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- 6 Forbes LJJ, Simon AE, Warburton F, et al. Differences in cancer awareness and beliefs between Australia, Canada, Denmark, Norway, Sweden and the UK (the International Cancer Benchmarking Partnership): do they contribute to differences in cancer survival? *Brit J Cancer* 2013; **108**: 292–300.
- 7 Llanwarne N, Newbould J, Burt J, Campbell JL, Roland M. Wasting the doctor's time? A video-elicitation study with patients in primary care. *Soc Sci Med* 2017; **176**: 113–22.
- 8 Public Health England. COVID-19: Guidance for health professionals. April 23, 2020. <https://www.gov.uk/government/collections/wuhan-novel-coronavirus> (accessed April 25, 2020).
- 9 Public Health England. Clinical guide for the management of noncoronavirus patients requiring acute treatment: cancer. March 23, 2020. <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-acute-treatment-cancer-23-march-2020.pdf> (accessed March 30, 2020).
- 10 Extance A. Covid-19 and long term conditions: what if you have cancer, diabetes, or chronic kidney disease? *BMJ* 2020; **368**: m1174.



Fewer cancer diagnoses during the COVID-19 epidemic in the Netherlands

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For more on the challenges of cancer care during the COVID-19 pandemic see [Editorial Lancet Oncol](#) 2020; **21**: 603

For more on the impact of COVID-19 on cancer diagnosis see [Comment](#) page 748
See Online for appendix

The dreadful consequences of coronavirus disease 2019 (COVID-19) put an unprecedented pressure on health-care services across the globe.¹ The Netherlands, a country with 17·4 million inhabitants that provides its citizens with universal access to essential health-care services—with the general practitioner as the gatekeeper to secondary care—is no exception in this regard.

The first patient with COVID-19 in the Netherlands was confirmed on Feb 27, 2020, in the southern part of the country.² Thereafter, the disease spread rapidly throughout the country. Subsequently, strict social distancing policies were implemented by the Dutch government as of March 15, 2020, to mitigate the spread of COVID-19.^{3,4}

The mayhem caused by COVID-19 has brought about substantial changes in cancer diagnosis in the Netherlands. Data from the nationwide Netherlands Cancer Registry in the period between Feb 24, 2020, and April 12, 2020—which are based on initial case ascertainment through pathological cancer notifications from the Nationwide Network of Histopathology and Cytopathology—show that there is a notable decrease in cancer diagnoses when compared with the period before the COVID-19 outbreak. This effect was most pronounced for skin cancers (figure) and observed across all age groups and geographical regions, and almost all cancer sites (appendix). Several arguments might explain this decrease. First, individuals with potential, non-specific symptoms of cancer might have barriers to consulting a general practitioner, including moral concerns about wasting the general practitioner's time for non-COVID-19-related symptoms, assumptions about insufficient capacity for essential non-COVID-19-related health-care services, and anxiety about acquiring COVID-19 in a health-care setting. Second, most of the general practitioner consultations for non-acute issues are transitioned to telehealth. A general practitioner might, therefore, postpone initial investigations for symptoms that do not immediately hint towards a potential cancer diagnosis, resulting in delayed or postponed hospital referrals. Third, hospitals might have postponed diagnostic evaluation or have longer turnaround times for diagnostic evaluation because many hospital-based resources are being allocated to tackle COVID-19. Lastly, national screening programmes for breast, colorectal, and cervical cancer are temporarily halted as of March 16, 2020, to alleviate the demand on the health-care system due to COVID-19.

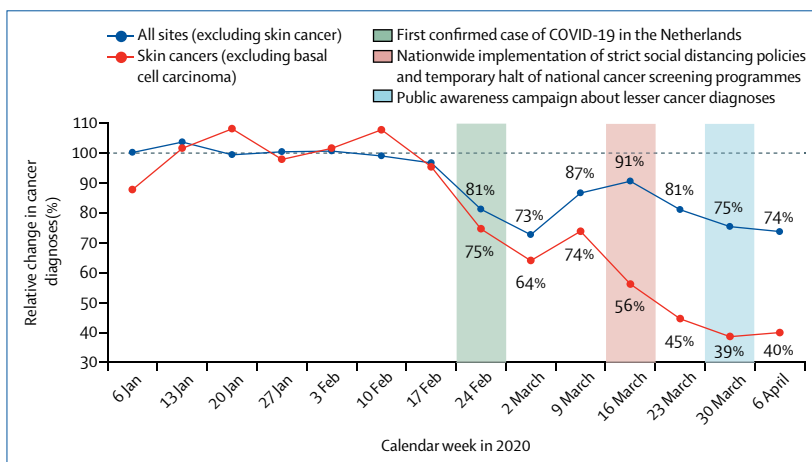


Figure: Number of cancer diagnoses by week in the Netherlands in the period between Jan 6, 2020 (calendar week 2) and April 12, 2020 (calendar week 15). Basal cell carcinoma of the skin is not included in the statistics. The point estimates for the change in cancer diagnoses per calendar week are based on the mean total number of cancer diagnoses in the calendar weeks from 2 to 8; that is, the period before the COVID-19 outbreak in the Netherlands. Approximately 3400 malignancies were notified per week to the Netherlands Cancer Registry in the calendar weeks from 2 to 8. Of note, these figures do not yet include cases diagnosed in one of the 74 hospitals in the Netherlands. COVID-19=coronavirus disease 2019.

The effect of this pause in cancer diagnosis might be more pronounced after extended periods of follow-up. However, this effect might be less notable for cervical cancer because screening aims to identify precancerous lesions. Collectively, fewer cancer diagnoses in the COVID-19 era will result from patient, doctor, and system factors.⁵

The upsetting findings of fewer cancer diagnoses were initially disseminated among the Dutch community on April 2, 2020, and again on April 15, 2020, by the Netherlands Comprehensive Cancer Organisation—which hosts the Netherlands Cancer Registry—to create awareness of this issue. The aims of this dissemination were multifold. First, individuals were encouraged to consult their general practitioner whenever symptoms continued to be troublesome. Second, general practitioners were encouraged to refer patients with suspected cancer to oncology specialists. Third, an appeal was made to restart national cancer screening programmes. Lastly, misconceptions were eliminated about a heightened risk of contracting COVID-19 in a health-care setting because of inadequate policies for infection control at the institutional level and resource constraints in the delivery of essential oncological care.

Priorities for cancer care amid the COVID-19 pandemic will be meticulously triaged on the basis of a multitude of factors that are outside the scope of this Comment. General frameworks to inform cancer treatment decisions during the COVID-19 pandemic are discussed elsewhere.^{6–9} It does merit brief acknowledgment that the effect of a reasonable delay in the management of particular low-risk malignancies (eg, many skin cancers) will only marginally affect the quantity and quality of life. Conversely, the treatment for potentially curable cancers with an imminent risk of early death (eg, acute leukaemias) cannot be safely postponed.

The data discussed here support the National Oncology Taskforce and the National Coordination Centre for Patient Distribution to safeguard optimal patient access to essential oncological care throughout all hospitals in the Netherlands. The Netherlands Cancer Registry will, in due course, complete the registration of current and new cases via retrospective medical records review. These more detailed data—including various patient (eg, COVID-19 positivity), tumour,

and treatment characteristics, and follow-up—will ultimately establish the effect of the COVID-19 outbreak on oncological care in the Netherlands. This information can also guide the public, policymakers, and physicians in the future whenever an outbreak of a similar magnitude occurs.

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Avinash G Dinmohamed, Otto Visser, Rob H A Verhoeven, Marieke W J Louwman, Francien H van Nederveen, Stefan M Willems, Matthias A W Merckx, Valery E P P Lemmens, Iris D Nagtegaal, *Sabine Siesling s.siesling@iknl.nl

Department of Research and Development (AGD, RHAV, MWJL, VEPPL, SS) and Department of Registration (OV) and Board of Directors (MAWM), Netherlands Comprehensive Cancer Organisation, Utrecht 3511 DT, Netherlands; Erasmus Medical Centre, University Medical Centre Rotterdam, Department of Public Health, Rotterdam, Netherlands (AGD, VEPPL); Amsterdam University Medical Centre, Department of Hematology, Cancer Centre Amsterdam, Amsterdam, Netherlands (AGD); Department of Surgery (RHAV) and Department of Oral and Maxillofacial Surgery (MAWM) and Department of Pathology (IDN), Radboud University Medical Centre, Nijmegen, Netherlands (RHAV); Laboratory for Pathology, Dordrecht, Netherlands (FHvN); PALGA Foundation, Houten, Netherlands (FHvN, SMW, IDN); Department of Pathology and Medical Biology, University Medical Centre Groningen, Groningen, Netherlands (SMW); and Department of Health Technology and Services Research, Technical Medical Centre, University of Twente, Enschede, Netherlands (SS)

- Rosenbaum L. The untold toll - the pandemic's effects on patients without Covid-19. *N Engl J Med* 2020; published online April 17. DOI:10.1056/NEJMms2009984.
- Government of the Netherlands. Man diagnosed with coronavirus (COVID-19) in the Netherlands. Feb 27, 2020. <https://www.government.nl/latest/news/2020/02/27/man-diagnosed-with-coronavirus-covid-19-in-the-netherlands> (accessed April 23, 2020).
- Government of the Netherlands. New measures to stop spread of coronavirus in the Netherlands. March 12, 2020. <https://www.government.nl/latest/news/2020/03/12/new-measures-to-stop-spread-of-coronavirus-in-the-netherlands> (accessed April 23, 2020).
- Government of the Netherlands. COVID-19: additional measures in schools, the hospitality sector and sport. March 15, 2020. <https://www.government.nl/latest/news/2020/03/15/additional-measures-in-schools-the-hospitality-sector-and-sport> (accessed April 23, 2020).
- Dobson CM, Russell AJ, Rubin GP. Patient delay in cancer diagnosis: what do we really mean and can we be more specific? *BMC Health Serv Res* 2014; **14**: 387.
- Hanna TP, Evans GA, Booth CM. Cancer, COVID-19 and the precautionary principle: prioritizing treatment during a global pandemic. *Nat Rev Clin Oncol* 2020; **17**: 268–70.
- Schrag D, Hershman DL, Basch E. Oncology practice during the COVID-19 pandemic. *JAMA* 2020; published online April 13. DOI:10.1001/jama.2020.6236.
- Marron JM, Joffe S, Jaggi R, Spence RA, Hlubocky FJ. Ethics and resource scarcity: ASCO recommendations for the oncology community during the COVID-19 pandemic. *J Clin Oncol* 2020; published online April 9. DOI:10.1200/JCO.20.00960.
- van de Haar J, Hoës LR, Coles CE, et al. Caring for patients with cancer in the COVID-19 era. *Nat Med* 2020; published online April 16. DOI:10.1038/s41591-020-0874-8.