



Institute
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of Actuaries

Practical Guide to Climate Change for Health & Care Actuaries

Health & Care Climate Change Working Party

Introduction

- Purpose: Provide a framework for incorporating climate change into actuarial work.
- Importance: Climate change impacts health and care sectors significantly.
- Goal: Equip actuaries with practical tools and insights to address these challenges.



Question 1:

As an individual - how would you rate your knowledge and understanding of climate change?



Question 2:

Thinking about the business that you work in-how would you describe your preparedness for climate change?

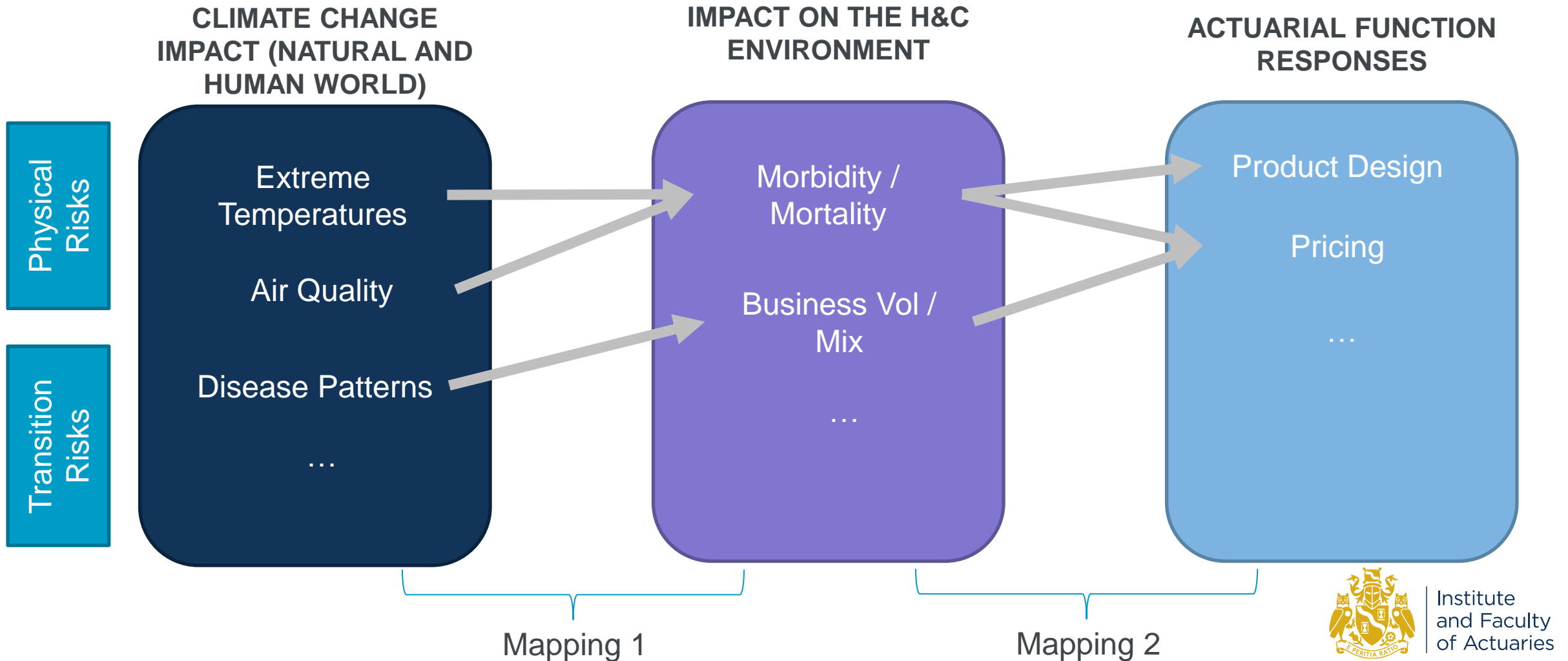


Structure of the Guide

1. Nature of Climate Change Risks
2. Impacts on Health, Care & Protection Sectors
3. Key Topics & Challenges
4. Actuarial Approaches to Climate Change
5. Practical Suggestions



Impact and Response Framework



Nature of Climate Change Risks

- **Physical Risks:** Acute (e.g., floods) and Chronic (e.g., rising temperatures).
- **Transition Risks:** Economic and policy shifts due to decarbonization.
- *Liability risk is outside scope of this guide*

The Working Party developed a conceptual model for relating climate change impacts to H&C actuarial functions.



Climate Change Impacts on the Human and Natural World

- Air Quality
- Temperature Changes and Extremes
- Pandemics/Epidemics
- Food and Water Security
- Fertility rates and infant mortality
- Extreme Weather Events



Question 3:

In which year is the world forecast to first exceed a global increase of 1.5 deg above pre-industrial average?



Impacts on Health & Care Sectors

- Increased demand – emerging over time
- Increased demand – acute / catastrophic
- Demand – transition risks impacting income distribution and creating / magnifying inequalities
- Supply – decarbonisation impact on cost of supply
- Supply – inability to cater for acute / catastrophic demand.



Actuarial Approaches

- Identify Relevant Risks: Document and prioritise physical, transition, and systemic risks.
- Data Analysis: Collect historical data and projections on climate and morbidity trends.
- Modelling Techniques:
 - Scenario analysis for acute and chronic risks.
 - Stress testing assumptions for extreme weather impacts.
 - Reverse stress testing to understand system limits.
- Develop Risk Mitigation Strategies: Adjust pricing, reserves, and portfolio segmentation.
- Innovate Products: Design solutions addressing new risks like climate-driven morbidity.



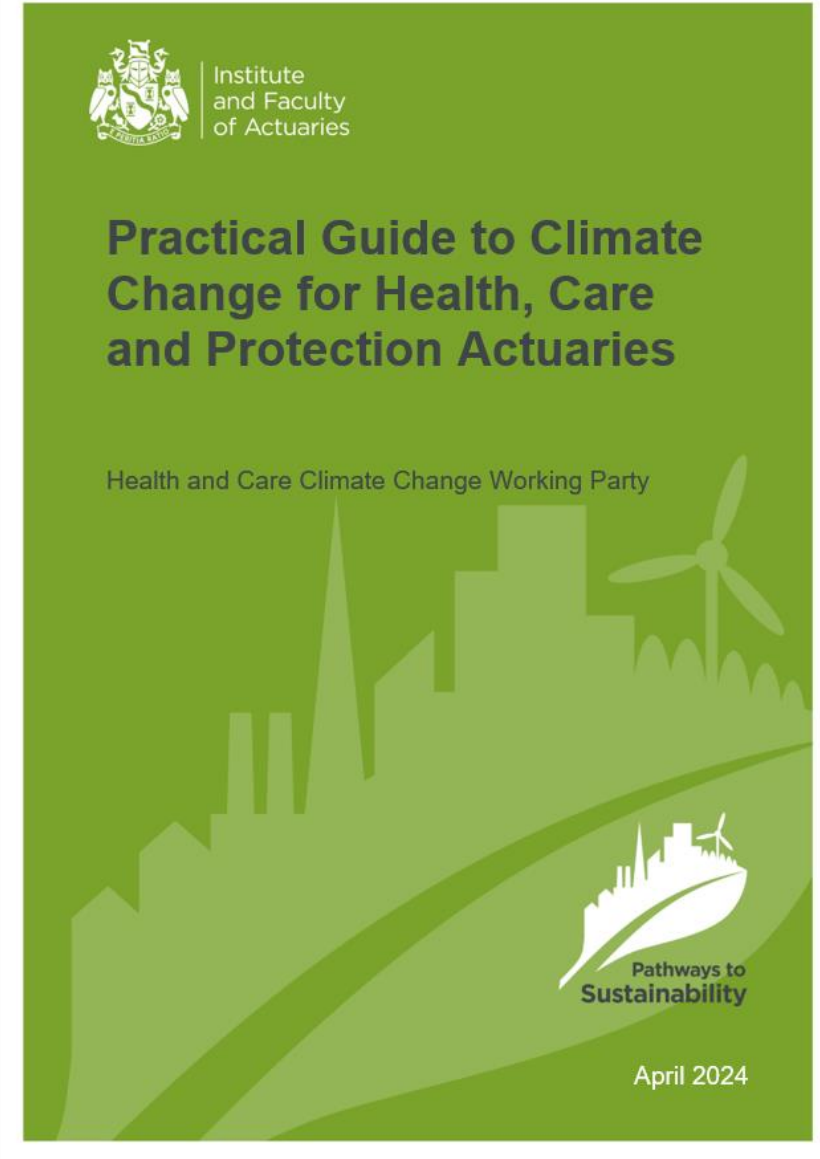
Practical Suggestions

1. Keep up to date on climate change impacts on human health and changes in the health metrics that are important to your organisation
2. Identify the key climate change risks and impacts for your organisation, primarily but not exclusively from the perspective of your role (e.g., pricing or reserving)
3. Explore and estimate the possible impacts - e.g., on your market, customer experience, pricing and profitability.
4. Pay special attention to the known and well-researched risks.
5. Communicate, consult and collaborate (internally but also external to your organisation) e.g., via participating in virtual communities of the IFoA or LinkedIn
6. Create/maintain an internal cross-functional forum to facilitate, share and ensure consistency.
7. Identify someone in the organisation who is responsible overall for taking climate change into account from an insurance risk perspective.



Call to Action

- (Consider) Integrating climate considerations into all actuarial work.
- Leverage the guide as a resource: available on the VLE [here](#).
- Engage with professional networks for shared learning- IFOA Communities are very vibrant!



Suggested Further Reading

- Sustainability Community on IFOA Communities
- Climate Risk and Sustainability Course
- IFOA Climate Change Curated Library
- Life and GI Practical Guides
- The Emperor's New Climate Scenarios (July 2023, IFOA and University of Exeter)
- Climate Scorpion – the sting is in the tail (July 2023, IFOA and University of Exeter)



Survey Launch

Why this survey?

The purpose of the survey is to gather information on the research needs of Actuaries working in the Health and Care sector. The survey results will guide the working party's research and output for the next year.

What to expect from this survey?

The survey will take approximately 5-10 minutes. The survey portal will be open between 9 December 2024 and 9 January 2024.

How will the responses be used by the Working Party?

The results are being collected by the IFoA and the source of individual responses will be anonymous to the working party. The responses will aid our research efforts and output over the coming months to best meet the needs of Health and Care Actuaries.



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Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.



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