

COVID-19 research activities at the Netherlands Cancer Registry

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Conflict of Interest Disclosure Form

in accordance with the rules of the Health Care Inspectorate (IGZ)

Name: Prof. dr. S. (Sabine) Siesling

Affiliation: Department of Research and Development, Netherlands Comprehensive Cancer Organisation (IKNL)

.....

I have no potential conflict of interest to report:

I have the following potential conflict(s) of interest to report:

Type of affiliation / financial interest

Name of commercial company

Receipt of grants/research supports:

- ZonMw grant, projectnumber: 10430022010014

Receipt of honoraria or consultation fees:

-

Participation in a company sponsored speaker's bureau:

-

Stock shareholder:

-

Other support (please specify):

-

Scientific advisory board

- Evidencio, Vivica

The nationwide Netherlands Cancer Registry (NCR)

The only registry in the Netherlands with data on all patients with cancer



Nationwide cancer registration since 1989

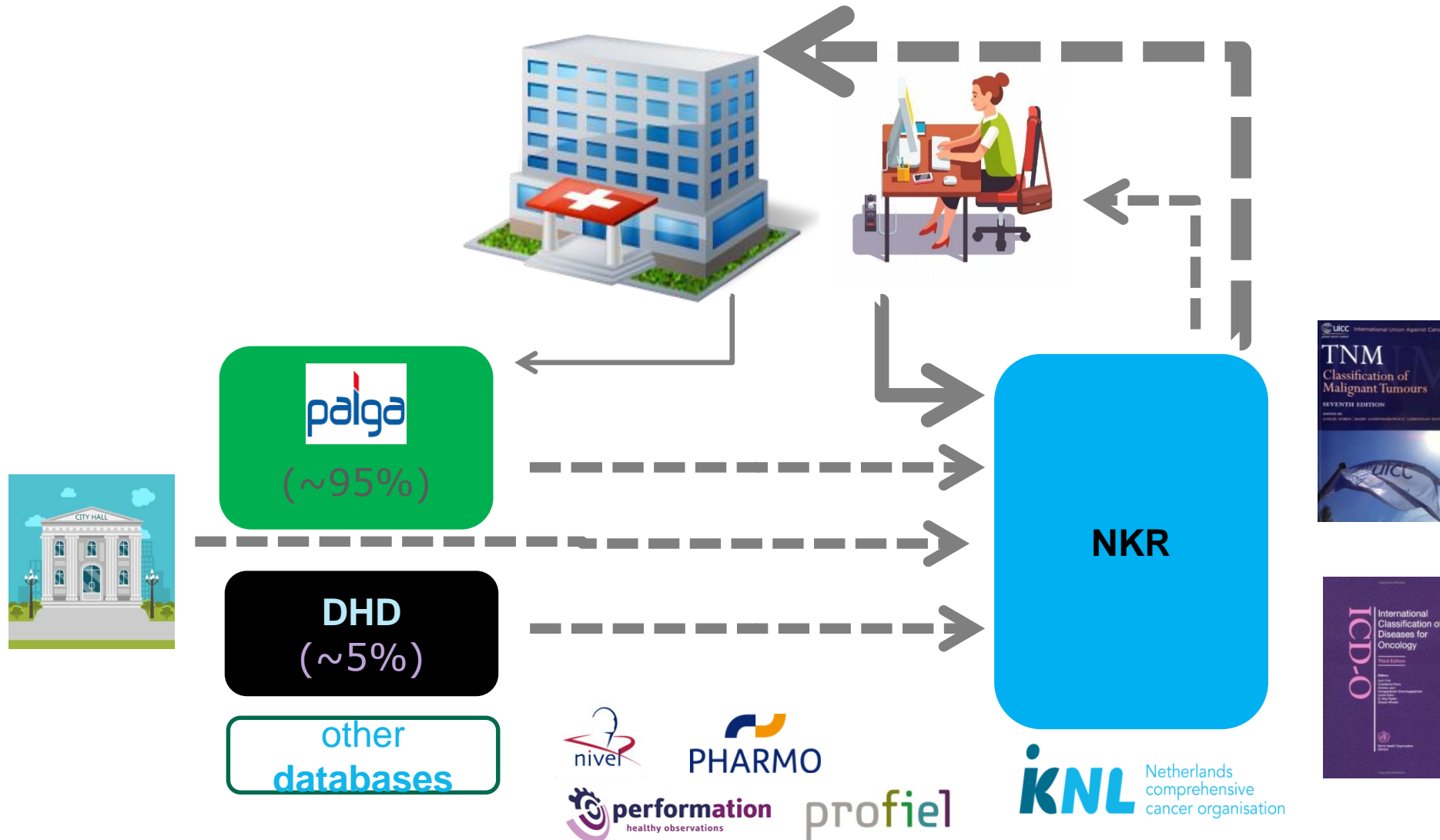
- Managed by Netherlands Comprehensive Cancer Organisation (IKNL)
- Funded by Dutch Ministry of Health, Welfare, and Sport
- Agreements with all hospitals to allow data collection
- Trained data managers in all hospitals (~80 hospitals)
- Basic patient, tumor, and therapy (primary) characteristics

Notification sources of the NCR

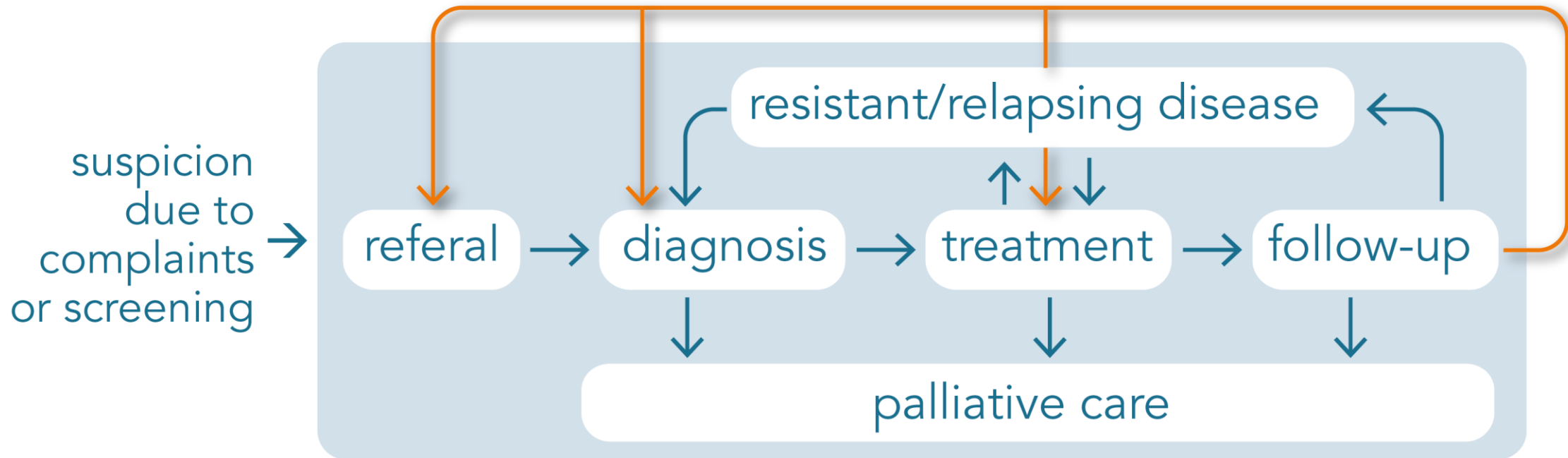
- All pathology laboratories and nationwide medical claims
 - ✓ Coverage at least 95%¹

¹Schouten LJ et al. *Int J Epidemiol.* 22:369-76 (1992)

The Netherlands Cancer Registry



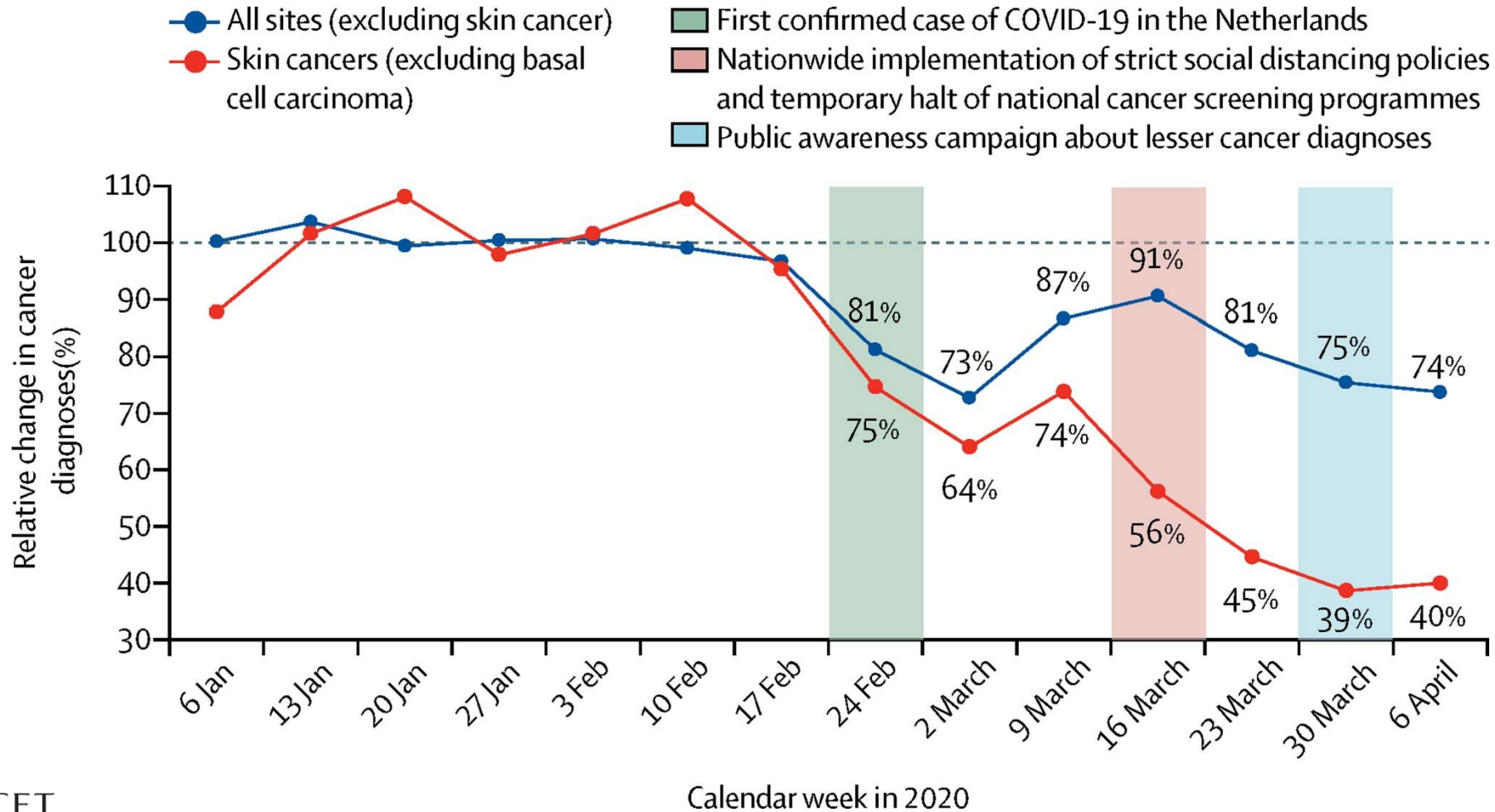
The entire patient journey can potentially be captured in the NCR



How did it start?

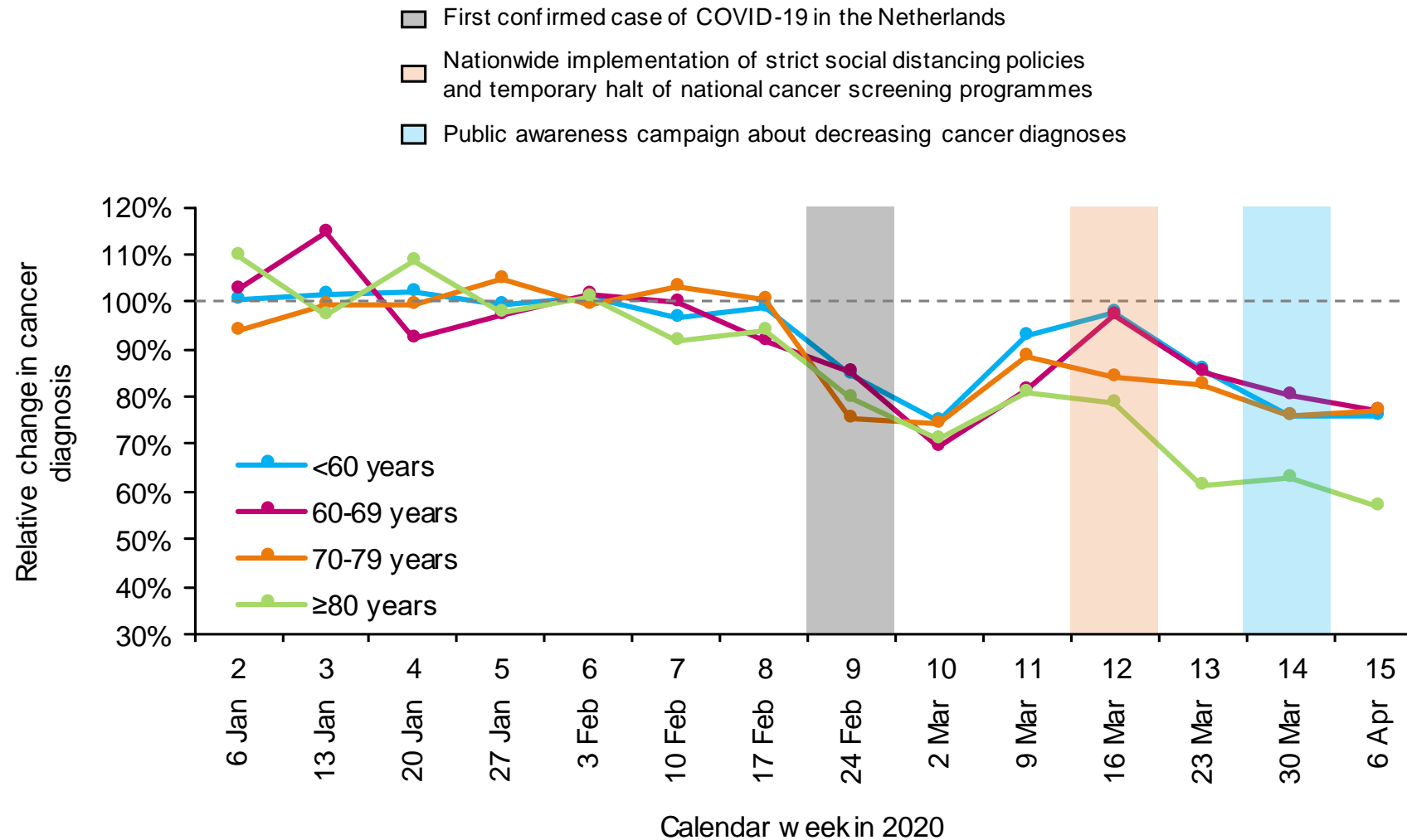
First COVID-19 wave in the Netherlands and the impact on the number of new cancer diagnoses

Fewer cancer diagnoses in the Netherlands amid the early stages of the COVID-19 epidemic

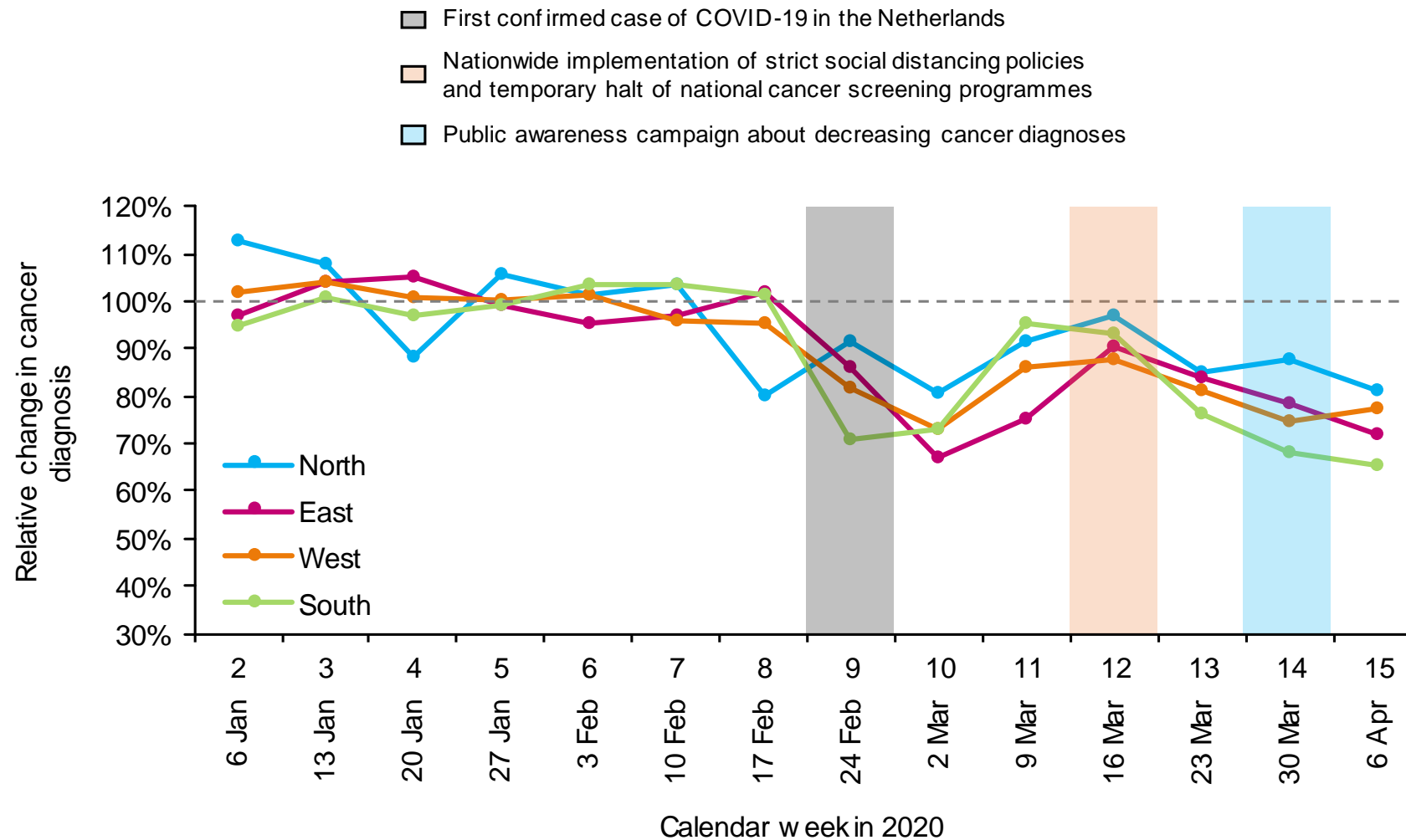




Fewer cancer diagnoses in the Netherlands amid the early stages of the COVID-19 epidemic



Fewer cancer diagnoses in the Netherlands amid the early stages of the COVID-19 epidemic



Cancer diagnoses in 2020 compared to 2019

The first decline in cancer diagnoses since the establishment of the NCR in 1989

Number of new cancer patients* in 2020 compared to 2019

	2020	2019	
squamous cell carcinoma of the skin	14.900	14.700	+
lung cancer	13.900	14.200	-
breast cancer ⚡	13.200	14.900	---
prostate cancer	12.800	13.500	--
colon cancer ⚡	11.700	12.800	--
haematological malignancies	9.900	10.300	-
skin melanoma	6.800	7.000	-
bladder cancer**	3.700	3.600	+
cancer of the oesophagus	3.100	3.100	0
head and neck cancer	3.000	3.100	-
cancer of the pancreas	2.700	2.800	-
kidney cancer	2.600	2.700	-
cancer of the corpus uteri***	2.100	2.100	0
cancer of the ovary****	1.400	1.500	-
brain tumour	1.400	1.400	0
stomach cancer	1.100	1.100	0
total*****	115.000	119.000	-

legend

- 0 = equal
- + = increase <5%
- = decrease <5%
- = decrease 5-10%
- = decrease >10%

⚡ = strong decrease compared to 2019 due to the temporary halt of the breast and colon cancer screening programs

Decline due to the COVID-19 epidemic

*invasive tumour **incl. renal pelvis/ureter ***endometrial cancer ****incl. fallopian tube *****excl. basal-cell carcinoma of the skin

ZonMw project COVID-19 and cancer: The impact of the COVID-19 outbreak on the diagnosis and treatment of cancer patients

ZonMw project September 2020 - March 2023 (projectnumber: 10430022010014)



Objectives of the project



Analysis of effects of COVID-19 pandemic on care of people with cancer symptoms and care of people with cancer



Make concrete recommendations for policy for and communication to the general population, primary and secondary care, regarding maintaining effective diagnosis and care for patients with cancer



Netherlands comprehensive cancer organisation



Radboudumc



UMC Utrecht Julius Centrum

UNIVERSITY OF TWENTE.



SONCOS

Stichting Oncologische Samenwerking



Zorg voor Data



Nederlandse Federatie van Kankerpatiënten organisaties



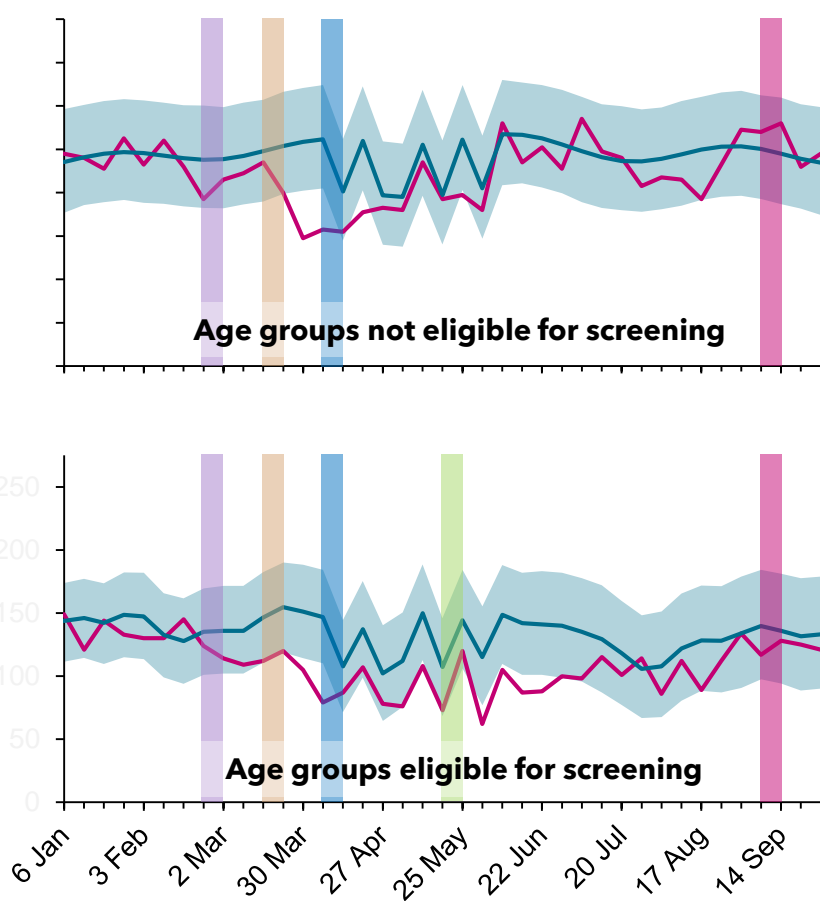
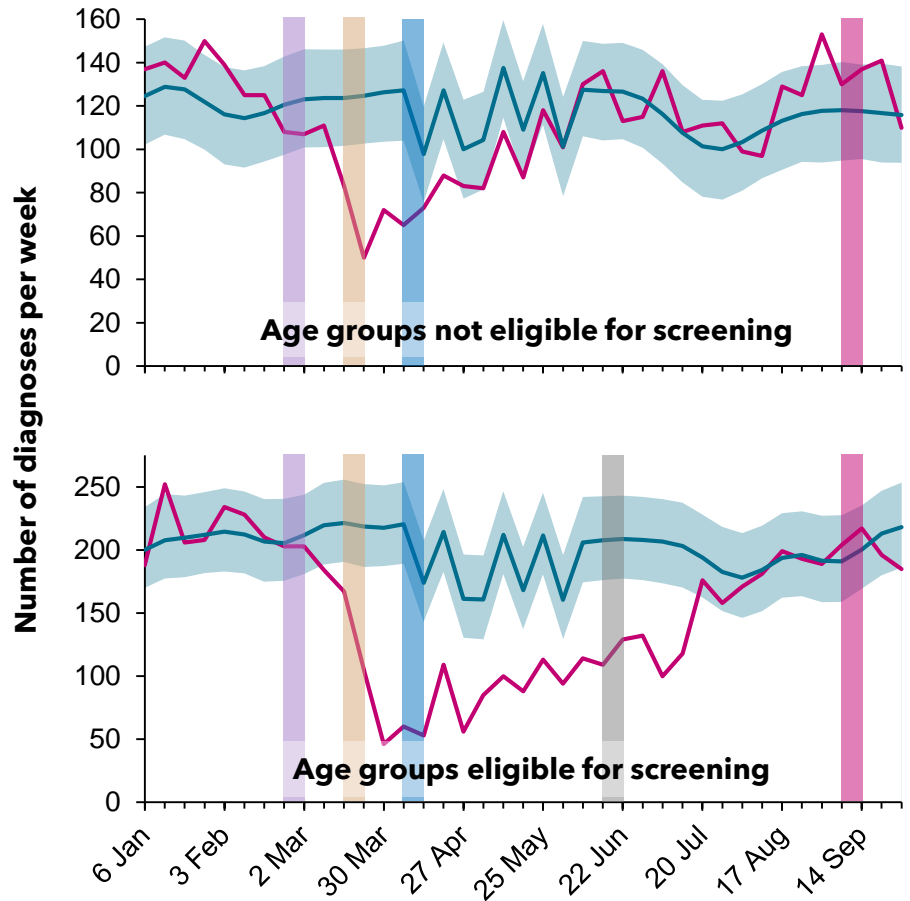
Symposium COVID-19 and cancer 1 december 2022
'Amazing how flexible we could be in COVID time'

Impact of temporarily halting population screening for breast and colorectal cancer

The impact of the temporary halt of cancer screening programmes on colorectal and breast cancer diagnoses

Breast cancer among woman

Colorectal cancer

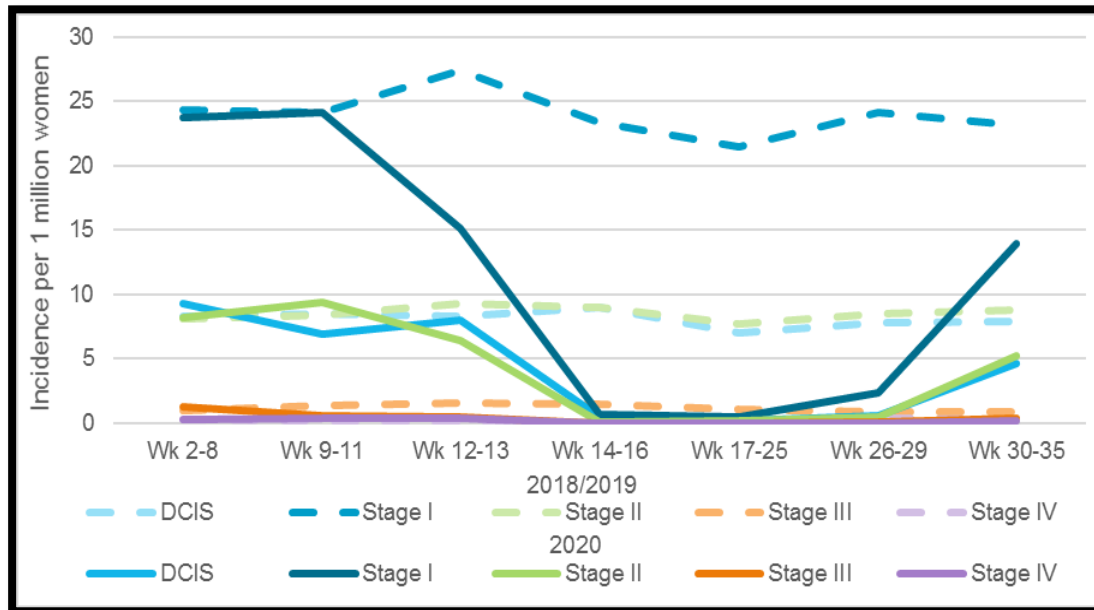


- Observed number of cases
- Expected number of cases
- First confirmed case of COVID-19 in the Netherlands
- Nationwide implementation of strict social distancing policies and temporary halt of national cancer screening programmes
- Start of decreased demand for critical COVID-19 care
- Gradual restart of colorectal cancer screening
- Gradual restart of breast cancer screening
- Start of second COVID-19 wave in the Netherlands

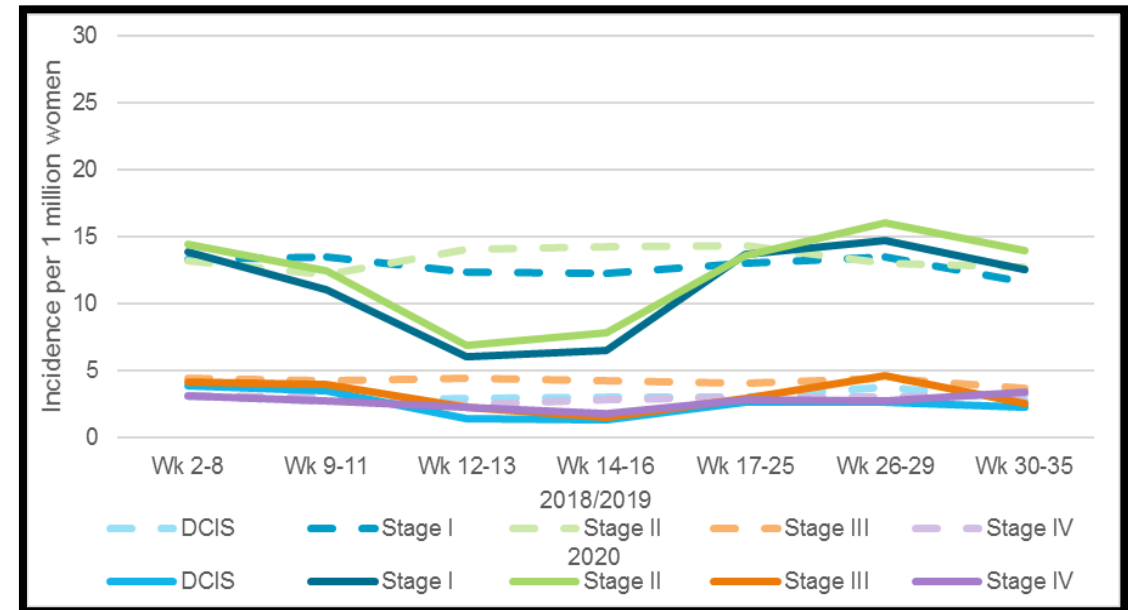
Incidence of breast cancer - age of 50-74 years

Period of the first COVID-19 wave compared with 2018-2019

Screen-detected



Clinically-detected



A. Eijkelboom



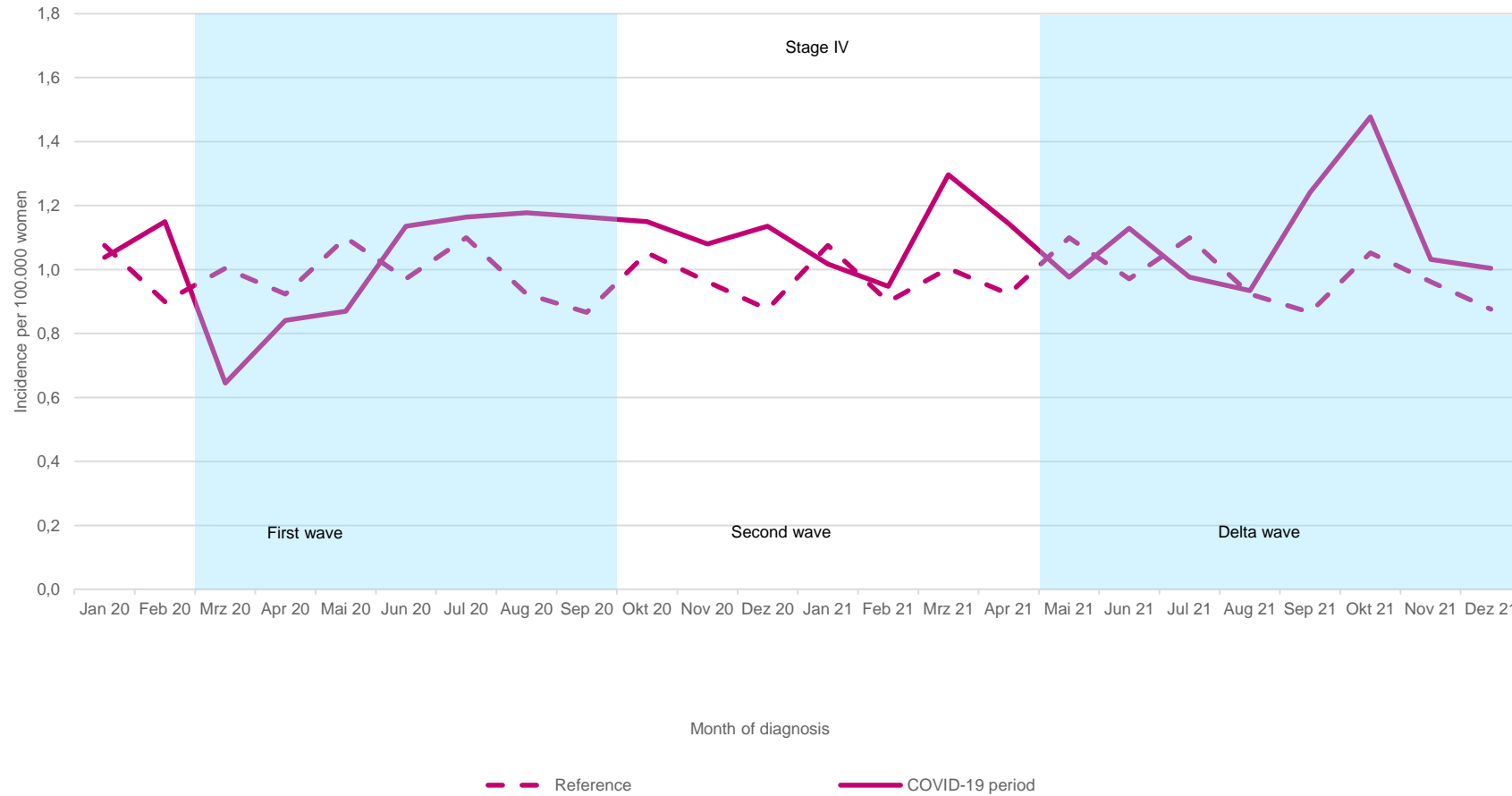
L. de Munck

ZonMw-projectnummer: 10430022010014

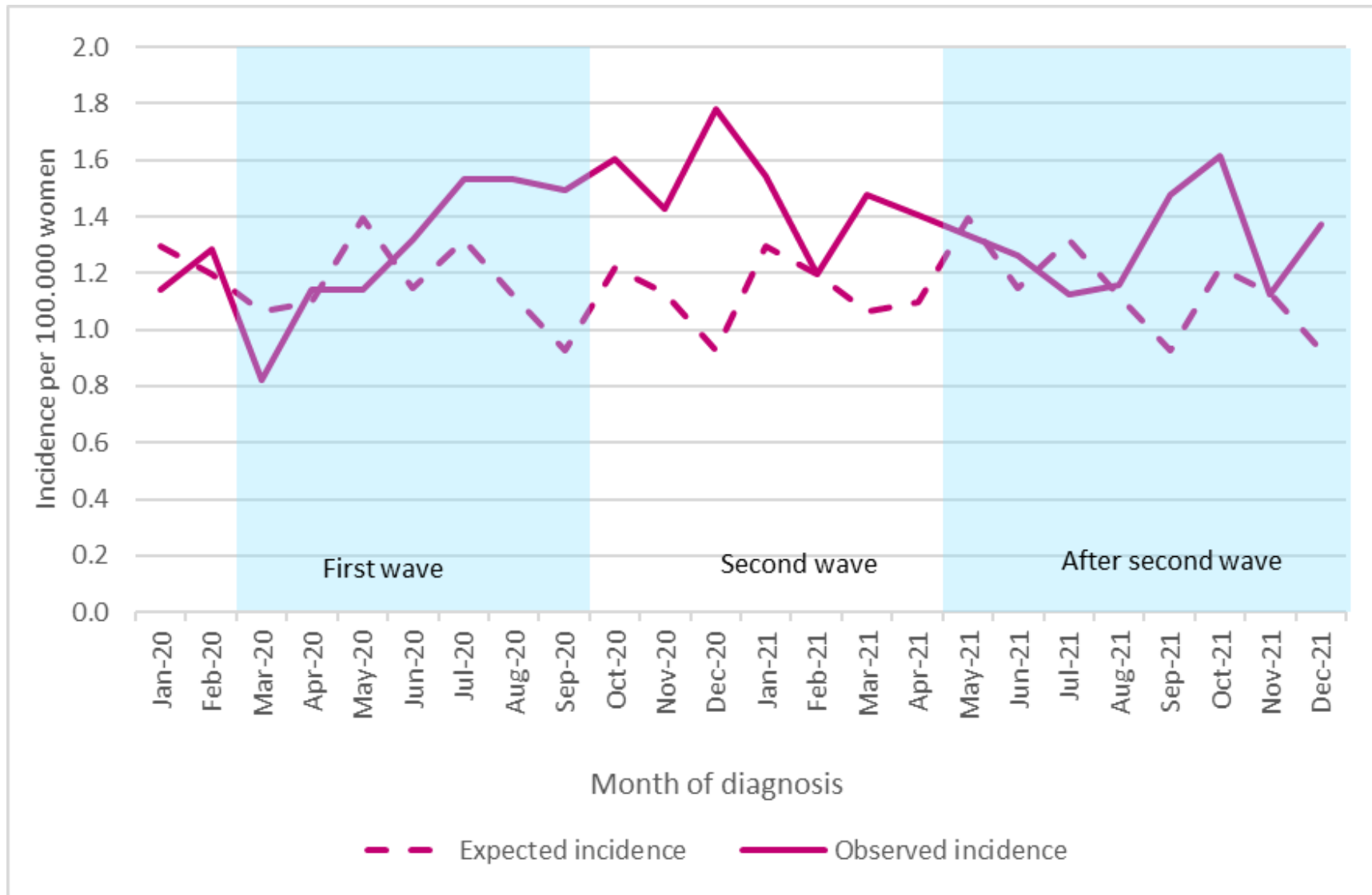
Source: The Netherlands Cancer Registry

A.H. Eijkelboom et al. *Preventive Medicine* 151 (2021) 106602

Stadium IV total



Stage IV 50-74 years old - non-screen-detected

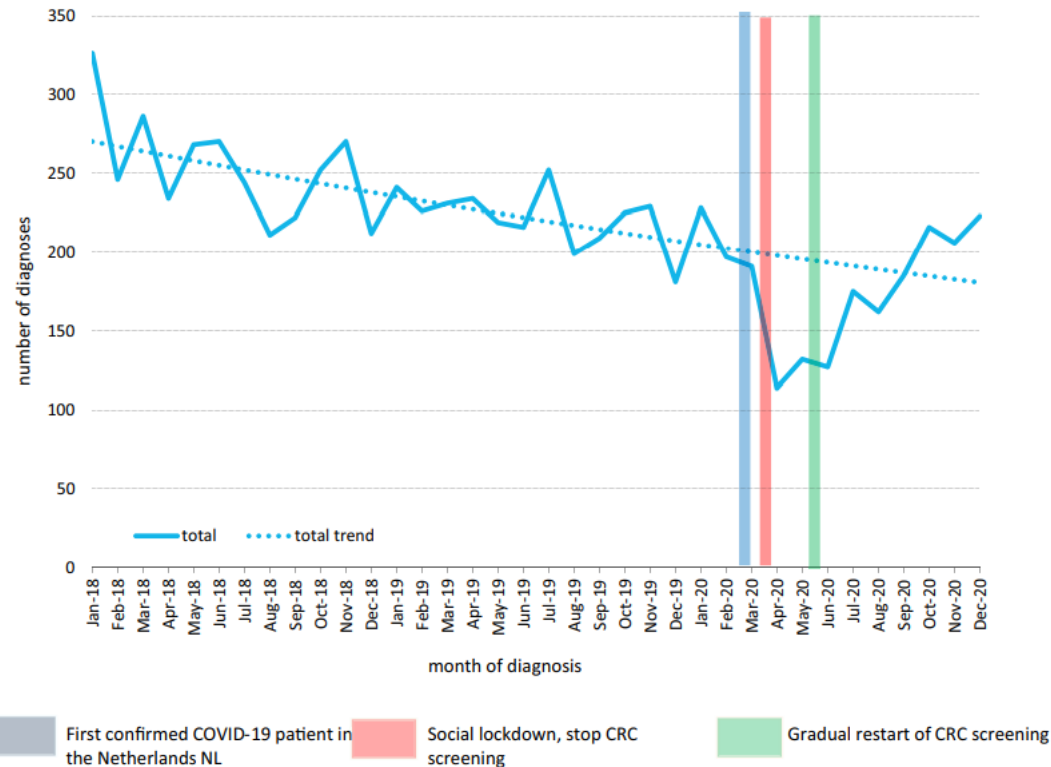


Tumor stage

	First wave	Second wave	Delta wave
Tumor stage			
DCIS	0.56 (0.52-0.60)*	0.92 (0.86-0.98)*	1.00 (0.94-1.06)
Stage I	0.62 (0.59-0.64)*	0.99 (0.96-1.03)	1.01 (0.98-1.05)
Stage II	0.84 (0.80-0.87)*	1.05 (1.01-1.09)	1.00 (0.96-1.04)
Stage III	0.96 (0.87-1.05)	1.08 (0.99-1.18)	1.05 (0.97-1.14)
Stage IV	1.02 (0.92-1.13)	1.14 (1.04-1.26)*	1.12 (1.02-1.23)

	First wave	Second wave	Delta wave
Stage IV			
<50	0.96 (0.75-1.21)	0.84 (0.66-1.06)	0.99 (0.80-1.22)
50-69	1.02 (0.86-1.19)	1.25 (1.07-1.45)*	0.99 (0.85-1.15)
70-74	1.19 (0.86-1.64)	1.41 (1.05-1.89)	1.62 (1.24-2.10)*
>74	0.97 (0.80-1.18)	1.09 (0.89-1.33)	1.16 (0.97-1.38)

Incidence colon cancer – age of 55-75 years (25 hospitals) Period March-December 2020 (after halting screening) compared with 2018-2019



- Decline in diagnoses limited to stage I colon tumours.
- No long-term effects expected on stage shift and mortality following discontinuation of colon cancer screening.



E. Toes-Zoutendijk



G. Vink



M. Elferink

ZonMw-projectnumber: 10430022010014

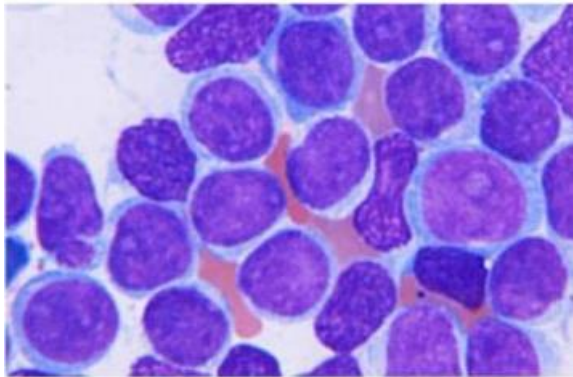
Source: The Netherlands Cancer Registry

E. Toes-Zoutendijk et al. *European Journal of Cancer* 161 (2022) 38e43

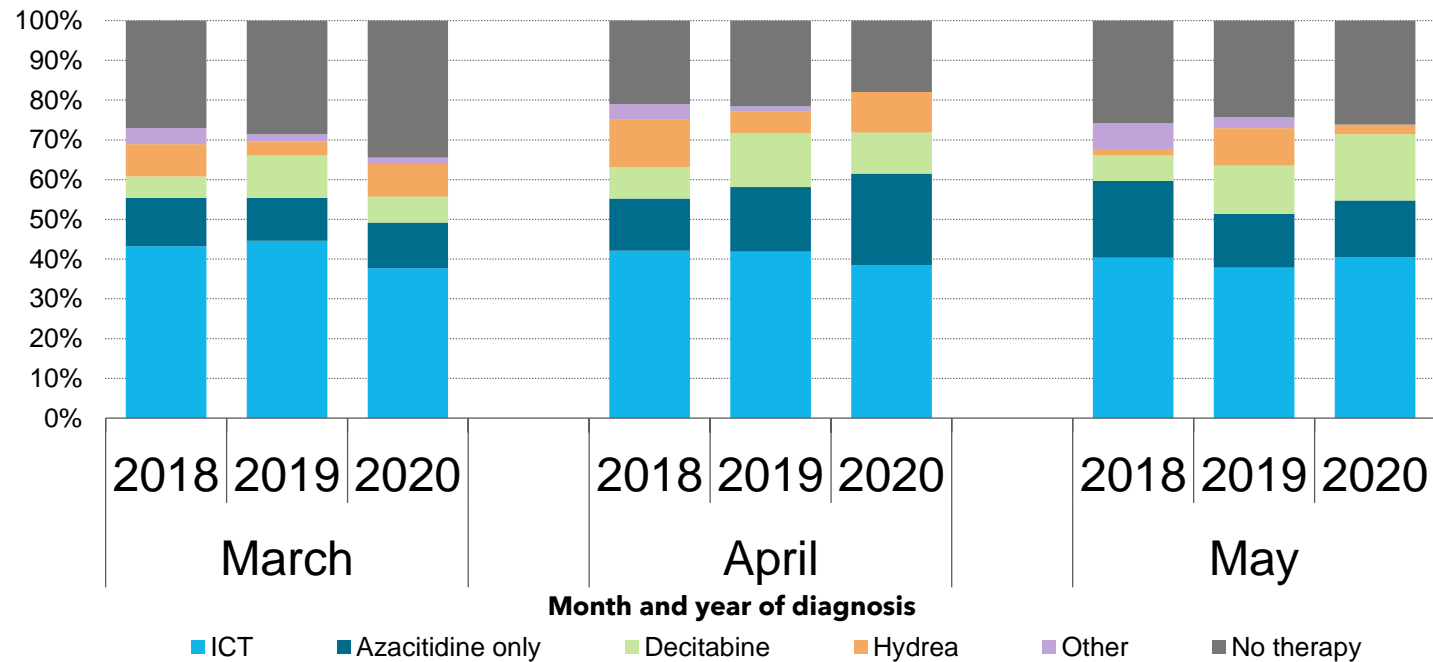
**Impact of the first COVID-19 wave on diagnosis
and primary treatment of new cancer diagnoses**

AML

According to month of diagnosis, stratified by year of diagnosis



Bone marrow with acute leukaemia



- Small decline in diagnosis
- No apparent differences in primary therapy over time
- No differences in turn around time
- No differences in stem cell transplantations

First findings in breast cancer during first COVID-19 wave

Decline in the proportion of low stages (especially DCIS and Stage I-II)



A. Eijkelboom



Prof. S. Siesling (PI)
s.siesling@iknl.nl

Recommendations in (first given) treatment were quickly implemented

- Rise in hormonal therapy as first treatment → postponing surgery
- Decrease/delay of:
 - ✓ Breast-sparing treatment → delay radiotherapy > other schedules and dosis (Fast-forward)
 - ✓ Applying chemotherapy → related to reducing number of hospital visits and risk of developing COVID complications
 - ✓ Direct reconstructions → occupancy of operating rooms reduced, less risk of complications

ZonMw-projectnummer: 10430022010014

Source: The Netherlands Cancer Registry & PALGA

Eijkelboom et al. J Hematol Oncol (2021) 14:64



iknl

First findings in colon cancer during the first COVID-19 wave

No stage migration



J. Meijer



M. Elferink

Primary treatment

- More surgery, especially for low-stage tumours
- The proportion of colorectal cancer patients who received a stoma increased by 6.5% during the COVID pandemic
- No differences between resection rate and treatment with (neo)adjuvant therapy
- Lead time
 - ✓ Time from diagnosis to first treatment → shorter
 - ✓ Moment from surgery to follow-up treatment → shorter

ZonMw-projectnumber: 10430022010014

Source: The Netherlands Cancer Registry & PALGA

J. Meijer et al. *Clinical Colorectal Cancer* (2022)

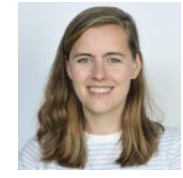


First findings in head and neck tumours during first COVID-19 wave

No stage migration



R. Schoonbeek



D. de Jel



B. van Dijk

Primary treatment

- Lead time from diagnosis to first-line therapy → 7 days shorter
 - ✓ 18% more treatments that took place within the first month of diagnosis
- No changes in referral patterns between HH centres

ZonMw-projectnummer: 10430022010014

Source: The Netherlands Cancer Registry & PALGA

R.C. Schoonbeek et al. Radiotherapy and Oncology 167 (2022) 42-48



The logo for iKNL, featuring the text "iKNL" in a bold, white, sans-serif font on a blue background.

First findings in skin tumours (non-melanoma) during first COVID-19 wave

Decline in diagnoses of squamous cell and basal cell carcinoma



E. Slotman



K. Schreuder



M. Louwman

Backlog of diagnoses in 2020

- Backlog of diagnoses at the end of 2020
 - 1150 patients with squamous cell carcinoma
 - 11 767 patients with basal cell carcinoma

ZonMw-projectnumber: 10430022010014

Source: The Netherlands Cancer Registry

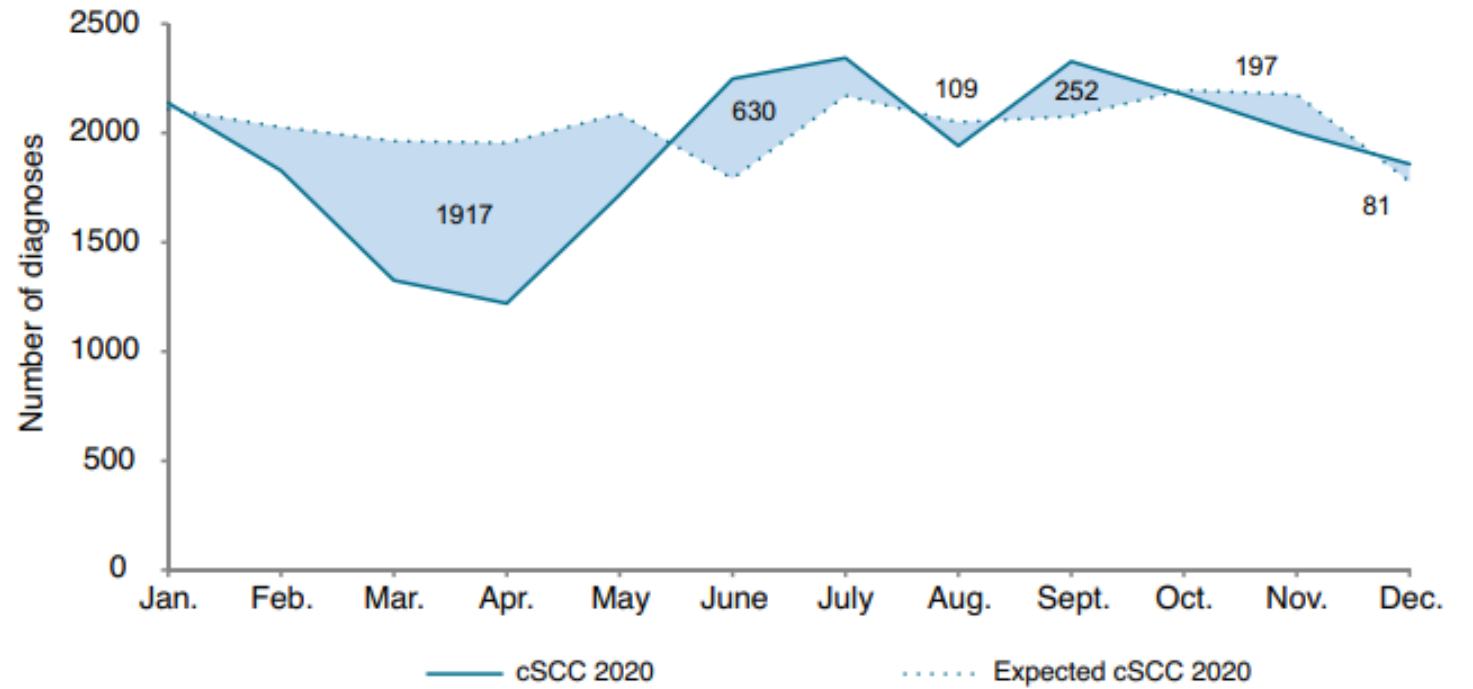
E. Slotman et al. J Eur Acad Dermatol Venereol (2022)



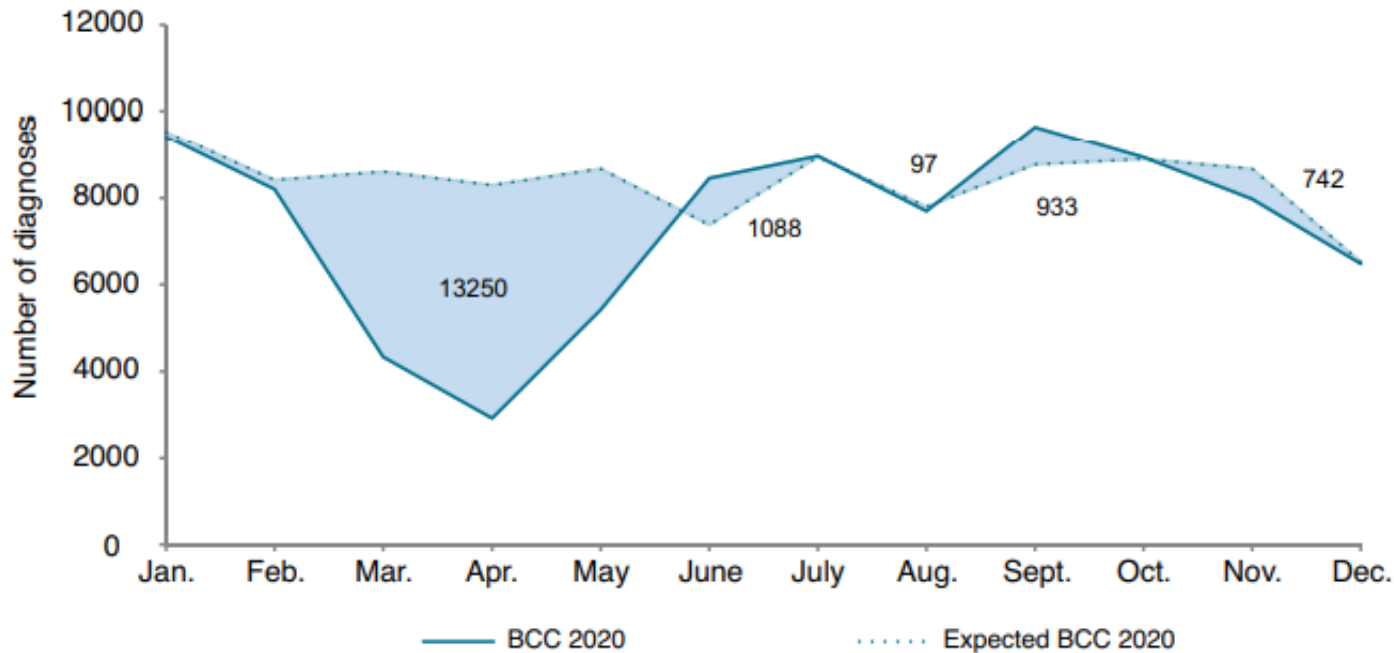
KNL

SCC and BCC

(a) cSCC



(b) BCC



First findings in prostate tumours during first COVID-19 wave



D. Van Deukeren



B. Heesterman



K. Aben

Decline in prostate carcinoma diagnoses

- Number of diagnoses largely recovered, but lagged 5% behind 2018/2019
- Decrease was most apparent for elderly and low-risk prostate carcinoma

Changes in treatment

- Changes in treatment regimes were limited and temporary
- Surgical capacity for radical prostatectomy maintained

ZonMw-projectnumber: 10430022010014

Source: The Netherlands Cancer Registry

D. van Deukeren et al. Cancer Treatment and Research Communications



KNL

First findings in bladder tumours during first COVID-19 wave



L. van Hoogstraten



K. Aben

Decline in bladder carcinoma diagnoses

- Number of diagnoses by the end of 2020 restored to pre-COVID numbers
- Decrease was most apparent for elderly and low-risk bladder tumours

Changes in treatment

- Changes in treatment were limited and followed the adapted guidelines
 - Volume of surgery was not affected in the first COVID wave
-

ZonMw-projectnummer: 10430022010014

Source: The Netherlands Cancer Registry

L. van Hoogstraten et al. Bladder Cancer

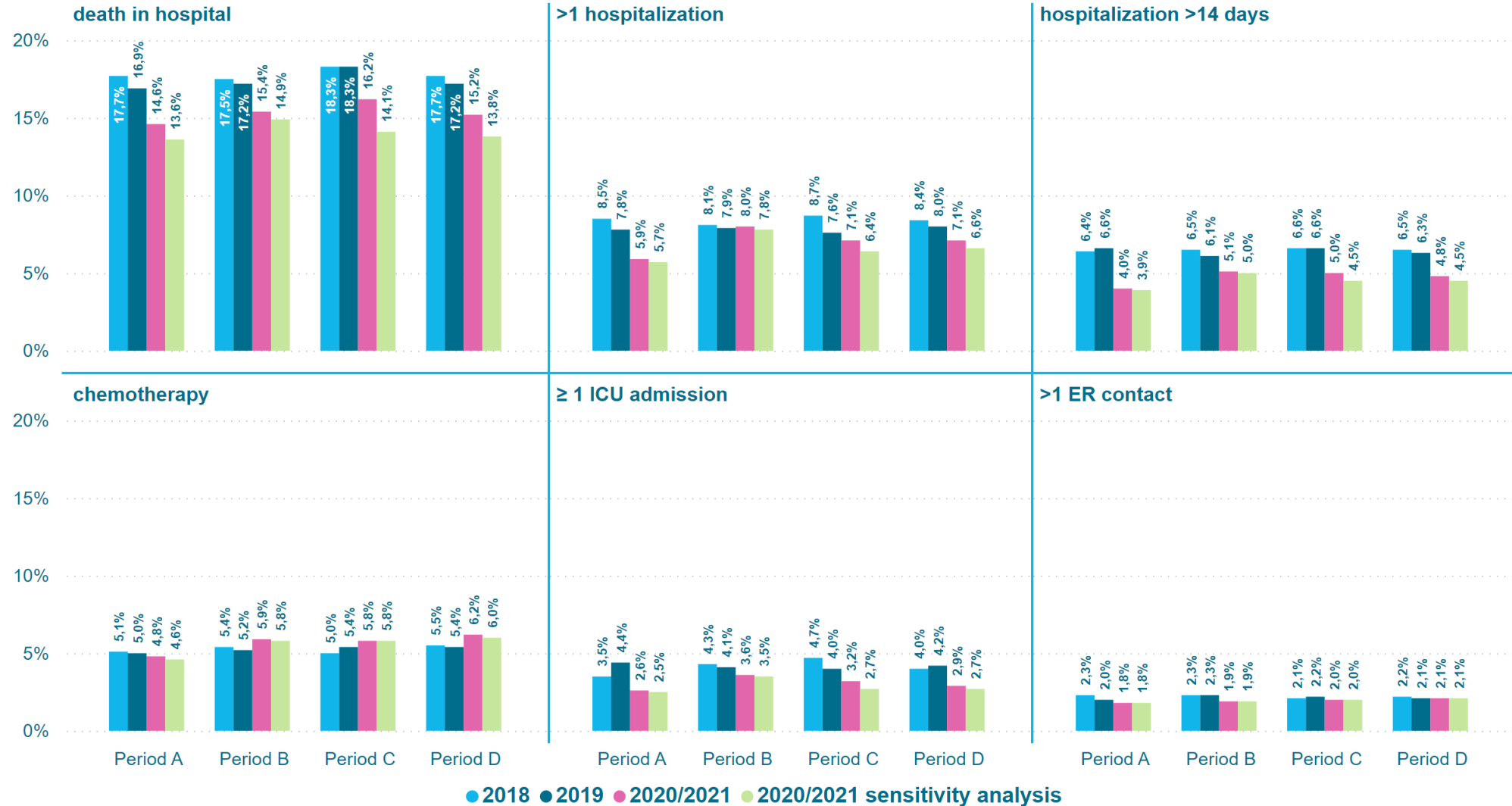


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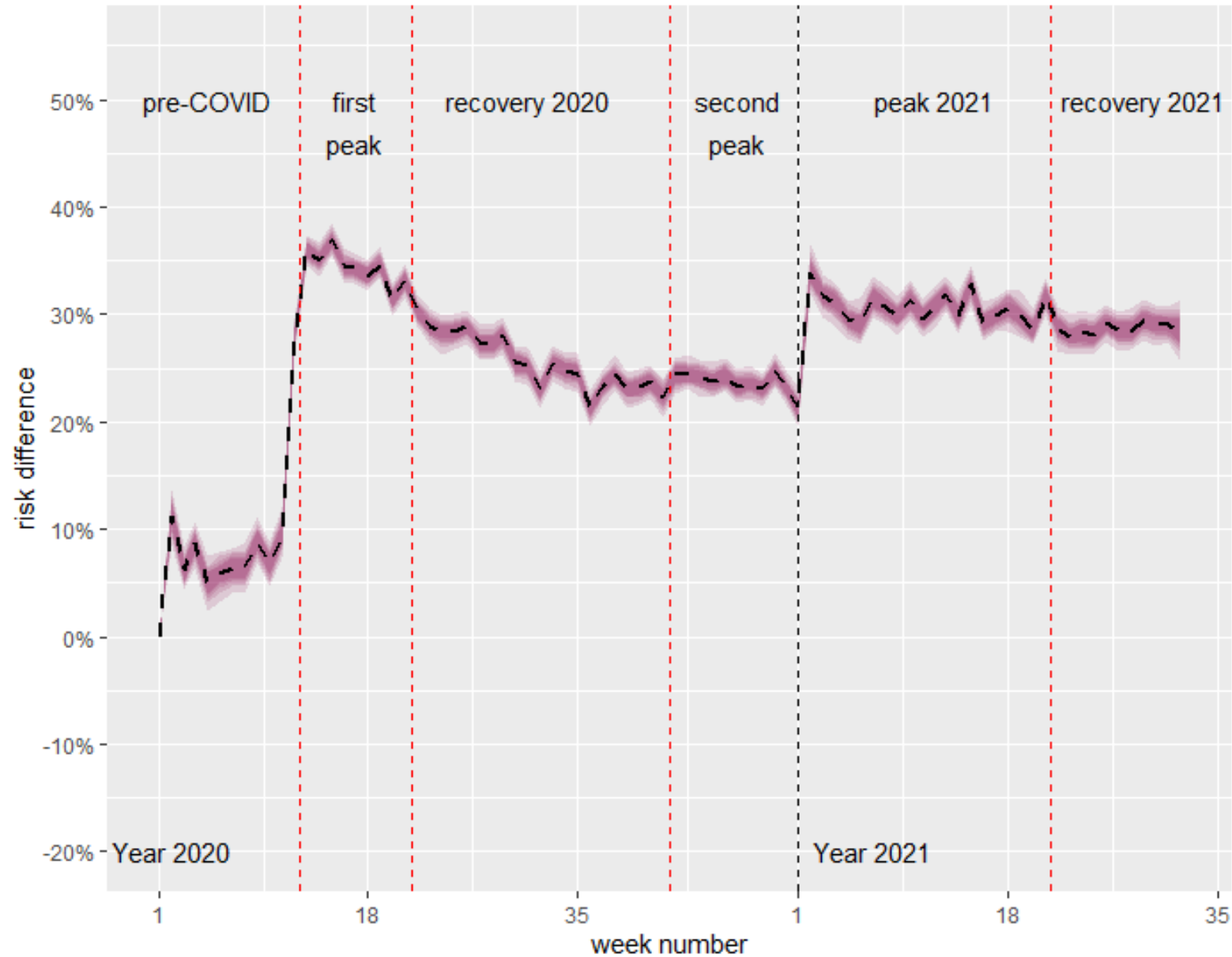
Potentially inappropriate end of life care during COVID



E. Slotman



Tele-consultations (DHD data)



J. Meijer

Concluding remarks

- Due to reluctance of patients with complaints to go to the general practitioner, suboptimal diagnostic pathways and temporary halt of the screening programs cancer diagnosis declined
- Supported by the campaign to urge patients with complaints to visit their GP and the gradual restart of the screening, cancer diagnosis is mostly caught up
- Temporary treatment protocols were quickly implemented, and video consultations were more frequently used in clinical practice
- Healthcare providers, patient organisations and policymakers managed to respond to the pandemic very quickly, so the impact on oncological care has been relatively limited
- The possible effect of the delay in diagnosis on stage and prognosis depends on the cancer type and will be monitored closely

[Nieuws](#)[Huidkanker](#)[Borstkanker](#)[Longkanker](#)[Urogenitale kanker](#)[Gynaecologische
kanker](#)[Kanker van de
spijsverteringsorganen](#)

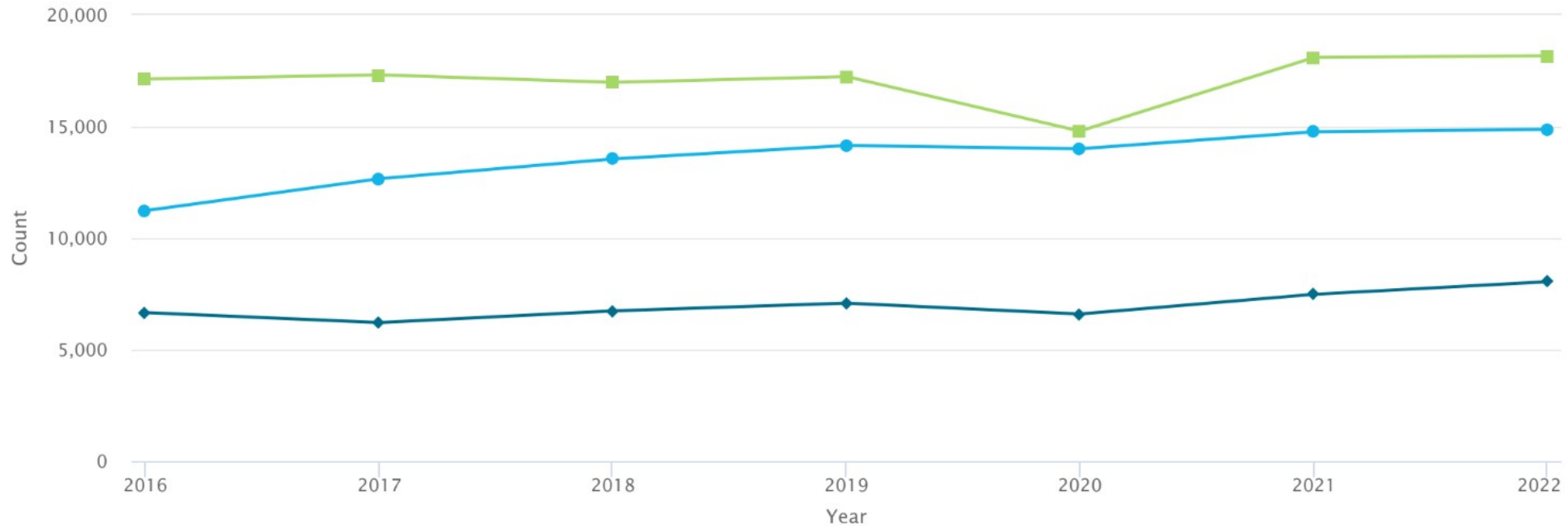
Monitor oncologische zorg

The oncology care monitor shows all transactions (the components of diagnostics and treatment) per month based on medical data from hospitals from Dutch Hospital Data. For medical specialists and hospital staff, these data are accessible for each type of cancer for their own hospital and the average profile of their own network and nationwide. In addition, specific analyses can be shown such as, for example, all care in the last phase of life.

Incidence: no catching up...

Incidence by year, Count

Sex: Male and female | Age group: All ages | Region: The Netherlands



Cancer type

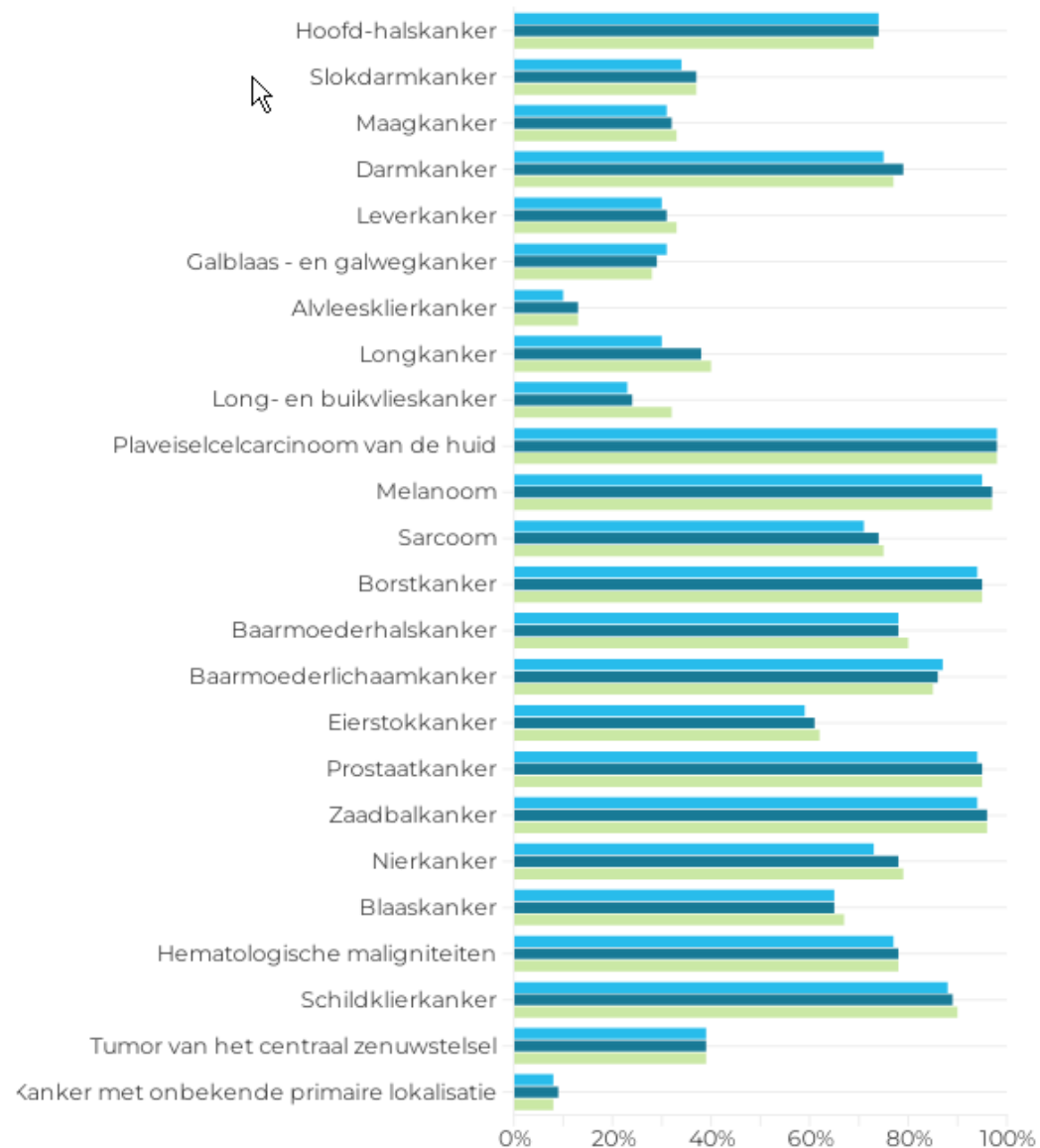
● Squamous cell carcinoma of the skin ◆ Skin melanoma ■ Breast

2022, 2021: Provisional figure.

2 years survival

2-jaarsoverleving 5-jaarsoverleving

2010-2014 2015-2019 COVID-jaren 2020-2021



Invitation conference and PhD defence Anouk Eijkelboom (COVID and breast cancer)

Invitation

Cancer care in times of restrictions:
Is everything possible what is needed and is everything needed what is possible?
(Kankerzorg in tijden van restricties: Kan alles wat moet en moet alles wat kan)

Symposium

Practical information

Friday 8 December 2023 | 11.30 – 16.00 hour | University of Twente | Enschede



www.iknl.nl



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twitter.com/iknl



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