I-PaRCS
International Partnership for Resilience in Cancer Systems

International Partnership for Resilience in Cancer Systems (I-PaRCS)

Whole of Consortium Call
5th / 6th April 2023

Secretariat email: iparcs@nswcc.org.au

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I-PaRCS
International Partnership for Resilience in Cancer Systems

Welcome and Introductions.

Session 1: Prof Iris Lansdorp-Vogelaar (Erasmus MC)

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

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Aims of today's call

1. Review consortium rebrand and key highlights
2. Provide updates on commissioned projects (including CRUK, ICBP and WHO systematic reviews)
3. Provide snapshots on other working group activities
4. Discussion of new opportunities and horizons for the Consortium

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

Agenda

I-PaRCS International Partnership for Resilience in Cancer Systems

1. Welcome and Introductions

2. Wider perspective on COVID-19 and cancer

3. Key consortium highlights and update

4. Current commissioned projects:
   a. ICBP - A review of health system and clinical policy responses to the COVID-19 pandemic
   b. CRUK - Elimination Planning Tool development and update
   c. Covid and Cancer Systematic reviews: Activity update on WHO contract work

5. Update on other Working Group activities
   a. Screening project team updates (breast, cervix, colorectal)
   b. Australia/Canada modelling group update

6. Discussion of new opportunities/ horizons for the Consortium
   a. Call for EOI: New collaborative project – Australia, Canada, Netherlands working group
   b. I-PaRCS Participation Certificate

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Wide perspective on COVID-19 and cancer .

Prof Richard Sullivan & Dr Julie Torode

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Consortium highlights and updates.

Session 1: Prof Karen Canfell (The Daffodil Centre)
Session 2: Dr Isabelle Soerjomataram (IARC)

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Key highlights

I-PaRCS International Partnership for Resilience in Cancer Systems

World Cancer Congress (Oct 2022)

- Co-led major session on Covid-19 impact on cancer services
- 4 accepted submitted abstracts
- Beta launch of the Global Cancer Observatory: Cervical Cancer Elimination Planning Tool (EPT)

Approaching main launch of Elimination Planning Tool

- Recently held two workshops to demonstrate and seek stakeholder feedback on Tool's functionality and usability

Australia- Canada 'AUSCAN' modelling

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

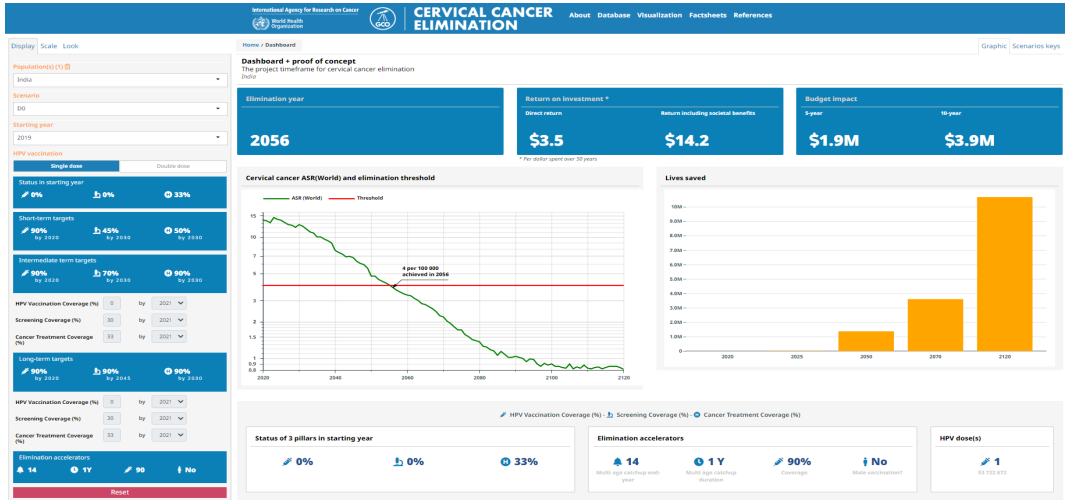
Working Group 2 – Colorectal cancer

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.



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Consortium Structure

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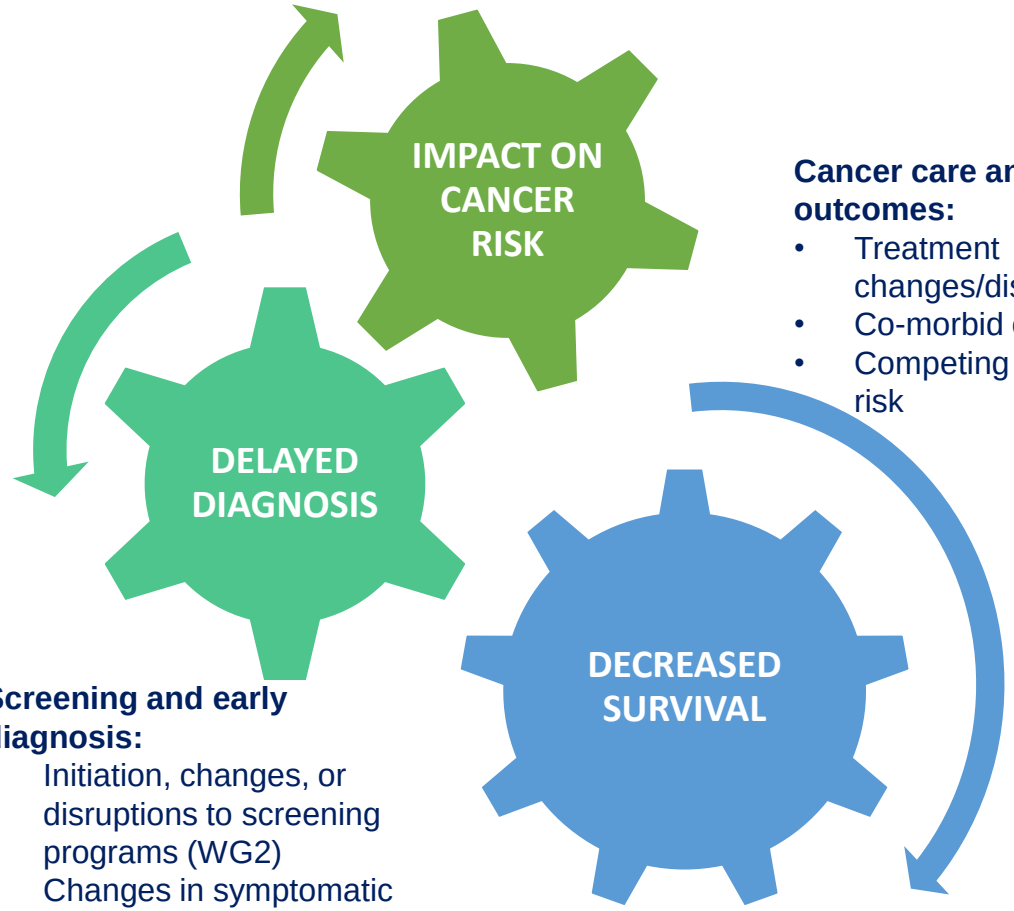
Risk and prevention:
- Prevention programmes
- Effect of risky behaviours (e.g. alcohol consumption, lack of physical exercise…)

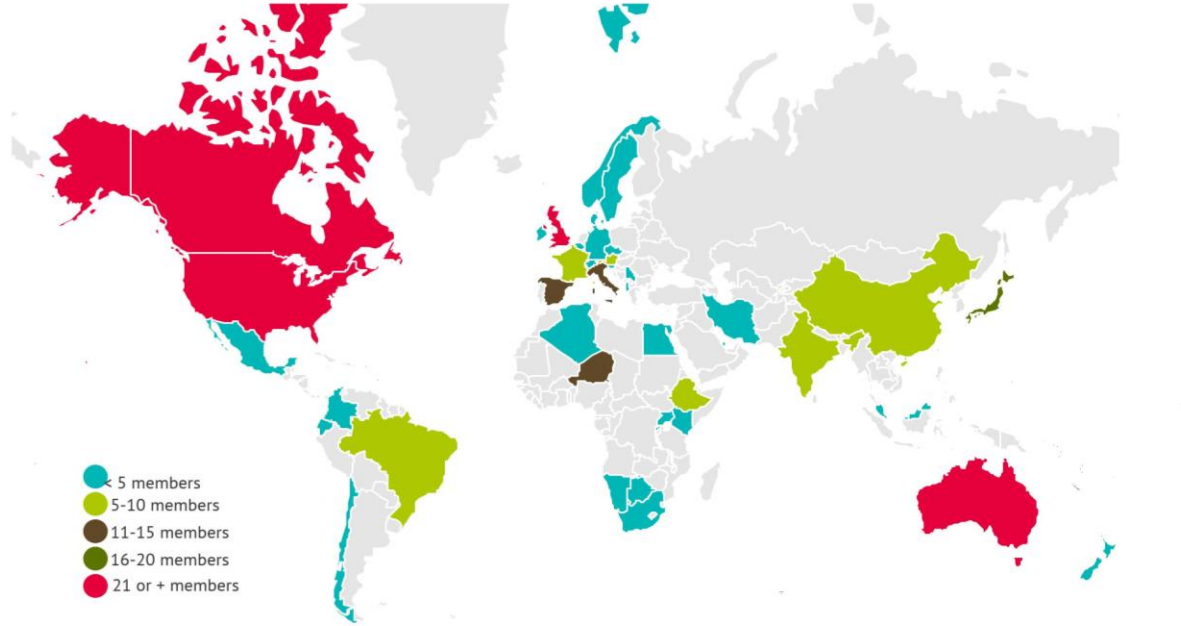


Cancer care and outcomes:
- Treatment changes/disruptions
- Co-morbid conditions
- Competing mortality risk

Screening and early diagnosis:
- Initiation, changes, or disruptions to screening programs (WG2)
- Changes in symptomatic presentation (WG1)

COLLABORATIONS

Over 300 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

Infographic created by Cancer Surveillance Branch, IARC

CCGMC to I-PaRCS

I-PaRCS International Partnership for Resilience in Cancer Systems

As we slowly transition from the COVID-19 pandemic, the International Partnership for Resilience in Cancer Systems (I-PaRCS) Consortium will continue to work towards strengthening cancer control systems globally (in consideration of current and future health systems challenges), aiming to collate best evidence and consolidate information on best practices to provide tools and guidance for policy/decision-makers.

I-PaRCS Steering Committee

Living working groups, for example:

- AusCan (Covid impacts in Australia and Canada)
- SR groups around Covid and Cancer
- SR on Covid-related smoking changes

Clinical expert reference group, drawing on former Covid and Cancer Task Force (chaired by Prof Richard Sullivan), as required

Cross-cutting across working groups to access expertise to inform modelling of impact of disruptions or changes in cancer services across the continuum

Secretariat support at the Daffodil Centre, The University of Sydney, a joint venture with Cancer Council NSW

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Current commissioned projects.

Session 1: Prof Karen Canfell (The Daffodil Centre)
Session 2: Dr Isabelle Soerjomataram (IARC)

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International Cancer Benchmarking Partnership

Harriet Hall

5th April 2023

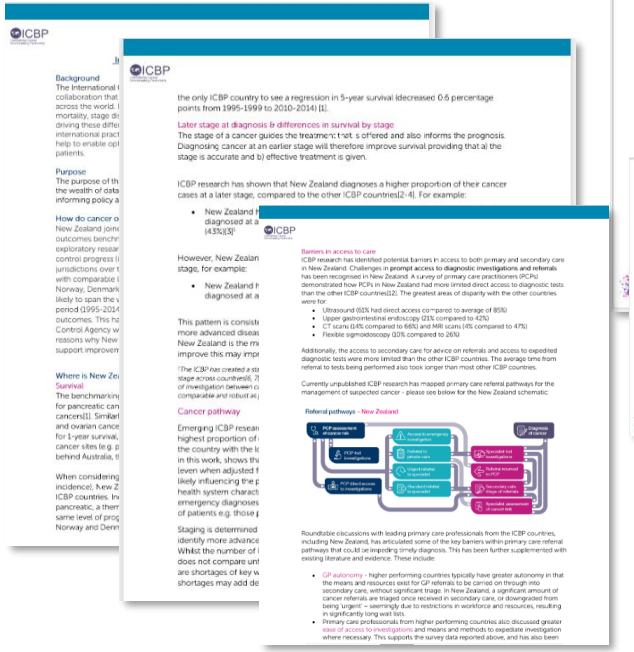
ICBP
International Cancer Benchmarking Partnership

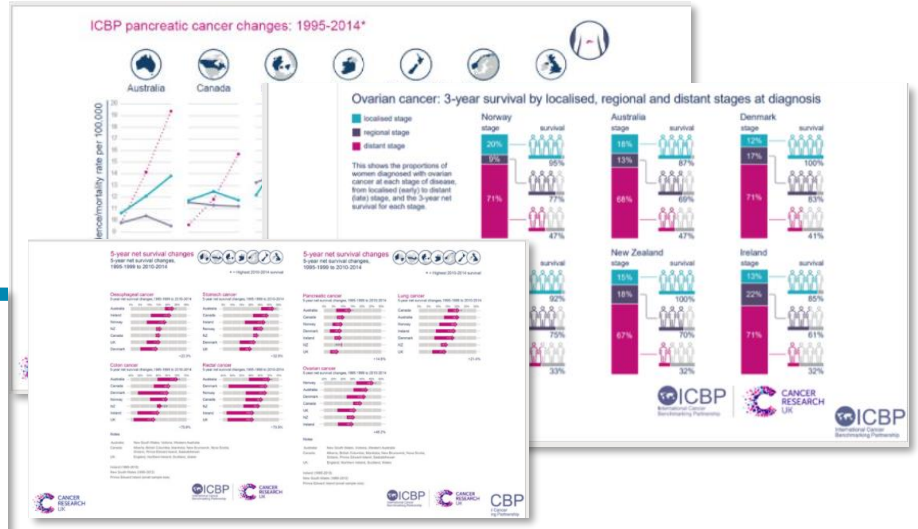
CANCER RESEARCH UK

Context: ICBP Transition Phase

TRANSITION PHASE

- Deliver effective, relevant and targeted knowledge mobilisation outputs
- Collect intelligence on the impact of COVID-19 on international cancer services and outcomes
- Inform scoping for ICBP Phase 3
- Create networks with clinical, academic and policy insights

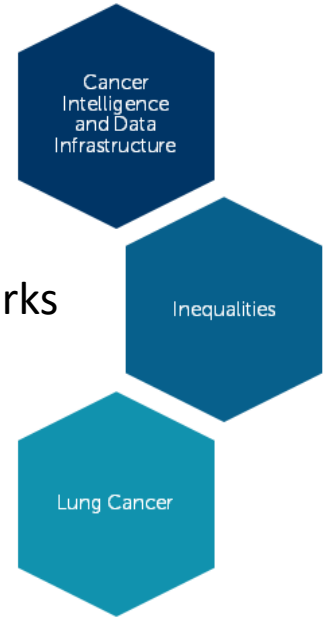




KM Outputs

Consultation
Phase 3 Scoping

Networks



COVID-19 research grantees

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World Health Organization

CANCER RESEARCH UK

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International Cancer Benchmarking Partnership

COVID-19 Commissioned Research

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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Teams

Dr Karen Chiam (Daffodil Centre)

ICBP Programme Management Team

Ms Harriet Hall, Ms Samantha Harrison, Ms Maya Vithyananthan

Daffodil Centre

Prof. Karen Canfell, Dr Karen Chiam, A/Prof. David Smith, Dr Visalini Nair-Shalliker, Ms Harriet Hui, Dr David Mizrahi, Prof Alexandra Martiniuk, Ms Rani Radhika Chand, Mr Albert Bang, Ms Elizabeth Kennedy, Prof Kate White

University of Sydney (USYD) and collaborators

Prof Jane Young (USYD), Dr Carolyn Mazariego (UNSW), Dr Meredith Tavener (University of Newcastle), Ms Methmi Perera (USYD) , Dr Kelvin Chan (Canadian Centre for Applied Research in Cancer Control; ARCC), Dr Stuart Peacock (ARCC)

IARC

Dr Isabelle Soerjomataram, Ms Aude Bardot, Dr Citadel Cabasag, Dr Eileen Morgan, Dr Mark Rutherford, Ms Katiusk Veselinovic

Project Summary (Mixed-methods)

Aim

Collate and explore the impact of COVID-19 on health system and clinical policy changes in the ICBP jurisdictions.

Mixed-methods: For high level review

1. COVID-19 lockdown mapping
2. Desktop review of grey literature
3. Surveys and stakeholders' interviews

Across all jurisdictions, cancer types and services

Targeted information collection: 3 case studies using exemplar jurisdictions

Stakeholders' interviews to compare and contrast experiences of:

1. Breast cancer screening services in Australia (NSW, WA, VIC) and New Zealand
2. Lung cancer diagnostic pathway in Ireland and UK (and potentially Ontario)
3. Changes to radiotherapy treatment for colorectal cancer in Wales and Denmark

Case study selection framework

1. Learnings to all jurisdictions
2. Insights to multiple cancers
3. Complements IARC quantitative work
4. Considers NPI severity
5. Feasible within project resource & time capacity

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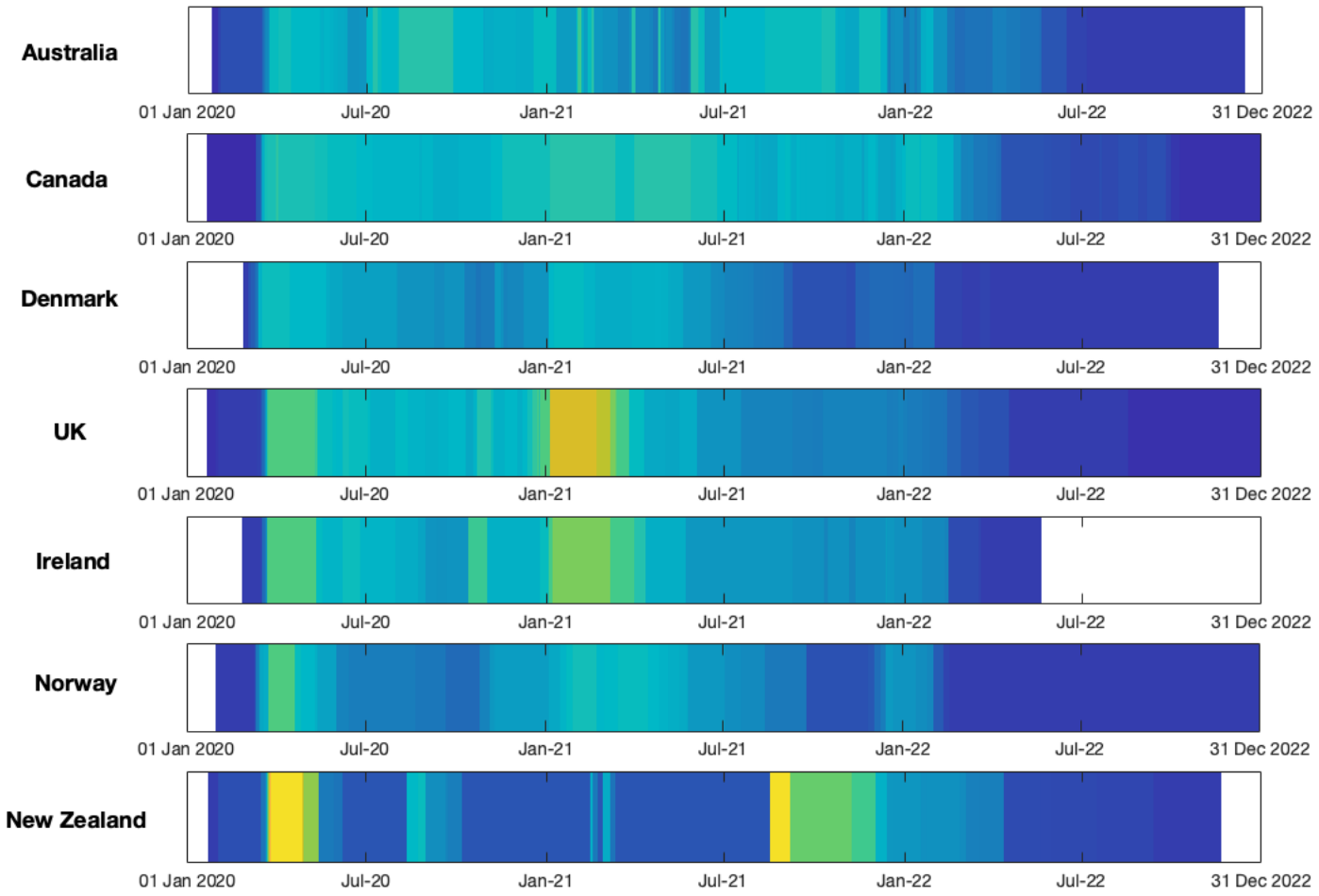
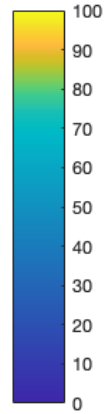
Context for health service disruptions:

Latest update on stringency of social restrictions in Jan 2020- Dec 2022



Highest level of stringency



Lowest level of stringency

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

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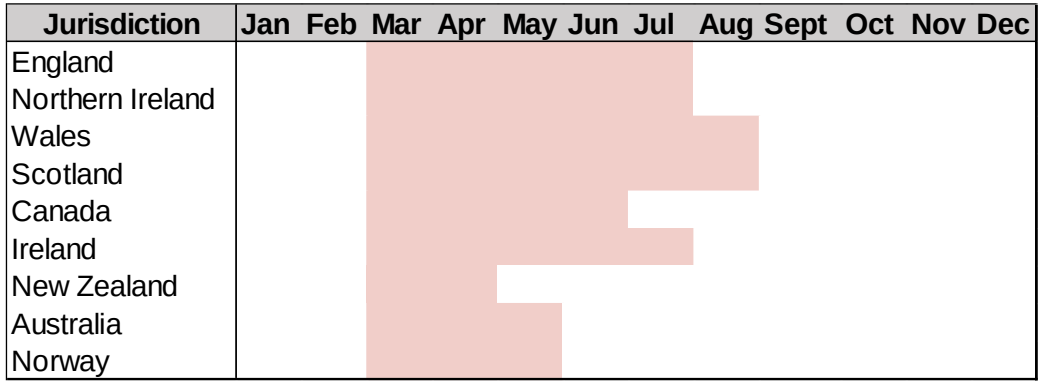
Selected Interim Findings Summary

Grey literature component:

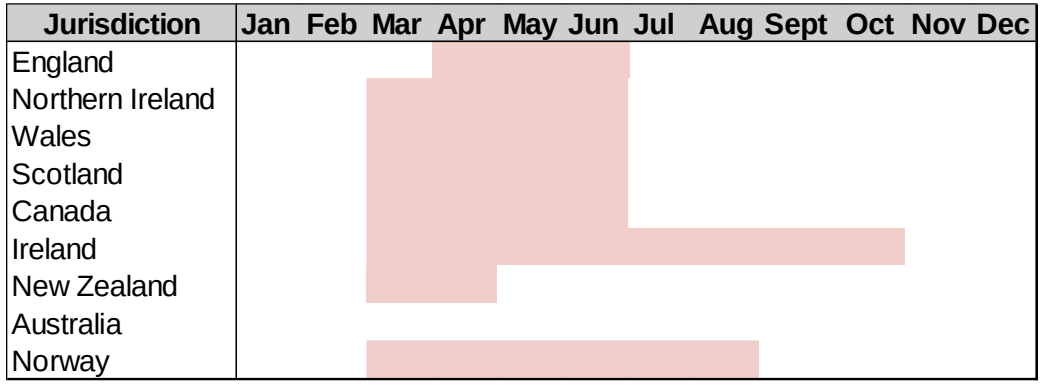
- Cancer screening service disruption
- Cancer treatment disruptions (UK jurisdictions)

Temporary suspension in cancer screening programmes

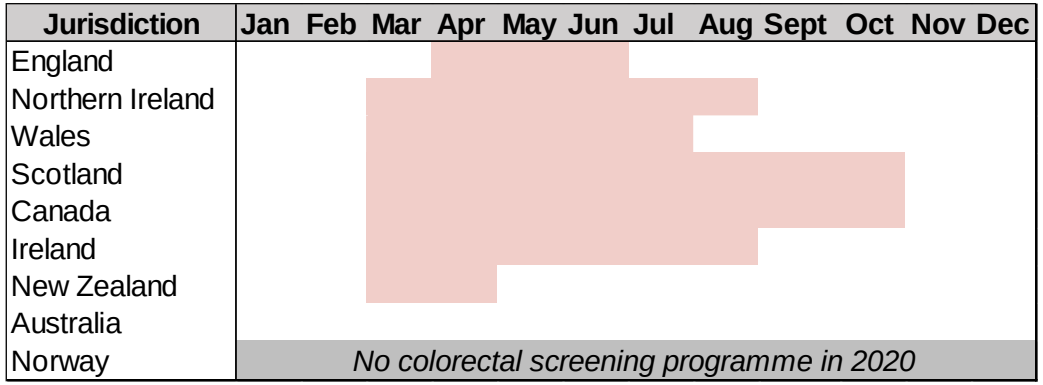
Breast cancer screening in 2020



Cervical cancer screening in 2020



Colorectal cancer screening in 2020



Note:

- New Zealand experienced a short temporary suspension of breast and cervical cancer screening in August 2021.
- Differences at state or regional level not represented here.

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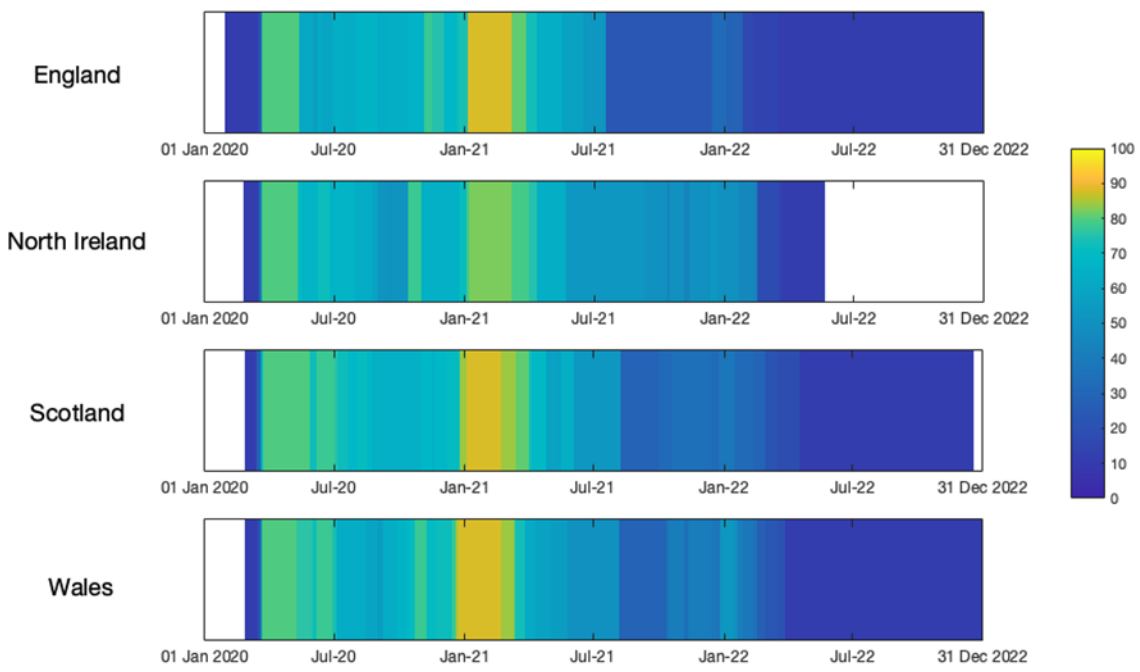
Recovery & mitigation strategies for cancer screening services

- COVID-19 safe protocol implemented
- Telehealth implemented
- Utilisation of mobile screening services
- Prioritising high-risk individuals and/or vulnerable subpopulations
- Campaigns to promote safe return of cancer screening

Cancer Treatment Disruptions in UK



Temporary suspension of cancer treatment services most significant:

- In the 1st year/1st wave of pandemic
- For non-urgent cancer treatments, especially surgery

Temporary suspension of chemotherapy in March 2020

Blanket bans in some hospitals for 2-3 weeks in March 2020 (England)

Temporary suspension of non-elective surgeries for 3 months from March 2020 onwards (except Northern Ireland)

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Temporary suspension of non-elective care/surgeries in UK

Jurisdiction	Events identified
England	- April 2020 for at least 3 months - December 2020 for three months at a hospital - January 2021 affecting a hospital. The suspension affected priority 2 surgeries. - November 2021 affecting five hospitals. - December 2021 affecting two hospitals
Northern Ireland	- October 2020 affecting a health trust - November 2020 affecting three health trusts - January 2021 affecting two health trusts. The suspension includes urgent cancer surgeries for one of the health trusts. - July 2021 affecting a health trusts, including the suspension of cancer surgeries - August 2021 - December 2022 affecting a hospital. The suspension is for emergency surgery.
Wales	- March 2020 for at least 3 months - December 2020 affecting two health boards. - September 2021 and December 2021 affecting a health board - April 2022 affecting a health board - December 2022 affecting a health board
Scotland	- March/ April 2020 for at least 3 months - January 2021 affecting four health boards - August 2021 affecting four health boards - January 2023 affecting 3 health boards. One health board with reduced capacity.

Recovery & mitigation strategies for cancer treatment services

- Change in treatment options offered to patients
- Change in standard treatment regimes (e.g use of hypofractionated radiotherapy & oral chemotherapy)
- Priority categorisation of cancer patients (e.g urgent vs non-urgent cases)
- COVID-19 free facilities or specialised treatment hubs (e.g. Cancer and surgical hubs)
- Mobile treatment facilities (chemotherapy)

Moving forward

- Project completion by the end of June 2023

Expected outputs:

- Part 1: Grey literature reports for each ICBP jurisdiction
- Part 2: A collective qualitative report (based on interviews and surveys findings)

Significance:

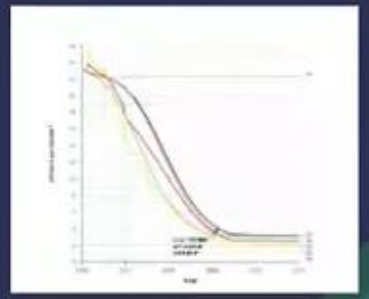
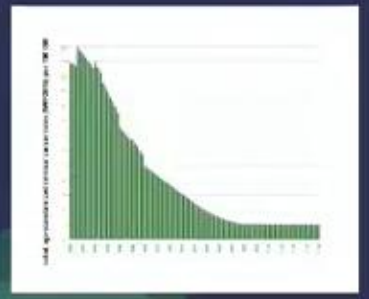
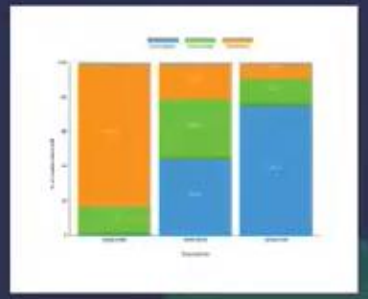
- Key recommendations and learnings on the overall impact of COVID-19 on cancer care in ICBP jurisdictions to be produced
- Part 1 and 2 reports to inform the findings for the ICBP commissioned quantitative project (led by Dr Isabelle Soerjomataram; IARC)

Cervical Cancer Elimination Planning Tool.

Ms Elle Pearson (CRUK)

CERVICAL CANCER ELIMINATION PLANNING TOOL

An interactive tool to plan and explore strategies to reinforce national trajectories towards cervical cancer elimination in low- and middle-income countries


CONTACT

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Contact us

Cervical Cancer Elimination Planning Tool Technical team update.

Session 1: Dr Adam Keane
Session 2: Dr Michael Caruana

Expert team

The Daffodil Centre/IARC:

Prof. Karen Canfell, Director, The Daffodil Centre

Dr Isabelle Soerjomataram, Deputy Head, Cancer Surveillance Branch, International Agency of Research on Cancer

Dr Michael Caruana, Senior Research Fellow, The Daffodil Centre

Dr Kate Simms, Senior Research Fellow, The Daffodil Centre

Dr Adam Keane, Research Fellow, The Daffodil Centre

Dr Daniela Rivas, Postdoctoral Research Fellow, The Daffodil Centre

Mr Morten Ervik, IT Development Manager, Cancer Surveillance Branch, International Agency of Research on Cancer

Ms Harriet Hui, Senior Research Assistant, The Daffodil Centre

King's College London:

Dr Julie Torode, Director of Strategic Partnerships, Community and Patient Engagement. Institute of Cancer Policy Board Member.

Cancer Research UK:

Mr Alexander Wright, Global Lead

Mr George Hayes, Global Partnerships & Advocacy Manager

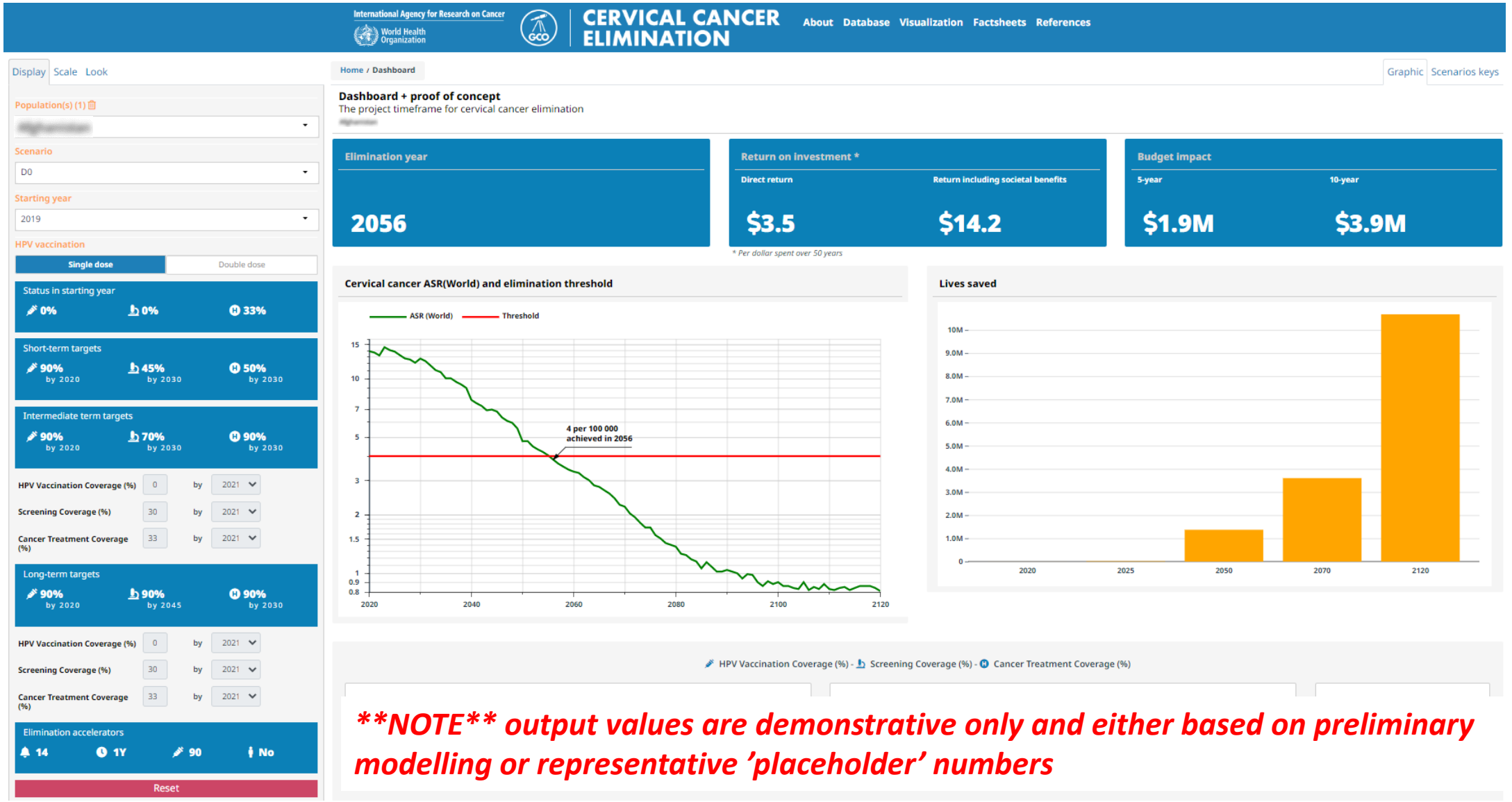
Ms Natalie Varney-Hopkins, International Cancer Prevention Programme Manager

Ms Elle Pearson, HPV Policy & Advocacy Advisor

Overview

- Create an interactive tool to help policymakers and stakeholders developing their cervical cancer elimination strategies for their country or region.
- To do this the tool consists of:
  - A user interface developed by IARC for them to select scenarios and regions of interest and receive salient projected outcomes.
  - This interface is plugged into data modelled by the Daffodil Centre's *Policy1-Cervix* platform on the backend.
- **Inputs** currently include: coverage choices for the three pillars at different times; and various accelerators, such as extended multi-age vaccination and vaccination of boys as well.
- **Outputs** currently include:
  - cases and deaths averted;
  - projected year for cervical cancer elimination;
  - resource use;
  - return on investment and budget impact.

The Elimination Planning Tool – hosted on IARC Global Cancer Observatory



***NOTE** output values are demonstrative only and either based on preliminary modelling or representative 'placeholder' numbers*

Country-level briefs

- As well as the above interface, each country will have a top-level report which summarizes and synthesises some of the key scenarios and outputs for that country, as well as data on coverage and burden-of-disease.
- Positions these predictions in relation to the WHO elimination strategy
- This report can follow a template with ‘fill-in-the-blanks’ sections based on data specific to that country.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Delays and disruptions due to COVID-19 pandemic and Cervical Cancer Elimination Goals

In 2020, the World Health Assembly adopted the **"triple intervention"** strategy to achieve elimination of cervical cancer. Research showed that with this strategy could save tens of millions of lives and make global elimination achievable within the next century.

Since then **COVID-19** has impacted health systems worldwide, and further work has now been performed to see how countries can best mitigate this and stay on the road to elimination.

CERVICAL CANCER INCIDENCE AND MORTALITY IN

Cervical cancer is almost entirely preventable. However, in 2020, an estimated **342 000** women died from cervical cancer globally,[1] including 75 266 who died from the disease in

In cervical cancer is the **1st** most common cancer in women, with **121 903** new cases (**22.75** per 100,000 women) and **75 266** deaths (**14.15** per 100,000 women) in 2020.[1]

It was predicted that without any intervention, a total of **3 566 228** women in **India** will die from cervical cancer by 2070 and **10 489 734** by 2120.[3]

GLOBAL CERVICAL CANCER ELIMINATION STRATEGIES

In November 2020, the **World Health Organisation (WHO)** launched a Global Strategy to accelerate the elimination of cervical cancer as a public health problem., achieved by implementing the **triple intervention** targets (pillars) by 2030:

90% of girls fully vaccinated with the HPV vaccine by age 15.

70% of women screened with a high-performance test (such as the HPV test) by 35, and again by 45 years.

90% of women identified with cervical precancer or cervical cancer receive adequate treatment and care.[2]

If these interventions are implemented, could eliminate cervical cancer by **2 046** (Figure 1). If the three pillars of elimination are established, could avert over **98 812** deaths due to cervical cancer over the next century.

***NOTE** output values are demonstrative only and either based on preliminary modelling or representative ’placeholder’ numbers*

WHO-commissioned systematic reviews on COVID-19 and cancer

A/Prof Julia Steinberg (The Daffodil Centre)
Dr Richa Shah (IARC)

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

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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

I-PaRCS International Partnership for Resilience in Cancer Systems

Central study team: A/Prof Julia Steinberg, Dr Richa Shah, Ms Suzanne Hughes, Ms Harriet Hui, Dr Matthew Allsop, Mr Sam Egger, Ms Chelsea Carle, Dr Denise Campbell, Dr Peter Coxeter, Prof Michael David, Dr Michael Caruana, Dr Isabelle Soerjomataram, Prof Karen Canfell

With contributions to title/abstract screening and/or full-text review from International Partnership for Resilience in Cancer Systems (I-PaRCS) members including:

COVID-19 death and cancer review

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, A/Prof Shruti Kakkar, A/Prof Ashutosh Kumar, A/Prof Sharon Hanley, A/Prof Isil Ergin, Prof Diama Vale, A/Prof Muluken Gizaw, Dr Ana Molina- Barcelo, Ms Gigi Lui

Delays and Disruptions review and Mitigations review

Dr Nader Hanna , Dr Allini Mafra, Dr Jean Niyigaba, Dr Robabeh Ghodssighassemabadi, Dr Loo Ching Ee, Dr Garcia Martinez Montserrat, Dr Ethna McFerran, Dr Suryakanta Acharya, Dr Nwamaka Lasebikan, A/Prof Katie Goldie, Dr Colleen McLoughlin, Dr Hanna Fink, Dr Oliver Lanselius, Dr Clara Julia Frick

With other contributions from:

Dr André Ilbawi, Dr Felipe Roitberg, Prof Richard Sullivan, Prof Mieke Van Hemelrijck Dr Ophira Ginsburg, A/Prof. Tim Hanna, Prof. Stuart Peacock, Prof. Kelvin Chan, A/Prof Iris Lansdorp-Vogelaar, Dr Muhammed Aasim Yusuf, Dr Julie Torode, Mr Rami Rahal, Dr Ajay Aggarwal, Dr Freddie Bray

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COVID-19 death and cancer SR: research questions

1) Are people with a pre-existing cancer diagnosis at higher risk of COVID-19-related death than people without a pre-existing cancer diagnosis?
2) Are COVID-19 patients with a pre-existing cancer diagnosis at higher risk of COVID-19-related death than COVID-19 patients without a pre-existing cancer diagnosis?

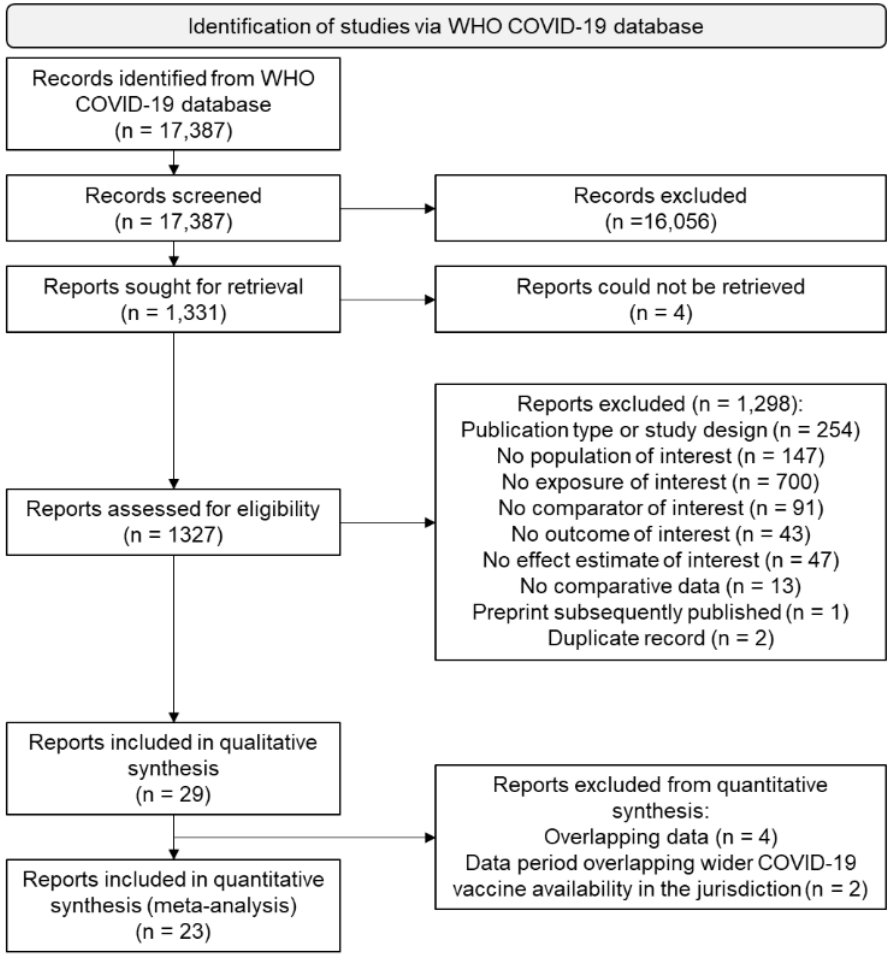
- Work built on our review of early literature (Freeman *et al* 2022)
- Synthesized higher-quality studies for pre-COVID-19 vaccination period:
  - Focus on estimates by time since cancer diagnosis/treatment
  - Estimates adjusted for at least age and sex

V. Freeman^, S. Hughes^, C. Carle^, D. Campbell^, S. Egger, … , D. O'Connell*, J. Steinberg*, K. Canfell* (2022). Do COVID-19 patients with cancer have a higher risk of COVID-19-related death than those without cancer? A systematic review and critical appraisal of the early evidence. **Journal of Cancer Policy** , 33, 100340.

COVID-19 death and cancer SR: PRISMA Diagram

- search of WHO COVID-19 database on 20 Dec 2021: 17,387 unique title/abstract records
- 23 studies included in quantitative synthesis

Figure 1. Flow diagram based on the PRISMA 2020 flow chart summarising the article screening process.



COVID-19 death and cancer SR: overview of main results

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Analysis	Population	Cancer type[1]	Measure of effect	Number of studies	People with cancer[2]: dead	People with cancer: total	Comparator: dead	Comparator: total	Total	Pooled/reported effect estimate (95%CI)	I^2 (p-het)	Risk of bias summary*
1	General population	Any	HR	1	220	79,964	9,132	16,421,922	17,278,392	1.72 (1.50-1.97)	n/a	1 M
2	All people with COVID-19	Any	HR	1	54	569	171	7021	7590	1.62 (1.19-2.20)	n/a	1 H
3	Hospital inpatients with COVID-19	Any	HR	5	259	10150	1743	71500	81650	1.34 (1.19-1.50)	37% (0.17)	1M, 4H
4	General population	Haematological	HR	1	43	8,704	10,590	17,178,486	17,187,190	2.80 (2.08-3.77)	n/a	1 M
5	Hospital inpatients with COVID-19	Breast	HR	1	142	630	5,876	39,550	40,180	1.80 (1.52-2.12)	n/a	1 L
6	Hospital inpatients with COVID-19	Colorectal	HR	1	167	615	15,244	86,296	86,911	1.40 (1.20-1.63)	n/a	1 L
7	Hospital inpatients with COVID-19	Lung	HR	1	233	621	13,328	86,887	87,508	4.00 (3.50-4.57)	n/a	1 L
8	Hospital inpatients with COVID-19	Prostate	HR	1	337	1,029	8,577	44,313	45,342	1.20 (1.08-1.34)	n/a	1 L
9	General population	Any	OR	2	407	129,642	18,883	24,492,100	25,406,851	1.43 (1.29-1.59)	0% (0.82)	1M, 1 H
10	All people with COVID-19	Any	OR	3	366^^	5,858	3,360^^	517,334	523,192	1.73 (1.56-1.93)	0% (0.77)	2M, 1 H
11	Hospital inpatients with COVID-19	Any	OR	6	5,891	19,241	79,402	391,723	410,964	1.48 (1.19-1.85)	96% (<0.001)	1M, 5 H
12	General population	Haematological	OR	2	140	32,497	21,130	25,257,249	25,406,851	2.13 (1.68-2.68)	43% (0.18)	1M, 1 H
13	Hospital inpatients with COVID-19	Haematological	OR	1	470	1,389	13,057	83,329	84,718	2.20 (1.97-2.46)	n/a	1 H
14	General population	Breast	OR	1	31	32,429	4,566	7,901,764	7,934,193	1.0 (0.7-1.4)	n/a	1 H
15	General population	Colorectal	OR	1	50	19,706	4,566	7,901,764	7,921,470	1.2 (0.9-1.5)	n/a	1 H
16	General population	Lung	OR	1	34	6,537	4,566	7,901,764	7,908,301	3.4 (2.4-4.7)	n/a	1 H
17	General population	Prostate	OR	1	96	45,057	4,566	7,901,764	7,946,821	1.0 (0.8-1.2)	n/a	1 H
18	All people with COVID-19	Non-metastatic	OR	2	245	2,523	1,278	36,528	3,9051	1.12 (0.65-1.93)	84% (0.01)	1M, 1 H
19	Hospital inpatients with COVID-19	Non-metastatic	OR	3	3,886	13,801	44,311	235,469	249,270	1.35 (1.14-1.61)	92% (<0.001)	1M, 2 H
20	All people with COVID-19	Metastatic	OR	1	51	383	1,245	31,033	31,416	1.70 (1.19-2.43)	n/a	1 H
21	Hospital inpatients with COVID-19	Metastatic	OR	3	2,113^^	7,240	43,924^^	262,891	270,131	2.57 (1.78-3.70)	96% (<0.001)	2M, 1 H
	Total across all analyses^:				15,235^^	418,585	309,515^^	116,850,687	118,947,992			

- across all cancers together, higher risk of COVID-19-related death for people with recent cancer compared to those without (aHR/aOR 1.3-1.7)
- risks elevated for lung (aHR/aOR ~3.4-4.0) and haematological (aHR/aOR ~2.1-2.8) cancers, but also recent breast, colorectal, and prostate cancers, and for metastatic cancers (aOR ~1.7-2.6)

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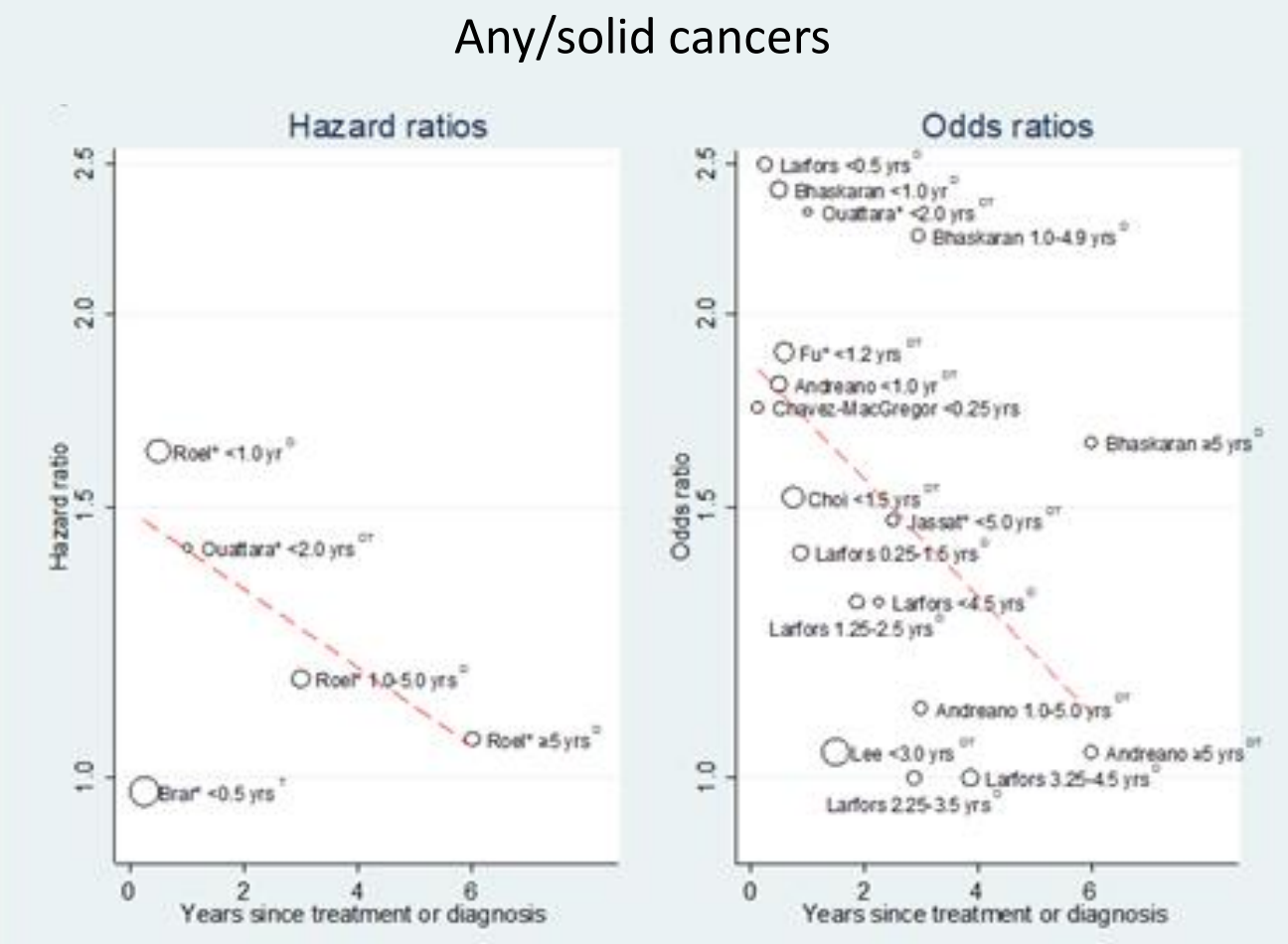
COVID-19 death and cancer SR: Meta-regression for risk by time since cancer diagnosis/treatment



- Results suggest decrease in risk by time with time since diagnosis/treatment
- Any/solid cancers:
  - fitted aOR=1.71 (95%CI:1.44-2.02) at 1 year and aOR=1.20 (95%CI:0.93-1.56) at 5 years post-cancer diagnosis/treatment
  - 95% CIs for fitted risk estimate include 1 from ~4.4 years post-cancer diagnosis/treatment
    (but capture of uncertainty limited due to non-independent estimates, some open-ended intervals)

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Covid-19 death and cancer: Review conclusions

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- Prior to COVID-19 vaccination, risk of COVID-19 related death was higher for people with recent cancer, with risk depending on cancer type and time since diagnosis/treatment.

- More research is needed on how the risk depends on age, sex, cancer type, stage, time since diagnosis, cancer treatment administered and time since treatment, and COVID-19 virus variant, vaccination and treatment.

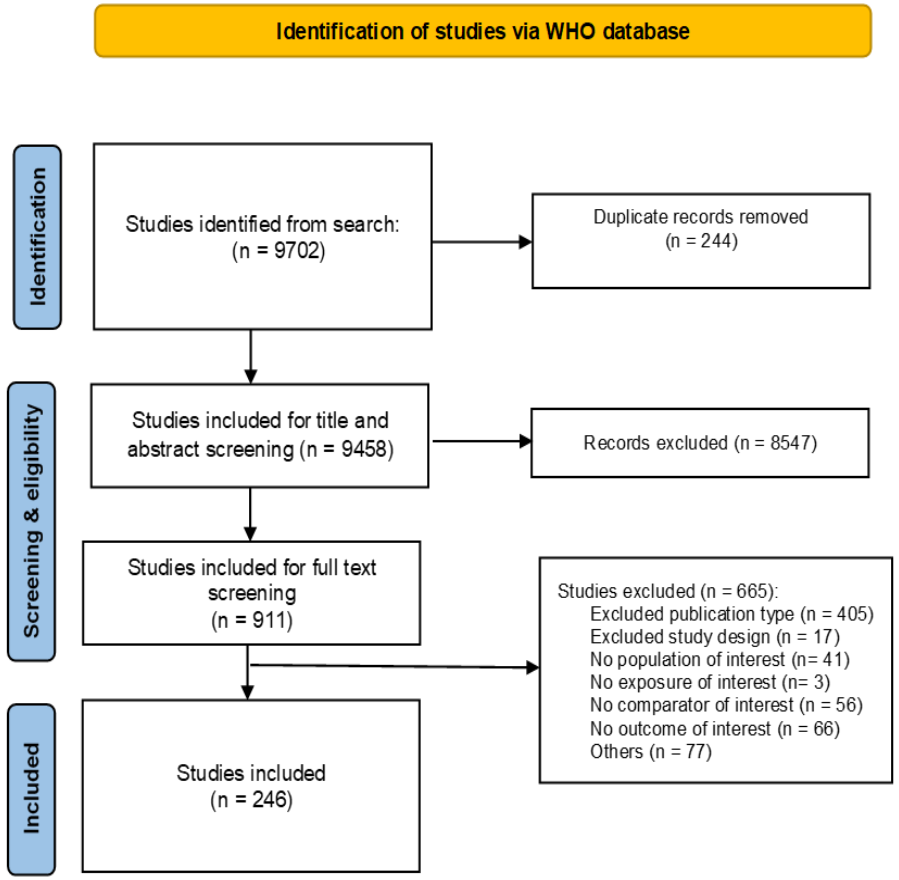
- To accurately estimate risks, inform the ongoing public health response, and build resilience to the COVID-19 pandemic, rolling, robust, in-depth analyses of population-wide studies linking cancer and immunisation registries remain important.

- Living systematic reviews can provide continued consolidation and critical evaluation of up-to-date, high quality evidence on the impact and mitigation of the COVID-19 pandemic as well as future emergencies.

COVID-19 pandemic, cancer services, and mitigation strategies: PRISMA Diagram

Dr Richa Shah/Dr Isabelle Soerjomataram (IARC)

- search of WHO COVID-19 database until 17 Apr 2022: 9702 unique title/abstract records
- 246 studies included in quantitative synthesis of service disruptions (*right figure*)
- 30 studies included in qualitative assessment of mitigation strategies.



COVID-19 pandemic and cancer services: overview of main results

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Diagnosis (1.6 Million cases)

Overall: - 24%
Haematological cancers: - 42%
Lung cancer: - 15%

246 studies in 48 countries

- 0.76 (95%CI: 0.75 to 0.78) diagnoses before vs during the pandemic

Also decreased diagnostic procedures performed during the pandemic (RR=0.62; 95% CI: 0.60 to 0.65)

Screening (60 Million Persons)

Breast cancer: - 49%
Colorectal cancer: - 21%
Cervical cancer: - 39%

All types of treatments decreased.
Surgery, RR=0.78, 95% CI: 0.76 to 0.81
Radiotherapy, RR=0.85, 95% CI: 0.77 to 0.93
Chemotherapy, RR=0.64, 95% CI: 0.50 to 0.81

Treatment (16 Million Patients)

Overall: - 27%
Medium HDI: - 54%
Very high HDI: - 23%

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Cancer Screening project team updates

Overview

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

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Breast cancer screening, project team update.

Session 1: Dr Pietro Procopio (The Daffodil Centre)
Session 2: Dr Jonine Figueroa (NCI & NIH)

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Breast cancer screening

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Covid-19 effects on mammography screening a comparison between Australia and Denmark

- How did the profile of screening participants change?
  - first versus subsequent
  - age differences
  - socio-economic factors

- How did the profile of screen-detected cases change?
  - proportion of invasive/DCIS
  - proportion of small tumors
  - proportion without nodal involvement

Breast cancer screening

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- The rapid review paper on COVID-19 global impact on breast cancer screening participation rates (led by J. Figueroa's group) can be found on medrxiv.org (link)
  - *26 papers included*
  - *8 countries showed reduction in screening volume and uptake rates*
  - *5 countries with national BC screening program showed reduction in participation rates*
  - *Variations of participation volumes within USA suggest differences by insurance status*

- Modelling study of COVID-19 impact on selected regions in Italian setting focusing now on impact on population of delayed diagnosis and treatment.

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Cervical screening in high income countries, project team update.

Session 1: A/Prof Megan Smith (The Daffodil Centre)
Session 2: Dr Sharon Hanley (Hokkaido University)

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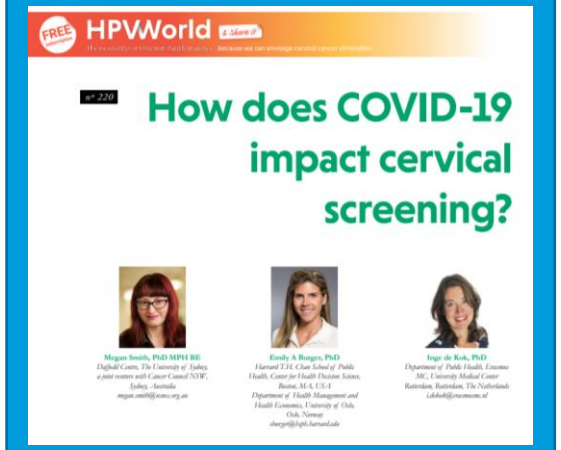
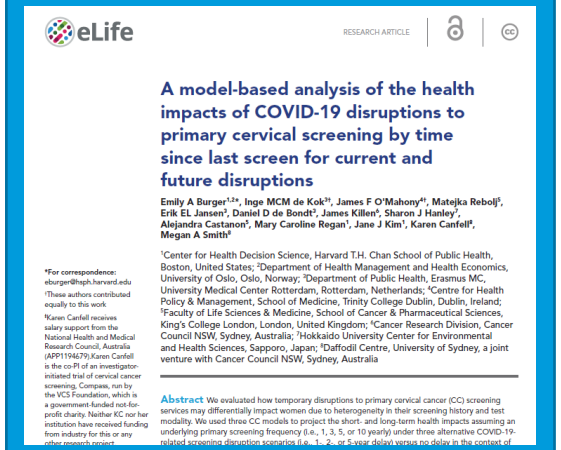
Cervix WG – Activities

Dissemination



Visit
https://www.hpvworld.com/articles/

Research (1)


eLife

RESEARCH ARTICLE

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

Research (2)

Review of screening program status immediately pre-COVID

(Drafted)

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Colorectal Cancer Screening modelling project team update.

Ms Francine Van Wifferen (Amsterdam UMC)

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CRC WG - 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*

CRC WG – Project 3

- Four independent modelling groups from Australia, Canada, and the Netherlands
- Over 30 countries included:

• Australia	• France	• Japan	• Slovenia
• Austria	• Georgia	• South Korea	• Spain
• Belgium	• Germany	• Lithuania	• Sweden
• Canada	• Hungary	• Malta	• Switzerland
• Croatia	• Iceland	• Netherlands	• Taiwan
• Czechia	• Ireland	• Portugal	• UK
• Denmark	• Israel	• Singapore	
• Finland	• Italy	• Slovakia	

- 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

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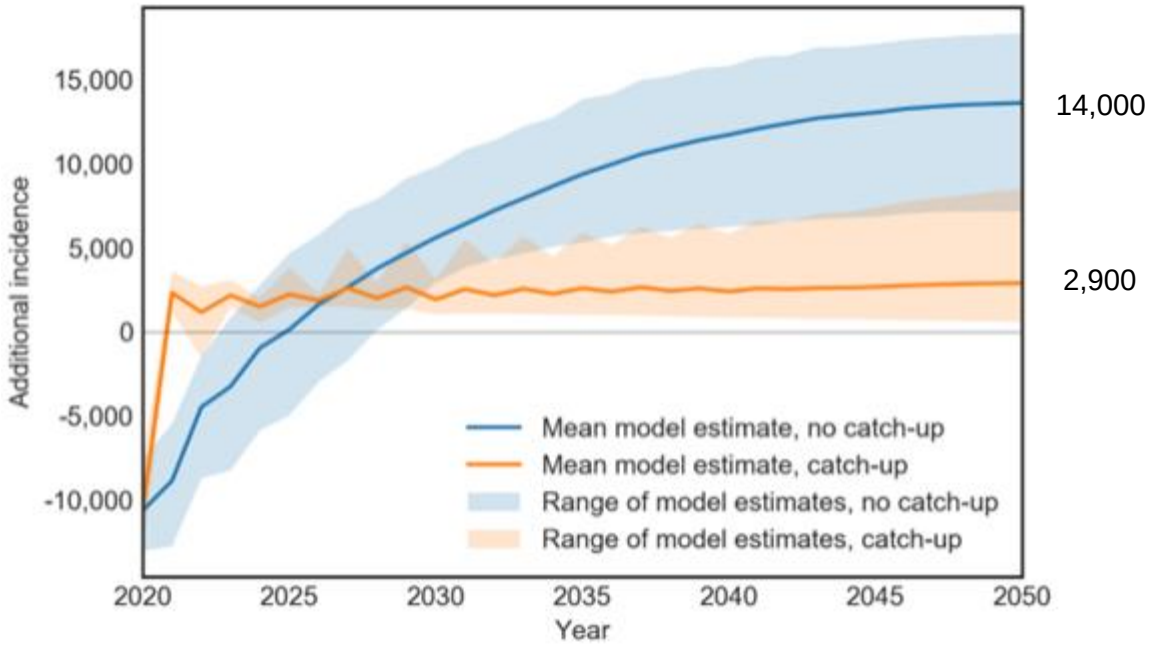
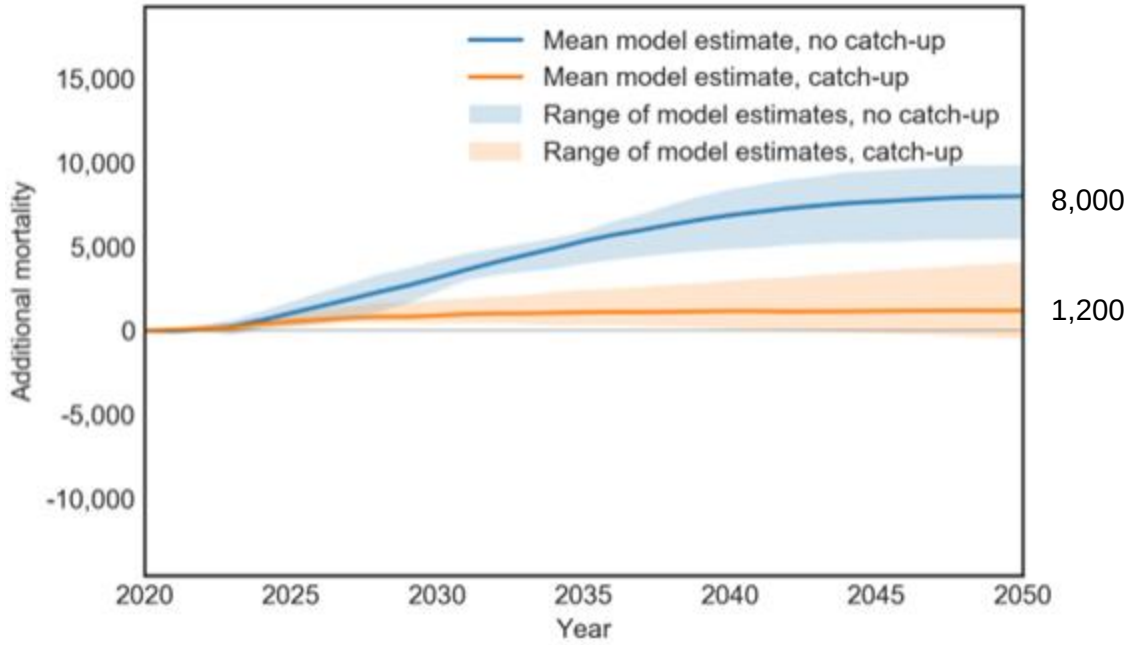
Global cumulative additional CRC incidence (left) and mortality (right) over 2020-2050.



Incidence



Mortality

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Conclusion

- 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.

Updates

- Manuscript currently under review
- Oral presentation - Society for Medical Decision Making (May 2023 in Berlin)

I-PaRCS Australia - Canada ‘AUSCAN’ CRC modelling group.

Session 1: Dr Joachim Worthington (The Daffodil Centre)

Session 2: Dr Talía Malagón (McGill University)

AUSCAN CRC Working Group

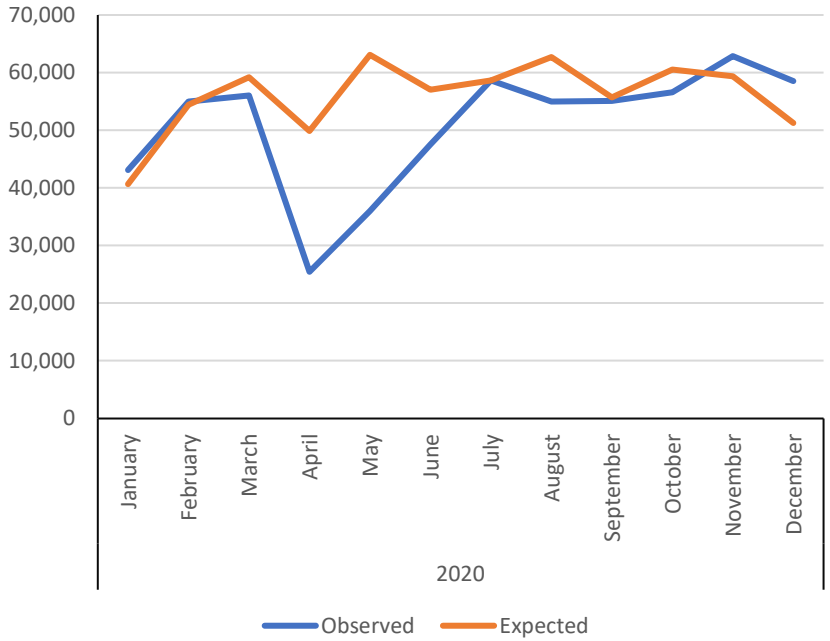
- Australian and Canadian CRC modelling group (AUSCAN CRC)
- Teams from the Daffodil Centre, McGill University and the Canadian Partnership Against Cancer

- **Aim:** detailed country level modelling across COVID-related **screening**, **diagnosis** and **treatment disruptions** in Australia and Canada

Diagnosis and Treatment Backlogs

Estimated impact of COVID-related disruptions to colorectal cancer screening, diagnosis and treatment in Australia and Canada

Decrease in colonoscopy procedures



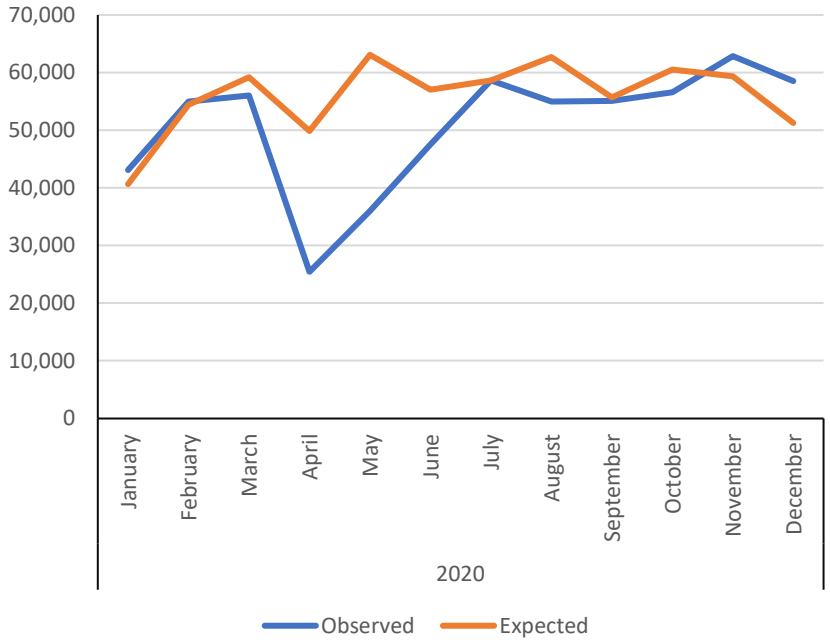
Source: Australian Medicare Statistics

Observed decreases in procedures…

Diagnosis and Treatment Backlogs

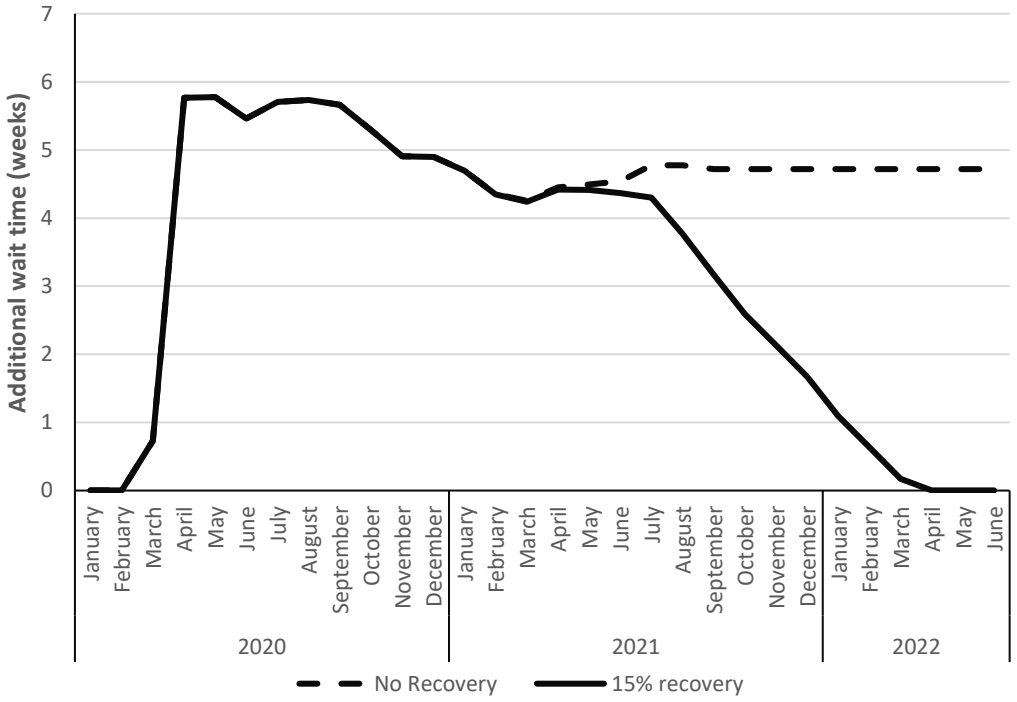
Estimated impact of COVID-related disruptions to colorectal cancer screening, diagnosis and treatment in Australia and Canada

Decrease in colonoscopy procedures



Source: Australian Medicare Statistics

Additional waiting time to diagnosis

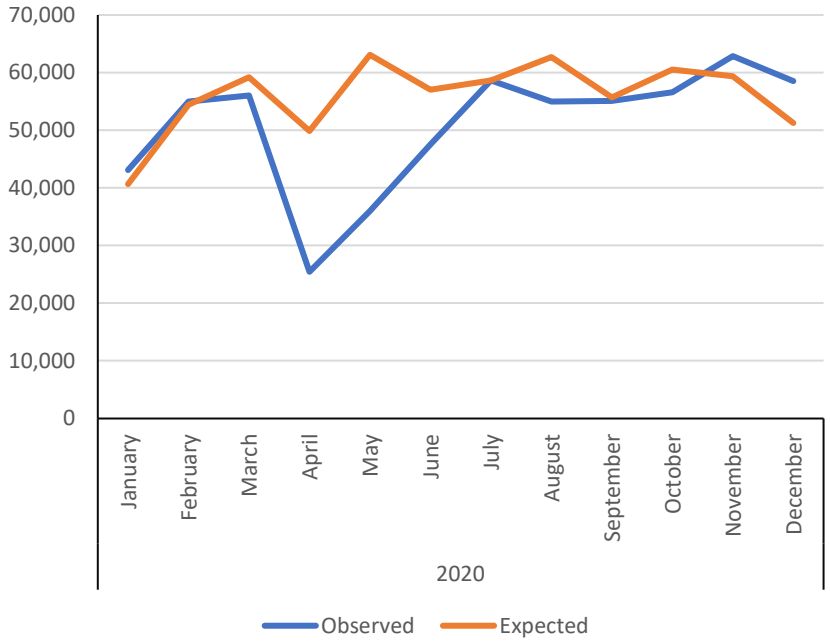


Observed decreases in procedures…**…cause additional waiting time to diagnosis/treatment…**

Diagnosis and Treatment Backlogs

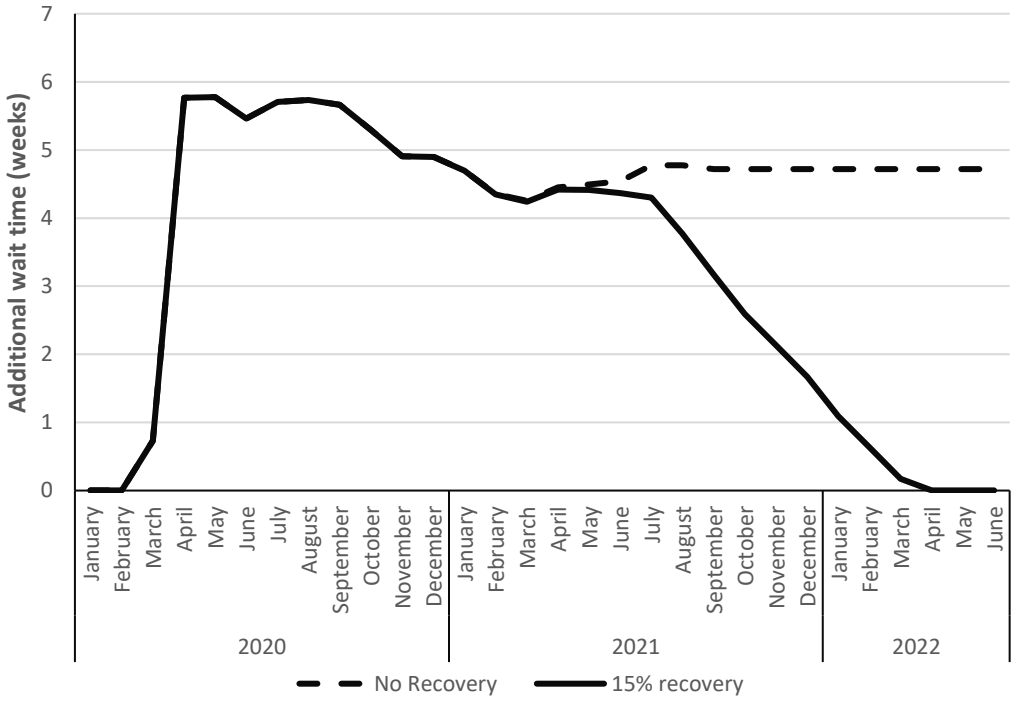
Estimated impact of COVID-related disruptions to colorectal cancer screening, diagnosis and treatment in Australia and Canada

Decrease in colonoscopy procedures

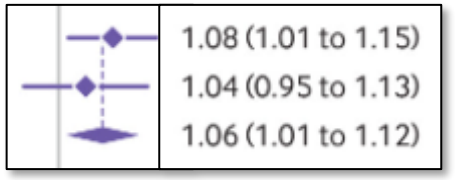


Source: Australian Medicare Statistics

Additional waiting time to diagnosis



Hazard ratio for colorectal cancer mortality after 4 week treatment delay



Source: Hanna et al, BMJ 2020

Observed decreases in procedures…cause additional waiting time to diagnosis/treatment**…and decrease survival**

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CRC burden impacts

- Without mitigation, over 2020-2030 we estimate an additional
  - **255 cases and 1,820 deaths in Canada**, and
  - **234 cases and 1,186 deaths in Australia**

  attributable to the pandemic vs a no screening disruption or diagnostic/treatment delays.
- 71.1% and 89.7% 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 789 and 221** of these additional deaths in Canada and Australia, respectively.

Conclusion

- Even relatively small boosts to diagnostic or treatment capacity can make a big impact in averting additional cancer burden after disruptions
- Manuscript is currently being prepared for submission

New collaborative project

Prof Karen Canfell (Daffodil Centre)

- New Working Group for a consolidated look-back on the state of the evidence for Covid-19 disruptions and their impact - *"What is currently known, and what is not known?"*

- Initial focus on lung & colorectal cancer

- Aim of project: Using emergent country data for Australia, Netherlands, Canada and potentially other countries, this new collaborative working group will aim to consolidate what is currently known on the impact of Covid-19 on lung & colorectal cancer, considering data on health services utilisation, cancer registrations (if available), excess deaths due to cancer, as well as screening participant, patient & carer experiences of care.

- **Calling for expressions of interest – please contact Secretariat** iparcs@nswcc.org.au

Consortium Certificate of Participation

CERTIFICATE

OF PARTICIPATION

THIS CERTIFICATE PRESENT TO

Name Here

This certificate is awarded to *[name]* for their contributions to the International Partnership for Resilience in Cancer Systems (I-PaRCS)

PROF KAREN CANFELL (ON BEHALF OF DR FREDDIE BRAY, DR ISABELLE SOERJOMATARM, MR RAMI RAHAL, DR JULIE TORODE, PROF IRIS LANSDORP-VOGELAAR)

I-PaRCS Steering Committee

Certificate will be made available for members who have actively participated in an I-PaRCS (formerly CCGMC) working group and/or project. Kindly contact Secretariat (iparcs@nswcc.org.au) should you wish to obtain a certificate, detailing the project work you were involved in.

On the horizon

- We will be aiming to hold the next Whole of Consortium update in Sept/Oct this year.

- We greatly encourage all interested members to reach out and engage in the new work oriented around building resilience in cancer systems. If you would like to be involved in any current project teams, or have new project ideas you would like to propose, please contact Secretariat (iparcs@nswcc.org.au)

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Thank you.

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