



# Climate adaptation

How investment can support adaptation for health and healthcare systems

December 2024

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# Introduction



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## In brief

- There is increasing evidence to suggest that climate change is a material risk to human health and wellbeing. Health – and healthcare systems – could be affected by global warming in many different ways.
- Climate adaptation is needed to help reduce climate change risks to health, and to help healthcare systems become more resilient by pre-empting climate risks, mitigating health and economic impacts, and better managing the burden of climate change-related ill health.
- Investors have a key role to play in the support and development of climate adaptation solutions across all stages of the healthcare value chain.

The World Health Organization (WHO) describes climate change as the biggest global health threat of the 21<sup>st</sup> century, impacting society and the economy in the form of air pollution, food and water insecurity, infectious disease, extreme heat, extreme weather events, and more.<sup>1</sup> The negative health effects of climate change will become more severe and less manageable as global temperature rise accelerates. These climate-related health impacts will lead to increased demand for healthcare, which existing healthcare systems may struggle to meet.

At the same time as facing an increased burden of demand from climate change-related ill health, healthcare systems are themselves at risk from climate change. Climate change-related hazards already routinely stress and disrupt healthcare systems and threaten access to healthcare for many.<sup>2</sup> With greater warming, the entire healthcare system is likely to face increased supply chain disruption, resource scarcity and infrastructure damage. This is likely to make it significantly more difficult for healthcare providers to cope with the extra demand that will be placed on them.<sup>3</sup>

The impacts of climate change on health can also lead to wider economic consequences. The WHO estimates that the direct costs to health from climate change – excluding costs to health-determining sectors, such as agriculture, and water and sanitation – will be between USD 2 billion and USD 4 billion per year by 2030.<sup>4</sup> Economic damage can create greater obstacles to building healthcare system resilience and reduce capacity for adaptation.

In this article, we explore climate change risks to healthcare systems and the healthcare sector. As well as laying out the risks, we discuss adaptation solutions that could make health and healthcare more resilient to climate change impacts. While some climate risks to health are still emerging and may not fully materialise over the investment horizon of today's investors, many negative impacts of climate change on health are already visible (**Exhibit 1**). Looking at healthcare companies through a climate adaptation lens can offer insights into potential climate-related risks and opportunities within investment portfolios.

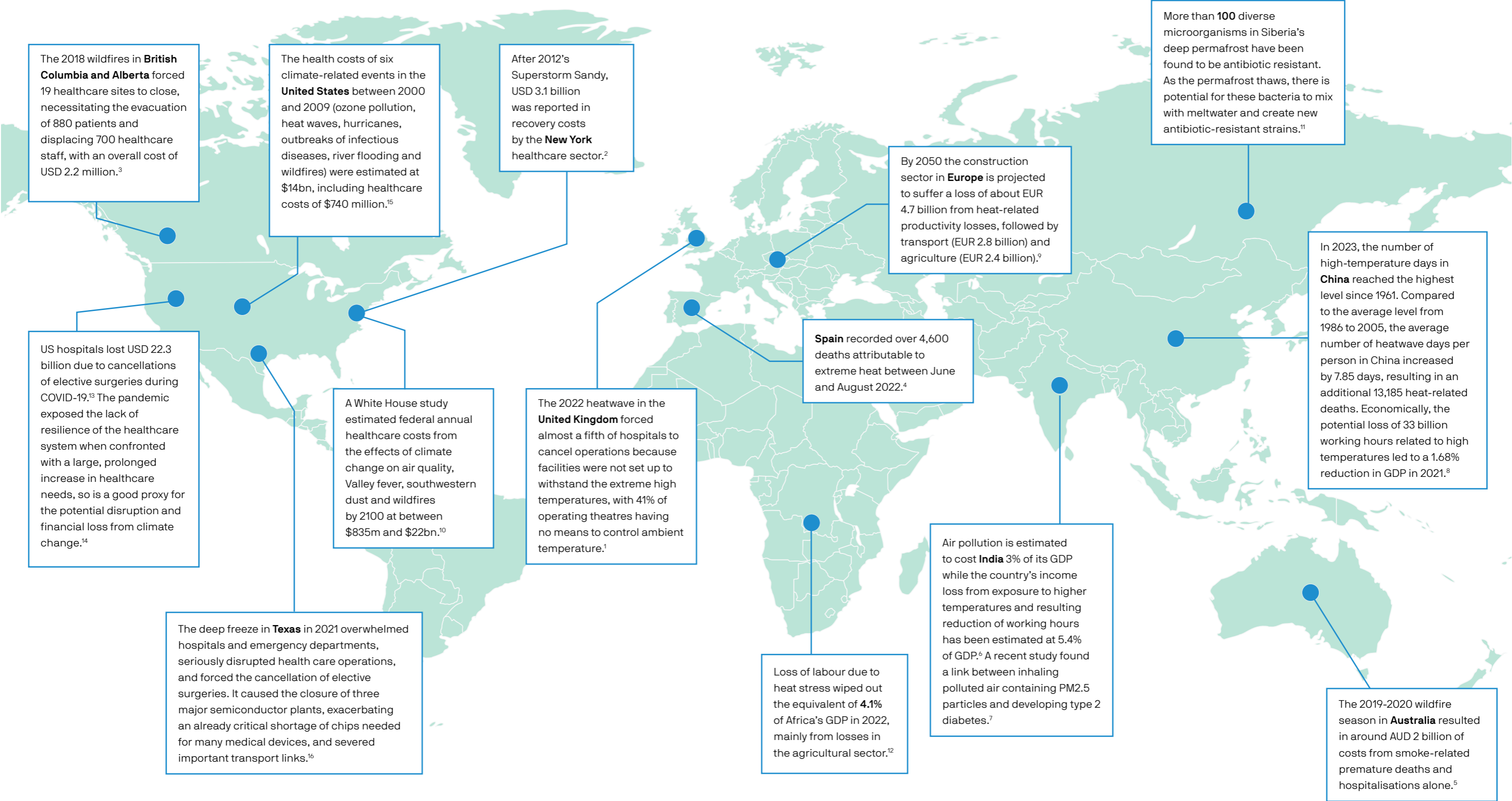
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# Exhibit 1: Impacts of climate change on health around the world



For references see page 16.

# How climate change affects health, healthcare systems and the wider economy

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Climate change affects health in many different ways, both directly and indirectly (**Exhibit 2**).<sup>5</sup> It exacerbates existing health challenges at the same time as creating new ones, with outcomes typically worse in more vulnerable and marginalised populations.

By increasing exposure to health risks, climate change also increases the burden on healthcare systems.<sup>6</sup> At the same time, climate change threatens the functioning of healthcare facilities and increases the risk that they will fail to deliver effective care.<sup>7</sup> A recent asset-level physical risk analysis of hospital infrastructure globally found that on our current warming trajectory, by 2100 1 in 12 hospitals will likely be at high risk of total or partial shutdown from extreme weather events – a total of 16,245 hospitals, with India, China and Japan as the top three countries in terms of number of hospitals at risk.<sup>8</sup> In this way, climate change could cause interruptions to normal operations and care patterns, leading to worsened health outcomes and higher costs for treatment down the line. The resulting losses could further undermine investment in efforts to adapt to climate change, creating a vicious circle. According to a survey in the 2023 report of the Lancet Countdown, a major annual study on health and climate change, 27% of global cities surveyed were concerned that their health systems could be overwhelmed by the impacts of climate change.<sup>9</sup> This risk is particularly acute where adaptation measures are lacking.

Climate change's effects on health can also indirectly impact the wider economy. To date, the economic impact has been most obvious through the fallout from extreme heat, which has led to lower productivity and lost working hours. In 2023, a record-high 512 billion potential labour hours were lost globally due to extreme heat exposure according to the Lancet Countdown – 49% above the 1990-1999 average. This loss of potential labour hours was associated with potential income losses of USD 835 billion.<sup>10</sup> These economic losses would only be expected to increase with hotter temperatures.

Ultimately, it is difficult to anticipate all the potential impacts of climate change on health, the healthcare sector and the broader economy. What is clear is that climate change can result in significant financial and social impacts to individuals, companies and countries. However, with proactive and timely adaptation, many of the risks to human health, healthcare systems and the healthcare sector could be reduced, and some risks potentially avoided.

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<sup>5</sup> Romanello, M., Di Napoli, C., Green, C., Kennard, H., Lampard, P., Scamman, D., et al. "The 2023 Report of the Lancet Countdown on Health and Climate Change: The Imperative for a Health-Centred Response in a World Facing Irreversible Harms", The Lancet Countdown (November 2023). [https://doi.org/10.1016/S0140-6736\(23\)01859-7](https://doi.org/10.1016/S0140-6736(23)01859-7)

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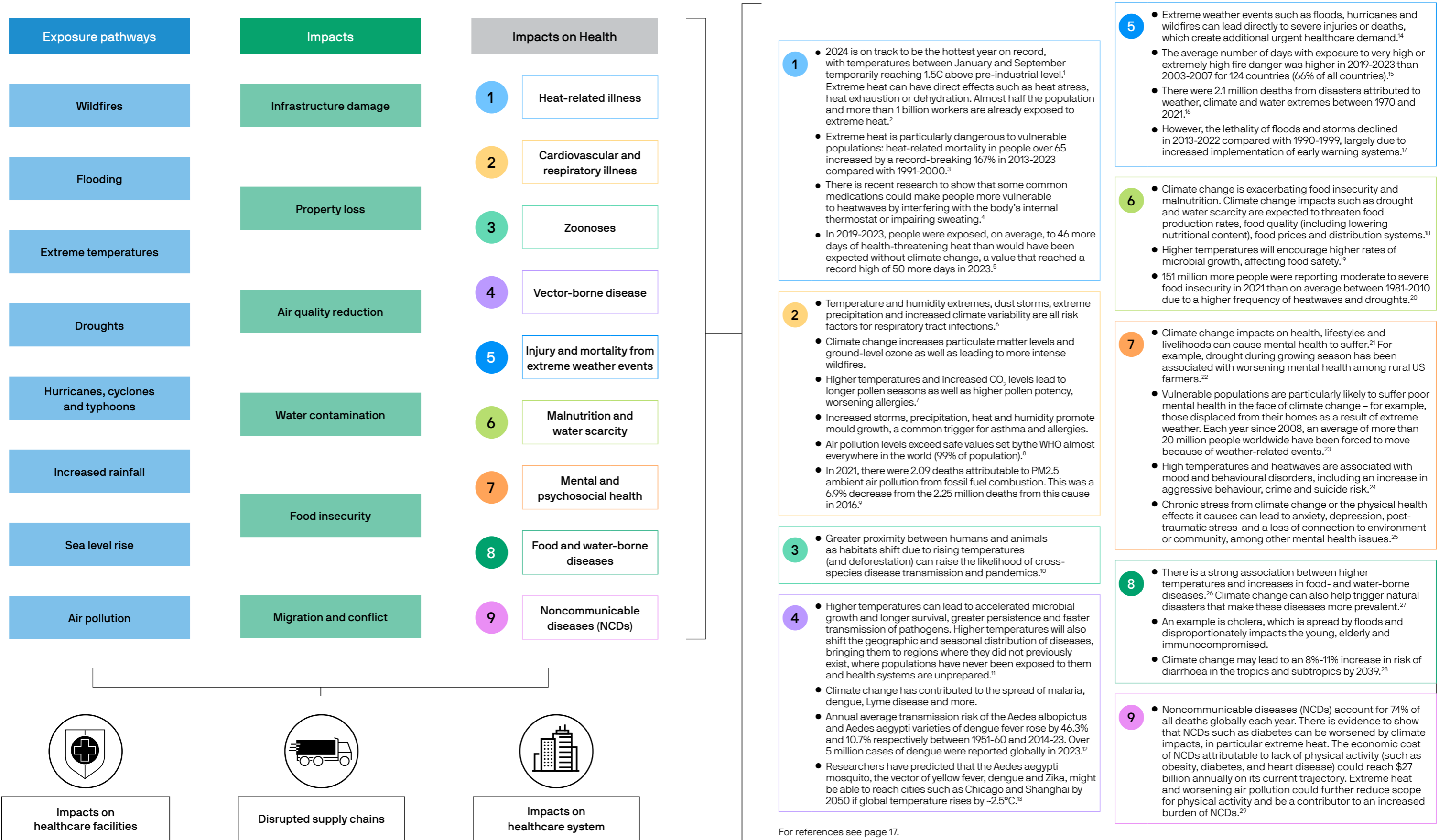
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<sup>10</sup> Ibid.



# Exhibit 2: Climate change impacts on health and healthcare systems



For references see page 17.

# How investors can invest in healthcare adaptation

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Finance can both help to mitigate these climate-related risks to health and healthcare systems, and reduce their economic impacts, while also helping companies to take advantage of adaptation opportunities.

Some 70% of countries cited lack of finance as a constraint to health adaptation according to the 2022 report of the Lancet Countdown – up from 56% in 2018.<sup>11</sup> This result is unsurprising given that less than 0.5% of multilateral climate adaptation funding to date has targeted the health sector.<sup>12</sup> However, there are some signs of health considerations increasingly being factored into adaptation spending: in 2023, the Green Climate Fund approved funding for adaptation projects with potential health benefits of USD 423 million - up by 137% since 2021.<sup>13</sup> Companies and governments will need increased investment to evaluate climate risks and to help them start to build solutions.<sup>14</sup>

Investors can gain access to opportunities aligned to the healthcare adaptation theme via investment in private sector companies across the entire healthcare value chain. Institutional investors and asset managers could help to fill adaptation funding gaps through investment in specialised thematic funds, or impact funds. There is also growing issuance of sustainability debt in the healthcare sector, where the use of proceeds targets sustainable outcomes. Innovations such as the integration of climate resilience criteria into bond covenants could further help increase the flow of funds dedicated to health adaptation. Investors could also look to alternative assets, such as infrastructure providers constructing climate-resilient healthcare facilities, or transportation companies covering the healthcare supply chain.

The deployment of private capital will be encouraged by consistent, well-designed public policy. Because successful adaptation projects often benefit from a mix of public and private capital, co-operation between the public and private sectors can be useful. The potential for this co-operation has been demonstrated by a recent resurgence in industrial policy, which has in several cases been supportive to action on climate change,<sup>15</sup> as well as explicit recognition by governments of the potential for public-private partnerships, as in the case of the United Kingdom's proposed new National Wealth Fund.<sup>16</sup>

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<sup>11</sup> Romanello, M., Di Napoli, C., Dummond, P., Green, C. Kennard, H., Lampard, P. et al. "The 2022 Report of the Lancet Countdown on Health and Climate Change: Health at the Mercy of Fossil Fuels", The Lancet Countdown Volume 400, Issue 10363, pp. 1619-1654 (November 2022). [https://doi.org/10.1016/S0140-6736\(22\)01540-9](https://doi.org/10.1016/S0140-6736(22)01540-9)

<sup>12</sup> World Health Organization, "COP24 Special Report: Health and Climate Change", WHO (3 December 2018).

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<sup>15</sup> J.P. Morgan Asset Management, "2024 Long-Term Capital Market Assumptions: Time-Tested Projections to Build Stronger Portfolios", J.P. Morgan Asset Management Portfolio Insights (2023).

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# Opportunities for adaptation in the healthcare sector and beyond

While climate change threatens significant impacts on both individual companies and the wider economy, the interaction of climate risks with structural economic shifts can also create opportunities for investors. For example, an increased consumer focus on health and wellbeing is apparent in some developed countries, which are also seeing increased government spending on health as their populations age. Per capita spending on healthcare in the US is expected to increase from USD 13,000 in 2022 to USD 20,000 by 2031.<sup>17</sup>

(Exhibit 3). Additionally, as the effects of climate change materialise, there may be increased appetite to counter them through the development of new medical products and services.

Climate change risks to health can also be addressed from a more holistic standpoint, rather than focusing solely on the healthcare sector. Because healthier environments and lifestyles can help prevent ill health occurring in the first place, human health can be both negatively and positively impacted by the products and services provided by infrastructure, utilities and consumer goods companies, as just some examples.

Our previous articles on climate adaptation, looking at opportunities to build more resilient and sustainable

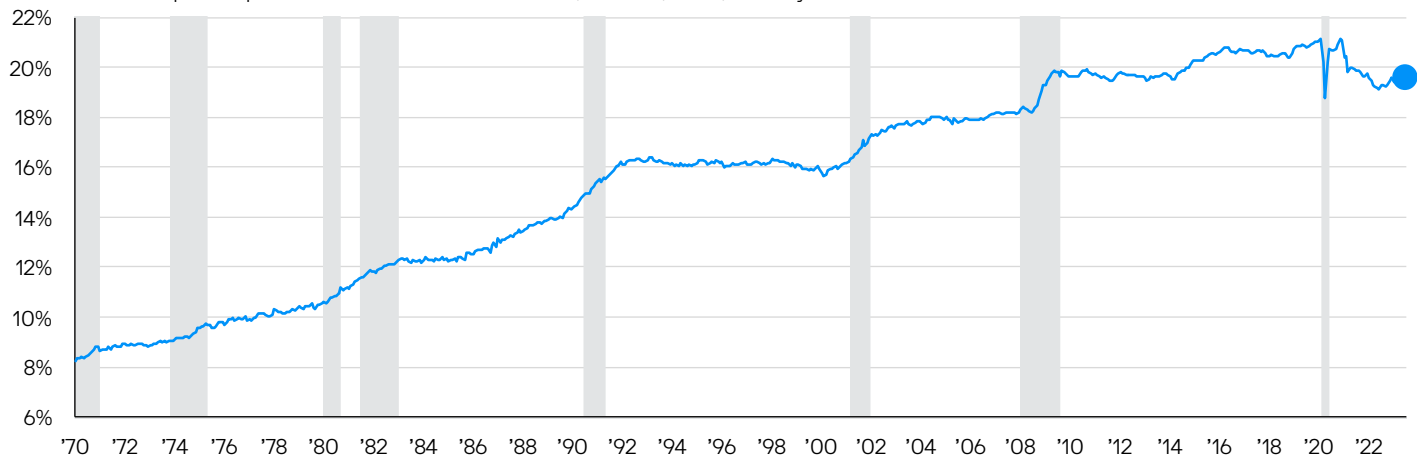
cities and opportunities for helping nature adapt to climate change, explore some of the actions that can contribute to improving the general health of communities and reducing their susceptibility to climate change-related ill health. These actions include broad health education, surveillance and communication of health threats, better urban infrastructure and city redesign, the protection of nature and green spaces, improved water, sanitation and hygiene, and proactive targeting of vulnerable people to reduce inequity.

These actions span all sectors, and can reduce the burden on health systems by increasing general wellbeing and reducing population vulnerability. Products and services promoting general population health and wellbeing can also be sources of financial return and drivers of long-term value for investors.

Overall, investors with a focus on the long-term resilience of their investments to health-related climate risks can look to invest in companies in the healthcare sector, and beyond, that are either effectively adapting their business models to climate change risk, or developing specific products and solutions to combat climate-related risks to health and healthcare systems.

## Exhibit 3: US healthcare spending as percentage of total

Personal consumption expenditures on healthcare as % total, nominal, SAAR, monthly



Source: BEA, FactSet, J.P. Morgan Asset Management; data as of September 2023. SAAR = seasonally-adjusted annual rate.

<sup>17</sup> McGough, M., Salaga, M., Cox, C., Amin, K., "How Much is Health Spending Expected to Grow?", Peterson-KFF Health System Tracker (11 October 2023).



# Evolving the conversation with healthcare companies on climate adaptation

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While health can be impacted by companies in many different sectors, it's the healthcare sector that has a particularly critical role to play in combating climate change-related health risks. There is evidence that some companies in the healthcare sector are now beginning to disclose risks and opportunities to do with physical climate risk, as recommended by existing frameworks such as those provided by the Task Force on Climate-related Financial Disclosures (TCFD), and CDP. Some of these disclosures include plans that companies have made to increase resilience and the active steps they have taken towards adaptation.

These disclosures are encouraging, since rising physical risk from climate change and a lack of adaptation within the healthcare sector to date means that climate adaptation may now be a financially material consideration for the healthcare sector and related sectors. Healthcare companies that do not make efforts to understand climate risks and take adaptation measures could be left exposed to economic losses and unable to continue providing their products and services. Those that do take action could see benefits in terms of operational cost efficiencies from waste and energy use reduction, increased access to green capital and subsidies, a lower cost of debt where resilience criteria are integrated into covenants or sustainability-linked bond targets, and a stronger reputation with both internal and external stakeholders. However, the overall level of disclosure is still relatively light, so additional research by investors is needed to help investors fully understand how healthcare companies are approaching climate adaptation and to highlight adaptation-related risks and opportunities in portfolios.

Examples of climate-related disclosures that we have observed from companies in the healthcare sector include:

- Some large pharmaceutical companies are now highlighting the pressures that healthcare is facing from climate-related nature degradation, and the need to look at interconnections between climate change, nature and health to adapt to these risks and avoid financial losses.
- One drug manufacturer disclosed that it is looking to align research with the changing burden of disease and invest in rapid response capabilities, for example developing treatments for malaria with experimental compounds and pan-serotype dengue inhibitors, or investing in treatments for non-communicable

diseases (diabetes, cardiovascular diseases, respiratory diseases) that may be exacerbated by climate change. Another drug company has disclosed that it is constantly expanding its portfolio to include more comprehensive options for diseases likely to become more prevalent as a result of climate change, such as dengue, Chikungunya, Zika, and Lyme disease.

- One global medical technology and services company acknowledges the US Center for Disease Control and Prevention's assessment that climate change may lead to an increase in respiratory and cardiovascular disease, and suggests it can contribute to managing this risk through its existing products and services. It forecasts a potential increase in patients demanding related services and an additional potential increase in revenue.
- Recent adaptation efforts disclosed by healthcare providers have included landscape design at a Colorado facility to mitigate wildfire exposure and the installation of generator power for locations in Puerto Rico with hurricane exposure.
- One pharmaceutical distributor has partnered with a third party to assess the physical climate risk exposure of its top 100 locations across the globe, which showed moderate risk exposure with wildfires the greatest source of risk. It notes that its ability to provide drug distribution services to customers could be impacted by climate change and weather events and, as a result, has designed its distribution network to provide backup for all distribution centres, including proactive planning for alternative transportation methods and delivery routes. Other distributors cite a supply chain structure with a broad geographic footprint, dual sourcing for key products and inventory management as strategies for pre-emptive climate adaptation.
- A distributor notes that the cold chain is vital for delivery of drugs. As temperatures rise, the ability for packaging to withstand heat shortens, so the company is working on new packaging solutions that can maintain temperatures throughout transit, protecting products.

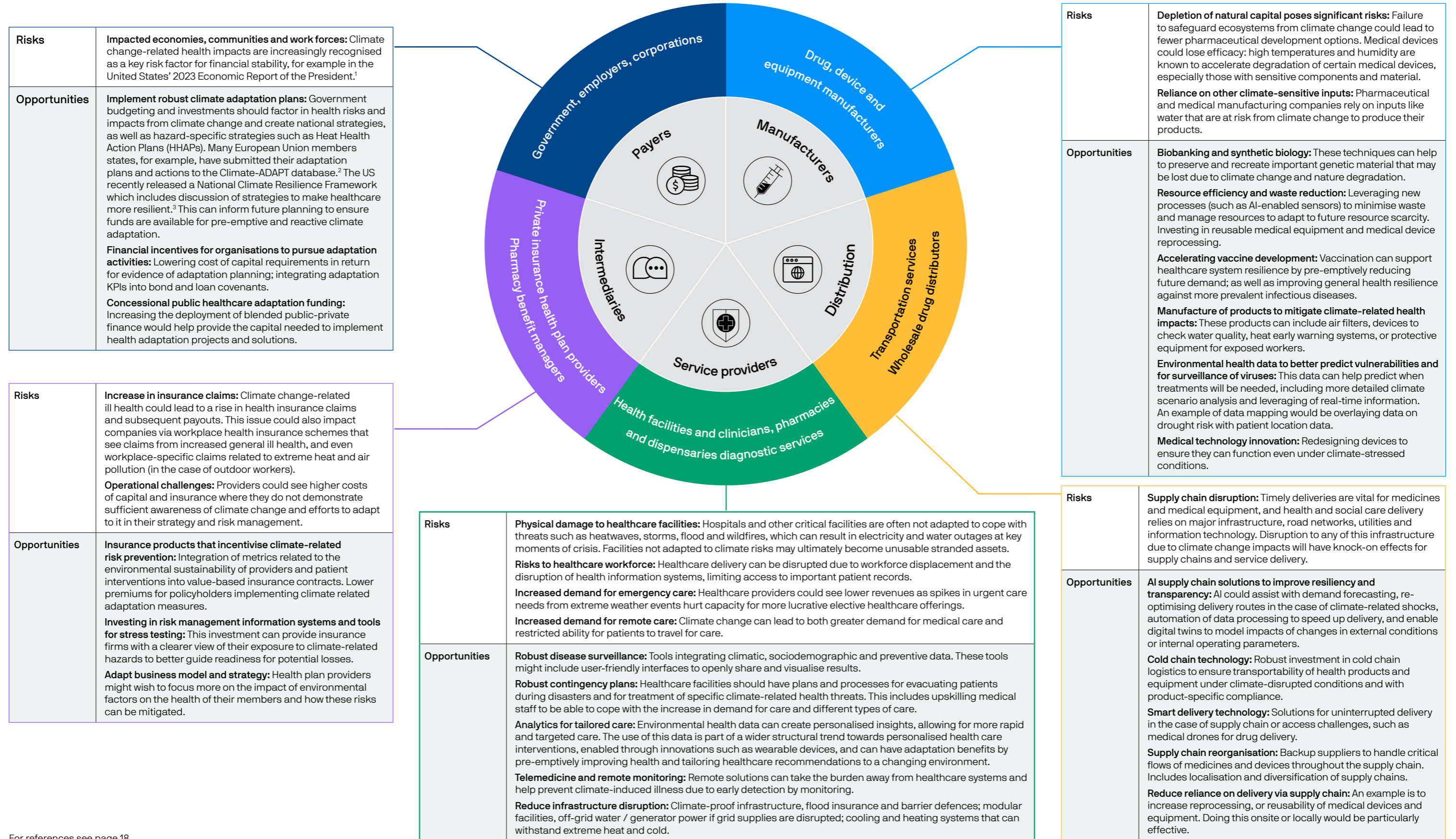
# Potential adaptation solutions across the healthcare value chain

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Actors across the healthcare value chain face operational and financial risks from climate shocks and stresses that will compound the growing burden of climate-related ill health by reducing the healthcare system's ability to cope. Adaptation aims both to protect healthcare companies and their consumers from these climate risks, and to allow companies and countries to take advantage of new opportunities. For these reasons, we have focused in on the healthcare sector to assess the numerous potential health adaptation solutions that healthcare companies could consider in more detail.

As companies look to respond to changing healthcare requirements, there are numerous potential solutions they could consider. **Exhibit 4** highlights potential adaptation solutions covering two bases. First, we look at investable solutions, via companies providing products and services that address climate risks to health. Second, we look at solutions that companies themselves could implement so that their operations become more resilient to climate change health risks.

# Exhibit 4: Potential adaptation solutions across the healthcare value chain



For references see page 18.

# Conclusion

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Climate change is increasing the risks to health across the world. With many impacts already visible today and set to multiply in future, we believe it is advisable for investors to begin paying greater attention to the topic of climate change and its impacts on health and the healthcare sector. The risks that climate change poses to the healthcare sector and the broader economy may not materialise over the time horizon of some investors today, but we believe it is in the best interests of companies and their investors to be prepared.

Yet physical climate risk does not have to be solely a source of risk and economic damage: it can also be an opportunity to revolutionise the way in which healthcare is delivered, for the better. Understanding the risks that climate change poses to health, the healthcare sector and the wider economy can therefore help investors identify ways to change the existing healthcare paradigm. The evolving landscape of adaptation finance and policymaker support for adaptation, alongside the threats that climate change poses to health and the healthcare sector, highlight the growing importance of this emerging area.

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## Exhibit 1: Impacts of climate change on health around the world

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## Exhibit 2: Climate change impacts on health and healthcare systems

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## Exhibit 4: Climate change impacts on health and healthcare systems

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