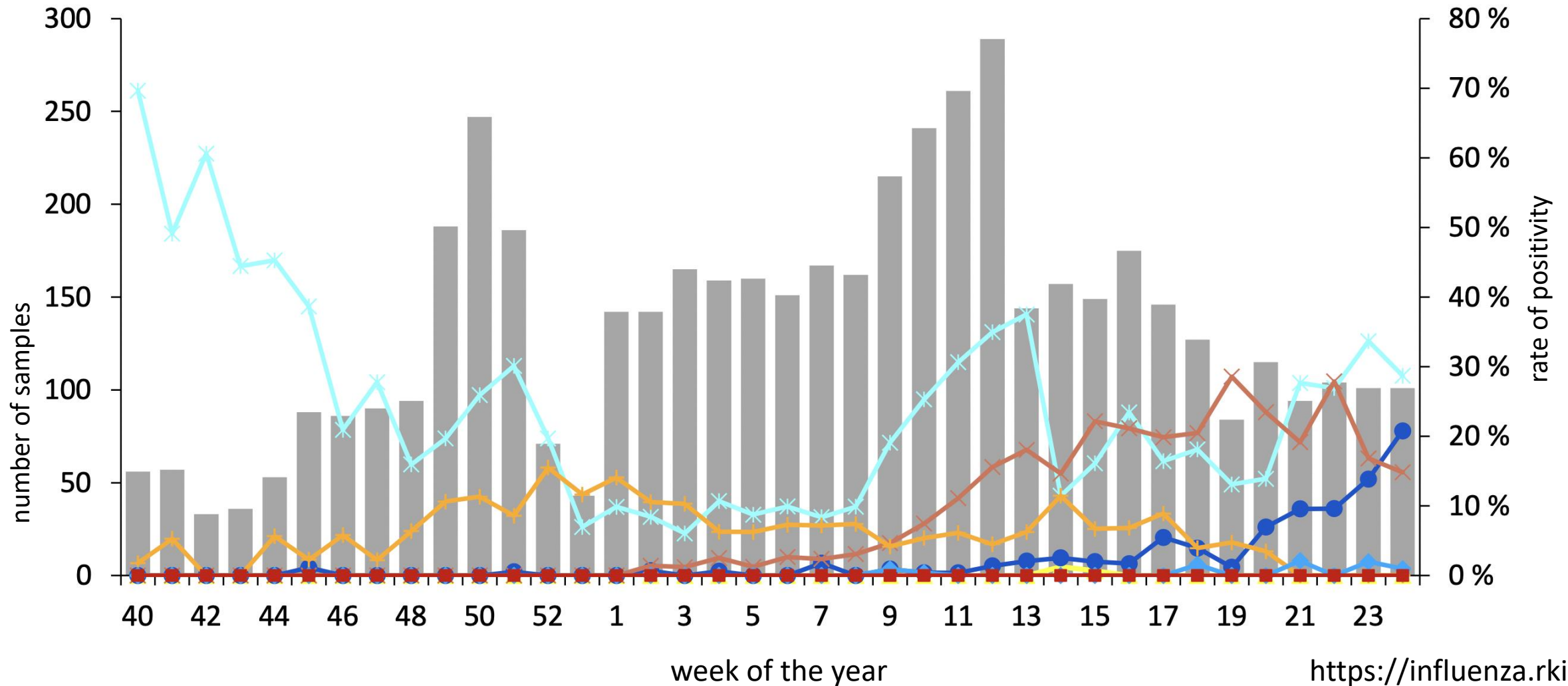
Protection rate by complete BNT vaccination 95% for alpha VOC, **79%** for delta VOC

Protection rate by complete ChAdOx1 nCoV-19 vaccination 73% for alpha VOC, **60%** for delta VOC

# No Influenza in Germany



# No Influenza in Germany



samples

hMPV

PIV (1 - 4)

Rhinoviren

hCoV

SARS-CoV-2

RSV

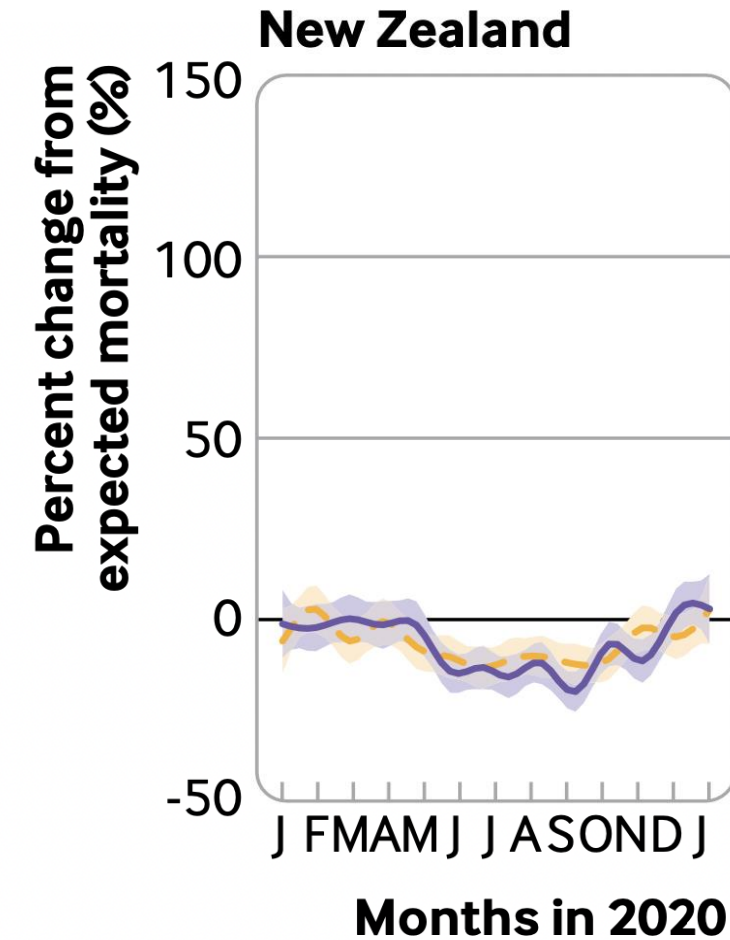
Influenzaviren

# No Influenza – other diseases also reduced?



**Table 2 | Difference between reported number of covid-19 deaths and estimated number of excess deaths associated in 29 high income countries**

| Country         | Total covid-19 deaths reported* (A) | Total excess deaths estimated† (B) | Difference between excess deaths and reported covid-19 deaths (B–A) |
|-----------------|-------------------------------------|------------------------------------|---------------------------------------------------------------------|
| United States   | 339 014                             | 458 000                            | 118 986                                                             |
| United Kingdom‡ | 70 860                              | 94 400                             | 23 540                                                              |
| Italy           | 71 925                              | 89 100                             | 17 175                                                              |
| Spain           | 49 824                              | 84 100                             | 34 276                                                              |
| Poland          | 27 118                              | 60 100                             | 32 982                                                              |
| France          | 62 867                              | 43 500                             | –19 367                                                             |
| Germany         | 30 297                              | 25 900                             | –4 397                                                              |
| Belgium         | 19 200                              | 17 900                             | –1 300                                                              |



# Increased Focus on Disparities



disparities cancer

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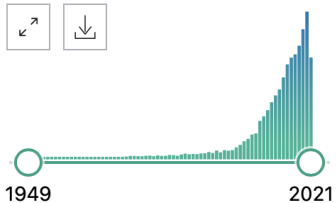
Email

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19,986 results

RESULTS BY YEAR



TEXT AVAILABILITY

- ☐ Abstract
- ☐ Free full text
- ☐ Full text

ARTICLE ATTRIBUTE

- ☐ 1 [Survival disparities among recent](#)  
[Islander cancer patients in Austr](#)
- Cite Peng Y, Baade P.  
Cancer Causes Control. 2021 Jul 6. doi: 10.1007/s00381-021-05000-0.  
PMID: 34228213
- Share PURPOSE: Australian Aboriginal and Torres Strait Islander people experience poorer survival, with these survival disparities increasing with time since diagnosis. ...METHODS: Population-based

- ☐ 2 [Multifunctional theranostic nanoparticles for biomedical cancer treatments - A comprehensive review.](#)
- Cite Kandasamy G, Maity D.  
Mater Sci Eng C Mater Biol Appl. 2021 Aug;127:112199. doi: 10.1016/j.msec.2021.112199. Epub 2021 May 24.  
PMID: 34225852 Review.

## HEMATOLOGIC MALIGNANCIES

# Understanding and Addressing Disparities in Patients With Hematologic Malignancies: Approaches for Clinicians

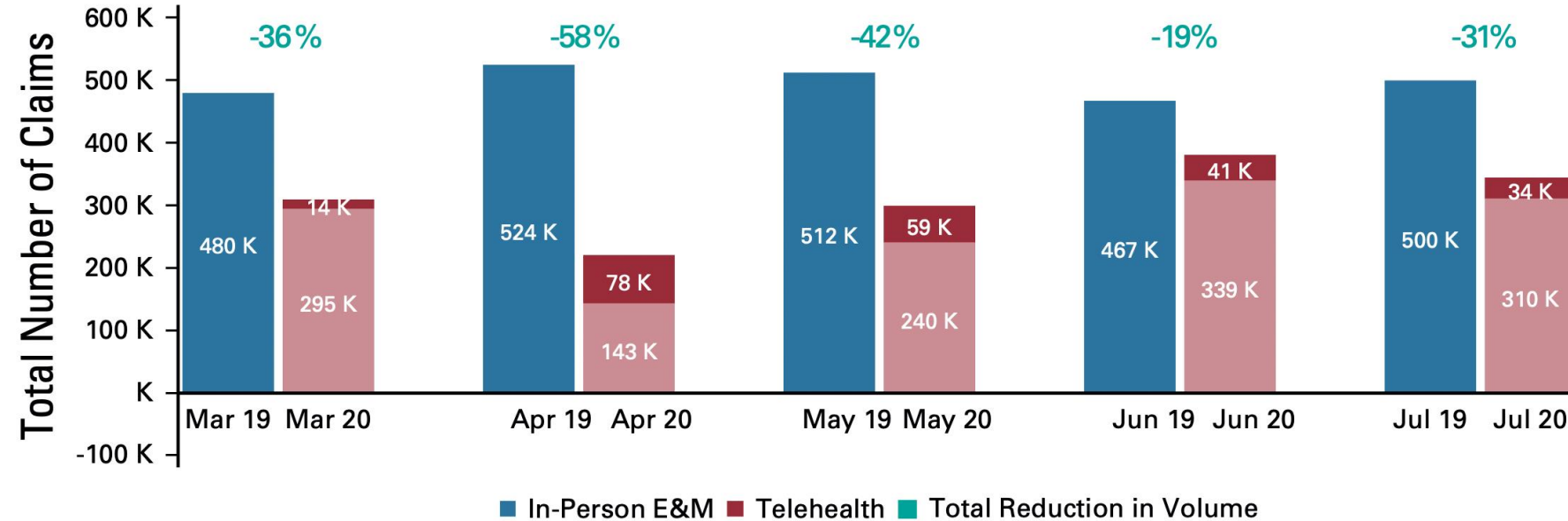
Demetria Smith-Graziani, MD,<sup>1</sup> and Christopher R. Flowers, MD, MS<sup>2</sup>

2021 ASCO Educational Book

OVERVIEW

Approximately 185,840 individuals will be diagnosed with hematologic malignancies in the United States in 2020. Disparities in disease incidence, prevalence, burden, mortality, and survivorship have been identified among this patient population. Contributing factors include genetic ancestry, race/ethnicity, sex, socioeconomic status, and geographic region. Historically, these inequities have been understudied. Addressing these disparities requires a systems-level approach, improving access to care and reducing biases in the clinical setting. Additional research is needed to construct comprehensive, multilevel models to explore systematic observational studies and perform strategic intervention trials to overcome these disparities.

# Impact on Telehealth



|                                         | March   | April   | May     | June    | July    |
|-----------------------------------------|---------|---------|---------|---------|---------|
| In-Person E&M Visits 2019               | 480011  | 524453  | 512151  | 466604  | 499747  |
| In-Person E&M Visits 2020               | 294880  | 142562  | 240260  | 339250  | 310111  |
| Telehealth Visits 2020                  | 14031   | 78326   | 58712   | 40955   | 34212   |
| % Change in E&M (without telehealth)    | -38.57% | -72.82% | -53.09% | -27.29% | -37.95% |
| % Change in Total E&M (with telehealth) | -35.65% | -57.88% | -41.62% | -18.52% | -31.10% |

# Effects of the Pandemic on Cancer Care



|          | Positive                                                                                                                                                                                                                                                                                                                                                 | Negative                                                                                                                                                                                                                                                                                                                                                        |
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# Poll

Regarding the initial statement:

**In oncology, there are no positive effects whatsoever from the COVID-19 pandemic.**

- 1) I have not changed my mind
- 2) I am now convinced the effects on cancer care are worse than previously expected
- 3) I now see more positive effects than previously expected



**Thank you for your participation.**

[www.cddf.org](http://www.cddf.org)