

PLANETARY HEALTH



Masterclass NieuweZorg

Hans C Ossebaard | 17 februari 2022 | Collegeblok 6



VRIJE
UNIVERSITEIT
AMSTERDAM

Faculteit der
Bètawetenschappen

CONFLICT OF INTEREST?

‘Is er sprake van een belangenverstrengeling met de farmaceutische/biotechnologische/medische hulpmiddelen branche?

Neen.

Hans C. Ossebaard



Amsterdam UMC

Universitair Medische Centra

vakgroep Medische Informatica

- Geneeskunde
- Data-analyse
- Zorgstelsel

- > Organisational settings of health care
- > Verduurzaming als innovatie (Klinische informatiekunde)

Zorginstituut Nederland

- Advisering verzekerd pakket
- Eenduidige uitleg van de verzekerde zorg
- Passende zorg
- Beheer fondsen Zvw/Wlz / risico verevening

Van goede zorg verzekerd, niet meer dan nodig en niet minder dan noodzakelijk



INNOVATIE

Science for Sustainability

Duurzame Gezondheid en Zorg > nieuwe afstudeerrichting

Faculteit Science/Bètawetenschappen



Athena Institute

Connecting science and society
for a better tomorrow

KLIMAAT EN MILIEU

- *Limits to growth* / Club of Rome (1972)
- *Our Common Future* / Brundtland-report (1987)
- IPCC-rapporten (>1988)
- Kyoto-protocol (1997)
- An Inconvenient Truth (2006)
- Paris Agreement (2015/16)



KLIMAATCRISIS

The 2018 report of the *Lancet* Countdown on health and climate change: shaping the health of nations for centuries to come



Nick Watts, Markus Ammann, Sonja Ay Diarmid Campbell-Lendrum, Jonathan Anneliese Depoux, Paula Dominguez-Delia Grace, Hilary Graham, Rebecca G Dominik Kniveton, Lu Liang, Melissa L Ali Mohammad Latifi, Maziar Moradi David Pencheon, Steve Pye, Mahnaz R Rebecca Steinbach, Meisam Tabataba

Executive summary
The *Lancet* Countdown track climate change and provides implementation of the Paris Agreement of the health effects of these actions. The 2015 *Lancet* Commission Change,² which concluded that change threatens to undermine in public health, and convers response to climate change co health opportunity of the 21st

The *Lancet* Countdown on health and climate change: from 25 years of inaction to a global transformation for public health



The 2020 report of The *Lancet* Countdown on health and climate change: responding to converging crises



Nick Watts, Markus Ammann, Nigel Arnell, Sonja Ayeb-Karlsson, Kristine Belesova, Wenjie Cai, Diarmid Campbell-Lendrum, Stuart Capstick, Jonathan Chambers, Lingzhi Chu, Louise Ciampi, Camille Dalin, Nisheer Dasandi, Shikha Deshpande, Michael Davies, Paula Dominguez-Salas, Robert Dubravac, Kristian Ellis, Matthew Eckelman, Paul Ekins, Luis E Escobar, Lucien Georgeson, Delia Grace, Hilary Graham, Samuel H Gunther, Stefano Haringer, Kehan He, Clare Henneville, Jeremy Hess, Shih-Chieh Hsu, Slava Jankin, Marcia P Jimenez, Ilan Kellman, Gregor Kienast, Patrick Kinney, Tord Kjellstrom, Dominic Kniveton, Jason K W Lee, Bruno Lemke, Yang Liu, Zhao Liu, Melissa Lett, Rachel Lowe, Jaime Martinez-Litarrag, Mark Maslin, Lucy McAllister, Celia McMichael, Zhefu Mei, James Milner, Katon Minor, Nahid Mohejeri, Maria Morad-Lakeh, Karyn Morrissey, Simon Murray, Kris A Murray, Tara Neville, Maria Nilsson, Nick Oldendick, Maquins Odhiambo Sene, Tiaji Onyiah, Matthias Otto, Feridoun Oufi, Olivia Pearman, David Pencheon, Mahnaz Rabbaniha, Elizabeth Robinson, Joacim Rocklöv, Renee N Salas, Jan C Semenza, Jodi Sherman, Lihua Shi, Marco Springmann, Meisam Tabatabaee, Jonathan Taylor, Joaquin Trinanes, Joy Shumake-Guillemot, Bryan Van, Fabian Wagner, Paul Wilkinson, Matthew Winning, Marius Yglesias, Shihui Zhang, Peng Gong.

Executive summary

The *Lancet* Countdown is an international established to provide an independent, glob-

The 2021 report of the *Lancet* Countdown on health and climate change: code red for a healthy future



Maria Romanello, Alice McGushin, Claudia Di Napoli, Paul Drummond, Nick Hughes, Louis Jamart, Harry Kennard, Peter Lampard, Baltasar Salazar-Rodriguez, Nigel Arnell, Sonja Ayeb-Karlsson, Kristine Belesova, Wenjie Cai, Diarmid Campbell-Lendrum, Stuart Capstick, Jonathan Chambers, Lingzhi Chu, Louise Ciampi, Camille Dalin, Nisheer Dasandi, Shikha Deshpande, Michael Davies, Paula Dominguez-Salas, Robert Dubravac, Kristian Ellis, Matthew Eckelman, Paul Ekins, Luis E Escobar, Lucien Georgeson, Delia Grace, Hilary Graham, Samuel H Gunther, Stefano Haringer, Kehan He, Clare Henneville, Jeremy Hess, Shih-Chieh Hsu, Slava Jankin, Marcia P Jimenez, Ilan Kellman, Gregor Kienast, Patrick Kinney, Tord Kjellstrom, Dominic Kniveton, Jason K W Lee, Bruno Lemke, Yang Liu, Zhao Liu, Melissa Lett, Rachel Lowe, Jaime Martinez-Litarrag, Mark Maslin, Lucy McAllister, Celia McMichael, Zhefu Mei, James Milner, Katon Minor, Nahid Mohejeri, Maria Morad-Lakeh, Karyn Morrissey, Simon Murray, Kris A Murray, Tara Neville, Maria Nilsson, Nick Oldendick, Maquins Odhiambo Sene, Tiaji Onyiah, Matthias Otto, Feridoun Oufi, Olivia Pearman, David Pencheon, Mahnaz Rabbaniha, Elizabeth Robinson, Joacim Rocklöv, Renee N Salas, Jan C Semenza, Jodi Sherman, Lihua Shi, Marco Springmann, Meisam Tabatabaee, Jonathan Taylor, Joaquin Trinanes, Joy Shumake-Guillemot, Bryan Van, Fabian Wagner, Paul Wilkinson, Matthew Winning, Marius Yglesias, Shihui Zhang, Peng Gong.

01-12 NOV 2021
GLASGOW

COP26

IN PARTNERSHIP WITH ITALY



SDG target 1.5: by 2030, build resilience to climate-related hazards and reduce vulnerability to climate-related external shocks and environmental shocks



SDG target 3.3: by 2030, reduce road deaths and injuries from road traffic accidents and reduce deaths and global burden of disease from hazardous pollution and contamination.



SDG target 13.1: strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

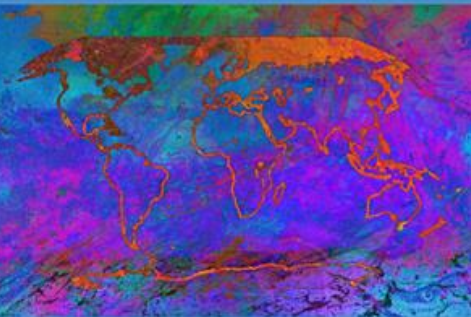
Young people of
THIS IS OUR



ipcc
INTERGOVERNMENTAL PANEL ON climate change

Climate Change 2021

The Physical Science Basis



WGI

Working Group I contribution to the
Sixth Assessment Report of the
Intergovernmental Panel on Climate Change



CLIMATE ACTION SUMMIT 2019



A RACE WE CAN WIN

AFRICAN YOUTH CLIMATE ACTION SUMMIT 2020

ABUJA, NIGERIA
JUNE 2020



COP24: KATOWICE



EUROPEAN HEALTHCARE



2020 OR BUST



ZEITGEIST MANTRA

- ❖ Zorguitgaven
- ❖ Demografie
 - Vergrijzing en levensverwachting
 - Zorgvraag
 - Capaciteit
- ❖ Infectieziekten
 - Nosocomiale infecties
 - Antimicrobiële resistentie
 - Zoönosen
- ❖ Klimaat en milieu

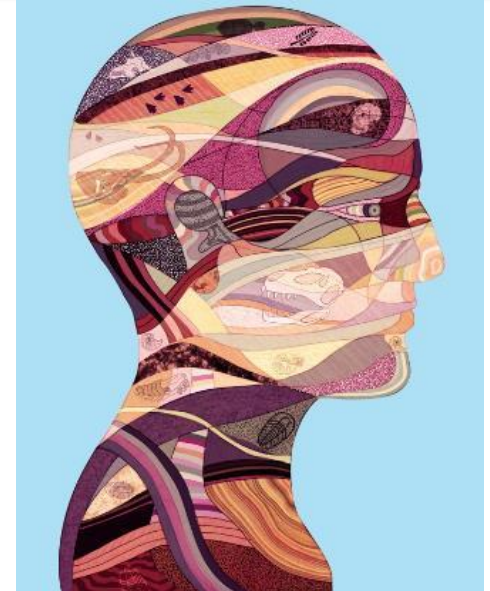


HET ANTROPOCEEN

‘Het tijdperk van de mens’

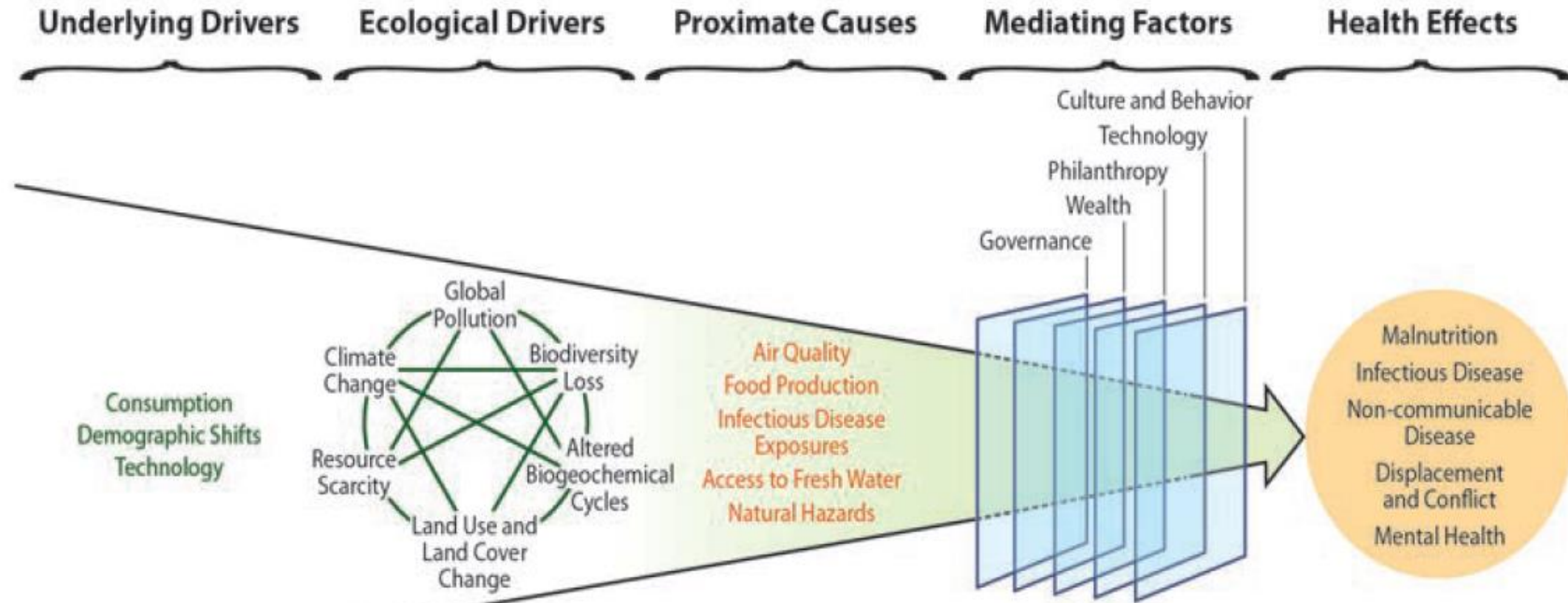
- Demografie
- Consumptie
- Technologie

De planeet verandert



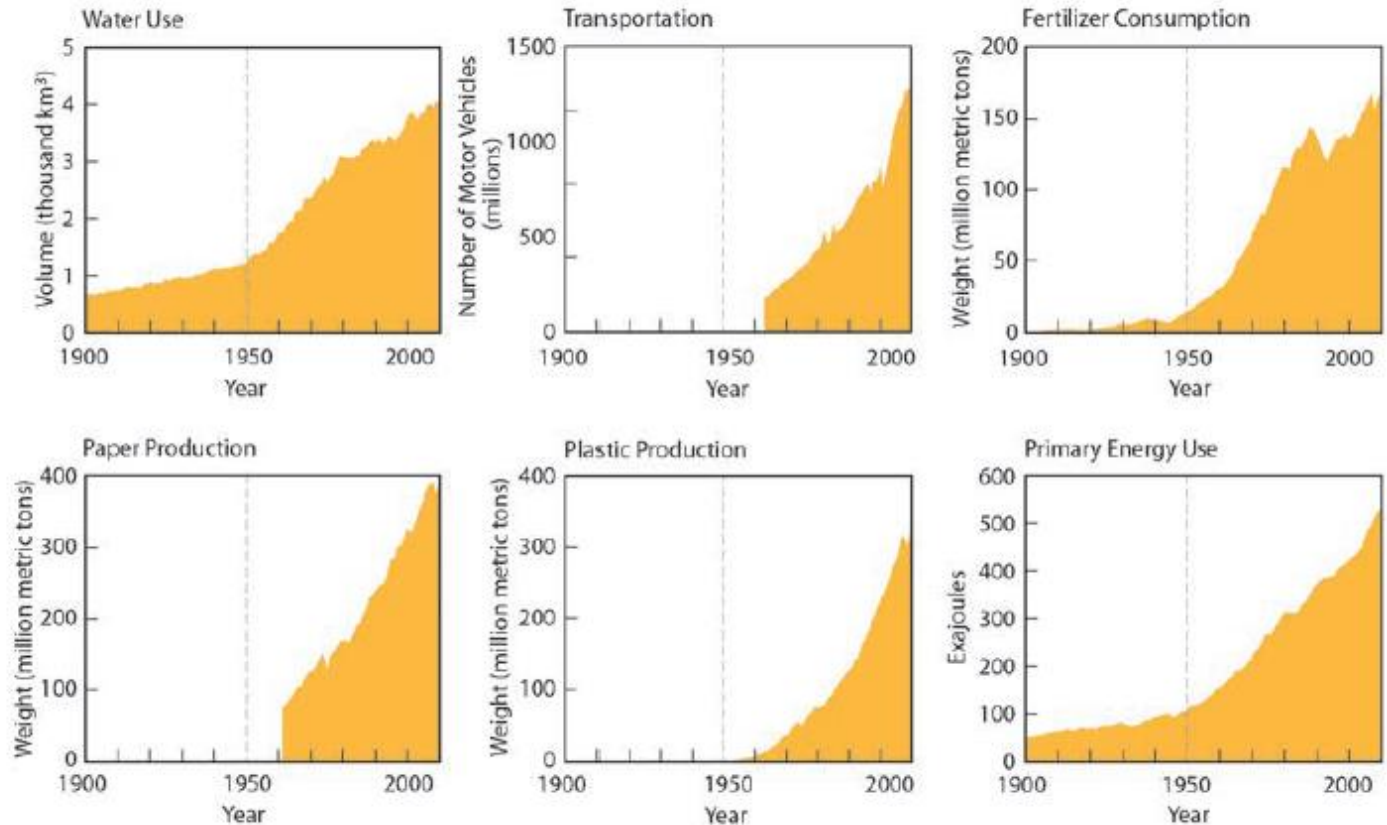
<https://theanthropocene.org/>

MENSELIJKE ACTIVITEIT

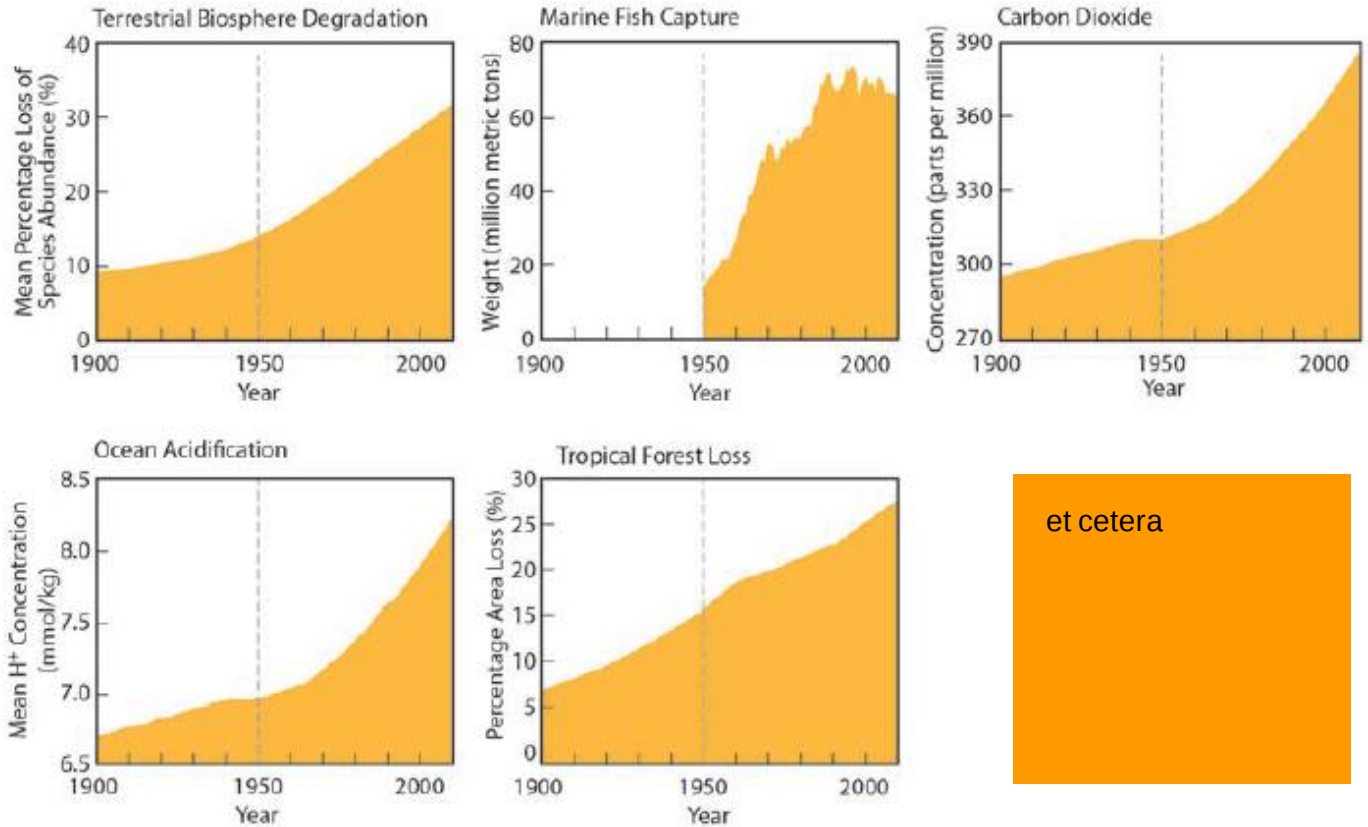


Source: Myers SS. Planetary health: protecting human health on a rapidly changing planet. *Lancet*. 2017;390(10114):2860-2868.

> 1950: DE GROTE VERSNELLING

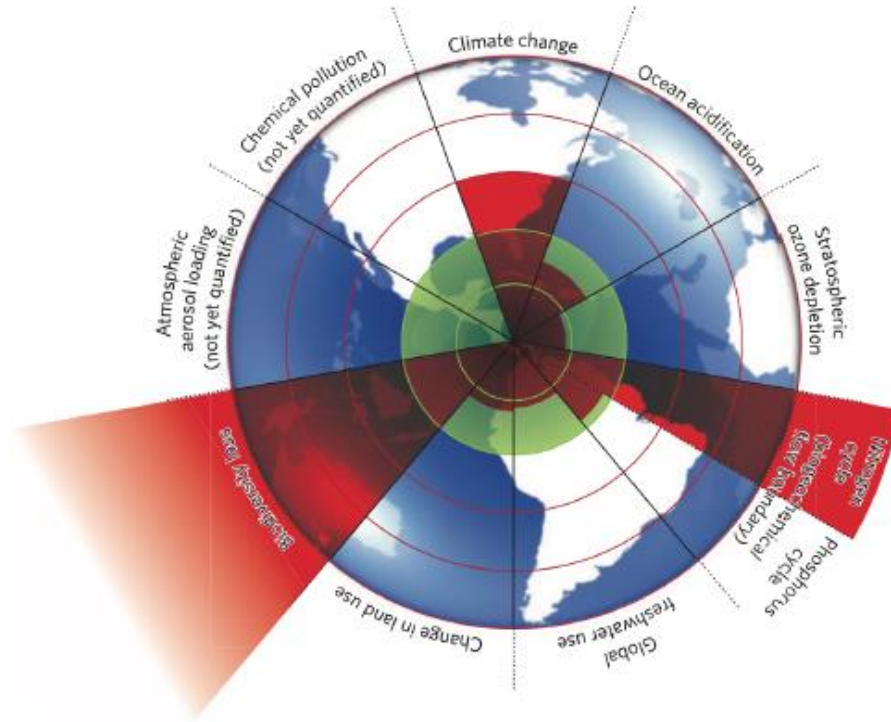


IMPACT OF ECOSYSTEMS



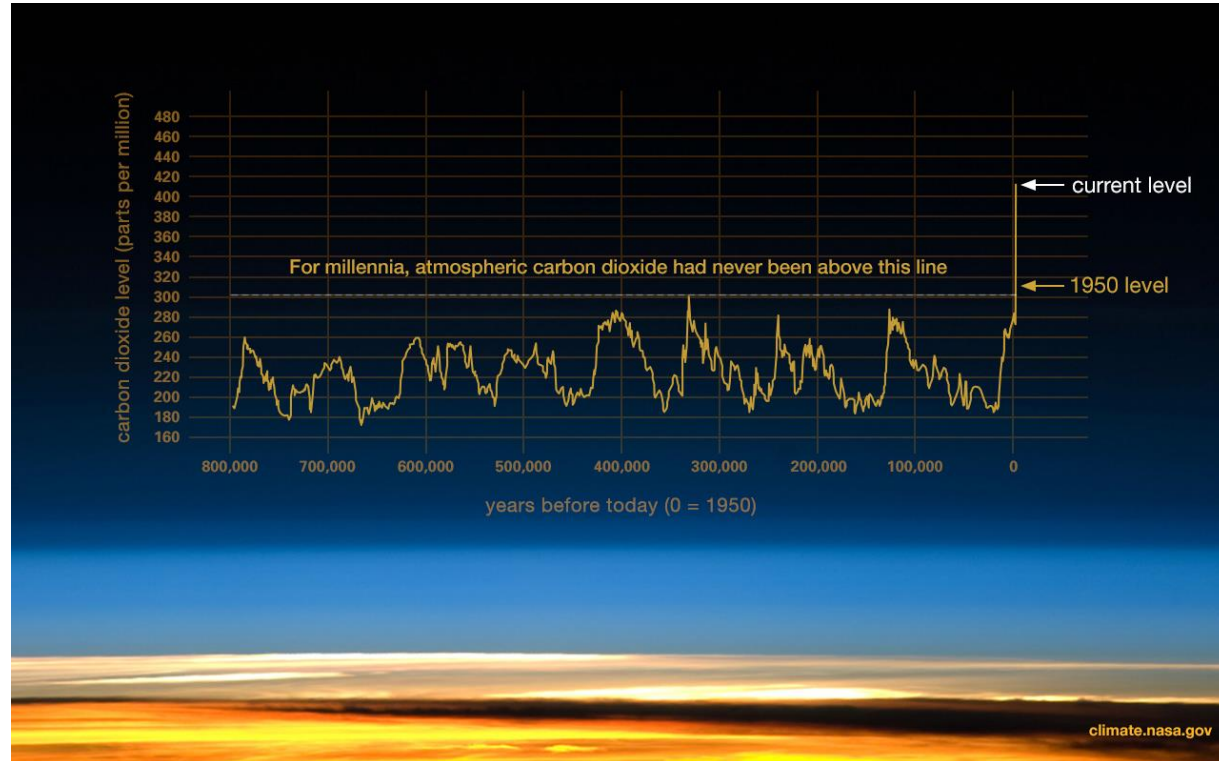
et cetera

KRITISCHE GRENZEN

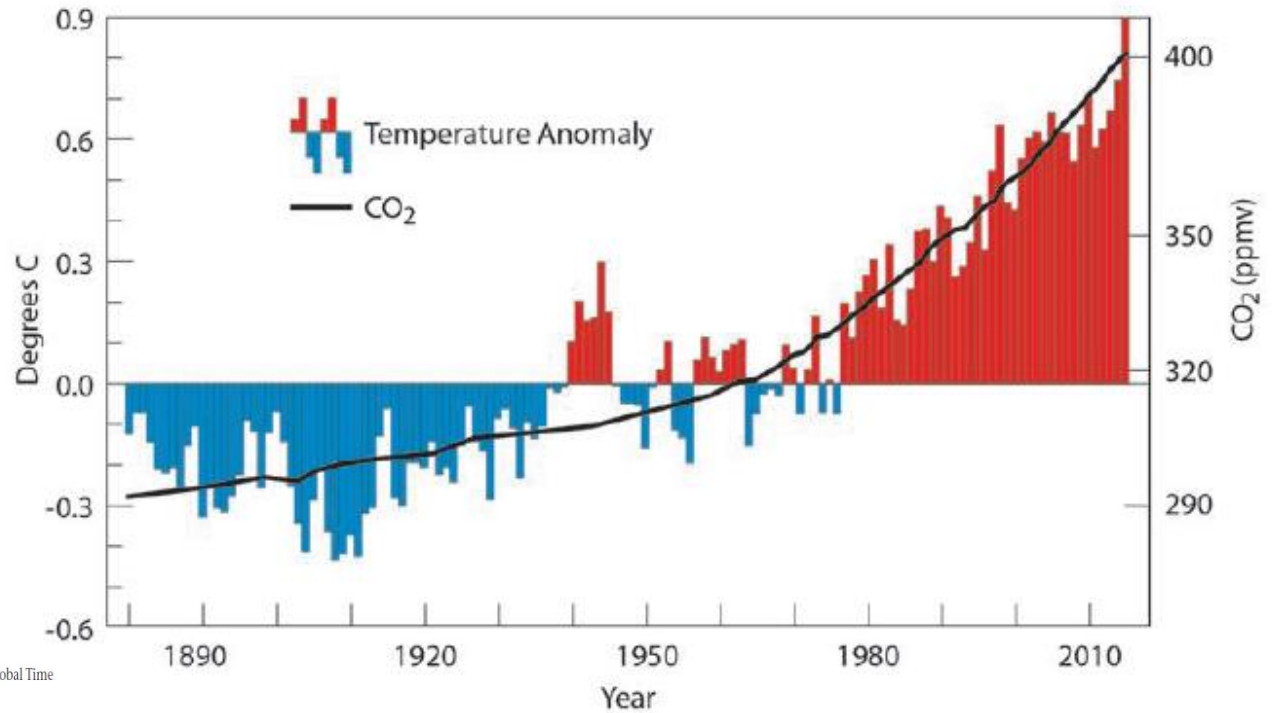


Onze 9 kritische planetaire grenzen (binnenste groene vlak) en de huidige verregaande overschrijdingen van deze veilige grenzen (rode vlakken; buitensporige overconsumptie). Deze 'crisis van overconsumptie', ook wel de klimaatcrisis, is de grootste bedreiging voor onze directe gezondheid én onze veiligheid in de nabije toekomst. [Stockholm Resilience Center](#)
(Voor toegankelijke informatie over dit model verwijzen we naar de documentaire [Breaking Boundaries: The Science of Our Planet](#)).

CO₂ IN DE ATMOSFEER

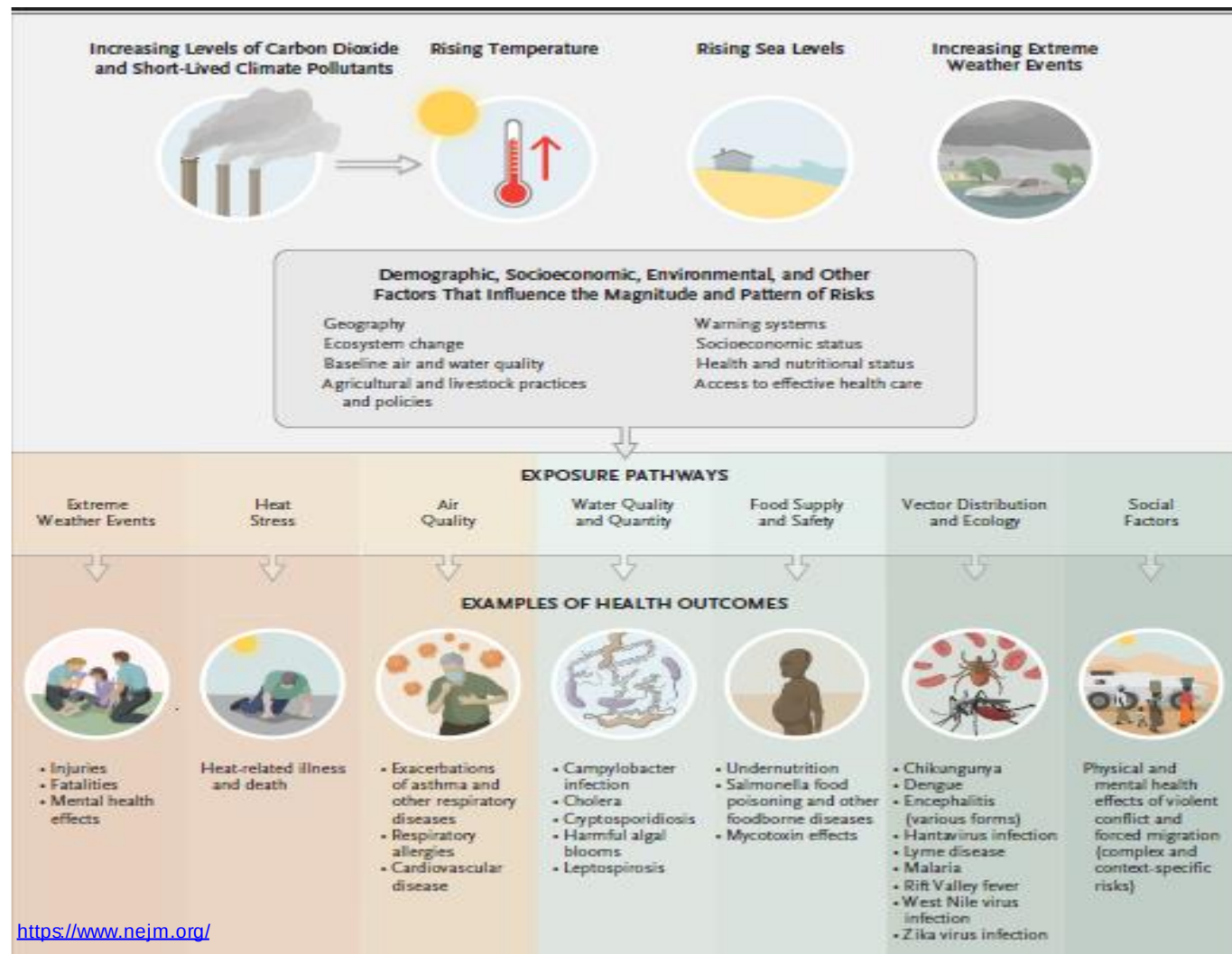


OPWARMING

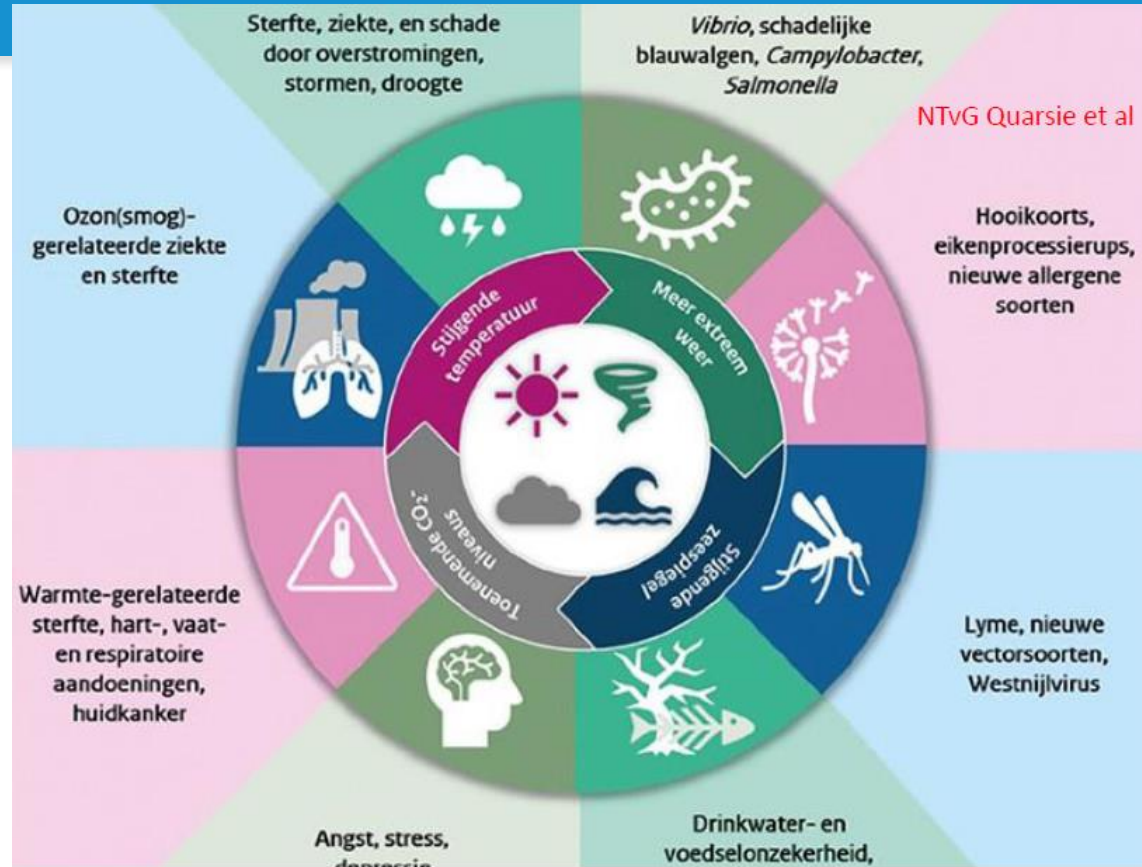


GEZONDHEIDSRISICO'S

geassocieerd
met
klimaatverandering

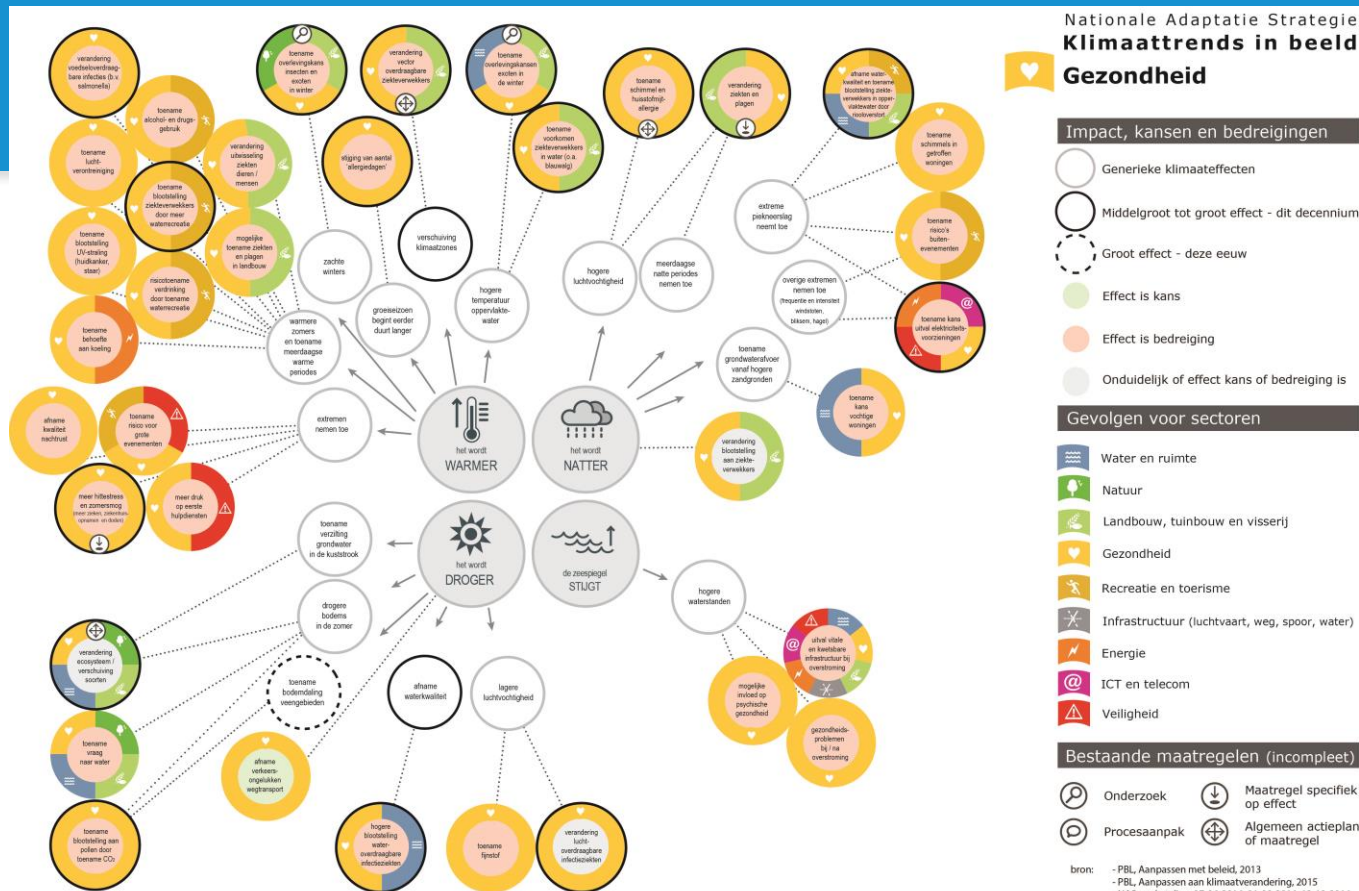


KLIMAATCRISIS EN GEZONDHEID



IN ONS LAND

- Warmer
- Natter
- Droger
- Zeespiegel



EVIDENCE NEEMT TOE

Ook voor

- Verlies aan biodiversiteit
- Vervuiling
- Schaarste resources
- Landgebruik
- Biogeochemische kringlopen
- Zorgkosten \$820 miljard (US)

Healthy environment, healthy lives:
how the environment influences health
and well-being in Europe

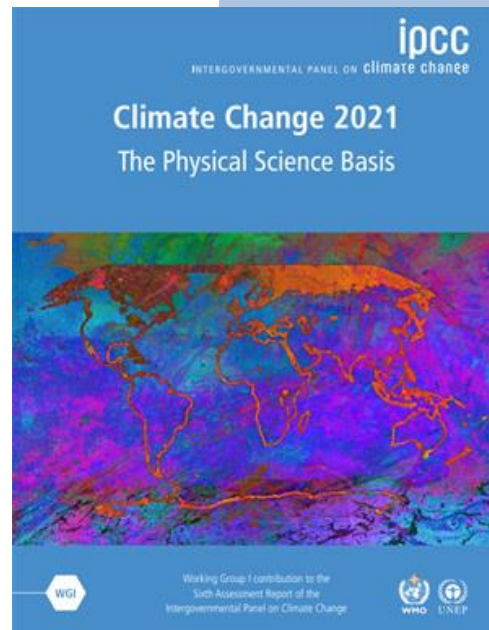
ISBN 1977-8449

European Academies

ea sac

Science Advisory Council

The imperative of climate action to protect
human health in Europe



25 1994-2019
European Environment Agency

SCIENCE AND TECHNOLOGY

The Imperative for Climate Action to Protect Health

Andy Haines, M.D., and Kristie Ebi, M.P.H., Ph.D.

CLIMATE CHANGE IS ALREADY ADVERSELY AFFECTING HUMAN HEALTH and health systems,^{1,2} and projected climate change is expected to alter the geographic range and burden of a variety of climate-sensitive health outcomes and to affect the functioning of public health and health care systems. If no additional actions are taken, then over the coming decades, substantial increases in morbidity and mortality are expected in association with a range of health outcomes, including heat-related illnesses, illnesses caused by poor air quality, undernutrition from reduced food quality and security, and selected vectorborne diseases in some locations; at the same time, worker productivity is expected to decrease, particularly at low latitudes.^{3,4} Vulnerable populations and regions will be differentially affected, with expected increases in poverty and inequities as a consequence of climate change. Investments in and policies to promote proactive and effective adaptation and reductions in greenhouse-gas emissions (mitigation) would decrease the magnitude and pattern of health risks, particularly in the medium-to-long term.

From the Departments of Public Health, Environments, and Society and of Population Health, London School of Hygiene and Tropical Medicine, London (A.H.); and the Departments of Global Health and of Environmental and Occupational

Health, Boston, Sea to Dr. H. lic Heal of Popu Hygiene vistock, Kingdom

N Engl J DOI: 10 Copyright

Climate Change — A Health Emergency

Caren G. Solomon, M.D., M.P.H., and Regina C. LaRocque, M.D., M.P.H.

Related article, page 263

As the Camp wildfire spread rapidly in California in early November 2018, the University of California, Davis, Burn Center received a call that nearby Feather City Hospital was on fire and patients were being urgently transferred. That, recalls David Greenhalgh, professor and chief of the Burn Division, UC Davis Department of Surgery, was when the chaos began. Within the next 24

devastating effects that the global burning of fossil fuels is having on our planet (pages 263–273). Disruption of our climate system, once a theoretical concern, is now occurring in plain view — with a growing human toll brought by powerful storms, flooding, droughts, wildfires, and rising numbers of insectborne diseases. Psychological stress, political instability, forced migration, and

by 2030 and entirely by 2040 to avoid the most catastrophic effects of climate change.¹ Yet these emissions hit a record high in 2018. Rapid but equitable changes in energy, transportation, and other economic sectors are needed if we are even to begin to meet the requisite emissions-reduction targets. Tackling this challenge may feel overwhelming, but physicians are well placed and, we believe,

It is time for a new discipline.



THE ROCKEFELLER FOUNDATION

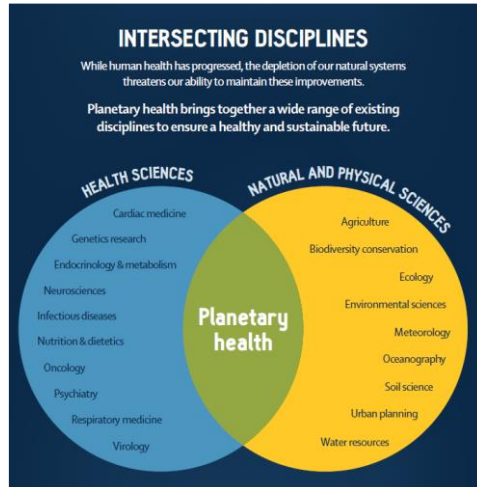
THE LANCET

#PlanetaryHealth

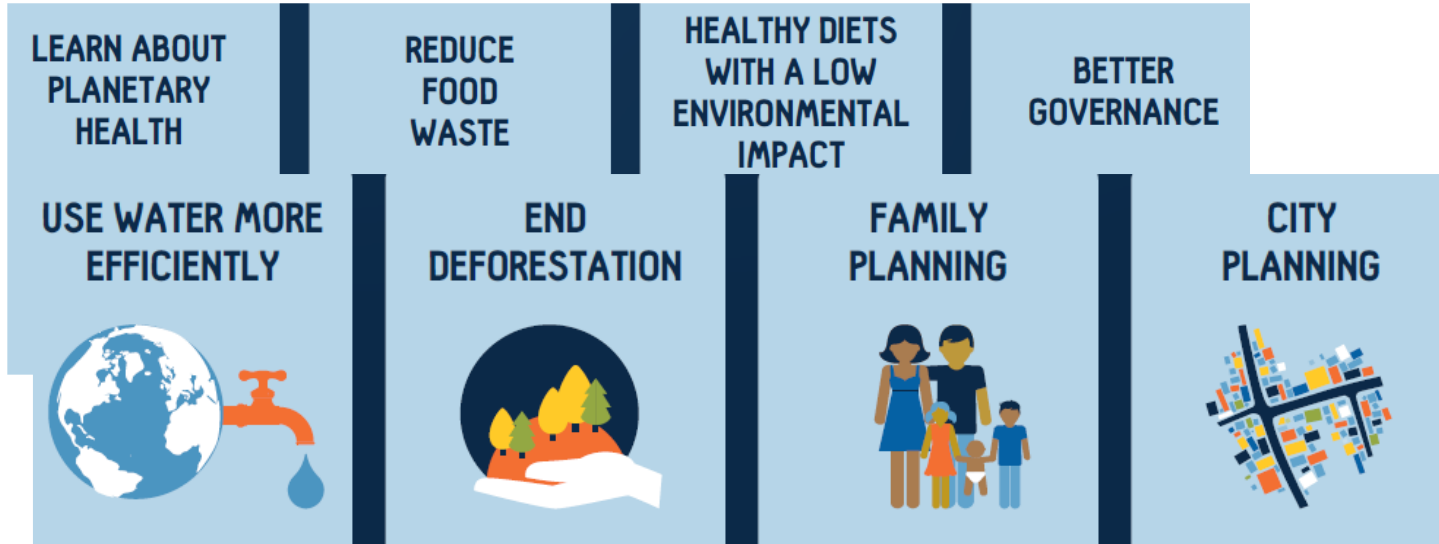
PLANETARY HEALTH

“Our health depends on the health of the planet”

...dus moeten we de aarde beschermen om ons zelf te beschermen



PLANETARY HEALTH



“a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth”

PLANETARY HEALTH

MAKE THE CONNECTION

Planetary health challenges current barriers between disciplines and explores the connections between them.

Research from *The Lancet's* family of journals makes these connections:

Which mineral deficiency in humans is related to CO₂ emissions?



Read a study in *The Lancet Global Health* on how atmospheric CO₂ **reduces zinc** in plants and the humans who eat them.¹

How might urban planning affect rates of dementia?



Research in *The Lancet* links dementia risk to living near major roads.²

Which weather conditions are linked to increases in cardiac admissions?



A study in *The Lancet Planetary Health* shows that, while drought is associated with reduced respiratory hospital admissions in a US population, **cardiac admissions are increased** in periods of worsening drought.³

How does our daily commute affect our health?



Research in *The Lancet Public Health* shows that even though cyclists and pedestrians are more at risk of inhaling pollutants, the positive effects of active commuting outweigh the negative.⁴

A decline in which animal population is linked to vitamin A deficiencies in humans?



Decline in **bee populations** could significantly increase deficiencies in vitamin A and folate. Research in *The Lancet* highlights the importance of protecting pollinators to protect human nutrition.⁵

PLANETARY HEALTH (LANCET , 2018)

1. Early warning signals of overwhelming effects of rising temperature on current and future health
2. Lack of progress in reducing emissions and building adaptive capacity threatens lives and systems across the world
3. Human response to climate change is most important factor to define future health of nations
4. Widespread understanding of climate change as a **central public health issue** is crucial

*“The biggest global health threat
of the 21st century”*

PLANETARY HEALTH: GEZONDHEID EN ECOLOGIE



... the field dealing with the interactions between global environmental change (e.g., climate change, biodiversity loss, global pollution, land erosion, ...) and human health in the broadest sense (i.e., including physical and mental health and aspects such as health equity, health care, and core determinants like nutrition and infection). “

KNAW comm. On Planetary Health 2021-2022



- Sociale rechtvaardigheid
- Solidariteit (intergenerationeel)
- Verantwoordelijkheid
- Gezondheidsverschillen
- Klimaatvluchtelingen / mensenrechten
- Internationaal conflict



VERENIGDE NATIES



United Nations
Climate Change

31 OCT - 12 NOV 2021
GLASGOW

COP26

IN PARTNERSHIP WITH ITALY



Countries commit to develop climate-smart health care at COP26 UN climate conference

9 November 2021 | News release | Glasgow, Scotland | Reading time: 5 min (1398 words)

A group of 50 countries have committed to develop climate-resilient and low-carbon health systems at the UN Climate Change Conference in Glasgow (COP26), in response to growing evidence of the impact of climate change on

Media Contacts

Arthur Wyns
Media Contact
World Health



Meer dan 100 partijen verlagen de CO₂-uitstoot van Nederland met **49%** ten opzichte van 1990 via het

Klimaatakkoord



MARIA KOJCK



EN DE GEZONDHEIDSZORG?

Health care emissions per capita by country				
Top emitters: (over 1t per capita)	Major emitters (between the 0.50t and 1t per capita)	Higher than average emitters (between global average 0.28t and 0.50t per capita)	Lower than average emitters	Unknown
Australia	Austria	Bulgaria	Brazil	Rest of World (ROW)
Canada	Belgium	Cyprus	China	
Switzerland	Denmark	Czech Republic	Croatia	
United States	Estonia	France	Hungary	
	Finland	Greece	India	
	Germany	Italy	Indonesia	
	Ireland	Malta	Latvia	
	Japan	Poland	Lithuania	
	Korea	Portugal	Mexico	
	Luxembourg	Slovenia	Romania	
	Netherlands	Spain	Slovak Republic	
	Norway	Sweden	Turkey	
	Russia	European Union		
	Taiwan			
	United Kingdom			

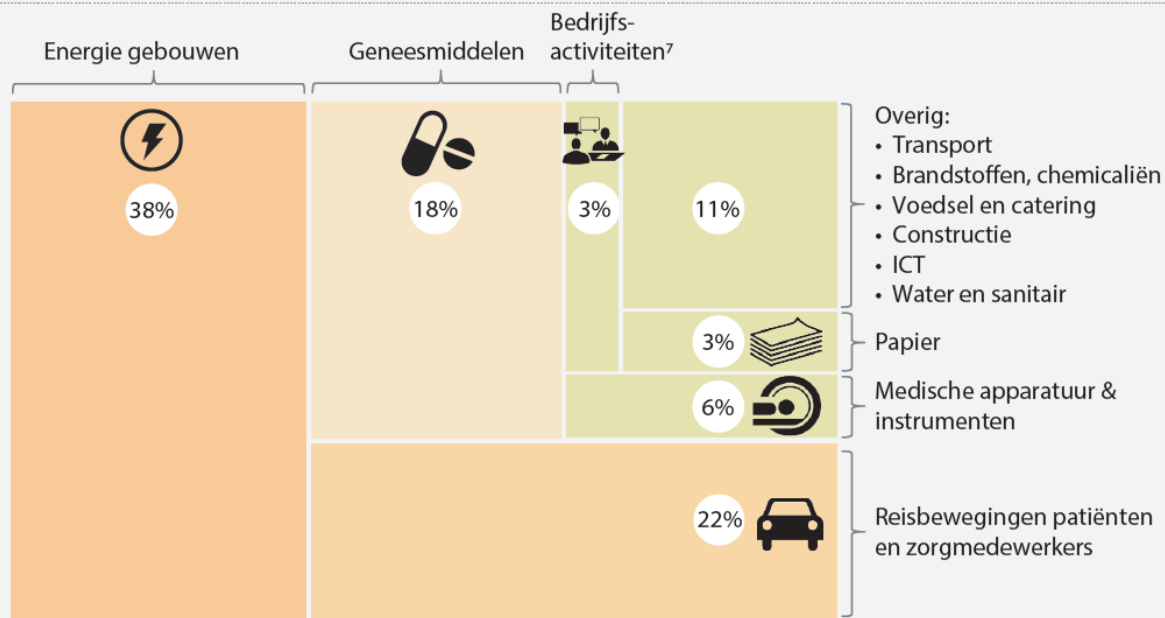
major emitter: 6-7%
van netto CO₂ emissie

*Health Care Without
Harm (2019) Health
care's climate footprint*

ZORG DRAAGT SUBSTANTIEEL BIJ

Aandeel in totale CO₂-voetafdruk gezondheidszorg

[Percentage; 100%=11 Mton CO₂]



Gupta Strategists, 2019

ZORG DRAAGT SUBSTANTIEEL BIJ

- 190 ton medicijnen
- Afval/verspillingscultuur
- Vastgoed
- Personeelsbeleid
- Voeding
- Inkoop
- Overbehandeling
- Voeding
- Luchtbehandeling

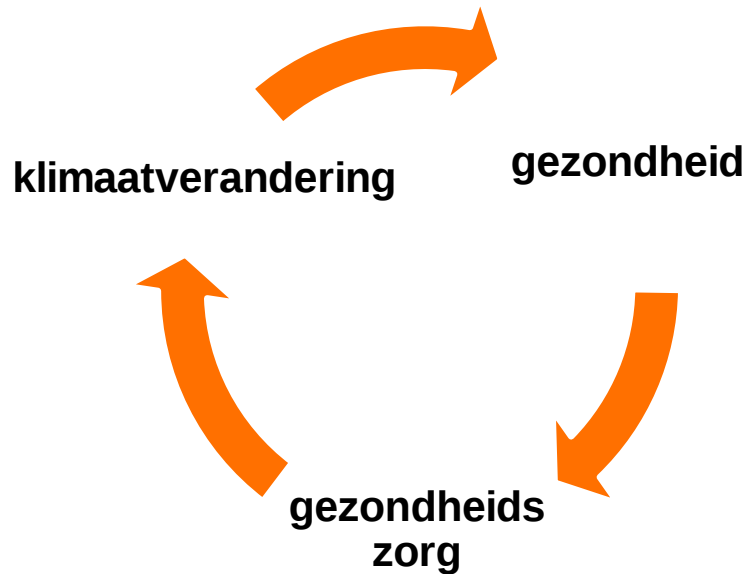


Health Care Without Harm

ZORG DRAAGT SUBSTANTIEEL BIJ



primum
non
nocere



Trouw

Oproep

**Zorgverleners luiden
noodklok voor klimaat en
gezondheid**

Redactie Trouw 2 februari 2022, 07:35

Twaalf zorgverleners roepen het kabinet op om klimaat en gezondheid te integreren in het onderwijs, het overheidsbeleid en binnen de zorg. Binnen een week zijn meer dan zeventig organisaties, zoals bijvoorbeeld de Nederlandse Vereniging van Spoedeisende Hulp Artsen, aangesloten bij de oproep, samen met meer dan vijftig hoogleraren, wetenschappers en artsen.

Volgens de initiatiefnemers ontbreekt duurzaamheid nog als kwaliteitsindicator in de zorg. Dat wordt volgens hen veroorzaakt

Duurzame zorg voor een gezonde toekomst (2018-2022)

Klimaatneutraal in 2050 | mitigatie en adaptatie

- CO2 reductie 49% (2030)
- Circulaire processen
- Vervuiling door medicijngebruik
- Gezonde omgeving voor pts/professionals





1. Focus en aandacht
 - Wat heeft impact
 - Implementatie
2. Maatregelen kiezen
 - Bewustzijn
 - Inkoop
 - Verantwoordelijkheid
3. Meten
 - Milieuwinst
 - Gezondheidswinst (DALYs)

The win-win effect
of sustainable
health care:
*measures and their
health effects*



Contents lists available at [ScienceDirect](#)

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

New business models in circular economy: A multiple case study into touch points creating customer values in health care

P.J.M. van Boerdonk ^a, H.R. Krikke ^{b,*}, W. Lambrechts ^b

^a Philips Benelux, the Netherlands

^b Open Universiteit, the Netherlands

ARTICLE INFO

Article history:
Received 17 March 2020
Revised in final form

ABSTRACT

Circular Economy strives for economic, social and environmental value creation in a system. In Healthcare, both environmental and economic values are seen as the most i

Zinnige zorg

- actualiseer de richtlijnen
- verbeter de voorlichting aan patiënten;
- verminder onnodige diagnostiek met gastroscopieën
- verminder overbehandeling met PPI's (sterke maagzuurremmers);
- verminder het gebruik van maagzuurremmers door zuigelingen;
- verbeter de kwaliteit van zorg rondom anti-refluxoperaties

Verbetersignalement Maagklachten

Zinnige Zorg | ICD-10: XI K21- K30

13 JULI 2021

- 2,8 milj PPI gebruikers
- €19 budgetimpact
- Milieu impact?

Narcosegassen en energiebesparing OK

[HOME](#)[VISIE](#)[THEMAS](#)[BEWEGING](#)[ACTU](#)

Maatregel 51 - Anders verdoven - besparing: 0,1Mton

ANDERS VERDOVEN EN BESPARING IN OK'S

De gehele zorgsector in Nederland is verantwoordelijk voor 11 Mton CO₂-uitstoot, zo'n 7% van de totale landelijke CO₂-uitstoot. Deze 11 Mton uitstoot komt vooral door energiegebruik in gebouwen (38%), mobiliteit (22%) en (de productie van) geneesmiddelen (18%)^[i]. Dat ziekenhuizen energie verbruiken valt niet te voorkomen. Het is een komen en gaan van patiënten die behoefte hebben aan schone bedden, een warme omgevingstemperatuur en medicijnen. Een goede behandeling en patiëntveiligheid staan daarbij voorop. Toch kan de uitstoot in de zorg flink omlaag. Bijvoorbeeld door gedragsverandering (*maatregel 4, Energiestrijd in de Zorg*). En aanvullend stelt maatregel 52 voor vaker te kiezen voor een milieuvriendelijkere verdovingsmiddelen en de luchtbehandeling van de operatiekamers lager te zetten als deze niet in gebruik zijn.

Cataractoperatie

AAN DE SLAG; HET HOORT BIJ DE ARTSENEED!

Vergroening van oogzorg: van kansen tot bedreigingen

 Lees online

 Download PDF

Oogarts dr. Redmer van Leeuwen voerde in het UMC Utrecht met succes sterk afgeslankte wegwerp-IVI-sets in. Ook oogarts Sjoerd Elferink van het Flevoziekenhuis wil alle oogartsen in Nederland inspireren tot veel minder afval en CO₂-uitstoot in de oogzorg. Daarnaast beloofde het NOG onlangs om zich hiervoor in te spannen. 'We moeten onze doorgeschoten veiligheidsstandaard heroverwegen.'

Sjoerd Elferink: 'Ik ontdekte dat ik per patiënt wel 120 liter afval had'

PRAKTIJK

Maatschappelijke Verantwoord Ondernemen



➤ ACHTERGROND

➤ PRAKTIJKGEBOUW

➤ PRAKTIJKVOERING

➤ QUICK WINS

➤ PRAKTIJGINRICHTING

➤ CONSULTVOERING

<https://www.nhg.org/duurzaamheid>

- Meer zelfmanagement
- Minder reisbewegingen
- Kosteneffectieve voorbeelden (therapietrouw)
- Green IT

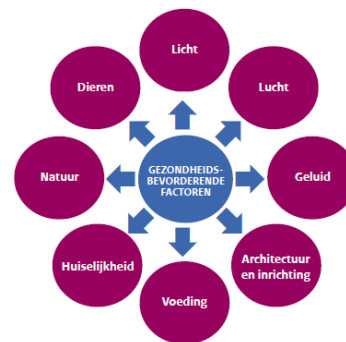


- Voedsel
- Natuur
- Huiselijkheid
- Dieren
- Lucht | geluid | licht
- Architectuur | interieur

evidence based

Gezondheids- bevorderende zorgomgeving

een beknopte verkenning

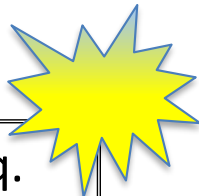


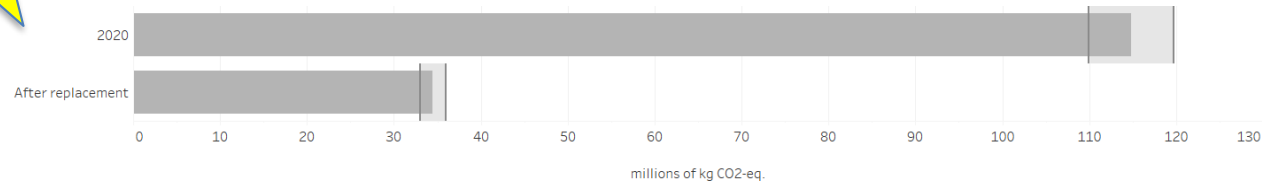
GROENE ZORG

Longzorg (COPD, astma) in NL - 1,4 milj. pts.

- data-analyse
- aerosolen vervanger door poeder



- 
- 80 milj kg CO₂eq.
 - €50 milj besparing



Herziene NHG zorgstandaard astma / COPD bij volwassenen



Keuze toedieningsvorm inhalatiemedicatie

- ...
- Een algemeen bezwaar tegen aerosolen is dat ze een sterk milieubelastend broeikasgas bevatten

Voorkeur toedieningsvorm inhalatiemedicatie

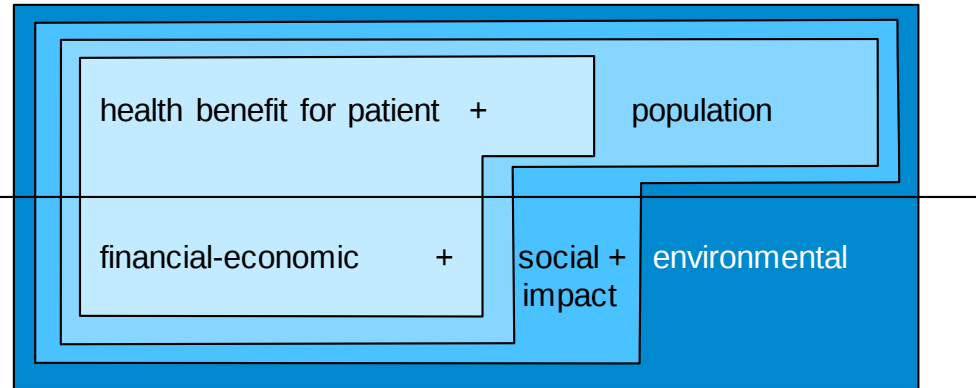
- ..
- Aerosolen maken gebruik van 'HFK' drijfgas. Het drijfgas HFK tast de ozonlaag niet aan, maar het is een zeer sterk broeikasgas. De milieubelasting van 1 inhalatie van een aerosol is 25 keer groter dan van een poederinhalator door de drijfgassen. (..)

PRAKTIJK

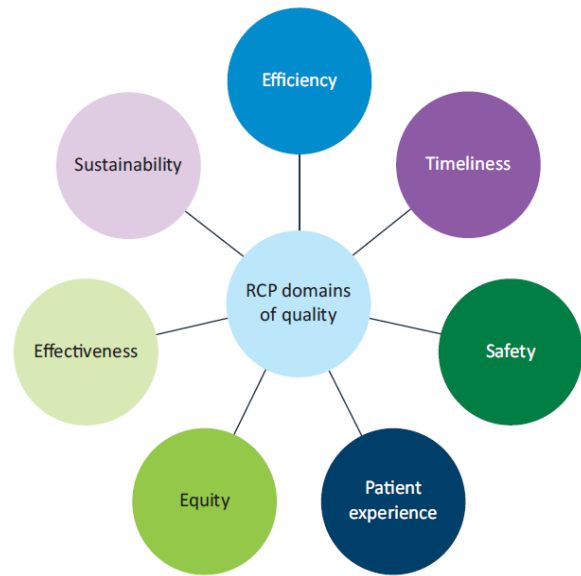
Value-based healthcare
Triple aim
Quadruple aim
Sustainable value in healthcare

Porter & Teisberg, 2006
Berwick et al, 2008
Bodenheimer & Sinsky, 2014
Mortimer et al, 2018

VALUE =
Triple bottom line



- Zorgstandaarden en richtlijnen
- Royal College of Physicians (UK)
- Green **metrics**
- Innovatie
- *No quality without climate responsibility*
(NASEM, Oct. 2020)



Mortimer F, Isherwood J, Wilkinson A et al. Sustainability in quality improvement: redefining value. *Future Hospital Journal* 2018;5:88-93.

INNOVATIE IN DE ZORG



<https://hbr.org/podcast/2022/01/azeems-2022-trends-web-3-0-sci-fi-tech-and-the-metaverse>

VERDUURZAMING



Leiders in de gezondheidszorg volgens wie implementatie van duurzaamheidspraktijken in hun ziekenhuis of zorginstelling topprioriteit heeft

Nederland

3%
Momenteel

81%
Over drie jaar

gemiddelde van 14 landen

4%
Momenteel

58%
Over drie jaar

Dit is de grootste wereldwijde survey onder leiders in de gezondheidszorg.



Reacties van bijna

3.000

leiders in de gezondheidszorg



In

14

landen

Landen waarin het onderzoek is uitgevoerd

Australië	India	Saoedi-Arabië
Brazilië	Italië	Singapore
China	Nederland	Zuid-Afrika
Frankrijk	Polen	Verenigde Staten
Duitsland	Rusland	

= zorginnovatie

dwz: verbetering van de kwaliteit van zorg ism met andere transitie's

*netwerk vs hiërarchie, voorspellen/voorkomen vs reageren, holistisch vs specialistisch, co-benefits vs winner-takes-all,
frontline first vs topdown; anti-fragile, nonlineair, transformatieve coalities*



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Do the Green Thing

*"We are the first generation to feel the impact of climate change
and the last generation that can do something about it." - Barack Obama*

DANK U ...