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Towards a Greener Future:

The Role of Sustainability in MedTech

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DISCLOSURE SLIDE

No financial interests.

Gupta Strategists is an advisory firm in Dutch healthcare with a focus on sustainability

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Gupta Strategists

GUPTA STRATEGISTS

2019 → 2020 → 2020 → 2022

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Valencia, Spain (2024)
Photo: David Ramos, Getty Images

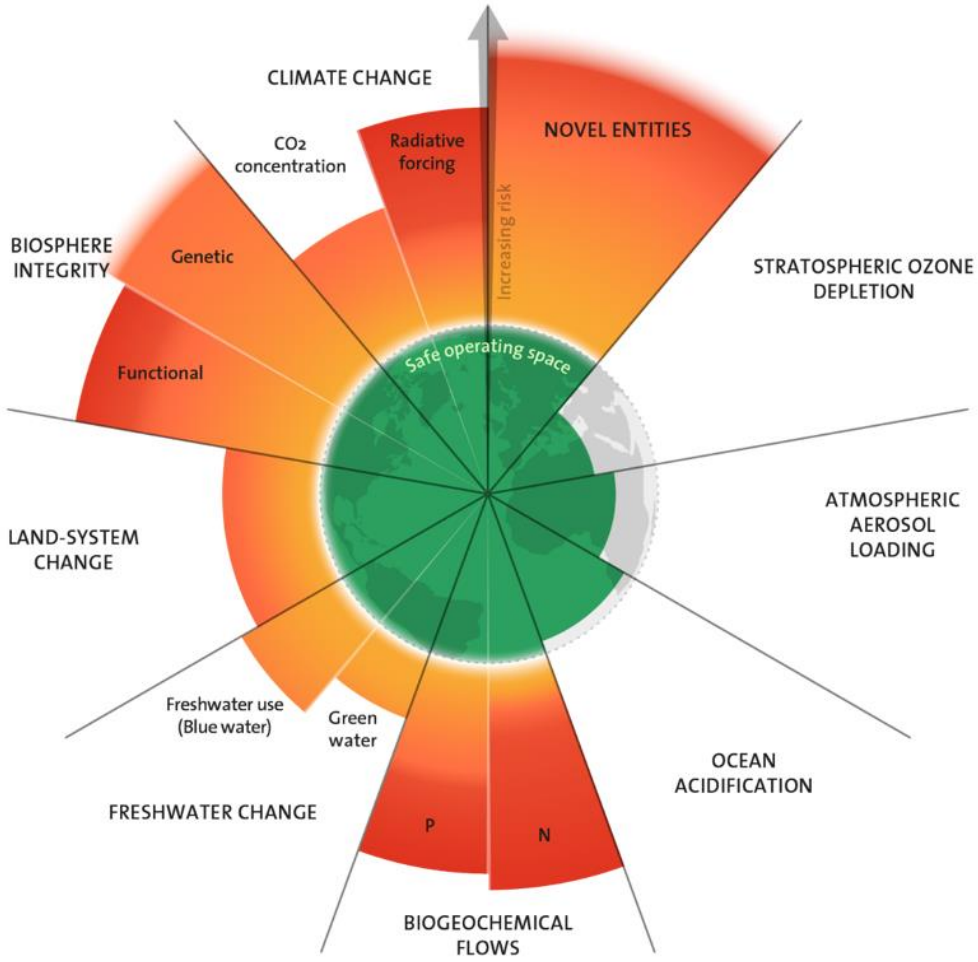
The world is headed for a catastrophic climate crisis

Of the nine boundaries that together ensure a stable and resilient earth, we have now exceeded six.

Exceeding these boundaries means that we run the risk of large-scale, irreversible climate change.

The consequences of this climate change are enormous, and vary from:

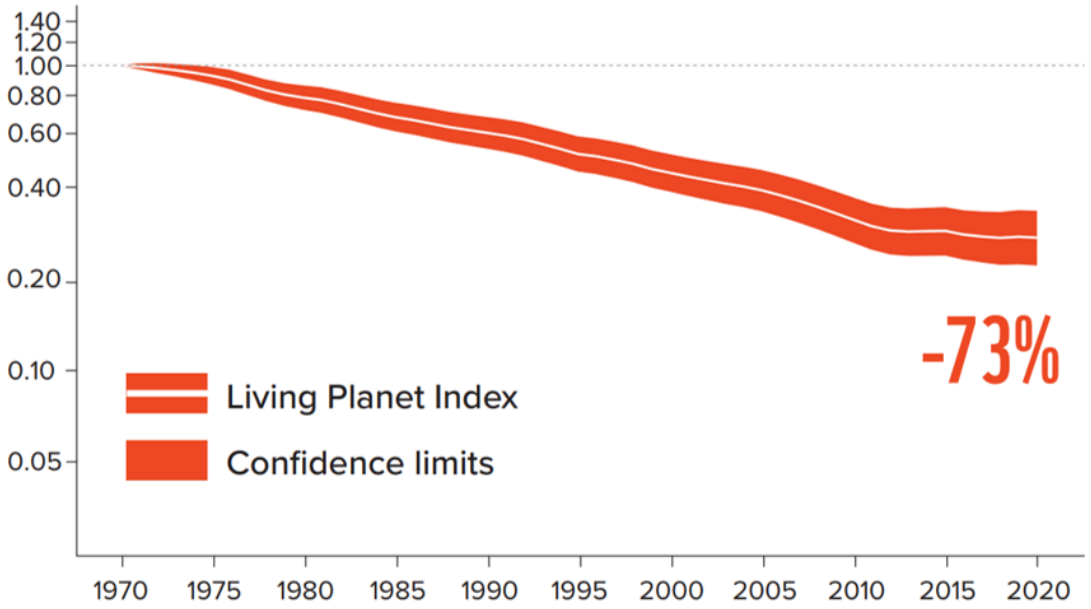
- Higher temperatures;
- Rising sea levels;
- Increase in natural disasters;
- Unliveable areas;



Bron: The 2023 update to the Planetary boundaries, Azote for Stockholm Resilience Centre, based on analysis in Richardson et al 2023

We are also headed for a severe biodiversity crisis

Biodiversity loss
[Living planet index[1], 1970-2020, 1970 = 100%]



- **Habitat loss/degradation:** This refers to the modification of the environment where a species lives, by either complete removal, fragmentation or reduction in quality of key habitat. Common changes in use are caused by unsustainable agriculture, logging, transportation, residential or commercial development, energy production and mining. For freshwater habitats, fragmentation of rivers and streams and abstraction of water are common threats. Marine habitats can be impacted by both activity on land, for example coastal development, and at sea, such as bottom trawling or dredging which can damage seabed habitats.

- **Overexploitation:** There are both direct and indirect forms of overexploitation. Direct overexploitation refers to unsustainable hunting and poaching or harvesting, whether for subsistence or for trade. Indirect overexploitation occurs when non-target species are killed unintentionally, for example as bycatch in fisheries.

- **Climate change:** As temperatures change, some species will need to adapt by shifting their range to track a suitable climate. The effects of climate change on species are often indirect. Changes in temperatures can confound signals that trigger seasonal events such as migration and reproduction, causing these events to happen at the wrong time. For example, misaligning reproduction and the period of greater food availability in a specific habitat.

- **Pollution:** Pollution can directly affect a species by making the environment unsuitable for its survival. This is what happens, for example, in the case of an oil spill. It can also affect a species indirectly, by affecting food availability or reproductive performance, thus reducing population numbers over time.

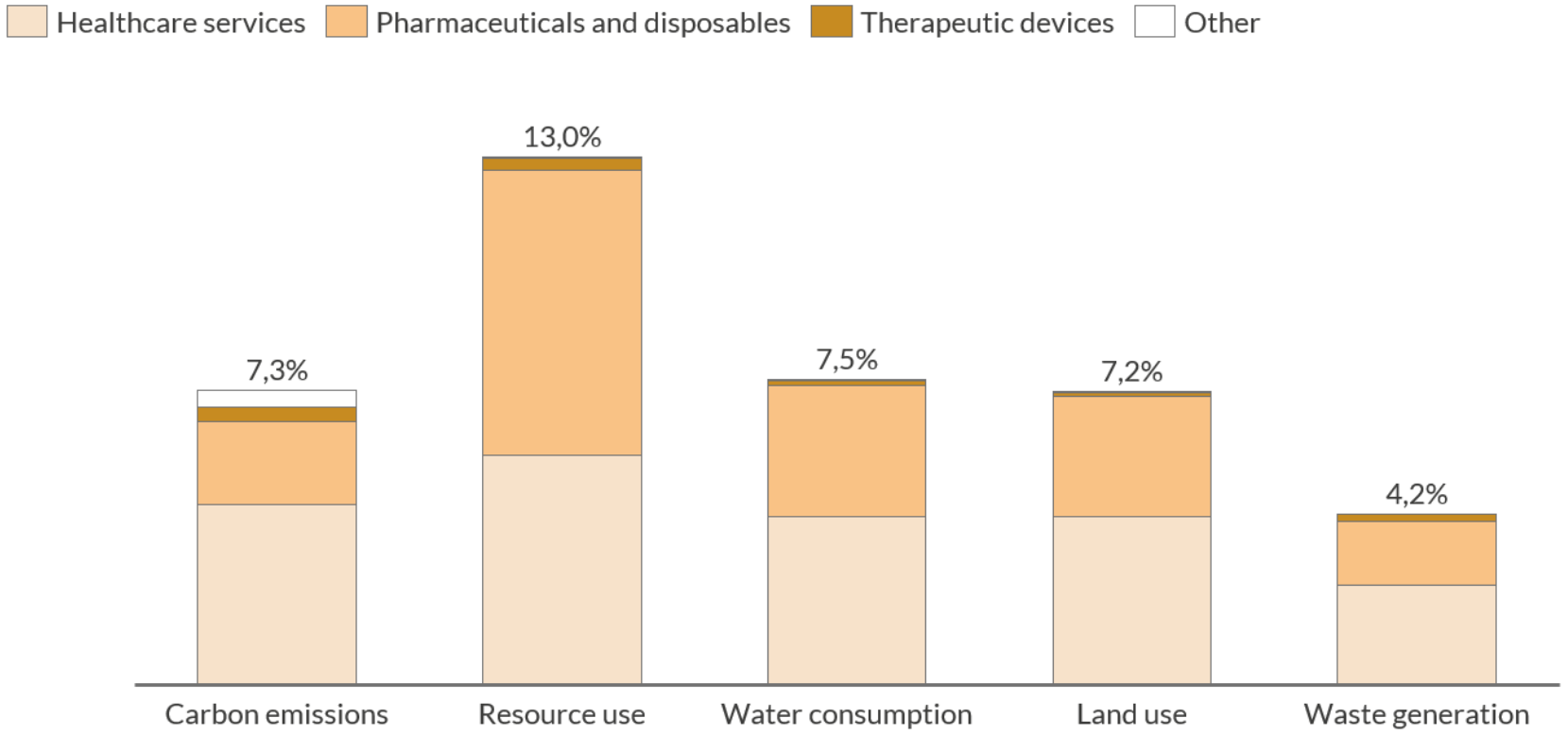
- **Invasive species/genes:** Invasive species can compete with native species for space, food and other resources; they can also be predators of native species.

- **Disease:** Species that expand their range or are introduced into a new area can transport diseases that were not previously present in the environment. Humans also transport new diseases from one area of the globe to another. Other threats such as climate change and habitat degradation can increase a species' susceptibility to disease.

Source: WWF (2024) Living Planet Report 2024 – A System in Peril

Healthcare has a large environmental footprint and is responsible for a significant share of resource use

Share of healthcare in environmental impact categories, 2022



1) Bron: The Lancet, The environmental footprint of the Dutch Healthcare sector: beyond climate impact

The Dutch Healthcare sector agreed on a Green Deal, committing to global goals on carbon and circularity

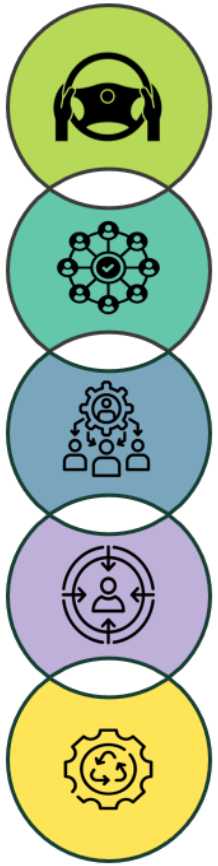
1. A greater focus on the promotion of health among patients/clients and healthcare staff
2. To raise awareness and understanding of the impact of healthcare on climate
3. a 55% reduction in CO_2 emissions compared with 2018 by 2030 21 and climate neutral by 2050
4. a 50% reduction in primary raw materials by 2030 and maximum circular healthcare by 2050
5. Reduction of the environmental damage caused by (the use of) medication

Bron: Green Deal Duurzame Zorg 3.0: Samen werken aan duurzame zorg (2022)

The 2050 targets are not met through marginal gains or low-hanging fruit, they require a full redesign of medical processes

Theme	Present	2030	2050
Mobility	**On track** Organizations are working on mobility plans, becoming increasingly sustainable	**On track** 55% reduction is possible through broader movement toward sustainable mobility	**Should be possible** Healthcare mobility can benefit from worldwide move to sustainable mobility
Buildings and energy	**On track** Most large organizations have a 'portefeuille-routekaart'	**On track** 55% reduction is possible for most, depending on building portfolio	**Financial challenge** Clear what must happen, but financing the transition may be challenging
Food and catering	**First steps** Cautious movement towards more plant-based and local food in healthcare	**Requires shift in culture** Sustainable, plant-based food on a larger scale requires a cultural shift	**Requires shift in culture** Sustainable food requires a cultural shift, difficult to imagine climate neutrality
Medical devices and products	**First steps** Separate studies into impact, difficult to achieve significant environmental benefits	**Low-hanging fruit** 20% reduction in disposables may be possible through low-hanging fruit	**Completely unclear** Big question what 'maximally circular' care will look like in 2050, vision and plan needed
Medicine	**Lagging behind** Limited insight and influence, pharma companies are not transparent about impact	**We don't know** Limited targets for 2030, pharma companies have great ambitions worldwide	**Completely unclear** Big question what 'climate neutral medicine' 2050 is, vision and plan needed

The Dutch MedTech industry considers sustainability as one of the key transitions in the future of healthcare



I. From receiving care to being in control
Patients take control of their own care and health

II. From physical to digital and connected
The digital and connected world creates unlimited access to care

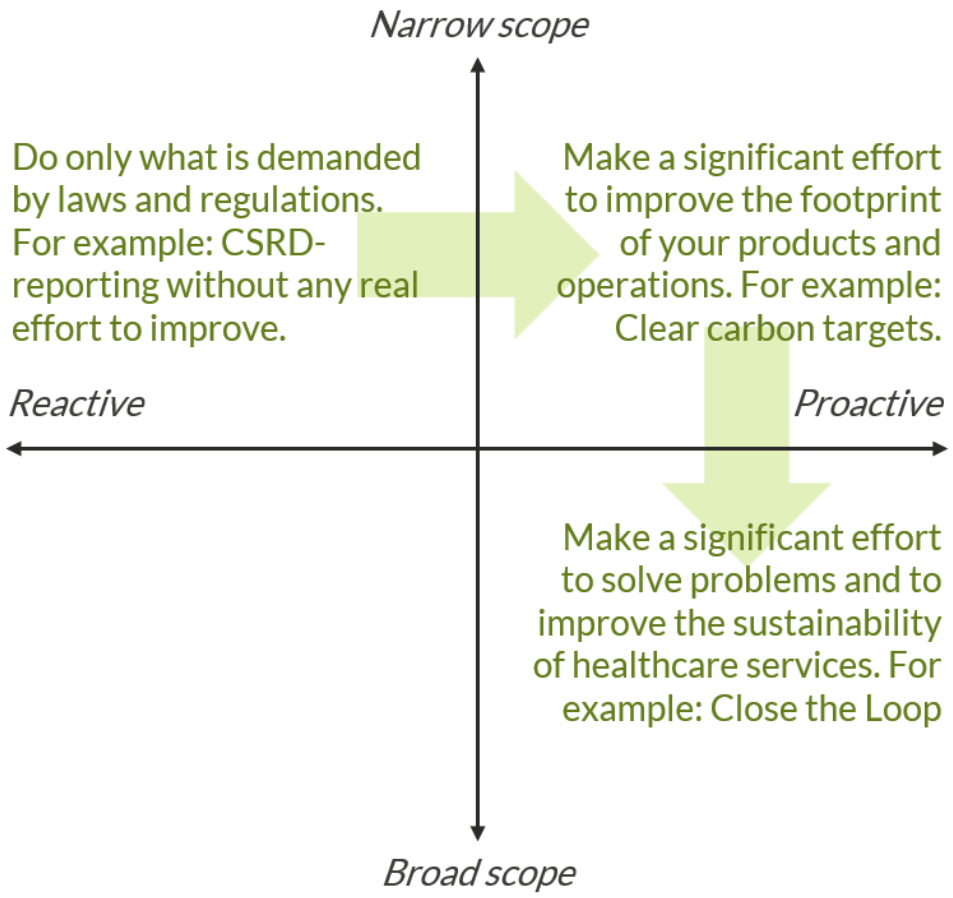
III. Shift in the role and tasks of healthcare professionals
Reduction of registration and care processes, higher value of healthcare professionals

IV. From one-size-fits-all to scalable customization for everyone
Tech drives personalized care that makes diagnoses and treatment more effective

V. The environmental impact of healthcare is drastically reduced
Technology makes healthcare more sustainable, and becomes more sustainable itself

1) De categorisering van deze vijf transformaties zijn tot stand gekomen na interviews, analyses van beelden uit het veld in het nieuws, rapporten en marktanalyses en samengebracht door Gupta Strategists

Medtech companies can choose to be reactive or proactive, and to limit or to expand their scope



PHILIPS

Example: Philips Close the Loop

Philips has committed itself to a number of ambitious circularity targets for 2025:

- Generate 25% of our revenue from products, services and solutions that contribute to circularity;
- Close the loop by offering responsible take-back on all professional medical equipment;
- Further embed circular practices at our sites and send zero waste to landfill.

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