COVID-19 and Cancer Taskforce

COVID-19 and Cancer Global Modelling Consortium (CCGMC)

Whole Consortium Call
16th /17th June 2022

The call will start at 03:00 EDT / 08:00 BST / 09:00 CEST / 10:00 EAT / 17:00 AEST
While waiting, please introduce yourself via the comments - including your name, institution, country, and professional background.

Secretariat email: covidandcancer@nswcc.org.au

uicc global cancer control
A MEMBERSHIP ORGANISATION FIGHTING CANCER TOGETHER

International Agency for Research on Cancer
World Health Organization

CANADIAN PARTNERSHIP AGAINST CANCER
PARTENARIAT CANADIEN CONTRE LE CANCER

ICSN International Cancer Screening Network

The Daffodil Centre
A partnership between
Cancer Council | THE UNIVERSITY OF SYDNEY

COVID-19 and Cancer Taskforce

COVID-19 and Cancer Global Modelling Consortium (CCGMC)

Whole Consortium Call
16th /17th June 2022

The call will start at 16:00 EDT / 21:00 BST / 22:00 CEST / 23:00 EAT / 06:00 AEST

While waiting, please introduce yourself via the comments - including your name, institution, country, and professional background.

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The Daffodil Centre

A partnership between Cancer Council | The University of Sydney

Welcome and introductions.

Session 1: Prof Karen Canfell (The Daffodil Centre – University of Sydney/ Cancer Council NSW)

Session 2: Mr Rami Rahal (Canadian Partnership Against Cancer)

COVID-19 and Cancer Global Modelling Consortium

ccgmc.org

Social distancing measures (including lockdowns) and redirection of health system resources can have a negative effect on people with cancer and ultimately on cancer survival.

The CCGMC aims to **configure modelling platforms and** to **estimate the potential impact of COVID-19 on cancer** therefore providing **informed advice to governments**, particularly those in low- and middle-income countries, as they rise to this overwhelming health systems challenge.

Potential mechanisms of COVID-19 impact on cancer outcomes

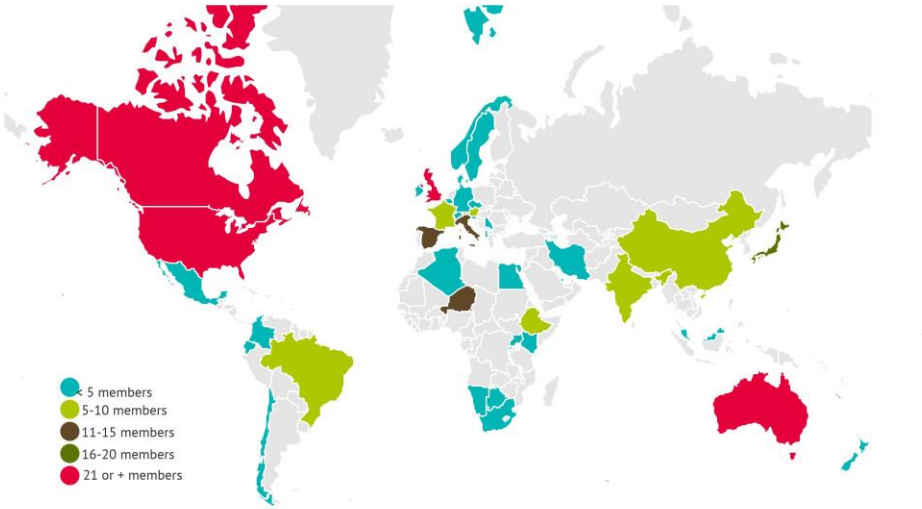
DECREASED SURVIVAL
- Direct "biological" impact on survival
- Impact of treatment disruptions
- Effects on co-morbid conditions
- Competing mortality risk from COVID

DELAYED DIAGNOSIS
- Disruptions to screening programs
- Delays in symptomatic presentation

IMPACT ON CANCER RISK
- Direct "biological" impact on risk
- Effect of risky behaviours during crisis

COLLABORATIONS

The CCGMC comprises over 250 members representing 38 countries worldwide.



3 WORKING GROUPS

Three main work streams: impact on cancer treatment and outcomes, screening, and cancer prevention.

WG1 Treatment

WG2 Screening

WG3 Prevention

With acknowledgement to the contributions of our Affiliates:

HPV Prevention and Control Board

ECL Association of European Cancer Leagues

Aims of today's call

1. Review our highlights and upcoming events
2. Provide updates on commissioned projects (including CRUK, ICBP and WHO systematic reviews)
3. Provide snapshots on other working group activities
4. Seek input on our 'branding'

Please use the chat function to log questions and comments through the session for later consideration

Agenda

1. Welcome and Introductions

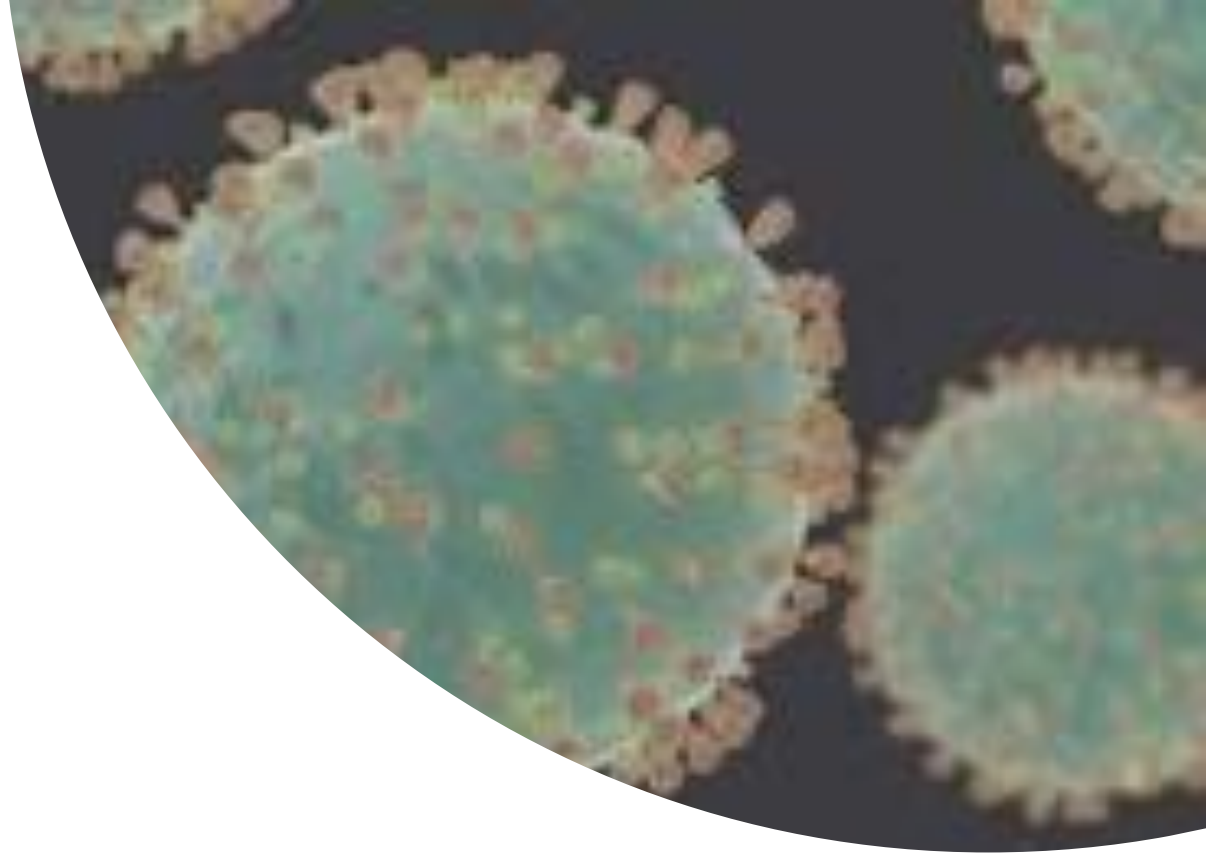
2. Update on COVID-19 & Cancer Taskforce

3. Key consortium highlights and achievements

4. Current commissioned projects:
   a) ICBP - A review of health system and clinical policy responses to the COVID-19 pandemic
   b) CRUK – HPV vaccination disruptions and Global Observatory development
   c) WHO - Covid and Cancer systematic reviews

5. Update on other Working Group activities
   a. Working Group 2 – Screening project team updates (breast, cervix, colorectal)
   b. Working Group 3 – Prevention (Focus today: Smoking systematic review)
   c. Working Group 1/2 Collaboration (AUSCAN) – Screening, Diagnosis & Treatment

6. Potential ‘rebrand’ for the CCGMC



Covid-19 and Cancer Taskforce

covidcancertaskforce.org

2 YEARS ON

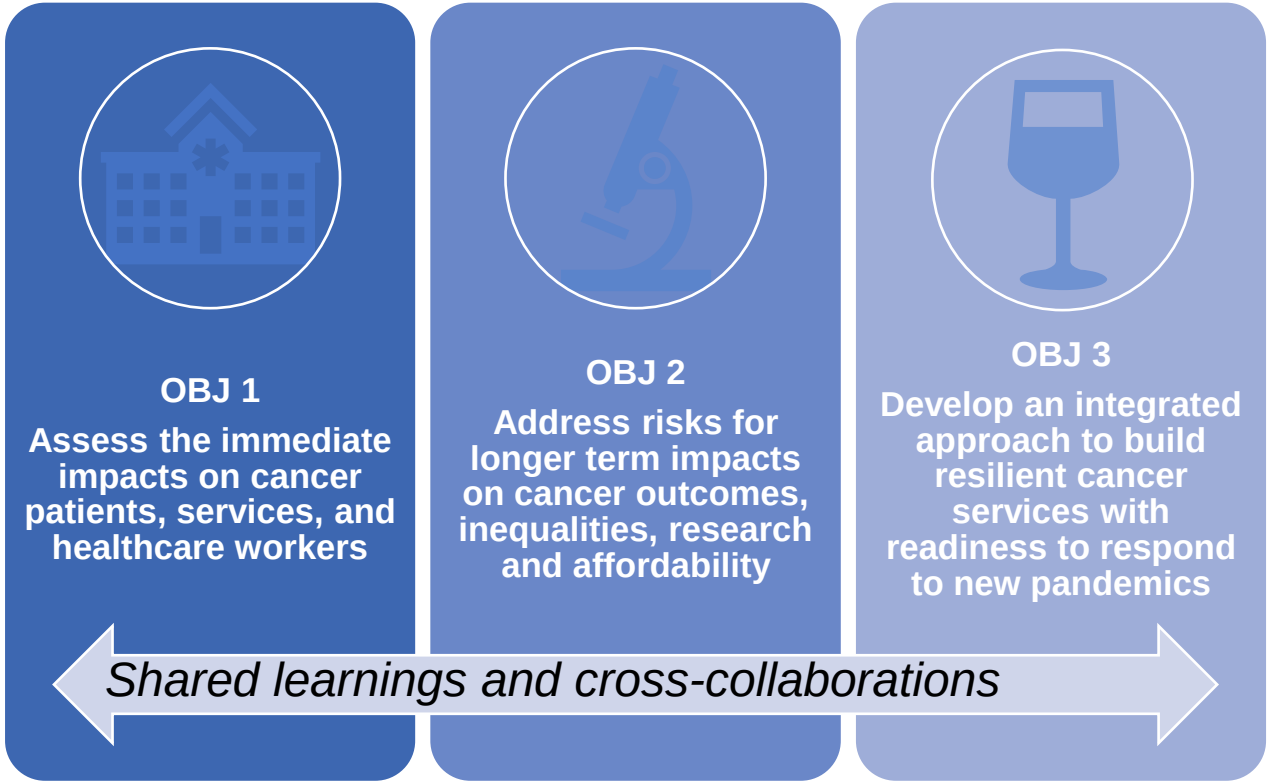
Professor Richard Sullivan

JUNE 2022 UPDATE

Overview

- 46 senior cancer centre directors across 47 countries
- 59 projects of varying size
- 87 publications
- Multiple, complex ecosystems and therapeutic geographies

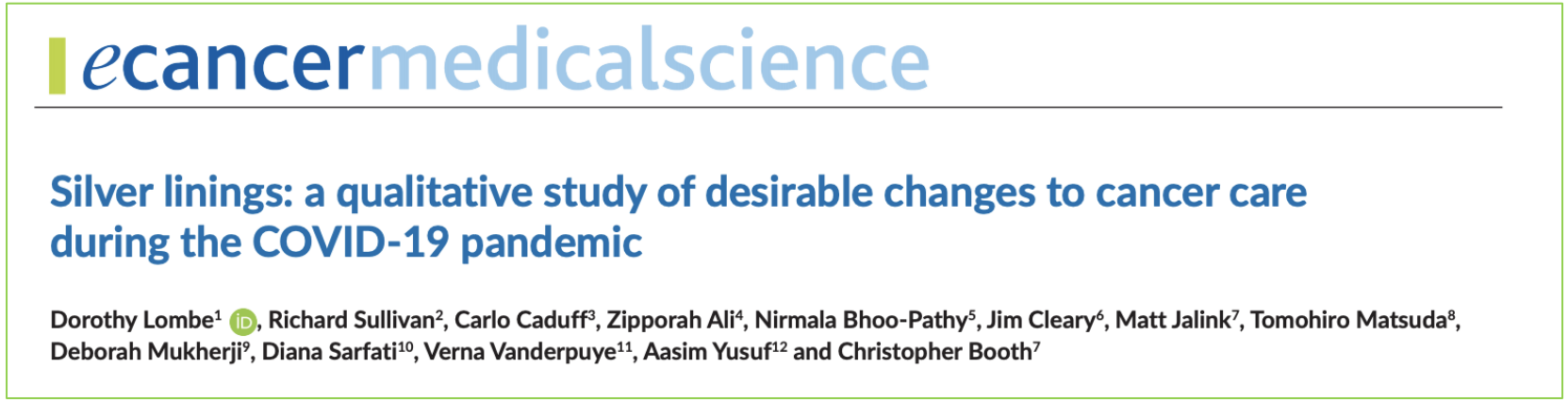
eCancer Covid and Cancer intelligence hub: https://ecancer.org/en/news/17690-covid-19-and-cancer-intelligence-hub



Impact of COVID-19 on Health worker (HCW) in cancer care

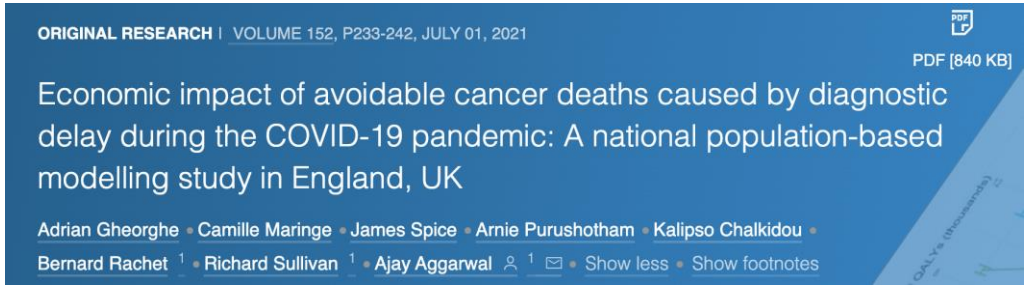
- Quantifying perceived stress & resilience to inform organisational strategies supporting mental health of HCW using common protocol - *Canada, UK, Malaysia, Pakistan, Jordan, Colombia, Rwanda, Australia, Japan*
- Individual analysis publishing – with meta-analysis in late 2022
- Japan has most complex and complete cohort: 2 waves of survey completed (n=566, n=336) with third wave underway: very high resolution
- **Need a much longer term understanding of how COVID-19 has impacted HCW capacity** – migration, early retirement *etc*

Silver linings: understanding positive changes to systems and cancer care



- Led by Zambian colleagues: Semi-structured interviews were conducted with key opinion leaders from 14 countries
- 10 themes of positive changes: now in expanded phase
- Part of a wider program of ‘lessons learnt in cancer care during COVID’. Last phase currently underway

What has been the economic impact on cancer of the pandemic?



- Wide range of economic studies
  - Impact on catastrophic patient expenditure
  - Economic impact (productivity) of delays / premature mortality
  - Macro-economic impact on centres and systems
- Developed excellent methods that need to be applied more widely
  - for example in Sub-Saharan Africa contexts

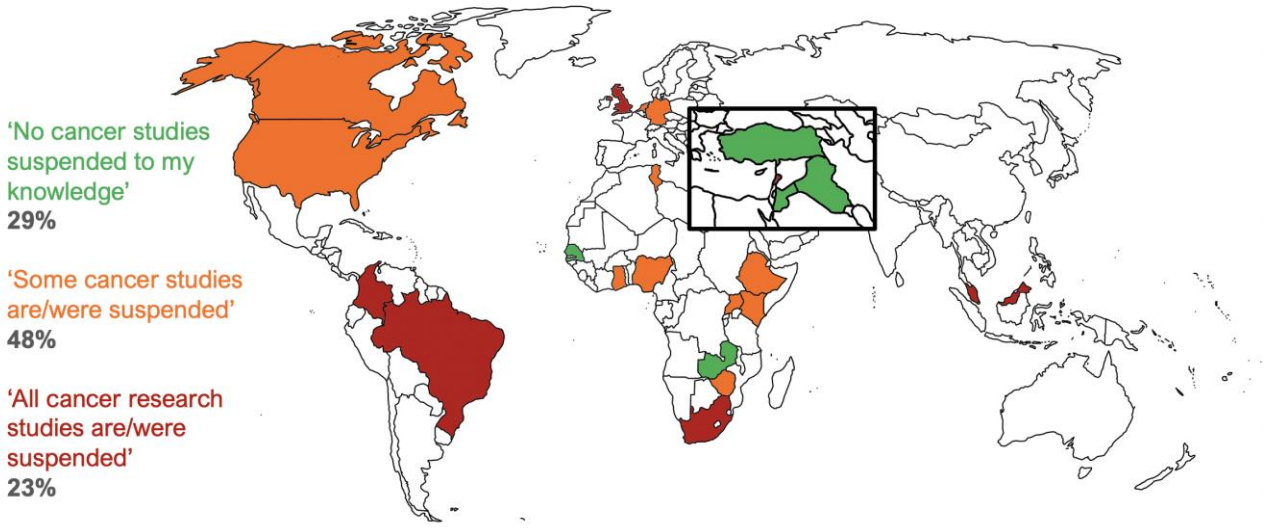
See interview on eCancer on economic impact of cancer care supplies during COVID in Pakistan
https://ecancer.org/en/video/10207-pandemic-strategising-for-cancer-hospital-stockpiles

How cancer research ecosystems have been changed by COVID-19

Impact of COVID-19 on Global Cancer Research: an opportunity to redefine priorities (REPRISE)

- Undertaken major benchmarking analysis of global cancer research
- COVID-19 has catalysed greater **decline** in global cancer research activity & funding[1]

- **Major new analysis for 2022**
  - ❖ Status of cancer research across continental Africa
  - ❖ Contribution and role of LMIC to global cancer trials
  - ❖ REPRISE (qualitative study)
  - ❖ Impact on EU cancer research




COMMENT | VOLUME 22, ISSUE 12, P1652-1654, DECEMBER 01, 2021

Global cancer research in the post-pandemic world

Deborah Mukherji • Raul Hernando Murillo • Mieke Van Hemelrijck • Verna Vanderpuye • Omar Shamieh • Julie Torode • C S Pramesh • Aasim Yusuf • Chris M Booth • Ajay Aggarwal • Richard Sullivan • on behalf of the COVID-19 and Cancer Task Force • Show less

Published: December, 2021 • DOI: https://doi.org/10.1016/S1470-2045(21)00602-1 • Check for updates

[1]Sullivan R, et al. Cancer research collaboration between the USA and UK: reflections on the 2021 G20 Summit announcement. **Lancet Oncology** 2022: 23: 460-462

Taskforce has conducted many studies of the wider impact of COVID-19 on cancer systems

ecancermedicalscience

The impact of national non-pharmaceutical interventions ('lockdowns') on the presentation of cancer patients

Arnie Purushotham[1,2], Graham Roberts[2], Kate Haire[2], Joanna Dodkins[2], Elizabeth Harvey-Jones[2], Lu Han[3], Anne Rigg[2], Claire Twinn[2], Conjeevaram Pramesh[4], Priya Ranganathan[4], Richard Sullivan[1] and Ajay Aggarwal[1,2,3]

Contingency planning for cancer care in low- and middle-income countries during the COVID-19 pandemic: a rapid assessment for future disaster resilience

Soo-Peng Teoh[1], Yee-Yin Hoo[2], Raul Murillo[3], María Zuluaga[3], Audrey Tsunoda[4], Dorothy Lombe[5], Richard Sullivan[6], Nirmala Bhoo-Pathy[1] on behalf of the COVID-19 and Cancer Global Taskforce

ARTICLES | VOLUME 22, ISSUE 11, P1507-1517, NOVEMBER 01, 2021

PDF [1 MB]

Effect of COVID-19 pandemic lockdowns on planned cancer surgery for 15 tumour types in 61 countries: an international, prospective, cohort study

COVIDSurg Collaborative * • Show footnotes

Open Access • Published: October 05, 2021 • DOI: https://doi.org/10.1016/S1470-2045(21)00493-9 •

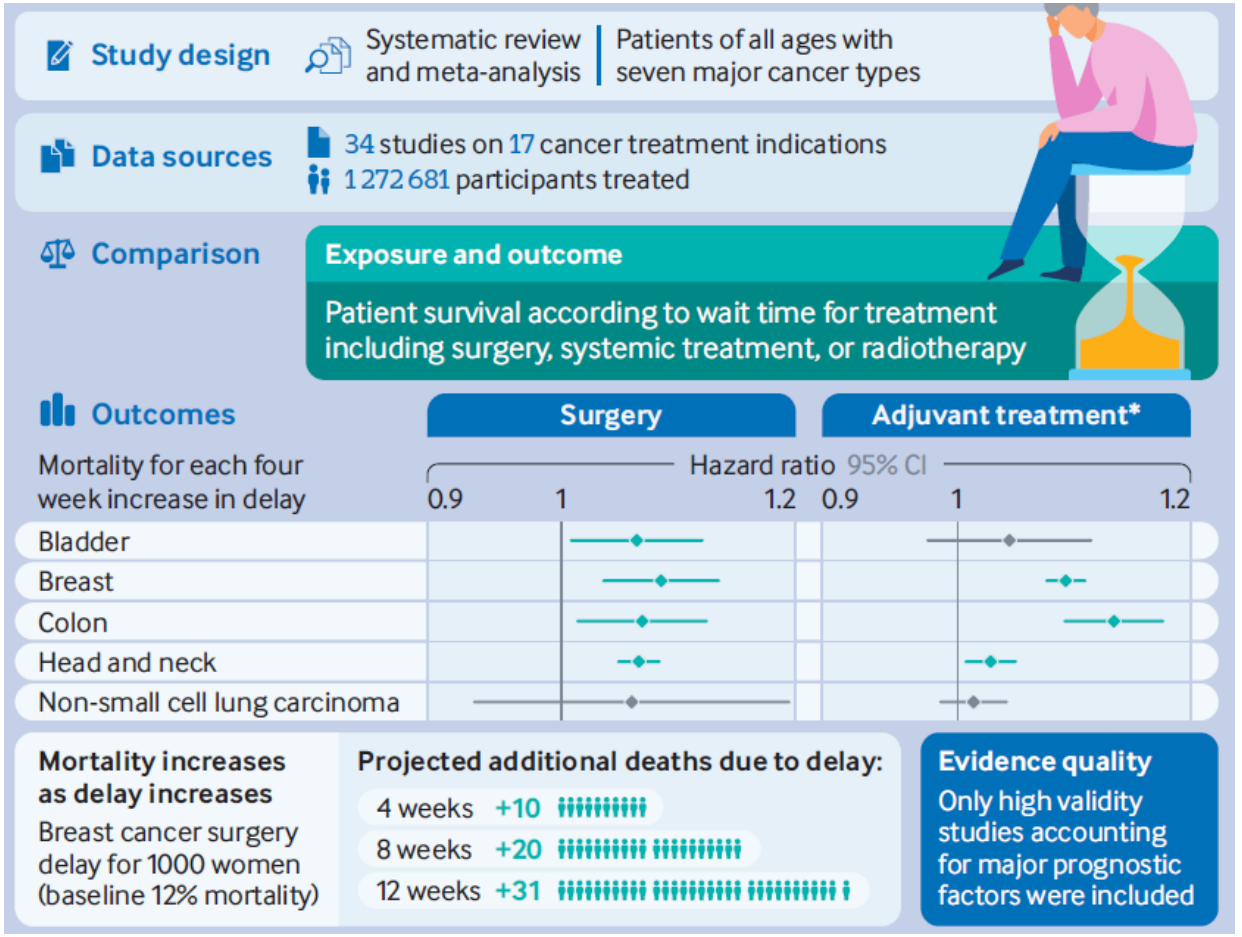
- Established benchmarks for the impact of delays to diagnosis and treatment due to 'lockdowns'
- Co-led major 61-country study looking specifically at cancer surgery
- Long term
  - ❖ More detailed work required for SSA
  - ❖ Need for qualitative studies to address data gaps

The impact of COVID-19 pandemic on cancer policy & services in most HICs and LMICs has been overlooked

Serious issue that lessons will not be learnt and embedded in resilience and future preparedness planning

NEEDS: Context specific research

- link to NCCP essential
- Hard wiring funding an issue



Hanna T, *et al* Mortality due to cancer treatment delay: A systematic review and meta-analysis **BMJ** 2020;371:m4087

COVID-19 and Cancer Global Modelling Consortium (ccgmc.org)

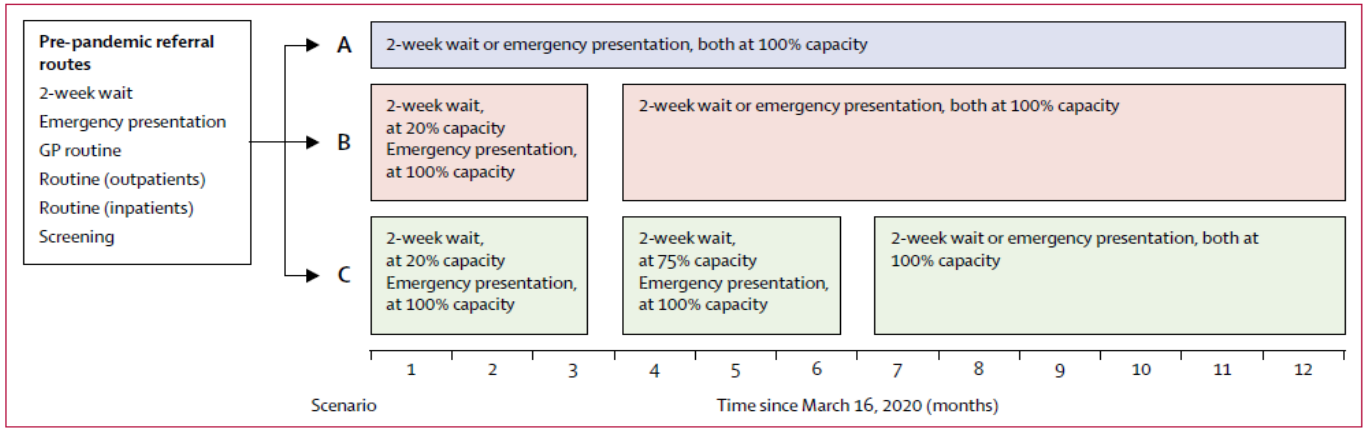
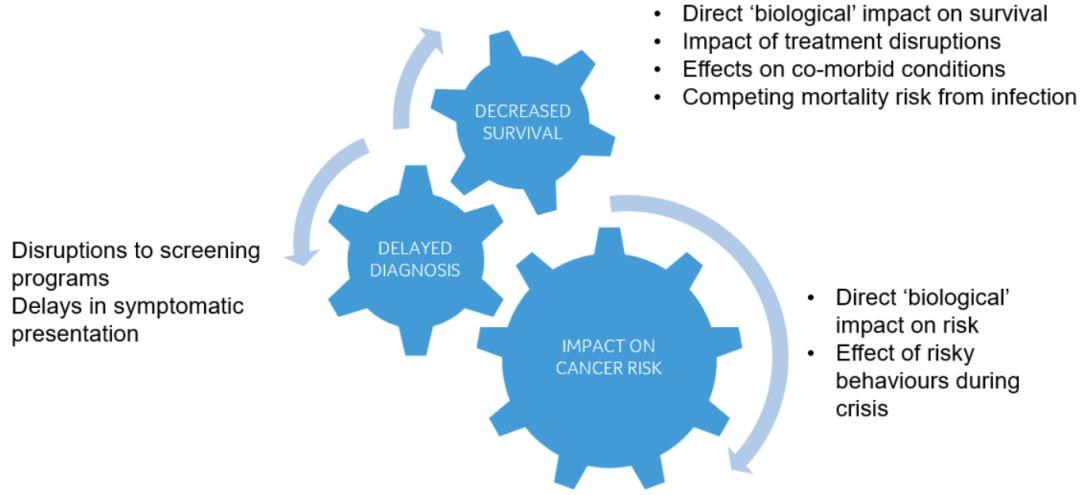


Figure 1: Conceptual framework for reallocation of pre-pandemic referral routes in three modelling scenarios (A, B, and C)



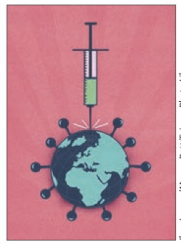
Maringe *et al* Lancet Oncology; 2020;21(8):1023-34

- Led in using models to understand impact of COVID-19 on cancer: **but most work focused in high income settings**
- Undertaken a series of major systematic reviews for WHO
- Next steps: link models to real world data across different ecosystems – starting point HPV vaccination, should be ready by World Cancer Congress 2022

Understanding COVID-19 vaccines & cancer

- Taskforce conducted a number of high level policy analysis – shared with COVAX & GAVI
- Developed a joint protocol to study different patterns of sero-conversion
- Linked to wider study development around risk of COVID-19 to cancer patients
- **Remains a dearth of work in this area**

Cancer and COVID-19 vaccines: a complex global picture



Icon Images/Marcus Batt/Science Photo Library

Patients with cancer can be at high risk of severe COVID-19 due to their age, disease, cancer treatment, and medical co-morbidities.[1] The pandemic has also led to substantial disruptions to diagnosis and treatment in many parts of the world.[2,3] Patients with cancer in low-income and middle-income countries (LMICs) are further disadvantaged compared with those in high-income settings because of unequal access to COVID-19 vaccines in already fragile health-care systems.

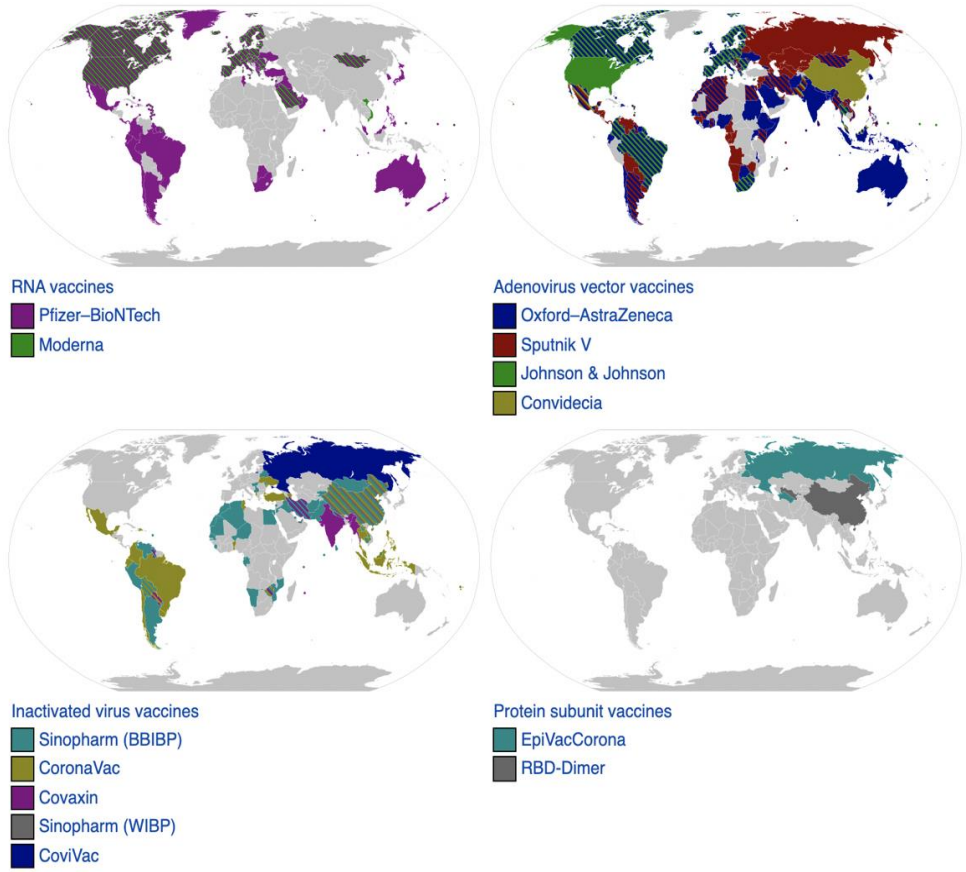
What do we know so far about the safety and efficacy of COVID-19 vaccines for patients with cancer? Notably, the published data only reflect certain vaccines in specific, mostly high-income, settings. With this caveat in mind, n

resources, especially if vaccines become available in the private sector, rather than exclusively through government-led national programmes.

In light of the challenging and rapidly changing vaccine landscape for patients with cancer, the **COVID-19 and Cancer Taskforce** undertook a rapid assessment of the current global availability of COVID-19 vaccines and their strategies for covering cancer patients and health-care workers, up to and including March 31, 2021. We surveyed members of the Taskforce from 38 countries covering the full spectrum of development from low-income to high-income settings and received completed responses from

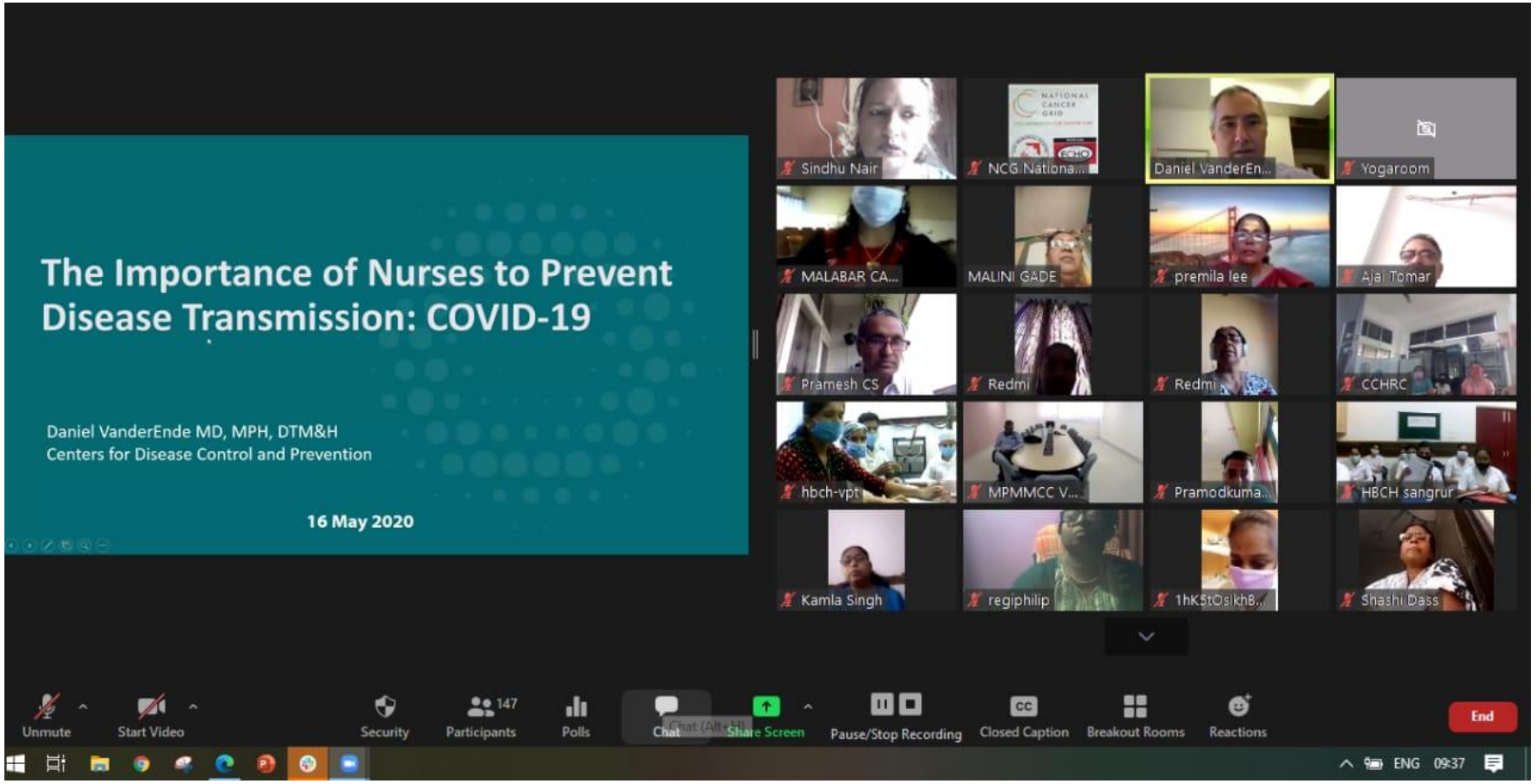
Lancet Oncol 2021

For the **COVID-19 and Cancer Taskforce** see covidcancertaskforce.org



Dissemination & Engagement

- 14 major webinar series including **National Cancer Grid of India**; King's College London-Queens University Kingston, et al
- 4 symposiums held to date
- **eCancer COVID Hub – how best to use this?**



https://tmc.gov.in/ncg/index.php/covid-webinars#:~:text=NCG%20has%20planned%20a%20series,between%209%20and%2012%20AM.

Consortium highlights and upcoming events.

Session 1: Prof Karen Canfell (The Daffodil Centre)
Session 2: Mr Rami Rahal (Canadian Partnership Against Cancer)

Recent publications

Sarich, P., Cabasag, CJ., Liebermann, E., Vaneckova, P., Carle, C., Hughes, S., Egger, S., O'Connell, D., Weber, M., Mafra da Costa, A., Caruana, M., Bray, F., Canfell, K., Ginsburg, O., Steinberg, J., Soerjomataram, I. **Tobacco smoking changes during the first pre-vaccination phases of the COVID-19 pandemic: A systematic review and meta-analysis.** *eClinMedicine.* https://doi.org/10.1016/j.eclinm.2022.101375

Soerjomataram, I., Bray, F., Lansdorp-Volgelaar, I., Ginsburg, O., Rahal, R., Sullivan, R., Canfell, K. (2022). **COVID-19 and Cancer Global Modelling Consortium (CCGMC): A global reference to inform national recovery strategies.** *Journal of Cancer Policy.* https://doi.org/10.1016/j.jcpo.2022.100328

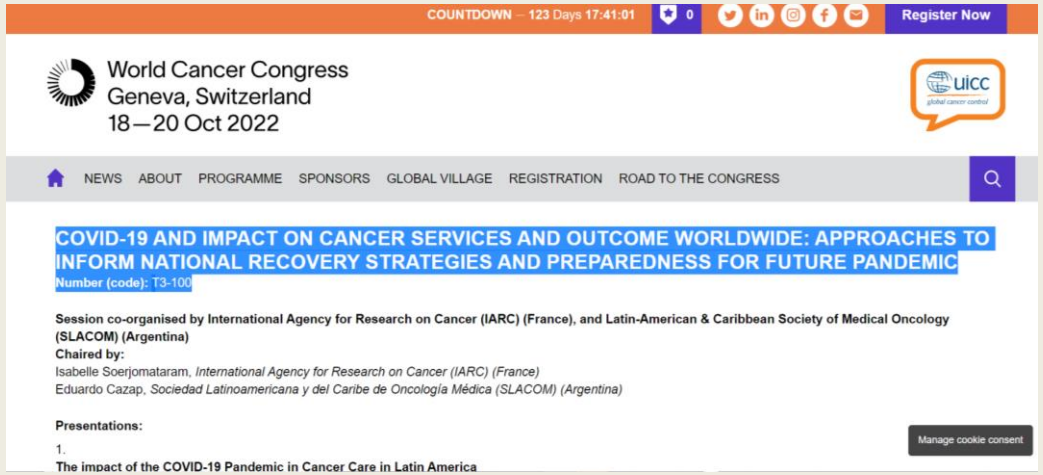
Freeman, V., Hughes, S., Carle, C., Campbell, D., Egger, S., Hui, H., Yap, S., Deandrea, S., Caruana, M., Onyeka, T., IJzerman, M., Ginsburg, O., Bray, F., Sullivan, R., Aggarwal, A., Peacock, S., Chan, K., Hanna, T., Soerjomataram, I., O'Donnell, D., Steinberg, J., Canfell, K. (2022). **Are patients with cancer at higher risk of COVID-19-related death? A systematic review and critical appraisal of the early evidence.** *Journal of Cancer Policy.* https://doi.org/10.1016/j.jcpo.2022.100340

Carle, C., Hughes, S., Freeman, V., Campbell, D., Egger, S., Hui, H., Yap, S., Deandrea, S., Caruana, M., Onyeka, T., IJzerman, M., Ginsburg, O., Bray, F., Sullivan, R., Aggarwal, A., Peacock, S., Chan, K., Hanna, T., Soerjomataram, I., O'Donnell, D., Steinberg, J., Canfell, K. (2022). **The risk of contracting SARS-CoV-2 or developing COVID-19 for people with cancer: a systematic review of the early evidence.** *Journal of Cancer Policy.* https://doi.org/10.1016/j.jcpo.2022.100338

For full list of CCGMC-related publications please visit: https://ccgmc.org/publications/

World Cancer Congress (Oct 2022)

1. We will be co-leading a major session on Covid impact on cancer services



https://www.worldcancercongress.org/sessions/covid-19-and-impact-cancer-services-and-outcome-worldwide-approaches-inform-national

2. We have four accepted submitted abstracts

Australia- Canada 'AUSCAN' modelling group:

Modelled COVID disruptions to colorectal cancer screening, diagnosis and treatment in Australia and Canada.

Working Group 2 – Colorectal cancer project

COVID-related Colorectal Cancer Screening Disruptions Could Lead to Thousands of Global Cancer Deaths.

WHO Covid and Cancer systematic reviews

Disruptions and mitigation strategies in cancer screening, diagnosis and treatment during COVID-19 pandemic.

Risk of COVID-19 death for people with a pre-existing cancer diagnosis: a systematic review and meta-analysis.

Sessions will be confirmed 15th July 2022

3. We will be launching the Observatory, and are exploring the potential for a workshop to highlight the Observatory functionality

Current commissioned projects.

Prof Karen Canfell (The Daffodil Centre)
Dr Isabelle Soerjomataram (International Agency for Research on Cancer)

ICBP: COVID-19 Commissioned Research

Harriet Hall

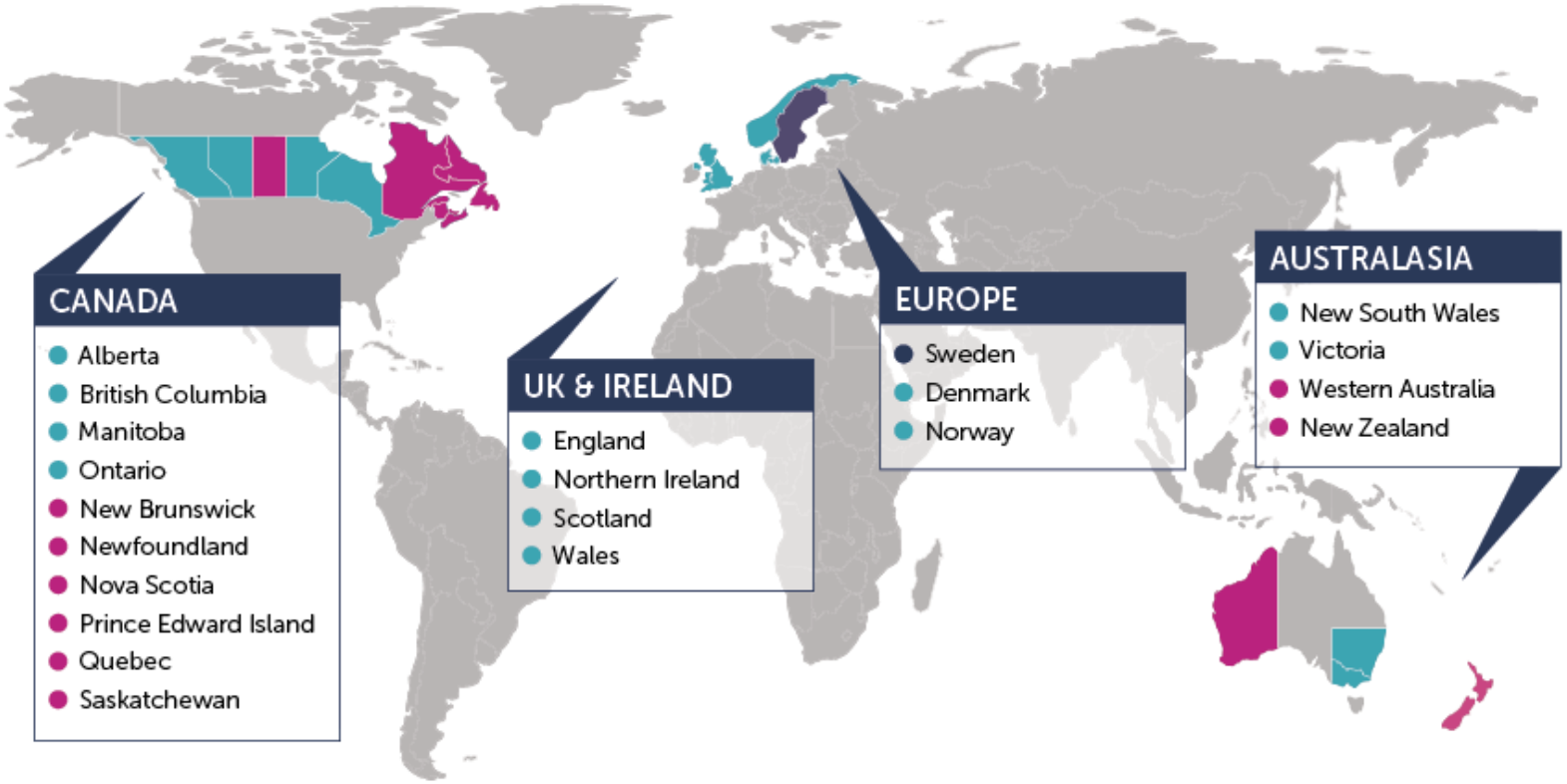
ICBP
International Cancer Benchmarking Partnership

What is the ICBP?

Partnership of clinicians, researchers, policy makers and data experts.

Explores differences in cancer survival and outcomes & factors that may be contributing.

Provides evidence for policy & practice change – to improve patient outcomes.



Phase 1 only: Breast

Phase 1 & 2: Colon, Ovarian, Pancreas

Phase 2 only: Liver, Lung, Oesophageal, Rectal, Stomach

All our partners have:
- Population based cancer registries
- Similar spend on healthcare
- Universal access to health care

The cancer sites chosen:
- Include relatively common cancers and cancers that are hard to treat in high-income countries
- Experience significant variation in cancer survival
- Contribute to overall burden of disease in high-income countries

ICBP
International Cancer Benchmarking Partnership

Centre international de Recherche sur le Cancer

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ICBP International Cancer Benchmarking Partnership

ICBP Commissioned projects:

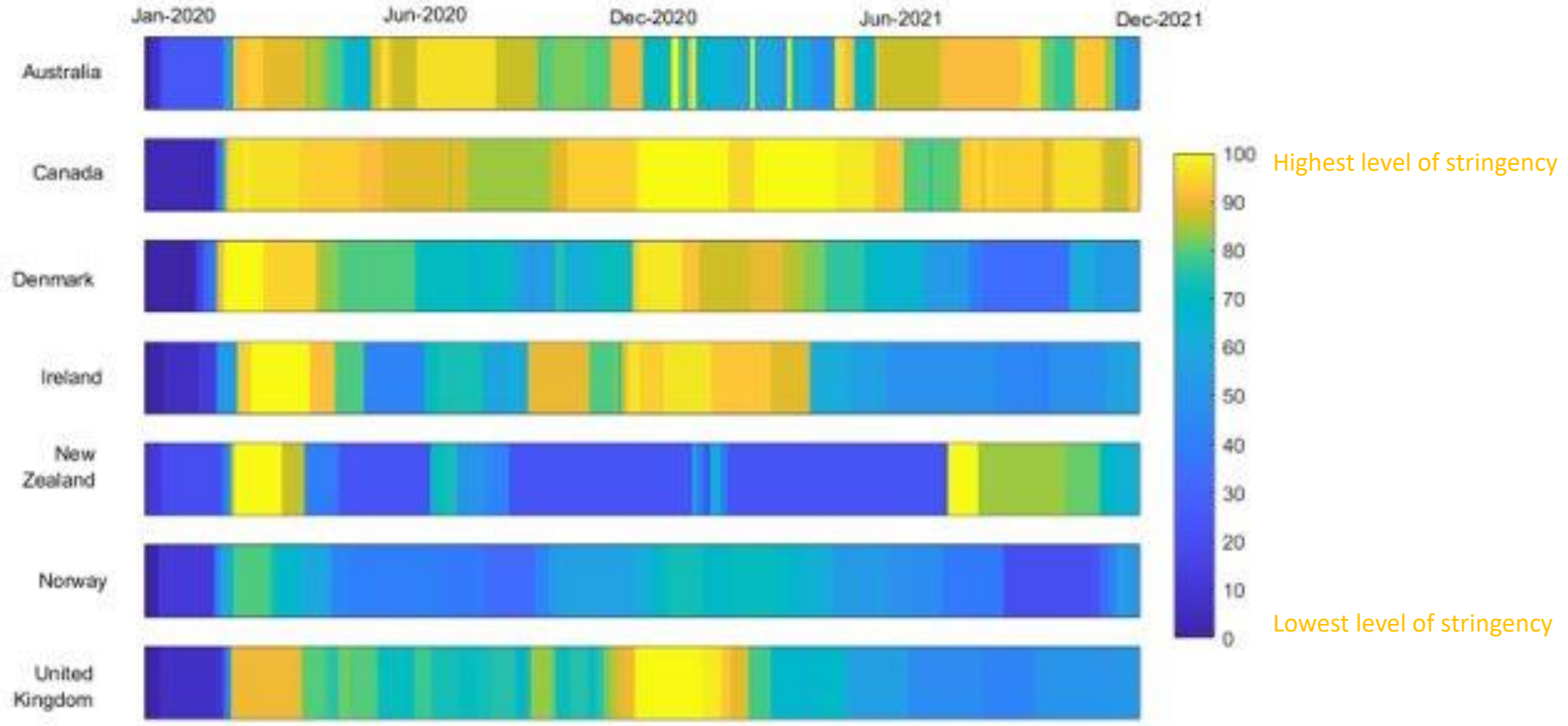
1) ICBP-COVID19: Assessing the COVID-19 impact on cancer in the International Cancer Benchmarking Partnership

2) A review of health system and clinical policy responses to the COVID-19 pandemic and their impact on cancer control across jurisdictions in the International Cancer Benchmarking Partnership

Prof Karen Canfell (The Daffodil Centre) and Dr Isabelle Soerjomataram (IARC)

Context for health service disruptions:

Non-Pharmaceutical Intervention (NPI) severity in ICBP jurisdictions in 2020-2021



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A partnership between Cancer Council and The University of Sydney

Source: Oxford COVID-19 Government Response Tracker
Classification based on their COVID-19 stringency index

Evaluating the impact of COVID-19 pandemic on different aspects of cancer control and mitigation strategies in the ICBP jurisdictions

	Quantitative approach (IARC)	Mixed methods approach (Daffodil centre)
PURPOSE	To quantify the impact of COVID-19 on cancer outcomes	To collate and explore the impact of COVID-19 on health system and clinical policy changes
METHODS	Statistical analysis on data from population cancer registries. **Focus:** Breast, colorectal, lung and ovarian cancers	Desktop review of grey literature and stakeholder interviews. **Case studies:** Breast, colorectal, (lung) cancer for the interviews.

INTERPRETATION

- **Insights from stakeholder interviews/engagement assists in interpreting registry data (e.g. effects of disruptions on delayed diagnosis etc.)**
- **Quantitative analysis may point to areas where stakeholder input could be valuable**

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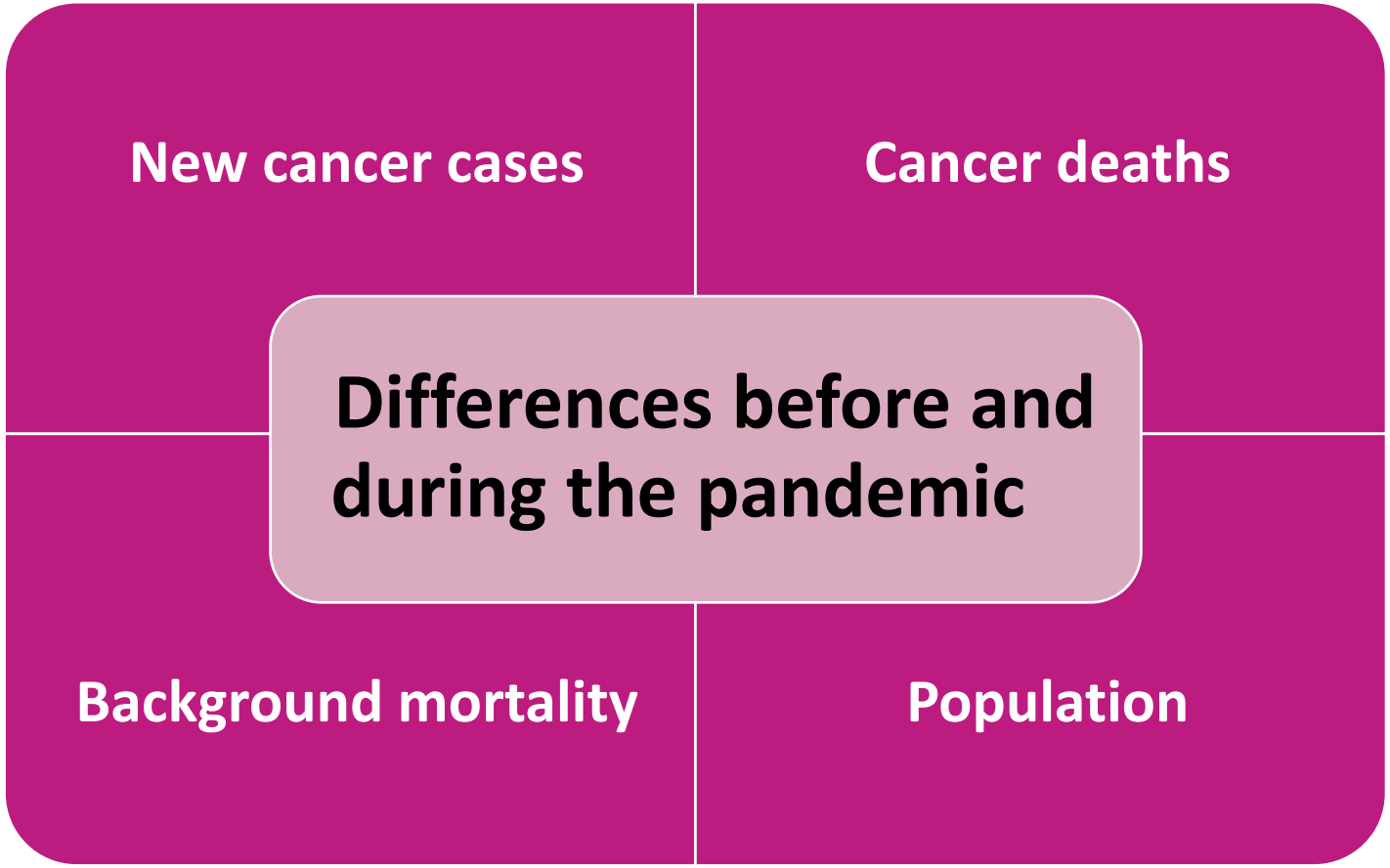
Methodology for quantitative analysis

Population-based (registry) data



Incidence pre- vs during pandemic

- Short-term prediction
- By sex, age, and cancer type/site
- By stage at diagnosis

Links to NPIs, Qualitative study

Mortality > Survival

- Short-term prediction
- By sex, age, and cancer type/site
- (survival) By stage at diagnosis

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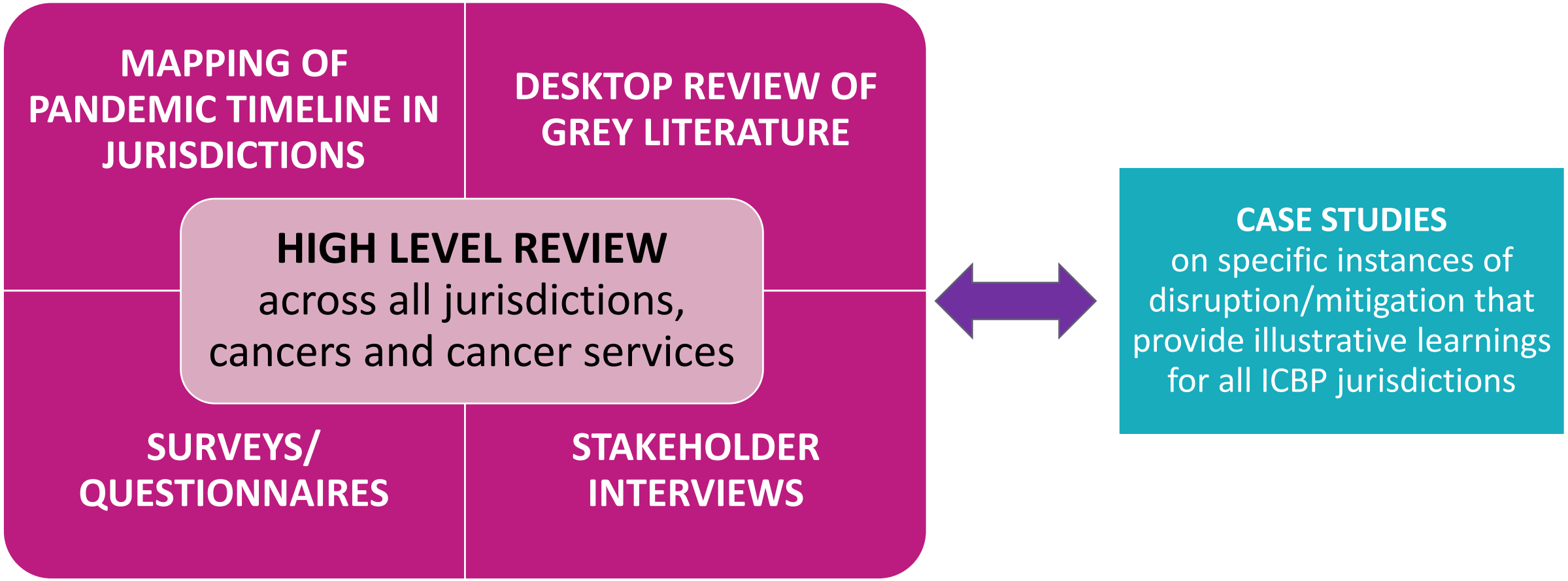
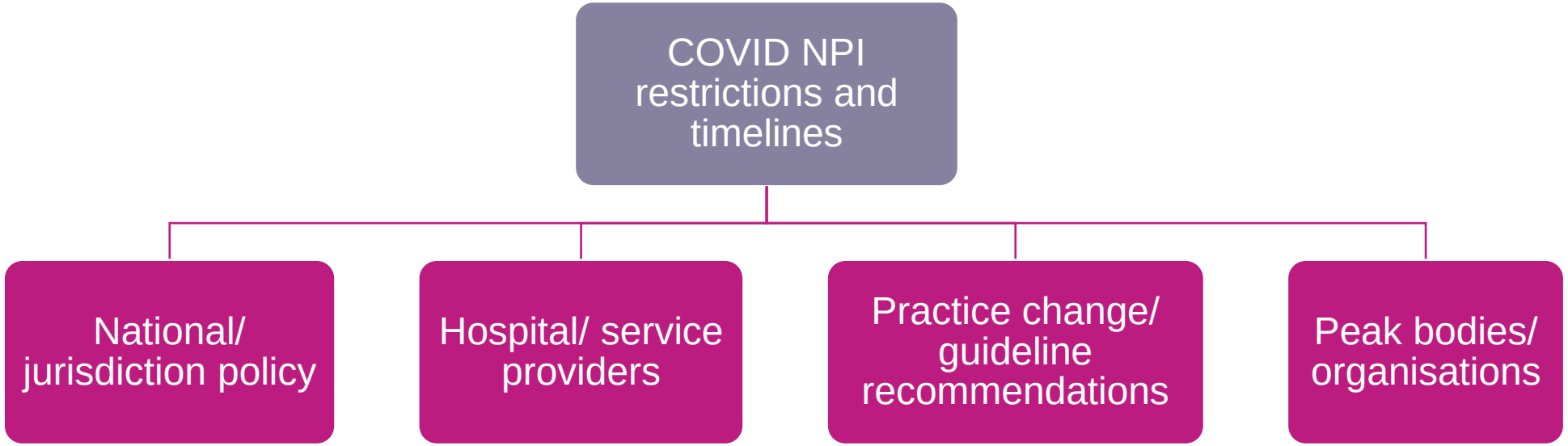
Summary of methodologies for mixed-methods work



High level review across all jurisdictions, cancers and cancer services



- Review will include policy documents, frameworks, action plans, guidance, news release, consensus and position statements
- May be relevant to all health services, or cancer-specific, or service specific
- Time dependant, area dependant (varies with COVID severity and NPI restrictions).

Proposed Case Studies

1. Compare and contrast experiences for **breast** screening services across New South Wales, Victoria, Western Australia & New Zealand
2. Compare and contrast changes to pathways for diagnosis of symptomatic **lung** cancer in Ireland and the UK (potential to include a Canada jurisdiction [e.g. Ontario] in the comparison)
3. Understanding changes to delivery of treatment services (surgery focus) using **colorectal** cancer in Wales (potential to include another jurisdiction [e.g. Denmark] in the comparison)

The impact of HPV vaccination disruptions and best-practice recovery strategies in LMICs

Cancer Research UK's support

Ms Elle Pearson and Mr Alexander Wright

CANCER RESEARCH UK

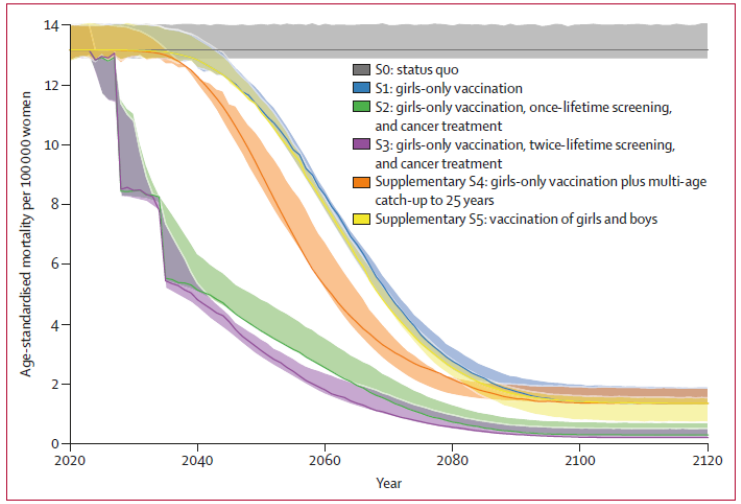
CRUK's International Cancer Prevention Programme

- When we act where the burden is greatest, we significantly progress our mission to beat cancer, sooner.
- In 2016, CRUK launched the International Cancer Prevention programme; a capacity-building, advocating, and research-funding mechanism to support policy change that will enable individuals living in LMICs have access to the same interventions that high-income countries benefit from.
- In 2020, the programme expanded to include HPV vaccination as a means of cervical cancer prevention, in which CRUK has played a pivotal role over the years.
- We focus on projects where we can make a difference with our policy expertise and our flexibility as a small, collaborative and focused global donor.
- The Observatory will enable decision makers to easily visualise the impact of the pandemic on elimination efforts and understand best practice mitigation approaches.
- The Observatory holds the potential to expand beyond direct disruptions of pandemic-related closures, and also beyond cervical cancer.

Mitigating HPV vaccination disruptions in LMICs.

CANCER RESEARCH UK

Professor Karen Canfell



Canfell K/Kim JJ/Brisson M et al., Lancet Jan 30 2020

- Building on the original cervical cancer elimination modelling, we are performing delay/disruption and recovery modelling across 78 LMICs for the three elimination pillars (HPV vaccination, HPV screen and treat, and treatment)
- The focus is on vaccination disruptions but mitigation strategies include vaccination and screening approaches.

UICC global cancer control – A MEMBERSHIP ORGANISATION FIGHTING CANCER TOGETHER

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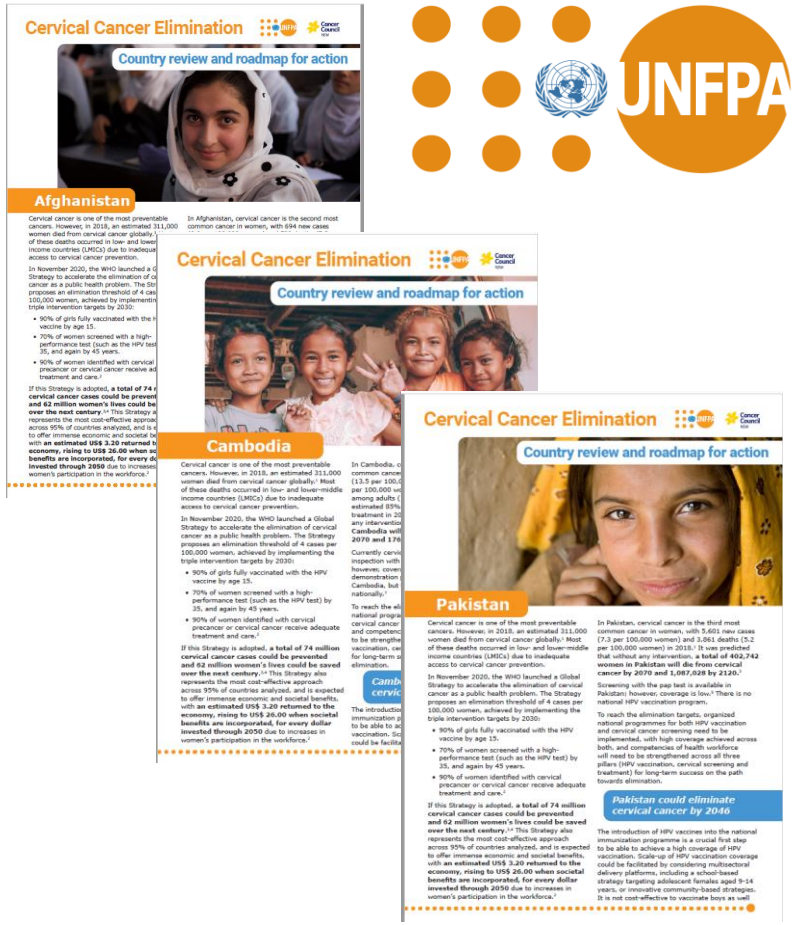
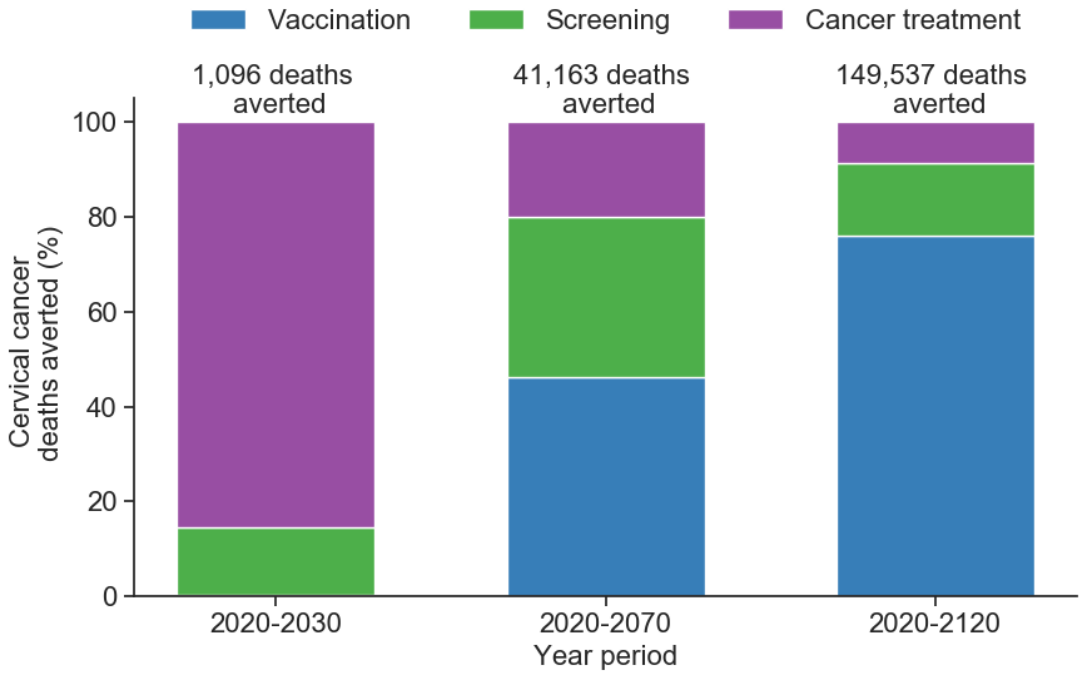
The Daffodil Centre – A partnership between Cancer Council and The University of Sydney

We will generate country-level policy briefs





1. Canfell K, Kim J J , Brisson M, et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low -income and lower -middle-income countries. Lancet 2020;395:591 -603.
2. Brisson M, Kim J J, Canfell K, et al. Impact of HPV vaccination and cervical screening on cervical cancer elimination: a comparative modelling analysis in 78 low-income and lower-middle -income countries. Lancet 2020;395:575 -90

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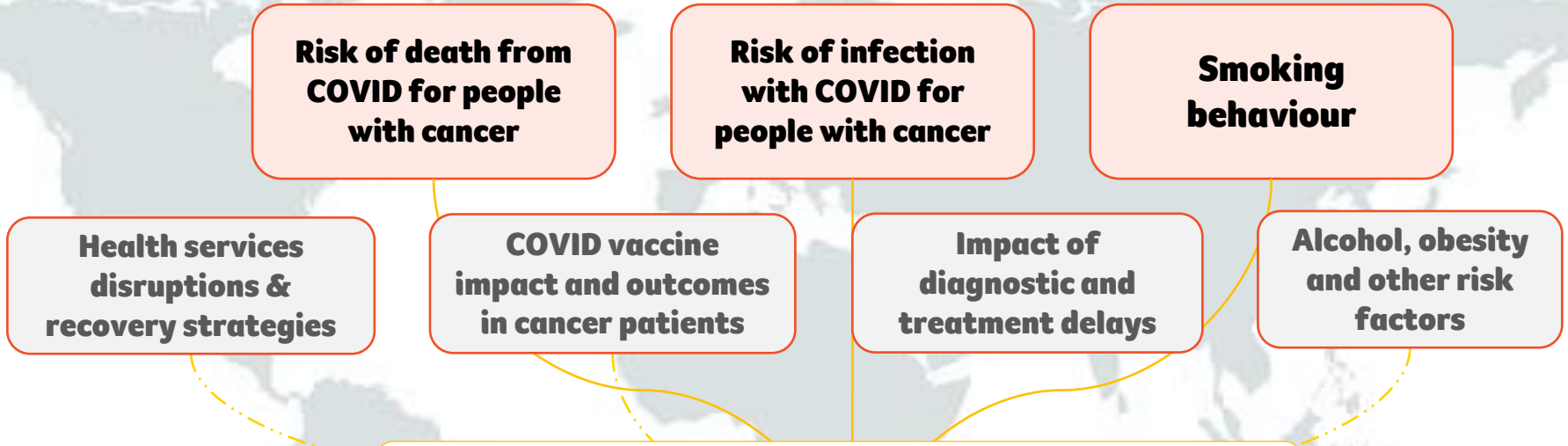
Results will be available in interactive format in our Global Observatory

Initial systematic reviews and modelling & potential extensions to current work



Facility to track other relevant SRs and activities underway by other groups

Observatory

Living systematic reviews and modelling results
Provide ongoing live evidence assessments

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Demonstration of the first Global *Observatory* Platform iteration.

Dr Isabelle Soerjomataram

International Agency for Research on Cancer
World Health Organization
GCO
CANCER & COVID

About the tool | Database | Visualization | Factsheet | References

Scenarios | Delays

Display | Scale | Look

Home

Graphic | Downloads | Table | Share

Intervention / Scenario

S0	S1	S2
S3	S4	S5

Statistics

Age-Standardized Rate (WFP 2015)

Measures

Incidence | Mortality

Population(s) (0)

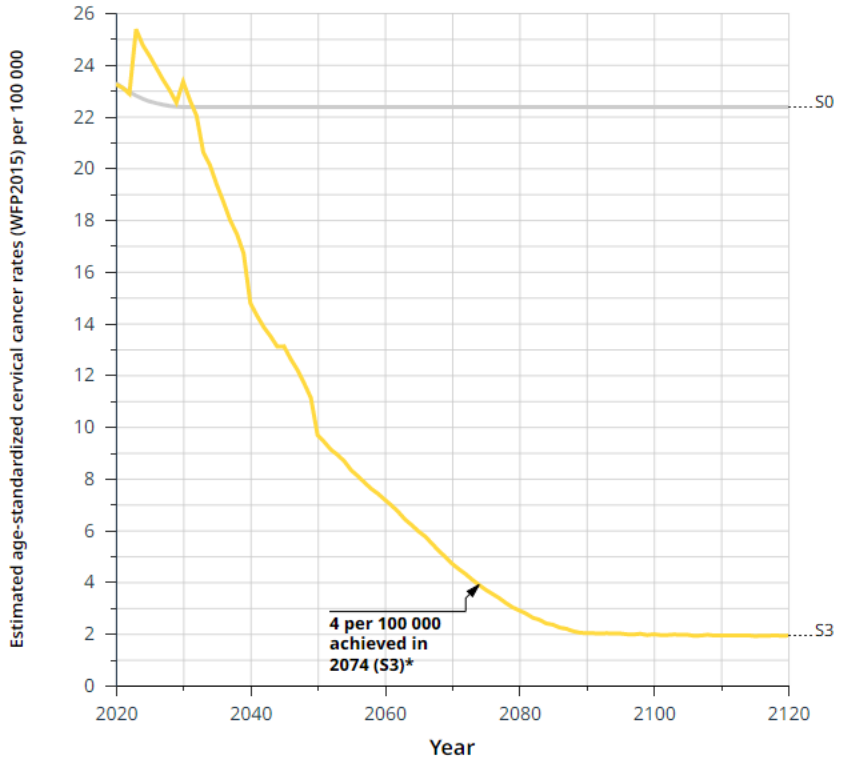
Choose population(s)

Age groups

10 — 84

Reset

Estimated age-standardized cervical cancer rates (WFP2015) per 100 000, Incidence, Females, 10-84 ages
All LMICs



***S0**: Status-quo*

***S3**: 90% girls-only vaccination in 2020 + scale-up of twice lifetime screening at ages 35, 45 to 70% & cancer treatment access to 90% by 2030 (scale-up starts in 2023)*

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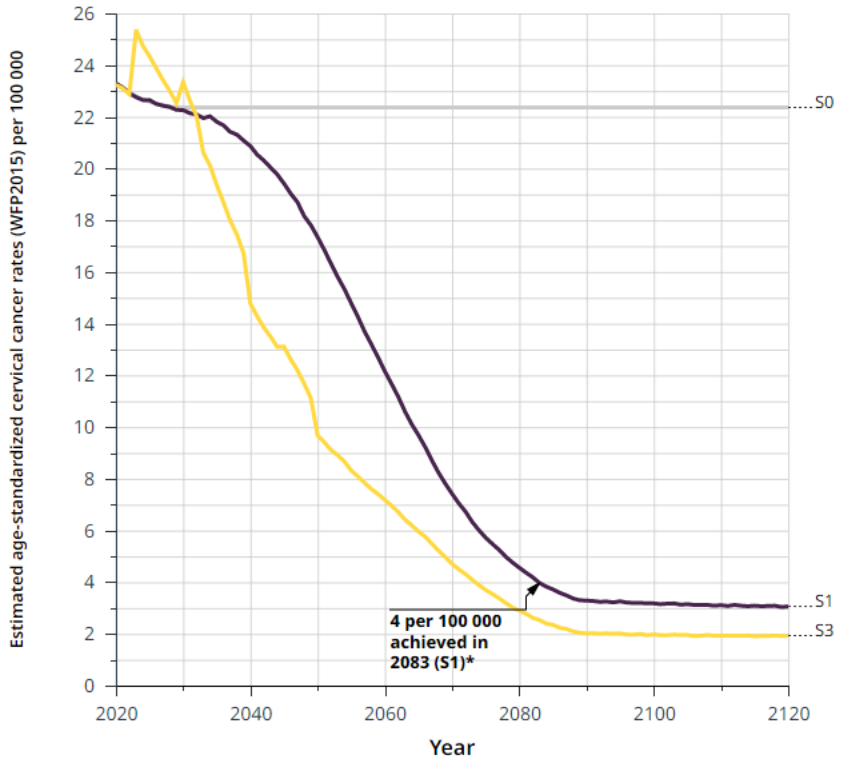

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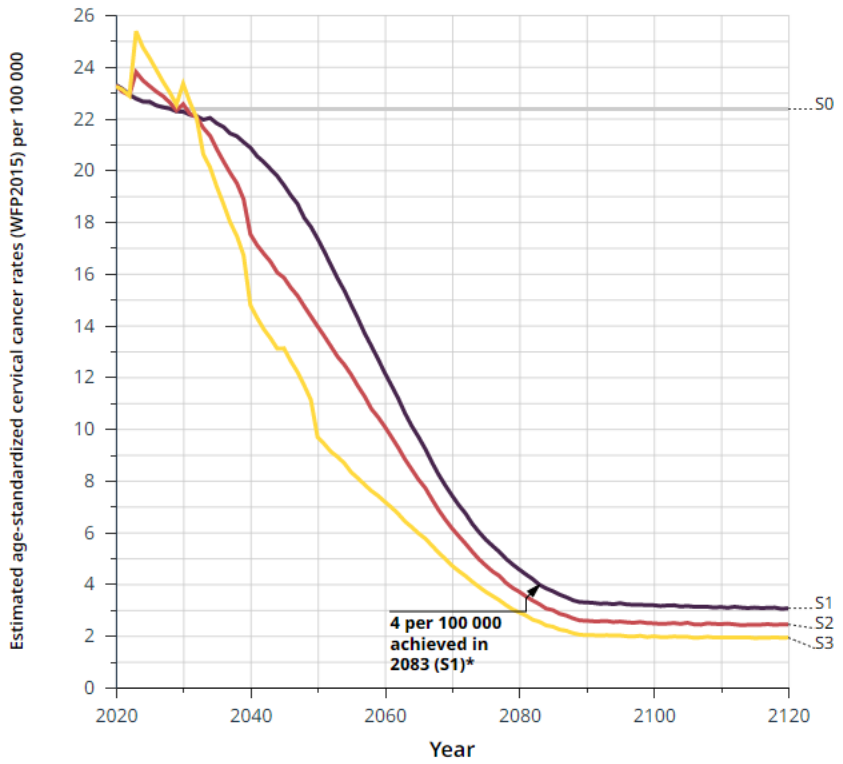

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Age-Standardized Rate (WFP 2015)

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Incidence | Mortality

Population(s) (1)

Uganda ×

Age groups

10 — 84

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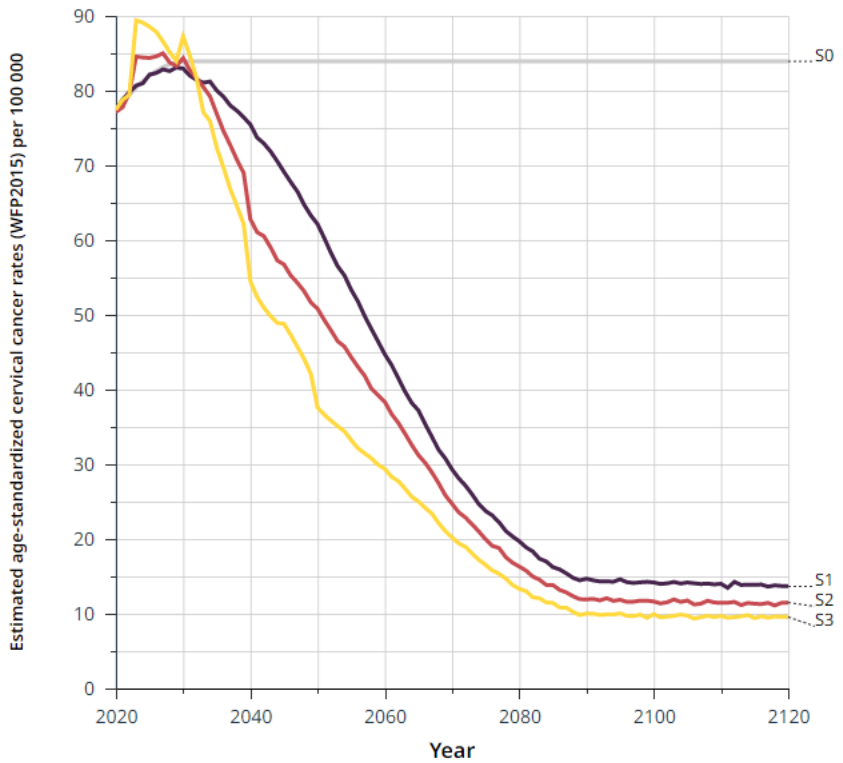
Estimated age-standardized cervical cancer rates (WFP2015) per 100 000, Incidence, Females, 10-84 ages

Uganda



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World Health Organization

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Delays

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Delays

D0 D1 D2 D4 D5

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Age-Standardized Rate (WFP 2015)

Measures

Incidence Mortality

Population(s) (1)

All LMICs

Age groups

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Reset

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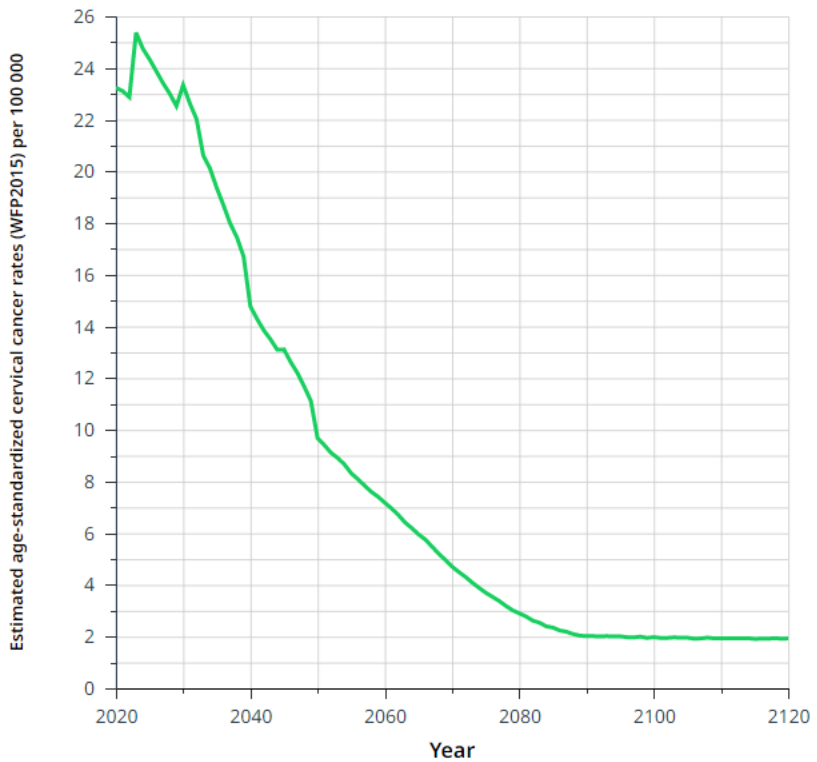
All LMICs

Scenario 3



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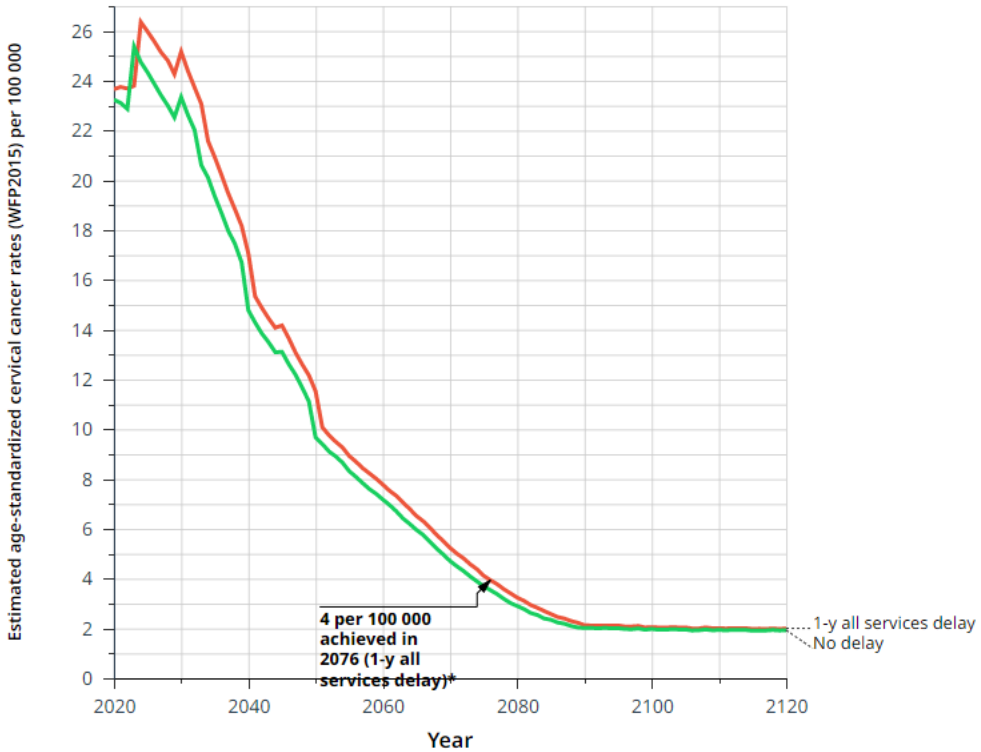
Scenario 3



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WHO- commissioned Covid and Cancer Systematic Reviews

Session 1: Dr Peter Coxeter (The Daffodil Centre)
Session 2: Dr Richa Shah (IARC)

Three systematic reviews are being performed on behalf of WHO (building on prior work)

1. Risk of COVID-19-related death for people with cancer

- Aim: to determine whether people with cancer are at higher risk of COVID-19-related death than people without cancer

2. Magnitude of cancer care delays and disruptions during the COVID-19 pandemic

- Aim: to determine the impact of the COVID-19 pandemic on delays and disruptions in cancer care

3. Impact of strategies for mitigating delays and disruptions in cancer care due to the COVID-19 pandemic

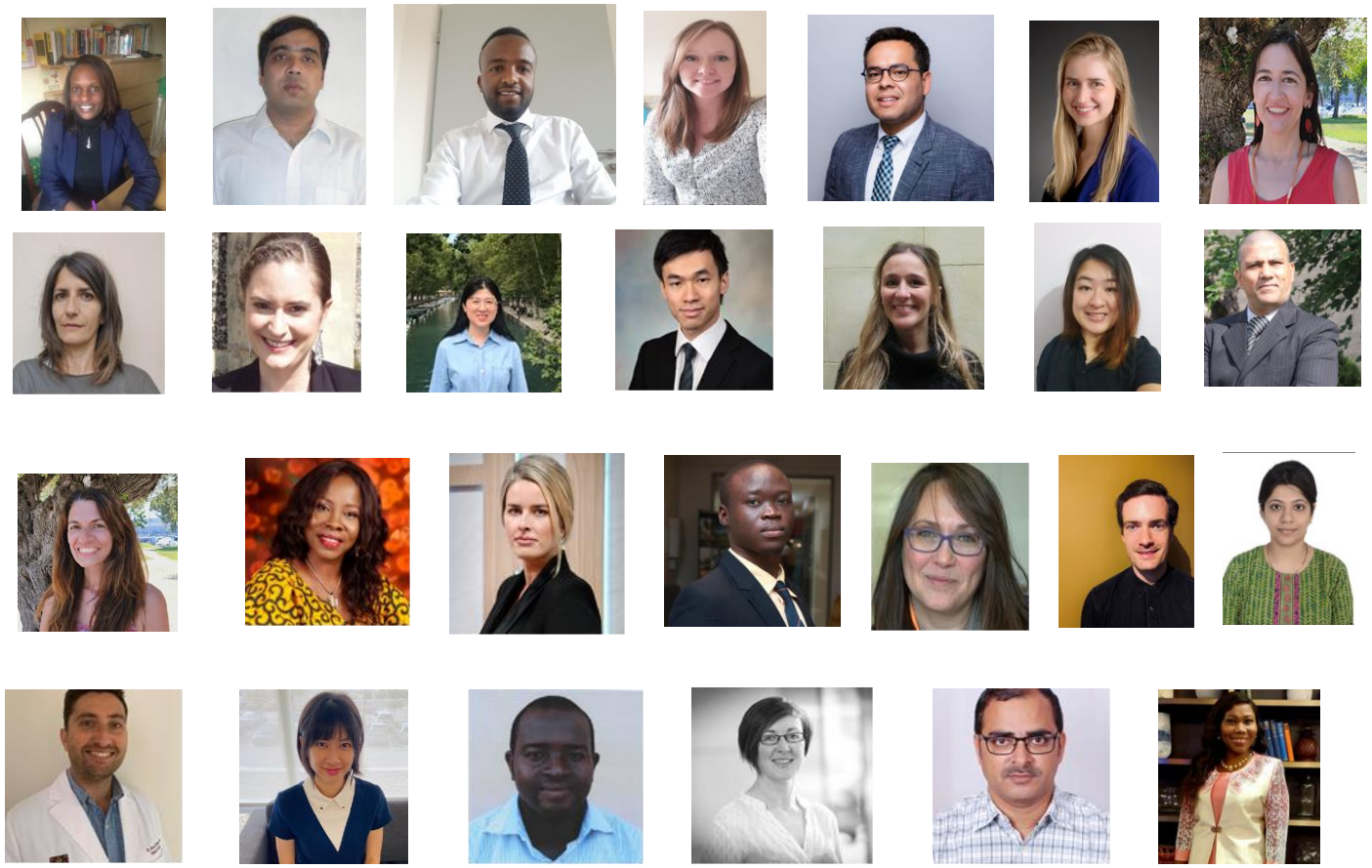
Aim: to determine the impact of strategies for mitigating delays and disruptions in cancer care due to COVID-19

SR Working Group

Central team (Daffodil Centre and IARC)
Dr Julia Steinberg, Dr Isabelle Soerjomataram, Dr Michael Caruana, Dr Richa Shah, Dr Peter Coxeter, Ms Suzanne Hughes, Ms Chelsea Carle, Ms Harriet Hui, Prof Karen Canfell

CCGMC collaborators
Systematic review 1: Risk of COVID-19-related death for people with cancer
Dr Michael Shing Fung Lee, Dr Núria Vives, Dr Feixue Wei, A/Prof Tonia Onyeka, Dr Emma O'Dowd, Ms Maria Monroy Iglesias, Mr Derrick Bary Abila, Dr. Musliu Adetola Tolani, Dr Giulia Carreras, Ms Marilina Santero Sosa,Dr Annet Nakaganda, Dr Poongulali Selvamuthu, Dr Charlene McShane,Mr Narhari Timilshina,Dr Maeve Mullooly,Dr Gemma Binefa, A/Prof Erich Kliewer, Prof Fabio Ynoe de Moraes, Dr Rebecca Landy, Dr Lisa Force,Dr Houda Bouhkeris, Assistant Prof Shruti Kakkar, Assistant Prof Ashutosh Kumar, A/Prof Sharon Hanley, A/Prof Isil Ergin,Prof Diama Vale, Assistant Prof Muluken Gizaw,Dr Ana Molina- Barcelo, Ms Gigi Lui

Systematic review 2 & 3: Cancer care delays and disruptions, and mitigation strategies
Dr Montse Garcia, Dr Ethna McFerran, Dr Suryakanta Acharya, Dr Nader Hanna, Dr Nwamaka Lasebikan, Dr Loo Ching Ee, Dr Allini Mafra, Dr. Katie Goldie, Ms. Colleen McLoughlin, Ms. Hanna Fink, Mr. Oliver Langselius, Ms. Clara Frick



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SR collaboration with CCGMC members

Fig. 1: Systematic review process for title and abstract screening

Key features of this process included:

- Use of a training set of abstracts to align screening approaches between reviewers
- Regular meetings with the collaborative team to discuss highlights and resolve challenges

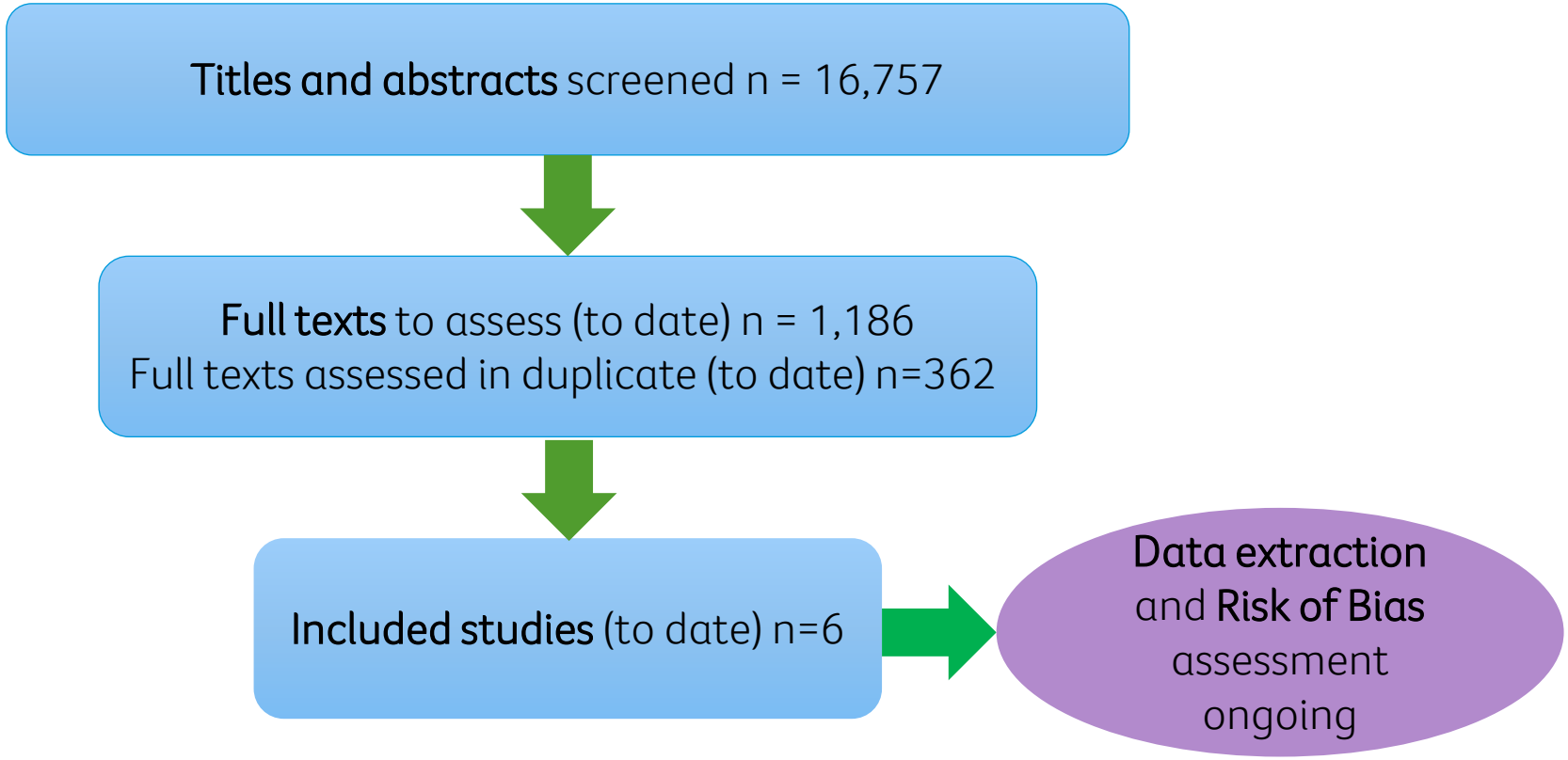
The full text screening phase of the review follows a similar allocation, review and feedback process

The collaborative approach to the systematic reviews is key!

Risk of COVID-19-related death for people with cancer: PECO

Population	Exposure	Comparator	Outcome
COVID-19 patients *OR* General population regardless of COVID-19 status	Pre-existing cancer diagnosis within a specified period *AND* Cancer status specified as: Diagnosis *OR* treatment with cancer during a specified period *OR* Current/"active" cancer as defined by the study	No pre-existing cancer diagnosis within a specified period *OR* No cancer diagnosis or treatment within a specified period *OR* No current/"active" cancer as defined by the study	Death from any cause *OR* COVID-19-related death

COVID-19 death and cancer systematic review update

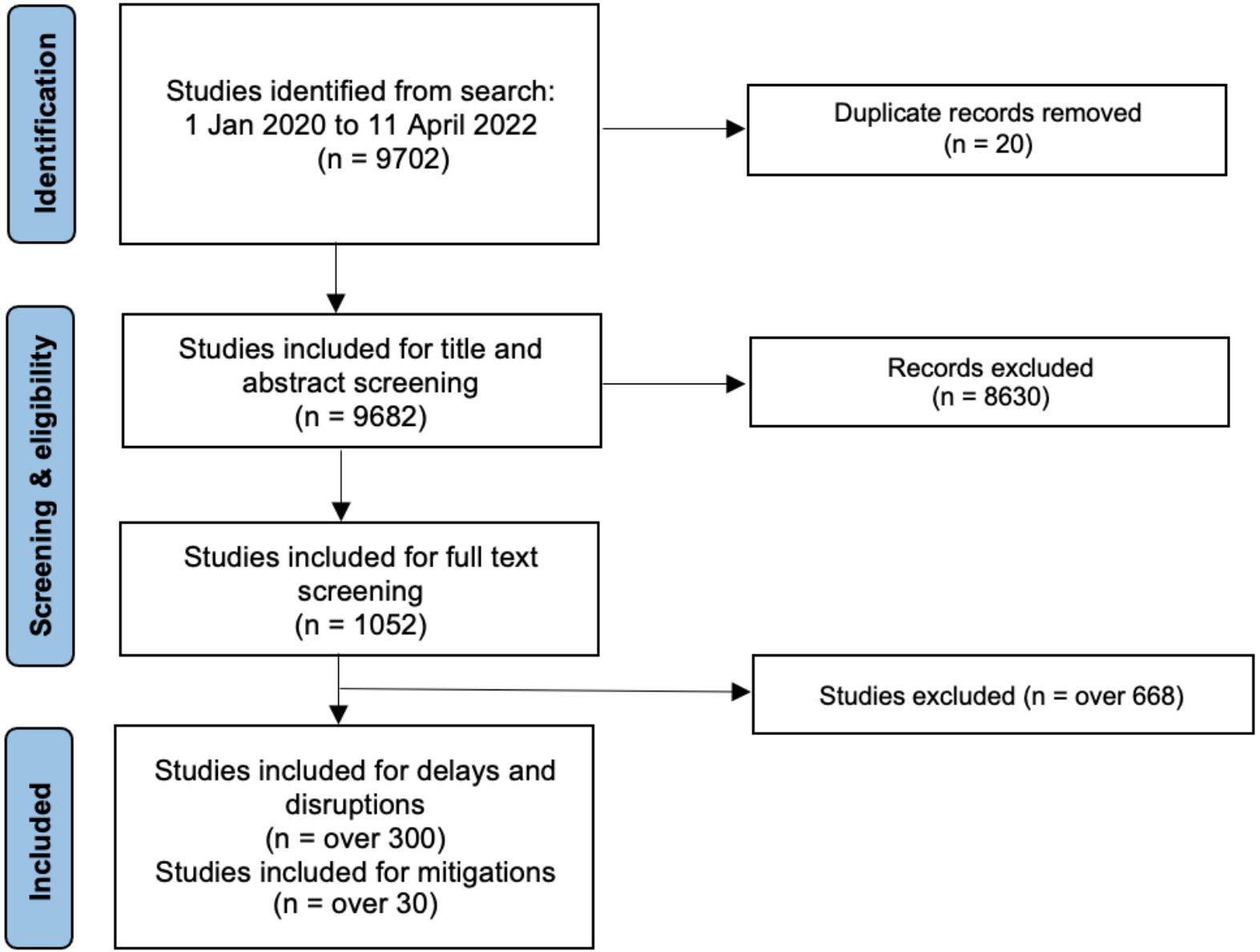


Magnitude of cancer care delays and disruptions during the COVID-19 pandemic: PECO

Population	Exposure	Comparator	Outcome
Cancer care services: - Screening - Diagnosis -Treatment - Palliative care *OR* **Individuals**: - Adults or children with a confirmed cancer diagnosis - Those under investigation for cancer - Eligible for screening	COVID-19 pandemic	Situation before the COVID-19 pandemic *OR* Different periods during the COVID-19 pandemic (outbreak vs non-outbreak)	**Service-level outcomes**: - Time or duration from diagnosis to treatment - Proportion or number of people diagnosed - Proportion or number of people treated - Proportion or number of people screened or diagnosed through screening program - Admission or bed used to hospice (for palliative care) **Individual-level outcomes**: - Cancer stage distribution

Impact of strategies for mitigating delays and disruptions in cancer care due to the COVID-19 pandemic: PICO

Population	Intervention	Comparator	Outcome
Cancer care services: - Screening - Diagnosis -Treatment - Palliative care *OR* **Individual**: - Adults or children with a confirmed cancer diagnosis - Those under investigation for Cancer - Eligible for screening	Implementation of strategies or programmes focusing on cancer services *OR* populations that reduces delays or disruption in or receipt of cancer services. The intervention can be targeted to the whole population or specific to patients with cancer: - Masks/vaccination/distancing - Separate access to services (from those with COVID) - Including cancers as part of emergency (or essential) services - Special consideration for patients or population with risk of cancer: transportation to care services, etc. - Telemedicine - Any intervention aimed to mitigate delays and disruptions	During the pandemic but before the intervention was implemented, *OR* A comparable setting where the intervention was not applied (e.g. comparing one hospital with to another without the intervention) *OR* Before the pandemic	Service outcomes: - Time/interval from diagnosis to treatment - Proportion or number of people diagnosed or treated - Proportion or number of people screened or diagnosed through screening program - Screening participation (among invited or eligible age) or coverage - Bed use or admission to hospice care Patient-related outcomes: - Stage (shift)



WHO Covid and Cancer

Dr Felipe Roitberg and Dr André Ilbawi

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COVID-19 and Cancer: Impact and Response

1

Setting context:
measuring impact of COVID-19 on cancer

2

Global response:
Generating evidence-driven response in line with political commitments

3

WHO signature solutions.
Building back better and WHO Global Cancer Initiative

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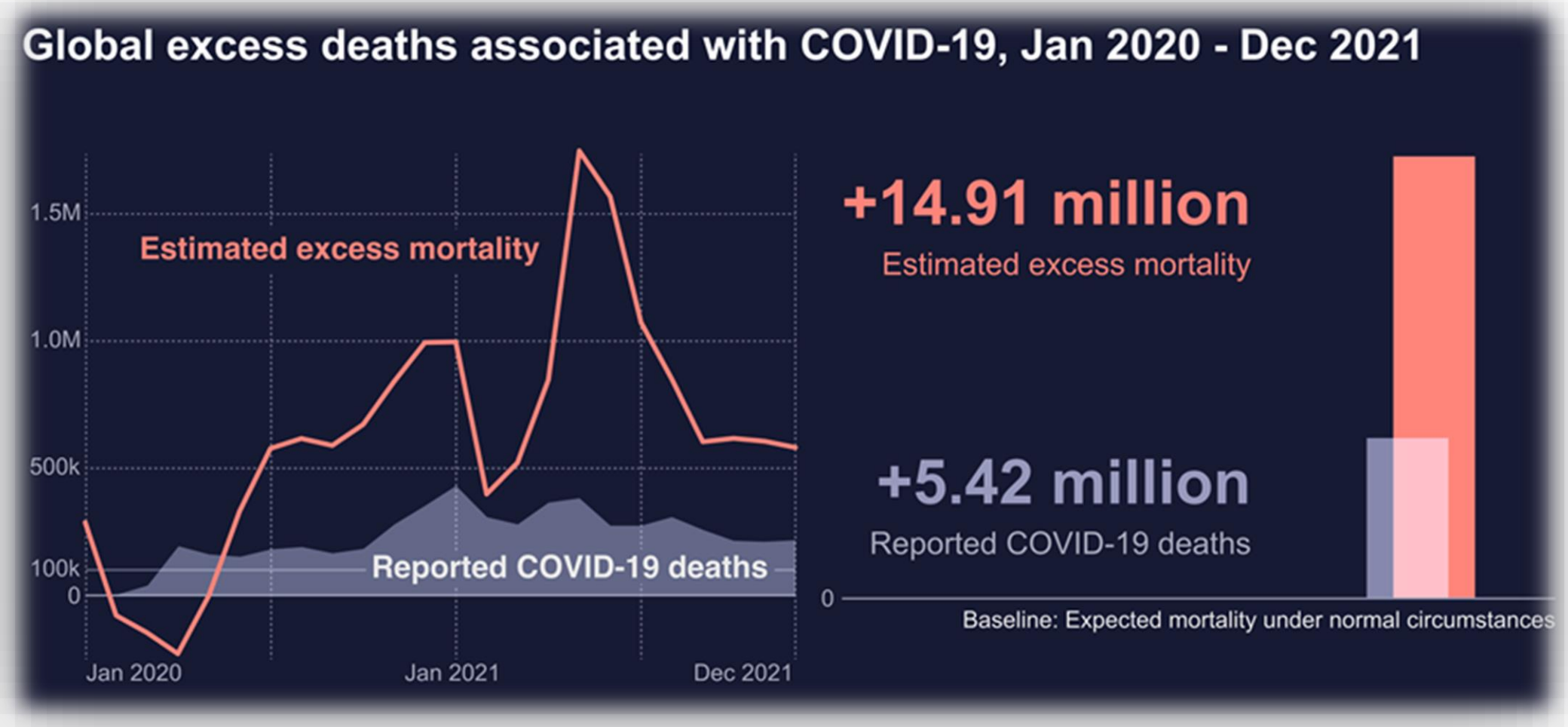
Bottom Line – IMPACT



Pandemia → Syndemia ?

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WHO response

COVID-19 RESPONSE

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Service Disruptions

Delays in diagnosis resulting in more advanced stages
Up to 90+% of patients

UNDIAGNOSED

↑update of behavior RF
Systematic Review ongoing

UNPROTECTED

DEADLY INTERPLAY

UNTREATED

IMPACT

Delays and Disruptions in Cancer Health Care Due to COVID-19 Pandemic: Systematic Review

review articles

↑ risk of death for cancer patients contracting COVID-19
Relative risk 1-3+
Systematic review ongoing

Delayed in multi-modality therapy
25-65% of services in published studies

Interrupted therapy or abandoned
Up to 80+% of services in published studies

World Health Organization

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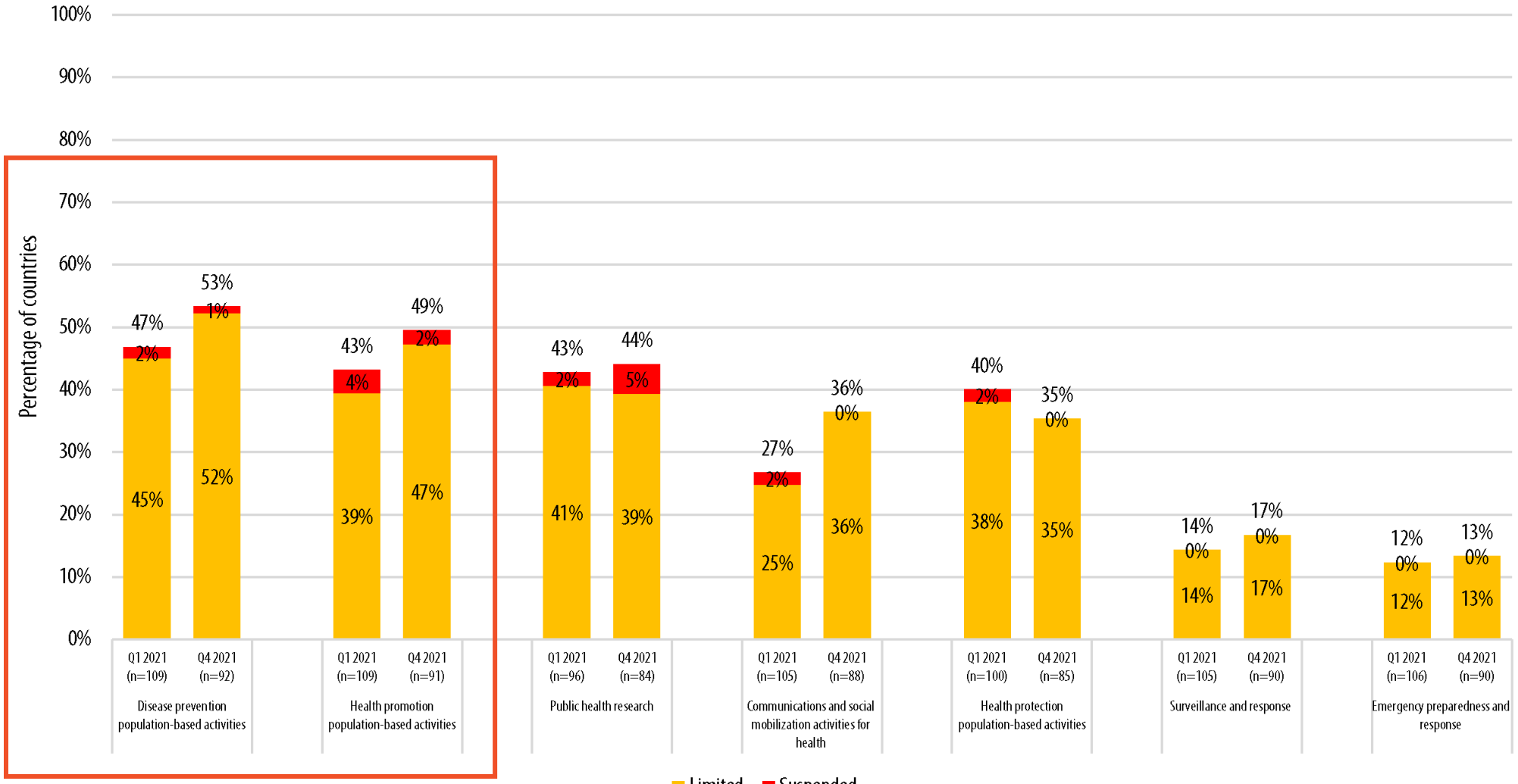
WHO Pulse 3 - Disruptions



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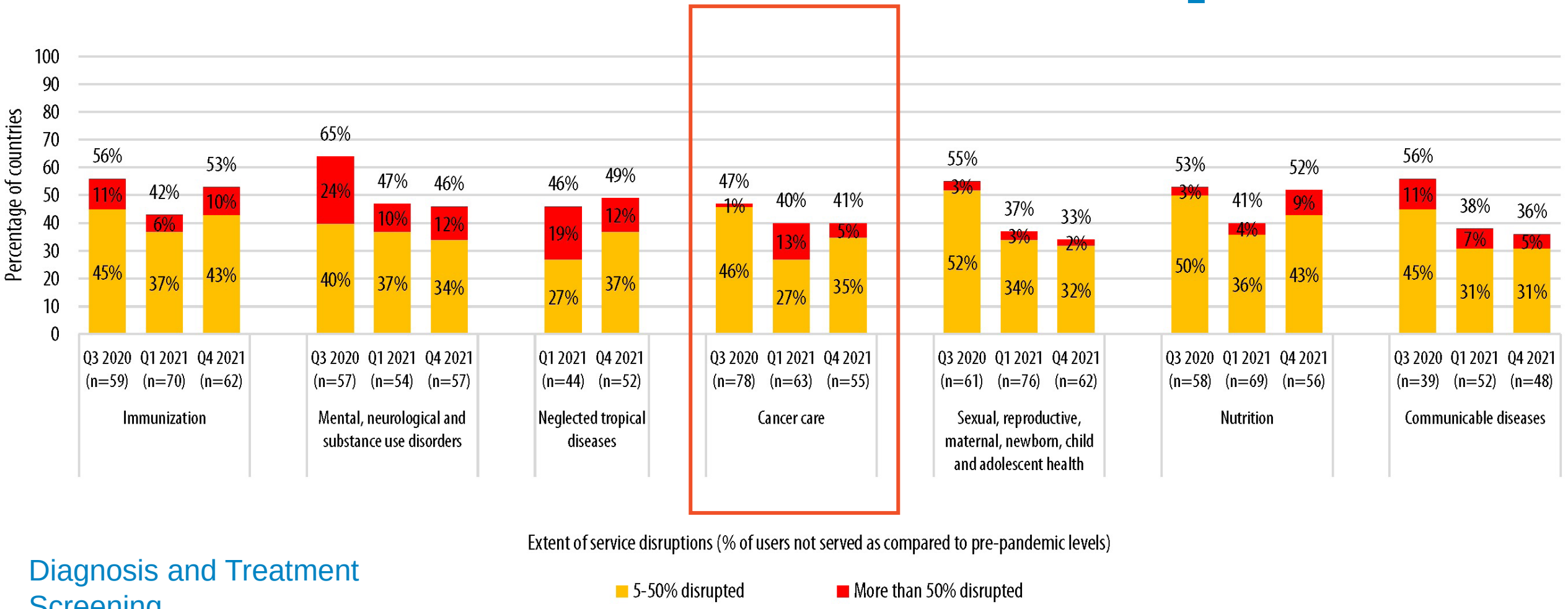
Cancer Care: still disrupted?



Diagnosis and Treatment
Screening

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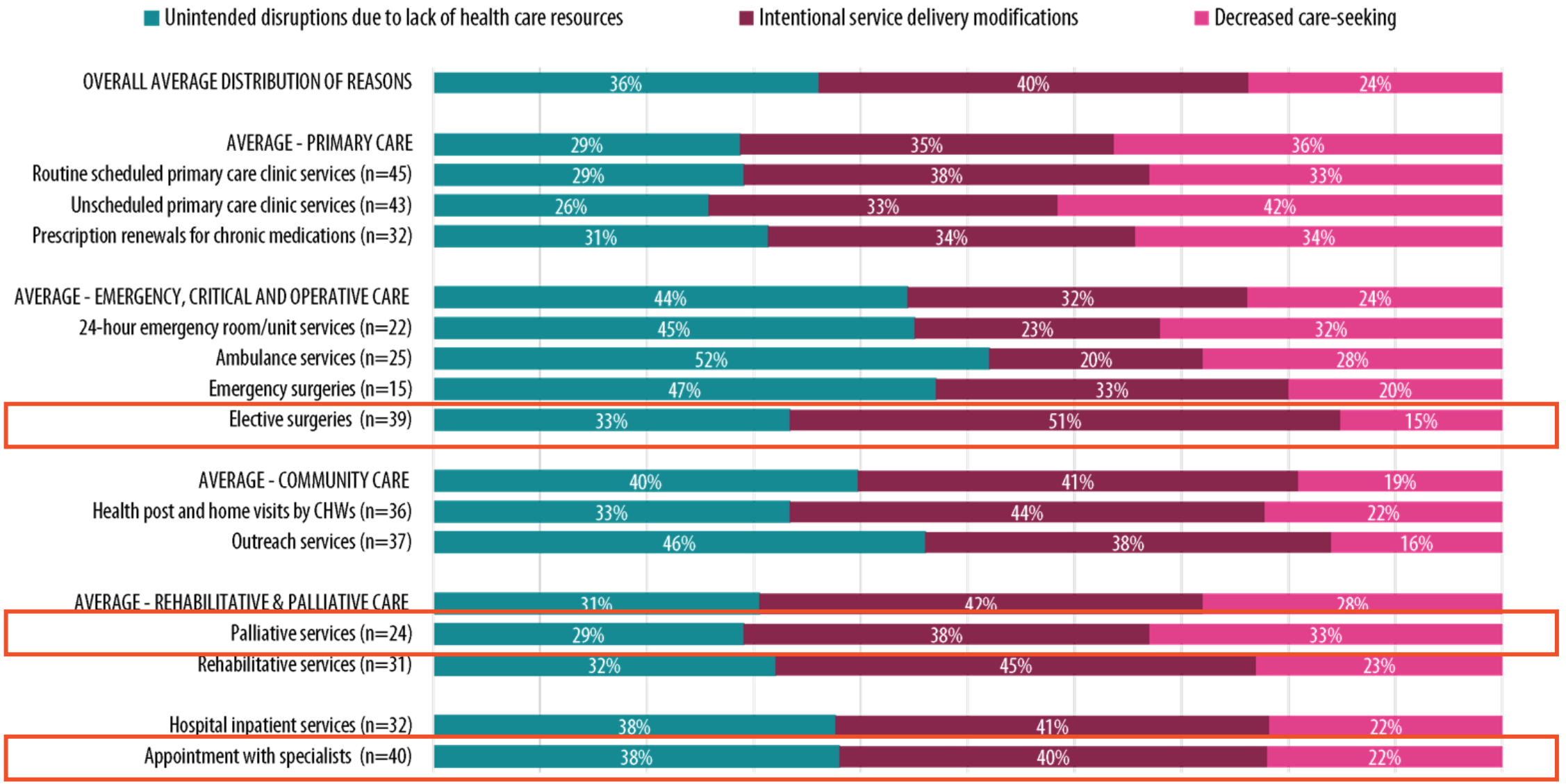

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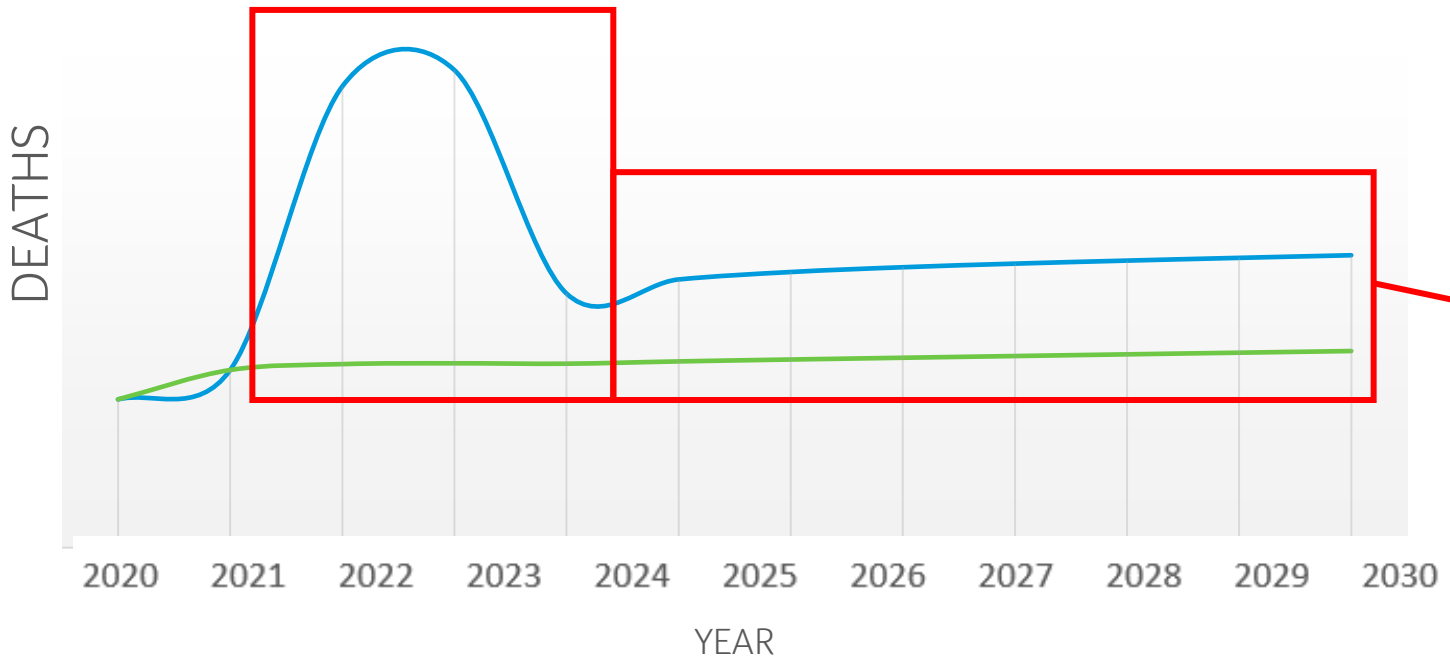
What is new?

- **Excess mortality methodology**
- **SR Data → better inputs**
- **Phyton model mature**
- **Real World data for modelling**

Covid-19 Impact on Cancer Mortality



Mid-term impact

Altered capacities related to

(1) Service availability/workforce
(2) Service financing
(3) Product availability

Qualified Decision-Making: actionable Tool

40% Radiotherapy

43% Diagnostic

70% Surgery

50% Chemo modified

"TRADE-OFFs"

Covid-19 severe event for Ca. patients

- Exposure
- Type of Cancer
- Treatment
- Comorbidades (NCD) Burden
- Vaccines (access + efficiency + safety)

Risk-Benefit ? → Health Dimension

Cost-benefit ? → Economic Dimension

Fonte: COVIMPACT – Pesquisa Global- 213 instituições (79

Next steps: three systematic reviews in formal collaboration: WHO - CCGMC

1. Risk of COVID-19-related death for people with cancer

2. Magnitude of cancer care delays and disruptions during the COVID-19 pandemic – SR with CCGMC

3. Impact of strategies for mitigating delays and disruptions in cancer care due to the COVID-19 pandemic– SR with CCGMC

4. Covid-19 Model – WHO publication + Peer Review

5. Covid-19 + NCCP framework → Build it back better (Phyton Interactive model)

Thank you! Merci beacoup! Obrigado! Gracias!

WHO / IARC Costing and Planning Tool Group and WHO Cancer team:

- **Dr André Ilbawi,**
- **Dr Roberta Ortiz,**
- **Dr Sandra Luna-Finneman,**
- **Dr Ben Anderson,**
- **Dr Dario Trapani,**
- **Dr Melanie Bertram,**
- **Dr Cindy Gauvreau,**
- **Dr Elena Fidarova,**
- **Dr Rei Haruyama,**
- **Dr Catherine Lam,**
- **Dr Scott Howard,**
- **Dr Rory Watts,**
- **Saki Narita,**
- **Filip Meheus**
- **Felipe Roitberg**

- **St. Jude Children's Research Hospital, SIOP**
- **ESMO, UICC, NCI**

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WG2 – Screening updates

Overview

1. Breast project team update
2. Cervix (HIC) project team update
3. CRC project team update

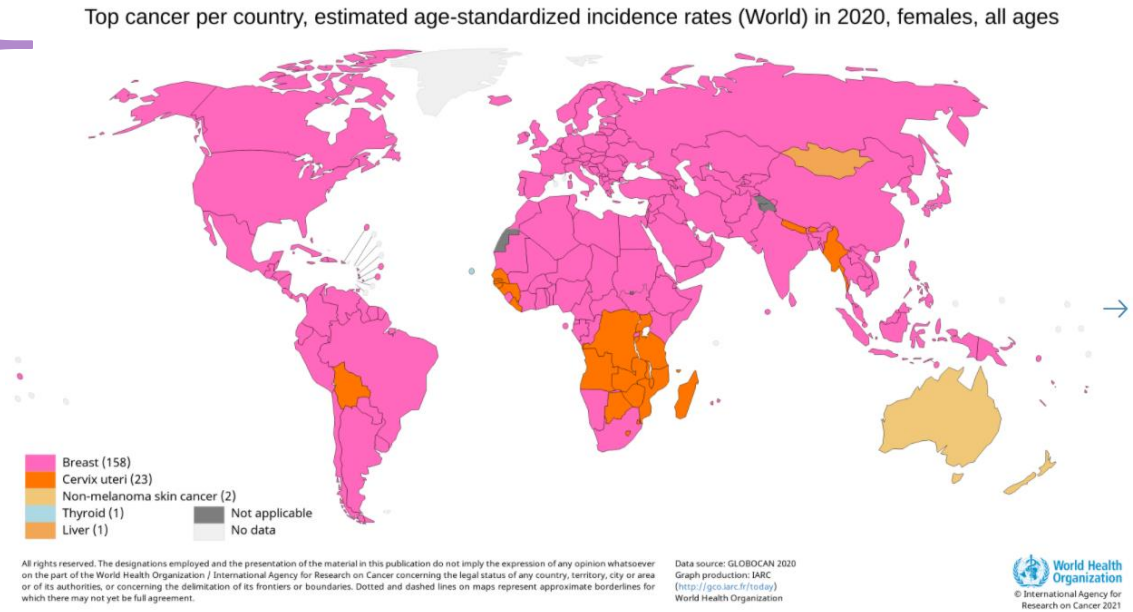
CCGMC WG2
Breast cancer screening, project team update.

Session 1: Dr Jonine Figueroa (University of Edinburgh)
Session 2: A/Prof Carolyn Nickson (The Daffodil Centre)

Breast Team

- **Data collection of screening programs**:
  - 34 countries (→ 6 categories)
  - mostly high-income OECD
  - similarities in screening programs
- **Collaborative modelling**:
  - adaptation of Policy1-Breast to Italian settings
- **Call for global modelling contribution**:
  - multiple options for collaborating
- **Systematic review**:
  - document disruption
  - participation rates
  - incidence

Global modelling of the impact of disruptions on breast cancer screening



Breast Team

Activity	Options for collaboration	Contact	Timelines				
			2021	2022			
			Q4	Q1	Q2	Q3	Q4
Global modelling (breast cancer)	**Low-level** – Provide model outputs for countries which already have detailed modelling **High-level** – All 6 status quo scenarios for the comparative modelling	michael.caruana@nswcc.org.au kirstie.mcloughlin@nswcc.org.au	Policy1 -Breast outputs to global platform				
				Inputs used to estimate COVID disruptions on staging and mortality in different settings			
Collaborative modelling	Italy-Australia exercise as an example	Pietro.Procopio@nswcc.org.au	Phase I	Phase II		Phase III	
Systematic reviews	Screening and literature search for disruptions; writing group	Jonine.figueroa@ed.ac.uk	Draft search terms and literature search strategy	Protocol finalization; abstract and literature screening; draft publication			

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Evaluation of impact of COVID-19 disruption in Lombardy, Italy

Aim: adapt and use the Policy1-Breast model to evaluate the impact of COVID19 disruptions on breast cancer screening services in Lombardy, Italy.

The Policy1-Breast model has already been used to estimate impact of breast cancer screening disruptions in Australia* and can model disruptions of any specified length, different amounts of throughput over time, and prioritised screening for specific population groups.

Phase I

Comparison of screening programs and scoping.

Phase II

Modelling of Italian screening disruption in Australian context.
Focus on relative change of outcomes of interest compared to BAU

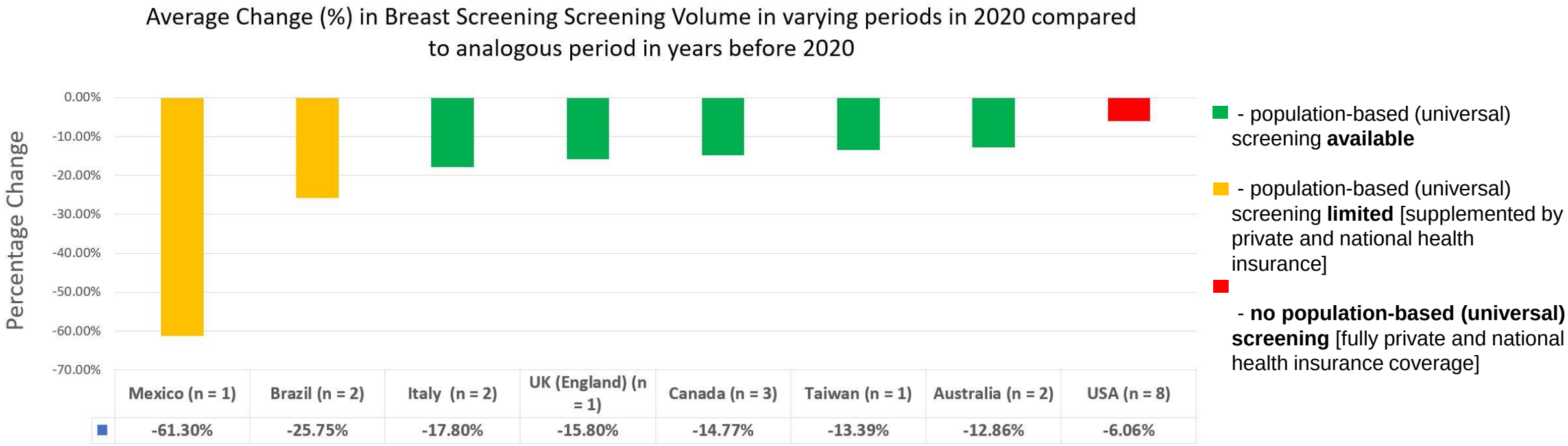
Phase III

Full adaptation of Policy1-Breast to the Italian settings.
Direct outcome processing and interpretation

* https://www.health.gov.au/sites/default/files/documents/2020/09/covid-19-scenario-modelling-for-cancer-screening-programs-the-breastscreen-australia-program.pdf

Preliminary Results – Systematic review BC Screening

- 20 papers had definitive volume-based data: chose to analyse this due to availability of data
- With available preliminary data: cross sectional analysis – data available in months following first COVID-19 wave in 2020 after measures allow for breast cancer screening
- Submitted abstract for IARC Virtual conference in 8-10 November



CCGMC WG2
Cervical screening in high income countries, project team update.

Session 1: Dr Emily Burger (Harvard University)
Session 2: A/Prof Megan Smith (The Daffodil Centre)

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WG2 Cervix – Activities

Dissemination

Invited contribution to a special issue in HPV World:
'How does COVID-19 impact cervical screening?'

Research (1)

Health impacts of COVID-19 disruptions to primary cervical screening by time since last screen: A model-based analysis for current and future disruptions

Research (2)

Modeling the global impact of disruptions to screening and treatment

Review of screening program status immediately pre-COVID

CCGMC WG2
Colorectal cancer screening, project team update.

Session 1: Ms Francine Van Wifferen (Amsterdam UMC)
Session 2: Dr Veerle Coupé (Amsterdam UMC)

CRC WG 2 - Project 3

- Previous projects evaluated the **impact of hypothetical disruptions to colorectal cancer (CRC) screening in three countries**, and **alternative screening strategies** to manage colonoscopy demand.[1,2]

Current project:

*Generate **global estimates** of **additional CRC cases and deaths** due to decreases in **organised screening** in 2020, and quantify the impact of **catch-up screening***

1. de Jonge et al. 2021 – Impact of the COVID-19 pandemic on faecal immunochemical test-based colorectal cancer screening programmes in Australia, Canada, and the Netherlands: a comparative modelling study, *Lancet Gastroenterology and Hepatology*

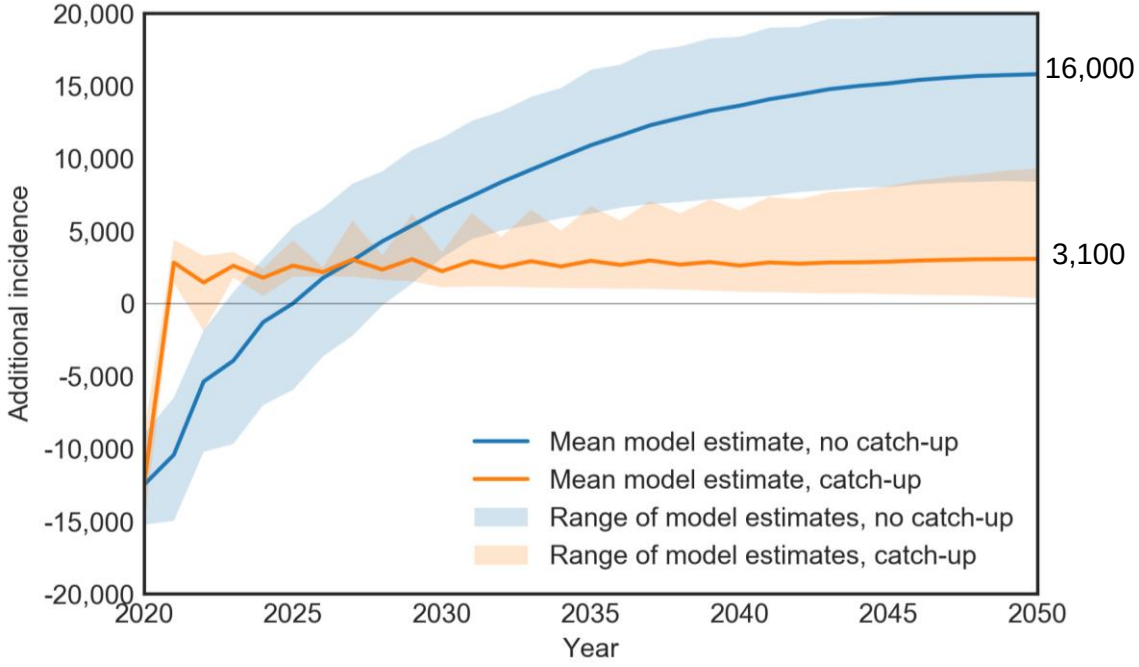
2. van Wifferen et al. 2022 – Prioritisation of colonoscopy services in colorectal cancer screening programmes to minimise impact of COVID-10 pandemic on predicted cancer burden: A comparative modelling study, *Journal of Medical Screening*

CCGMC WG 2 – Project 3

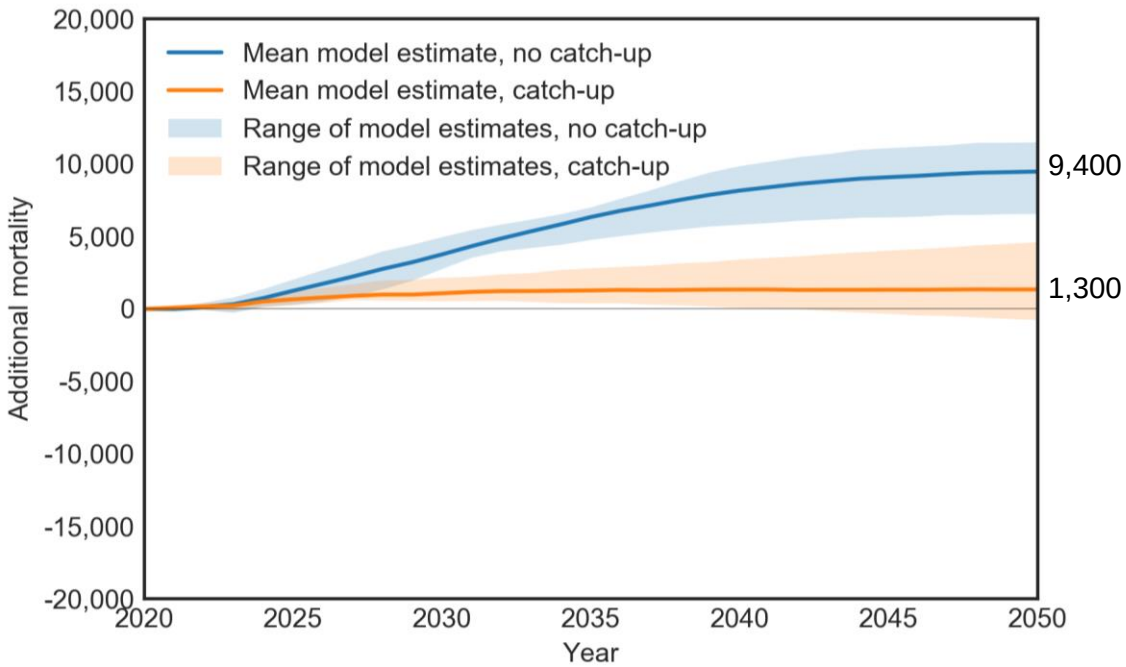
- Four independent modelling groups from Australia, Canada, and the Netherlands
- Over 30 countries included:
  - Australia
  - Austria
  - Belgium
  - Canada
  - Croatia
  - Czechia
  - Denmark
  - Finland
  - France
  - Georgia
  - Germany
  - Hungary
  - Iceland
  - Ireland
  - Israel
  - Italy
  - Japan
  - South Korea
  - Lithuania
  - Malta
  - Netherlands
  - Portugal
  - Singapore
  - Slovakia
  - Slovenia
  - Spain
  - Sweden
  - Switzerland
  - Taiwan
  - UK
- Global impact of decrease to screening due to COVID-19, and the benefit of catch-up screening

Core Scenario: Observed and estimated country-level decreases to screening

Global cumulative additional CRC incidence (left) and mortality (right) over 2020-2050.



Incidence



Mortality

Conclusions

- Decreases in screening in 2020 will significantly impact CRC burden over 2020-2050.
- Real-world data are limited but have been used to inform these estimates where available.
- Catch-up screening should be strongly encouraged, where health resources can be allocated.
- After consultation with the CCGMC, we plan to submit this work later in June to the special edition of eLife on COVID and Cancer Screening.

CCGMC Working Group 3 – Prevention

Tobacco smoking changes during the first pre-vaccination phases of the COVID-19 pandemic: A systematic review and meta-analysis

Dr Peter Sarich – The Daffodil Centre

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Introduction and Methods

- Aim: To perform a systematic review and meta-analyses to assess smoking behaviour changes during the early phases of the COVID-19 pandemic
- Literature search: up to 5 November 2020
- Published and pre-print articles Medline/Embase/PsycINFO/BioRxiv/MedRxiv/SSRN databases
- Outcomes - changes in tobacco smoking:
  - Intensity
  - Prevalence
  - Frequency
  - Uptake/initiation
  - Cessation/quitting
  - Increase/decrease
  - Motivation/attempt to quit

Conclusions

- This is the first systematic review of smoking changes during the COVID-19 pandemic, capturing studies published within the early months of the pandemic.
- Meta-analyses indicated slightly lower overall smoking prevalence during the pandemic, however the proportion of smokers who smoked more was higher than the proportion who smoked less.
- Smoking behaviour changes during early phases of the COVID-19 pandemic were highly heterogeneous, and the majority of included studies were at high risk of bias.
- The scope of this review was focused on a population level changes, and not on specific targeted groups that are known to be at high risk.
- Updates of this review are planned to assess longer term changes during the pandemic and to consolidate high-quality evidence from representative surveys.
- Now published in *eClinicalMedicine*.

CCGMC WG1/2 Collaboration

Australia- Canada 'AUSCAN' modelling group.

Session 1: Dr Joachim Worthington (The Daffodil Centre)
Session 2: Ms Zhuolu Sun (Canadian Partnership Against Cancer)

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AUSCAN Group

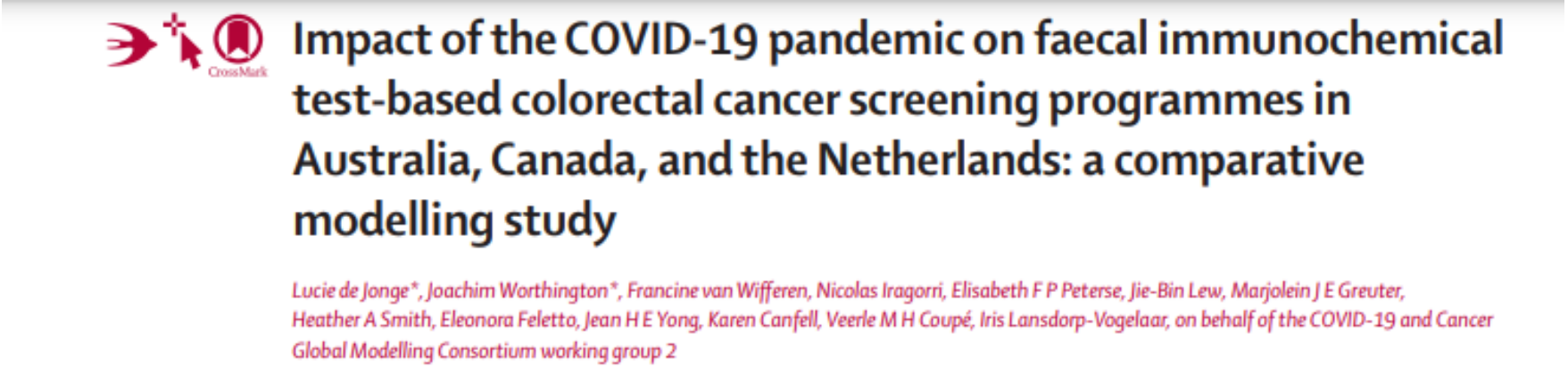
- Australian and Canadian modelling group (AUSCAN)
- Comparative modelling project within the CCGMC
- Teams from the Daffodil Centre, McGill University, the Canadian Partnership Against Cancer, and the Canadian Centre for Applied Research in Cancer Control

AUSCAN Group

- **Aim:** detailed country level modelling across COVID-related **screening**, **diagnosis** and **treatment disruptions** in Australia and Canada
- Initial focus on **lung**, **breast**, **cervix** and **colorectal cancer**.
- Intended to form a template for modelling at a global level
- Exploratory work completed for **colorectal cancer**
- We have set up a policy advisory group with representatives from both countries

AUSCAN Working Group

- **Colorectal Cancer Screening:**
  - Decreases in screening based on local participation data
  - Impact on long-term outcomes including cancers diagnosed and stage of cancer at diagnosis
  - Follows from the work completed by Working Group 2

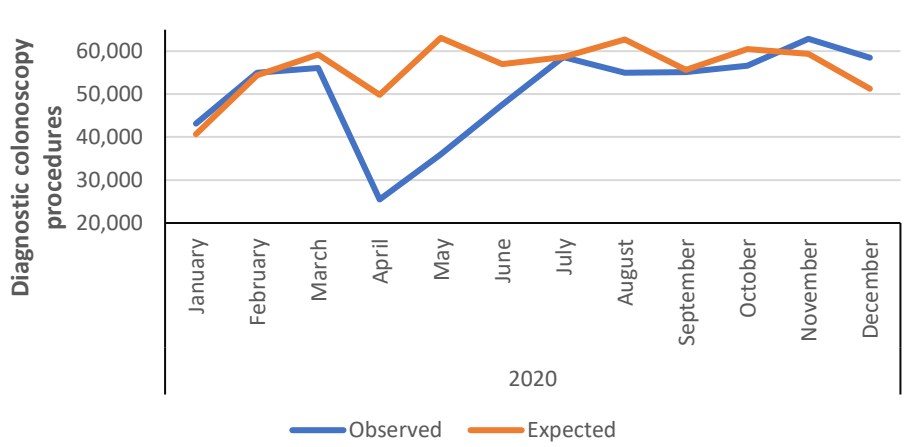


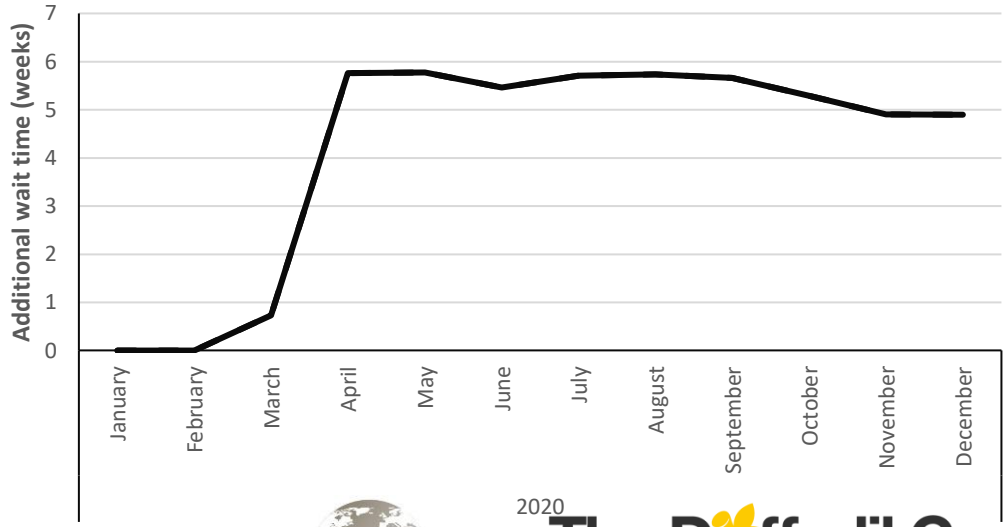
Impact of the COVID-19 pandemic on faecal immunochemical test-based colorectal cancer screening programmes in Australia, Canada, and the Netherlands: a comparative modelling study

Lucie de Jonge, Joachim Worthington*, Francine van Wifferen, Nicolas Iragorri, Elisabeth F P Peterse, Jie-Bin Lew, Marjolein J E Greuter, Heather A Smith, Eleonora Feletto, Jean H E Yong, Karen Canfell, Veerle M H Coupé, Iris Lansdorp-Vogelaar, on behalf of the COVID-19 and Cancer Global Modelling Consortium working group 2*

Colorectal Cancer Diagnosis

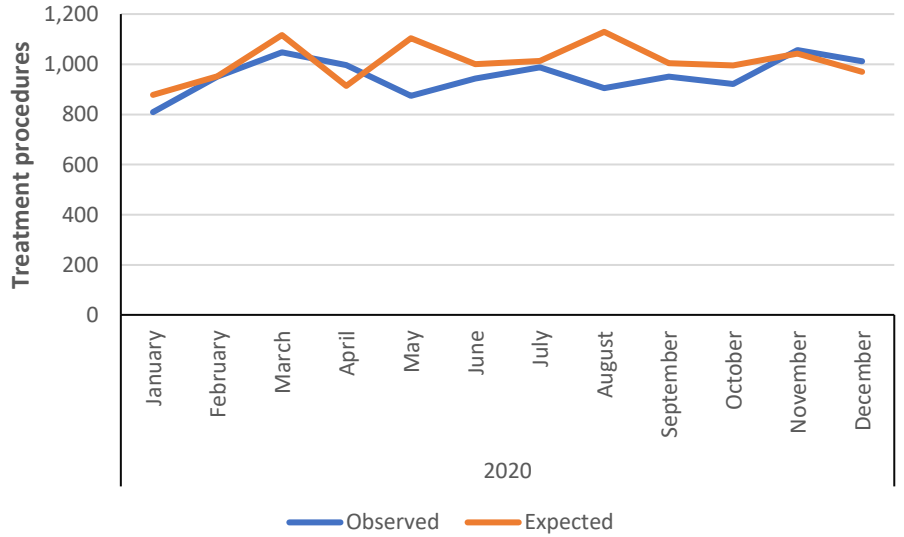
- Delays to diagnosis modelled based on reductions in
  - Quebec MSSS colonoscopy volumes in Canada
  - MBS colonoscopy records in Australia
- Decreases in colonoscopy are assumed to lead to increased longer waiting times before diagnosis of colorectal cancers, in turn leading to cancers being detected at later stages with worse prognosis

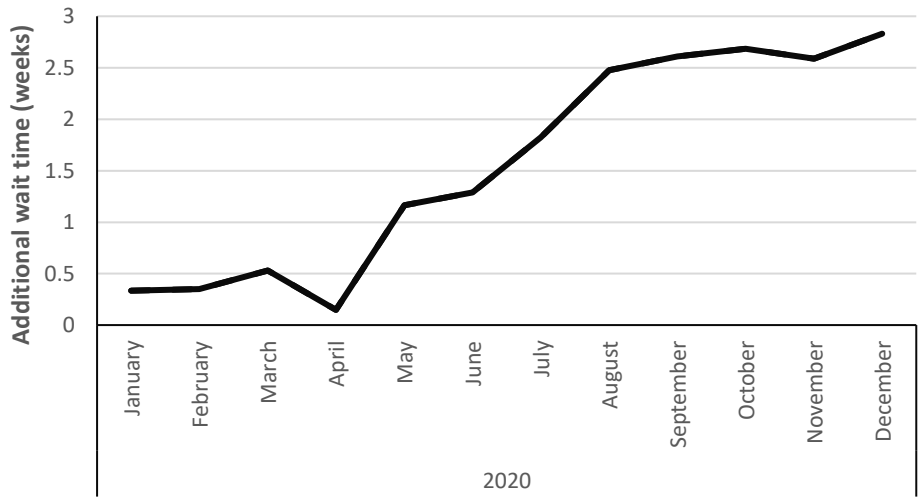




Colorectal Cancer Treatment

- Similarly, delays to treatment modelled based on reductions in
  - CIHI colorectal cancer surgery & radiotherapy volumes in Canada
  - MBS treatment records in Australia
- Treatment wait times were assumed to cause worse survival outcomes, based on work by Hanna et al 2020





Colorectal Cancer Results

- Without mitigation, over 2020-2030 we estimate an additional
  - **1,047 cases and 6,100 deaths in Canada**, and
  - **384 cases and 682 deaths in Australia**
  - vs a no screening disruption or diagnostic/treatment delays.
- 91.4% and 71.3% of the additional deaths in Canada and Australia respectively were attributable to diagnostic and treatment delays, with the remainder due to screening disruptions.
- **Increased treatment capacity** from 2022 to 2027 would **avert 3,148 and 238** deaths in Canada and Australia, respectively.

AUSCAN Working Group

- **Next step:**
  - Continue scenario analysis informed by the advisory group regarding the impact on extent of real-world disruptions to diagnosis and treatment in 2020
  - Additional mitigation modelling – linking results to those of WG2 – informed by advisory group for most useful scenarios (“realistic” and “best case”)
  - Extending results beyond 2020 disruptions
  - Expand modelling into other cancers – initial focus on breast, cervix and lung

Potential ‘rebrand’ for the CCGMC.

CCGMC Steering Group

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Potential rebrand

- Some issues with the current CCGMC moniker:
  - Very technical name – doesn't speak to what we are trying to achieve
  - Doesn't capture our vision or even all of our current activities - we are doing much more than modelling:
    - *We are collating the best evidence and consolidating information on best practice mitigation, and providing tools for policy makers.*
  - Although Covid response is now fundamental to cancer control thinking, there is an emerging issue as to whether our branding should reflect that Covid is just one of the challenges in strengthening health services (especially in LMIC) and our work can speak to broader issues.

- The Steering Group is planning to re-brand before WCC
- Current suggestions for new consortium names:
  - **Covid-19 and Cancer Global Consortium** (CCGC)
  - **Covid-19 and Cancer Global Research Consortium** (CCGRC/ GRC3)
  - **Covid-19 and cancer Global Evidence Consortium** (CCGEC / GEC3)
  - **Global Cancer Control Consortium** (GCCC)

If you have further suggestions, please send them to: covidandcancer@nswcc.org.au

Thank you.

Secretariat email: covidandcancer@nswcc.org.au

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