Public Education Strategy

2024-2029

Natural Hazards Commission
Toka Tū Ake

Te Kāwanatanga o Aotearoa
New Zealand Government

Public Education Strategy on a page 2024-2029

Our vision

All New Zealanders live in homes and communities that are safer and more resilient to the impact of natural hazards.

Outcomes

Greater awareness of natural hazard risks and possible future impact on New Zealand homes.

Increased levels of preparedness and risk reduction actions taken in New Zealand homes.

Greater homeowner understanding of natural hazard insurance, its application to the home, and its role in recovery.

Objectives

Grow a culture of hazard awareness and preparedness.

Create great, engaging content with a focus on ease, efficacy, and emotion.

Develop and maintain strong and enduring partnerships.

Enable community groups/ hapori to champion key messages.

Grow the next generation of hazard risk-aware New Zealanders.

Key aspects

- Ensure broad reach of messages to many New Zealanders that connects people to place.
- Make it easier for households to access info on hazard risk, preparedness and insurance that is most relevant to them.
- Utilise hazard scenarios and key moments to maintain high levels of natural hazard consciousness.
- Raise awareness of possible natural hazard impacts on homes and people (including financial impact).
- Establish hazard awareness and preparedness as social norms.

- Have a primary homeowner focus.
- Emphasise activities on areas/ homes with greater levels of hazard risk - particularly seismic risk.
- Focus on preparedness actions with the greatest positive impact and emphasise their efficacy.
- Make action as easy as possible and increase people's beliefs in what they can achieve.
- Connect property preparedness actions with a reduction in impact on people.

- Have a national-level view, aiming to extend the reach of our messages across New Zealand.
- Encourage New Zealanders (and relevant partners) to help others less able to take preparedness actions themselves.
- Work with national bodies, trusted experts and community partners to co-develop guidance and deliver key messages.
- Support Māori communities to increase their resilience.

- Connect with groups at greater risk of being adversely impacted by hazards.
- Be led by community needs and partner with others to create content that connects with their audience.
- Build capacity for people to make effective decisions and take action.
- Incorporate mātauranga Māori into appropriate aspects of public education.
- Explore Māori-responsive approaches to the delivery of public education material.

- Be curriculum-focused.
- Develop novel and interactive products that are enticing for tamariki and rangatahi and makes the learning process easy for teachers/kaiako
- Champion participatory educational approaches.

Whakahoki mauri
The essence of life and vitality remains intact and connected.

Whakaora whānau
Resilient and strong whānau/families.

Whakapakari kāinga
Sustaining and enhancing the built and natural environment.

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Our Public Education mandate

Public Education is one of the key functions of our organisation. This is defined in the Natural Hazards Insurance Act 2023 as:

To facilitate research and education, and to contribute to the sharing of information, knowledge, and expertise (with the Crown, public and private entities, and the public generally), including in relation to:

- natural hazards and their impacts
- damage to residential buildings, residential land, and other property as a result of natural hazards, including how that damage might be prevented or reduced
- community resilience to natural hazards
- natural hazard risk management
- planning for, and recovering from, natural hazards
- natural hazard cover and the operation of this Act.

The importance of risk reduction for natural hazards is well recognised globally. The United Nations Office for Disaster Risk Reduction estimates that every US$1 invested in risk reduction and prevention can save up to US$15 in post-disaster recovery.

Our hazards

Whether we are talking about risk, preparedness or insurance, we will focus on 'our hazards'. These are hazards we provide some insurance cover for and are defined in the NHI Act as:

- earthquake
- hydrothermal activity
- landslide
- tsunami
- volcanic activity
- flood (land cover only)
- storm (land cover only)
- fire caused by any of the natural hazards listed above.

Natural hazards cover differs between hazards and provides cover for:

- damage to **residential buildings** that is a direct result of an earthquake, hydrothermal activity, a landslide, a tsunami, or volcanic activity or a fire that is a consequence of any of those hazards; and
- damage to **residential land** that is a direct result of any of those hazards or a storm or a flood, or a fire that is a consequence of a storm or flood.

Image: GNS Science

Note that the Natural Hazards Insurance Act 2023 specifies that: The normal action of the wind or water causing gradual erosion (including, for example, coastal erosion, bank erosion, and sheet erosion) is not a natural hazard.

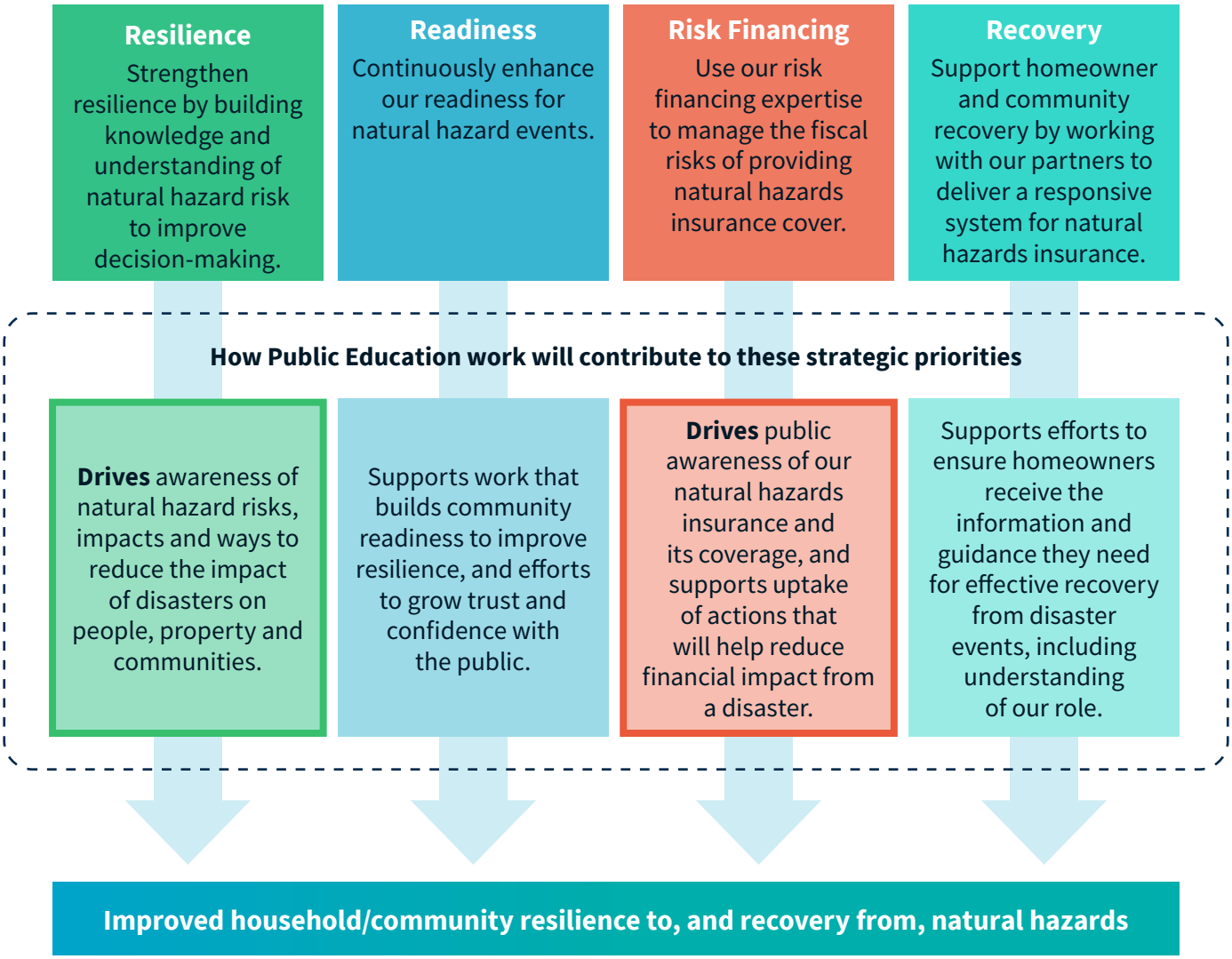
Public Education links to NHC strategic priorities

Public Education at NHC Toka Tū Ake sits within our Resilience function, but our work programme will have inputs and impacts across the wider business. Public Education will be required to support our other key organisational functions – particularly in response to a significant disaster event.

Public Education will be a key driver for some goals across our strategic priorities, for others it will operate in more of a supporting role.

This strategy focuses most heavily on areas that we will drive, rather than support.

NHC strategic priorities



Resilience workstream links

The Public Education Strategy supports delivery of the NHC Toka Tū Ake Resilience Strategy for Natural Hazard Risk Reduction 2024-2029 ('the Resilience Strategy') and is supported by (and supports) NHC's Risk Reduction, Research, Loss Modelling and Communications and Engagement strategies.

The vision for the Resilience Strategy **is that natural hazards resilience is embedded in all aspects of decision-making for our homes, communities, towns, and cities**. The strategy has a goal to inform, enable and influence the choices and decisions that reduce the exposure and vulnerability of New Zealand's built environment to natural hazards. It demonstrates the connections between the NHC's various functions and how they work together to meet this goal.

As defined in our Risk Reduction Strategy, natural hazard risk is created at the intersection of hazard, exposure and vulnerability - as shown in the diagram below. Reducing risk can be achieved by reducing one or more of the three key risk components.

In the context of risk reduction, the Public Education Strategy will focus on reducing vulnerability, which is defined as: The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.[1]

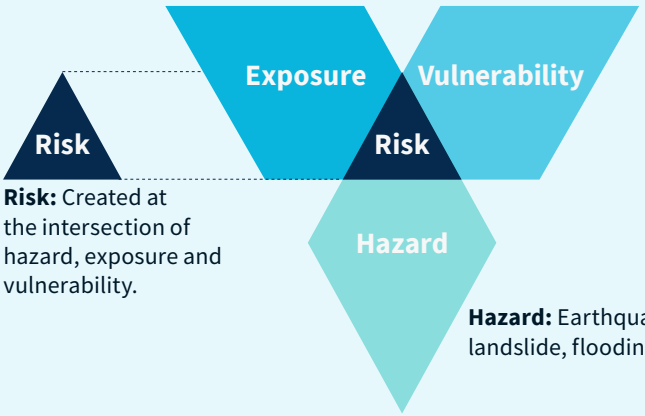
This includes vulnerability that is created by:

- Factors (eg. lack of maintenance) and features (eg. hazardous chimneys) of homes that make them more susceptible to hazard damage.
- Factors that can exacerbate financial impacts of disasters (eg. lack of insurance understanding).

Various mechanisms detailed in this strategy will also aim to create an environment in which our messages are more likely to connect well with New Zealanders.

Exposure: People, infrastructure, buildings, communities, environment, etc.

Vulnerability: Aging population, uninsured, poverty, marginalised society, etc.



Risk: Created at the intersection of hazard, exposure and vulnerability.

Hazard: Earthquake, tsunami, landslide, flooding, etc.

1 UNDRR Sendai Framework Terminology on Disaster Risk Reduction

Resilience Benefits Test

The Natural Hazards Insurance Act requires us to show the benefit of any resilience-focused activities we undertake. This ensures the funds NHC receives through levy contributions are used in a way that benefits levy payers and/or the scheme itself.

We will assess any new Public Education activity or expenditure by answering the questions in the diagram below.

However, as our Public Education work aims to support some functions that extend beyond the Resilience space, there will be occasions when we are required to explore work and partnerships that do not sit squarely within the Resilience Benefits Test framework.

Does the activity align with the objectives (section 128) and functions (section 129) of the Natural Hazards Insurance Act?

Does NHC believe, on reasonable grounds, there is potential that insured persons will benefit from funding the activity?

What is the benefit?

There could be a range of benefits such as: improved outcomes to people through a better understanding of risk, improved preparedness for natural hazards, increased resilience, reduced costs to the homeowner, improved insurance availability, improved customer experience or homeowner wellbeing.

Who benefits?

Insured persons must benefit; uninsured persons, local and central government, private sector, tenants, insurers, and children may also benefit.

When is the benefit expected?

Immediate, short-term, medium-term, long-term.

Does NHC believe, on reasonable grounds, that there is the potential to reduce the future cost of natural hazard cover?

What type of reduction is expected?

The reduction in future cost could be: reduced cost of damage, reduced expenses from the Fund, reduced risk of calling on the Crown Guarantee, reduced liabilities or a positive impact on the long-term liability valuation for NHC, positive impact on the ability to secure reinsurance or cost of reinsurance.

Who benefits?

Levy payers, NHC, the Crown.

When is the benefit expected?

Immediate, short-term, medium-term, long-term.

What is the evidence of the potential benefit or the potential reduced cost to the scheme?

Evidence must be available to support the reasonableness of NHC's decision. The type of evidence that is required will depend on the type of spending that is approved. Types of evidence can include:

- known/proven evidence from a similar initiative
- monitoring and evaluation/performance monitoring
- stakeholder input or expert assumptions supporting the benefit of cost reduction or case studies
- realisation of stated goals.

Public Education - a system for change

A comprehensive Public Education programme of work, with the greatest chance of being effective across our key objectives, will encompass all six areas shown here.

Risk awareness & education

Educate New Zealanders about natural hazard risk and the importance of taking actions (including on insurance) that will improve household/community resilience to, and recovery from, natural hazards.

Example areas

- Campaigns
- Community workshops/roadshows
- Accessible resources and content
- Schools programme

Risk assessment

Enable homeowners to better assess risks where they live, including specific vulnerabilities associated with location, and design and features of a home. Also risks posed by lack of understanding of insurance and issues such as underinsurance.

Example areas

- Online tools (Natural Hazards Portal, Web Prep Tool)
- Use of scenarios based on modelling of future events
- Link homeowners with experts (eg. builders, engineers, assessors, insurers)

Community engagement

Engage with the community to foster a culture of preparedness, including involving local leaders and encouraging people to help those in the community less able to taker actions themselves.

Example areas

- Local partnerships
- Community workshops/roadshows
- Co-designed resources and content

Preparedness and risk reduction action

Encourage homeowners to implement practical risk reduction/ preparedness measures.

Example areas

- Online content and tools
- Campaigns for key audiences
- Printed resources
- Support from others

Policy and incentives

Advocate for policies that support risk reduction efforts and for financial incentives for homeowners who invest in mitigation measures.

Example areas

- Incentivising resilience
- Building Code
- Land-use planning

Monitoring and evaluation

Continuously monitor effectiveness of activities and evaluate their impact. This involves collecting data, analysing outcomes, and making necessary adjustments to improve future efforts.

Example areas

- Advertising annual review & campaign reporting
- Regular market research
- Partner progress reports

Snapshot: awareness, action and insurance

Natural hazard risk awareness	**68%** of homeowners are aware they can take steps that will make their homes safer and stronger for natural hazards.	**46%** of the public rate their understanding of what natural hazards could affect their home as 'good', 'very good', or 'excellent'.	**86%** of home buyers said that when choosing a property to buy they consider the potential risks to the property from natural hazards.	**50%** of NZers think there is a moderate or substantial risk that a natural hazard will cause significant damage where they live in their lifetime.	**63%** of NZers think that their home or land would suffer moderate or substantial damage if a large earthquake hit tomorrow.	
Natural hazard home preparedness	**60%** of the public say they've taken some action to prevent natural hazard damage to their home, land or contents.	**57%** of those who have taken action feel positive about what they have done.	**41%** say that the main reason they have taken action is to protect their family from injury.	**34%** of homeowners say they may take action in the next six months, but are unsure right now.		
Natural hazard insurance	**89%** of homeowners say they have private insurance for their home.	**65%** of the public can identify that NHC provides natural hazard insurance for homes and land (prompted).	**74%** of homeowners say they are aware of the Natural Hazards Insurance levy they pay as part of their home insurance premiums.	**51%** of homeowners say they have reviewed their level of home insurance cover in the past 12 months.	**79%** of homeowners say they'd contact their private insurer to make a claim for natural hazard damage to their home. (22% said they'd contact NHC).	**59%** of homeowners say they'd contact their private insurer to make a claim for natural hazard damage to their land. (43% said they'd contact NHC).

All figures NielsenIQ Q3 monitor, November 2023.

Strategic outcomes and objectives

Strategic outcomes:

1. Greater awareness of natural hazard risks and possible future impact on New Zealand homes 12
2. Increased levels of preparedness and risk reduction actions taken in New Zealand homes 13
3. Greater homeowner understanding of natural hazard insurance, its application to the home, and its role in recovery 14

Strategic objectives:

1. Grow a culture of hazard awareness and preparedness 15
2. Create great, engaging content with a focus on ease, efficacy and emotion 16
3. Develop and maintain strong and enduring partnerships 17
4. Enable communities/hapori to champion key messages 18
5. Grow the next generation of hazard risk-aware New Zealanders 19

Strategic outcome 1: Greater awareness of natural hazard risks and possible future impact on New Zealand homes

All homes in Aotearoa New Zealand have some risk of damage from natural hazards. In a general sense, hazard risk perceived by New Zealanders is high: for example, just 6% of New Zealanders believe there is no risk of significant damage from a natural hazard where they live in the next year[2]. However, there are gaps in more detailed understanding. As at March 2024, just 46% of New Zealanders rated their knowledge and understanding of what types of natural hazards could impact their home as 'good', 'very good' or 'excellent'.[3]

By itself, increased hazard risk awareness will not drive the changes we seek to improve New Zealand's resilience to future hazard events. However, awareness of natural hazards, the risks they pose, and the impacts they can have, are important driving factors as we seek to inspire greater levels of risk reduction action and engagement with insurance.

Through an established programme of work, of which our schools programme and local partnerships are vital cogs, we seek to keep awareness of natural hazards in the public consciousness at the most important times.

Key audiences

All New Zealanders

More open to receiving messages on natural hazard risk relating to property

- Home buyers
- Those building a home
- When other New Zealanders are dealing with the impacts of a disaster

When there are opportunities to grow awareness from the ground up

- Tamariki and rangatahi (school children)
- New New Zealanders (recent immigrants)

2 NielsenIQ quarterly monitor, Q2 2024/25
3 NielsenIQ quarterly monitor, Q3 2023/24

Strategic outcome 2: Increased levels of preparedness and risk reduction actions taken in New Zealand homes

Of our three strategic outcomes, increased levels of preparedness and risk reduction actions taken in New Zealand homes could be considered the most critical. Action in this space has the potential to prevent or reduce damage to homes, and injuries or fatalities to people.

NielsenIQ research shows that more New Zealanders than ever say they have taken some action to reduce or prevent damage to their home, land or contents from natural hazards. But much more remains to be done - particularly around more significant risk reduction steps.

Most New Zealanders are in the 'contemplation' stage of change and are weighing the pros and cons of action.[4] Preparing our homes for natural hazards is recognised as important, but we need to motivate those who say they know they need to action and are yet to take the leap.

Informed by research into recent hazard events that have caused both significant damage to homes, and casualties, we have a strong base to work from in determining which audiences are of greatest importance to drive uptake of preparedness actions.

Key audiences

1. Homeowners more likely to be adversely affected by a disaster

More likely to suffer injuries due to mitigable property factors

- Those with home features that are a falling hazard
- Those living in higher risk seismic zones
- Women
- The following groups (and those who may have responsibility for their safety)
  - Elderly
  - Babies and young children
  - Those with physical disabilities

More likely to suffer damage due to mitigable property factors

- Those with home features that are known to increase risk of damage
- Those living in higher risk seismic zones
- Those living in homes at greater risk of landslide
- Homeowners who have taken fewer preparedness actions, including:
  - Apartment dwellers

2. Homeowners more motivated or predisposed to take action

Key audiences and life, property and hazard moments

- Those looking to renovate their home (and builders)
- Those living in higher risk seismic zones
- New parents
- Those aged 50+
- Those who know someone who has experienced disaster damage

4 A consistent trend seen across NielsenIQ quarterly monitors

Strategic outcome 3: Greater homeowner understanding of natural hazard insurance, its application to the home, and its role in recovery

Insurance rates for New Zealand homeowners remain high. In March 2024, 89% of homeowners stated that they had general insurance on their home.[5] This is down from a high of 96% in July 2010, but is equal to the rate from August 2020. Home insurance is also valued. A 2022 survey by CoreLogic showed that 96% of New Zealand homeowners with home insurance believe it is important to have it.

But homeowners need to know more about their insurance cover. Surveys of those who have had a settled NHCover claims show people are often dissatisfied with the claim experience when their expectations and experiences don't align. However, homeowners want to learn more.[6] Of those who indicated that their confidence around their cover could be improved, 84% said that they were very (28%) or somewhat (56%) interested in learning more.

As with our other work, partnerships are vital in this space, with most homeowners saying they expected to receive information from their private insurance provider.

New Zealanders who can correctly identify our role in delivering natural hazard insurance for homes and land has stagnated. This level of awareness sits at 61%. This is a slight improvement on the historic low of 59% in August 2017, but well down on the highs of 79% from mid-2011, a few months after the second Canterbury earthquake. Figures are only marginally better for homeowners, with 63% correctly identifying our insurance role.[7]

Key audiences

Homeowners

More open to receiving messages relating to NHCover

- Those who have experienced disaster damage
- Home buyers
- Those switching private insurance providers
- Those renewing or reviewing their existing policy
- Those who are aware there has been a damage-causing disaster.

More likely to suffer financial stress due to factors relating to NHCover

- Those living in shared property types
- Those less likely to understand the details of their insurance cover
- Those living in homes that are more likely to experience land damage such as those on moderate or severe slopes, in flood risk or liquefaction prone areas
- Rural communities.

5 NielsenIQ quarterly monitor, Q2 2024/25
6 NielsenIQ quarterly monitor, Q2 2023/24 Homeowner Topline Report
7 This is a prompted question where respondents are provided with six activities (including providing natural hazard insurance) that NHC Toka Tū Ake may or may not do

Strategic objective 1: Grow a culture of hazard awareness and preparedness

Natural hazards are part of what makes Aotearoa New Zealand the country we love: they have shaped our landscape, our towns and cities, and our people. We live alongside these great forces and that means we need to be ready for when they enter our lives.

As people, we have a lot of power to reduce the impact of hazard events. Many New Zealanders are already taking action, but there is much more to be done. We need to create and emphasise this action as a social movement, connecting people to their environment and the actions that will protect their homes and whānau.

Key aspects

- Ensure broad reach of messages to many New Zealanders that connects people to place.
- Make it easier for households to access info on hazard risk, preparedness and insurance that is most relevant to them,and at key property, hazard and life moments.
- Utilise hazard scenarios and key moments to maintain high levels of natural hazard consciousness.
- Raise awareness of possible natural hazard impacts on homes and people (including financial impact).
- Establish hazard awareness and preparedness as cultural norms.
- Make it clear that all New Zealanders have some role to play in preparing for natural hazards.

Example outputs

- Targeted multimedia campaigns with broad reach.
- Enhanced messaging that extends across all natural hazards.
- Exploring opportunities presented by new technologies to enable more personalised approaches to awareness, preparedness and insurance.
- Develop content in partnership with others.
- Use of case studies and real-life stories.
- Enabling two-way conversations with the public, including the sharing of success stories and helpful tips.
- Leading by example, with staff understanding and championing our messages.
- Better utilising first-party data as content.

Strategic objective 2: Create great, engaging content with a focus on ease, efficacy and emotion

We know that New Zealanders have many competing priorities for their attention, time and money. But we also know they recognise the importance of being ready for natural hazard events. While general awareness of hazard risk, preparedness and (to a lesser degree) insurance is quite strong, there are many gaps when it comes to more detailed understanding across all these areas.

A focus on great content means that we will be getting people's attention at the right time, with the right messages. Information presented in a straightforward and actionable way, with clear associated benefits, increases the likelihood that people will absorb it and take necessary steps to prepare. The inclusion of emotional appeal will help humanise our messages and connect them to the people's primary motivations to act.

Key aspects

- Have a primary focus on homeowners.
- Emphasise activities on areas/homes with greater levels of hazard risk.
- Focus on key moments when New Zealanders are likely to be most open to our messages.
- Focus on preparedness and risk reduction actions with the greatest positive impact and emphasise their efficacy.
- Make action as easy as possible and increase people's belief in what they can achieve.
- Connect property preparedness and insurance actions with a reduction in impact on people (physical and psychological).

Example outputs

- Targeted campaigns designed to connect with those most likely to take desired actions, at times when they're most likely to act.
- Develop and support tools/ways to make it quicker and easier (even fun) to understand natural hazard risk and which preparedness actions are most relevant or urgent.
- Content developed for natural hazards beyond earthquakes.
- More content focused on specific actions that will have the biggest positive impact and are most relevant for key audiences. Including detailed 'how to' content for those more able to take DIY actions.
- Breaking down larger preparedness tasks into manageable steps.
- Employing storytelling techniques to create content that forms an emotional connection and allows people to see themselves in the narrative.

Strategic objective 3: Develop and maintain strong and enduring partnerships

The natural hazards messaging landscape is a busy one and while various organisations operate within a particular niche, there are also many areas of crossover. Working together with partners and organisations with aligned goals will add strength, impact and reach to our messages.

The focus here is primarily at the national level. We will aim to work with, and invest in, partners who make the biggest difference in connecting with key audiences - particularly in ways that are difficult for us to achieve on our own.

Example partners

- NEMA
- GNS Science/GeoNet
- Plunket
- BRANZ
- ICNZ and private insurers
- Building professionals
- Property inspection accreditors and providers
- Hardware/DIY retailers

Key aspects

- Have a national-level view, aiming to extend the reach of our messages across New Zealand.
- Encourage New Zealanders (and relevant partners) to help others less able to take risk reduction actions themselves.
- Meet audiences where they already are.
- Encourage a 'one message, many voices' approach for preparedness and risk reduction.
- Work with national bodies, trusted experts and community partners to co-develop guidance and deliver key messages.
- Support Māori communities to increase their resilience.

Example outputs

- Collaboration with national bodies to ensure alignment with existing hazard preparedness messages and leverage shared resources for broader reach.
- Partnering with insurance providers to co-create educational content on the importance of insurance and preparedness.
- Working with hardware retailers, construction companies, and tech firms to promote and provide resources for DIY home strengthening actions.
- Working with partners who can bring expertise in emerging technologies (such as the opportunities presented by AI) to help us more efficiently and effectively achieve our goals.
- Embracing different perspectives, including mātauranga Māori, to help enrich our connections to people.
- Making our material more available and easily used/shared by partners.

Strategic objective 4: Enable communities/hapori to champion key messages

Research has shown that discussions and stories that circulate in the social settings in which people regularly engage with like-minded others, informs how they socially construct their understanding of uncertain future hazard events[8]

A 2013 review of risk perception literature[9] also concluded that public participation measures are probably the most effective means to create awareness of potential disasters, to enhance trust in public authorities, and to encourage citizens to take more personal responsibility for protection and disaster preparedness.

By working with, and supporting, communities/hapori, together we can target our efforts to address barriers to hazard awareness and preparedness, and enable a more meaningful and sustainable response through locally-led solutions.

Example partners

- Museum partners
- Local hazard education providers
- Local and regional councils
- Local Emergency Management groups
- Iwi and PSGEs
- Neighbourhood Support
- Online community groups

Key aspects

- Recognise the value of community-level activity to drive deeper connections.
- Build capacity for people to make effective decisions and take action.
- Connect with groups at greater risk of being adversely impacted by hazards.
- Partner with others to create content that connects with their audience.
- Explore Māori-responsive approaches to the delivery of Public Education material.
- Incorporate mātauranga Māori into appropriate aspects of Public Education.

Example outputs

- Allocating funding and resources to enable the creation of community-led programmes that leverage local leaders and influencers to promote preparedness.
- Enabling connections with localised hazard risk information and encourage awareness and preparedness across a range of hazards and scenarios.
- Supporting varying ways of connecting with communities, including roadshows, workshops and events.
- Collaborating with local groups to tailor messages and methods to community-specific needs. Especially those related to more vulnerable communities.
- Enabling easy access to existing resources.
- Examining ways to tap into (or create) 'virtual' social groups with an emphasis on online connection.

8 Paton, 2018, Becker et al., 2012; Eng & Parker, 1994; Lion, Meertens, & Bot, 2002; Paton, 2008; Paton,McClure, & Bürgelt, 2006; Rippl, 2002).
9 Wachinger et al., 2013.

Strategic objective 5: Grow the next generation of hazard risk-aware New Zealanders

Our schools programme has a long and proud history of educating our tamariki and rangatahi on the hazard risks we face and how we can be better prepared.

There is a strong evidence-base for the inclusion of children in disaster risk reduction programmes. During our schooling years we form ‘mental models’ of how the world works, based upon the topics, systems, and frameworks we are taught. We carry these models through to adulthood to help us interpret the information we receive - and act upon it. Youth also take what they learn back into their homes and have been recognised in the *Sendai Framework for Disaster Risk Reduction* as *"agents of change"*.

Work in the schools space has also been identified as an important area of influence in building trust in the contributing organisation - a key aspect for the wider uptake of our messages.

Example partners

We rely almost exclusively on partners to deliver on work in this space and many already have schools programmes as key aspects of their NHC-sponsored activities.

- Museum partners
- Local education partners
- NEMA (ShakeOut, What's The Plan, Stan?)
- Science education partners (eg. QuakeCoRE)
- Education New Zealand
- Schools, including kura kaupapa

Key aspects

- Be curriculum-focused.
- Develop interactive products that are enticing for tamariki and rangatahi and makes the learning process easy for teachers/kaiako.
- Champion participatory educational approaches, rather than a mere transfer of knowledge.

Example outputs

- Encouraging mechanisms that enable children to better operate as 'agents of change' - particularly for our key messages.
- Incorporating relevant partner messages around personal preparedness.
- Championing the integration of natural hazard awareness into the school curriculum.
- Exploring opportunities for the creation of more content designed for rangatahi and tamariki that can be delivered through our own channels - and existing online education channels.
- Piloting programmes focused on kura kaupapa, with a focus on mātauranga Māori and te ao Māori.

Key enablers and measuring success

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Key enablers for our work

Innovation

- Examine use of AI to help people better assess risks in their homes and to gain insights from past claims data.
- Explore gamification to make learning about home safety and insurance engaging and interactive.
- Explore the use of AR and VR experiences that can simulate hazard events and help emphasise impacts and the importance of preparedness.

Accessibility

- Plain language.
- Translations, including NZ Sign.
- Accessible versions (large print, easy read).
- Information provided in various formats, including subtitled videos, podcasts, in-person events and written guides, to cater to different preferences.

Co-creation

- Involve diverse community groups in the creation and dissemination of materials.
- Work with builders, engineers, and hazard preparedness experts to create accurate and practical materials.
- Partner with insurance companies to create content that meets mutual objectives.

Right message. Right place. Right time.

- Messages on the most relevant hazards for particular individuals and communities.
- Provide the messages at a time when people are most likely to take action.

Inclusivity

- Ensure different New Zealanders are able to recognise themselves in our work and benefit from our partnerships.
- Ensure that materials respect and incorporate cultural values and practices.
- Create materials that address the specific needs and circumstances of different demographic groups.

Insights and data

- Gain better insights into the extent of particular hazardous features on New Zealand homes.
- Better understand barriers to preparedness and insurance access for Māori and other key audiences.
- Enable improved pathways to practice from research.
- Examine easier ways for the public to get an idea of their land value.
- Implement feedback loops and conduct regular evaluations to continuously improve our approach based on audience reception and response.

Great storytelling

- Share personal lessons learnt from previous hazard events.
- Showcase those who have taken action to make their homes safer and stronger.
- Use relatable scenarios to illustrate the importance of preparedness and insurance.
- Create a strong sense of place by connecting stories of the whenua with its people.

Te Ao Māori

- Māori-responsive approaches to the delivery of public education material
- Māori communities are supported to increase their resilience.

Measuring our success

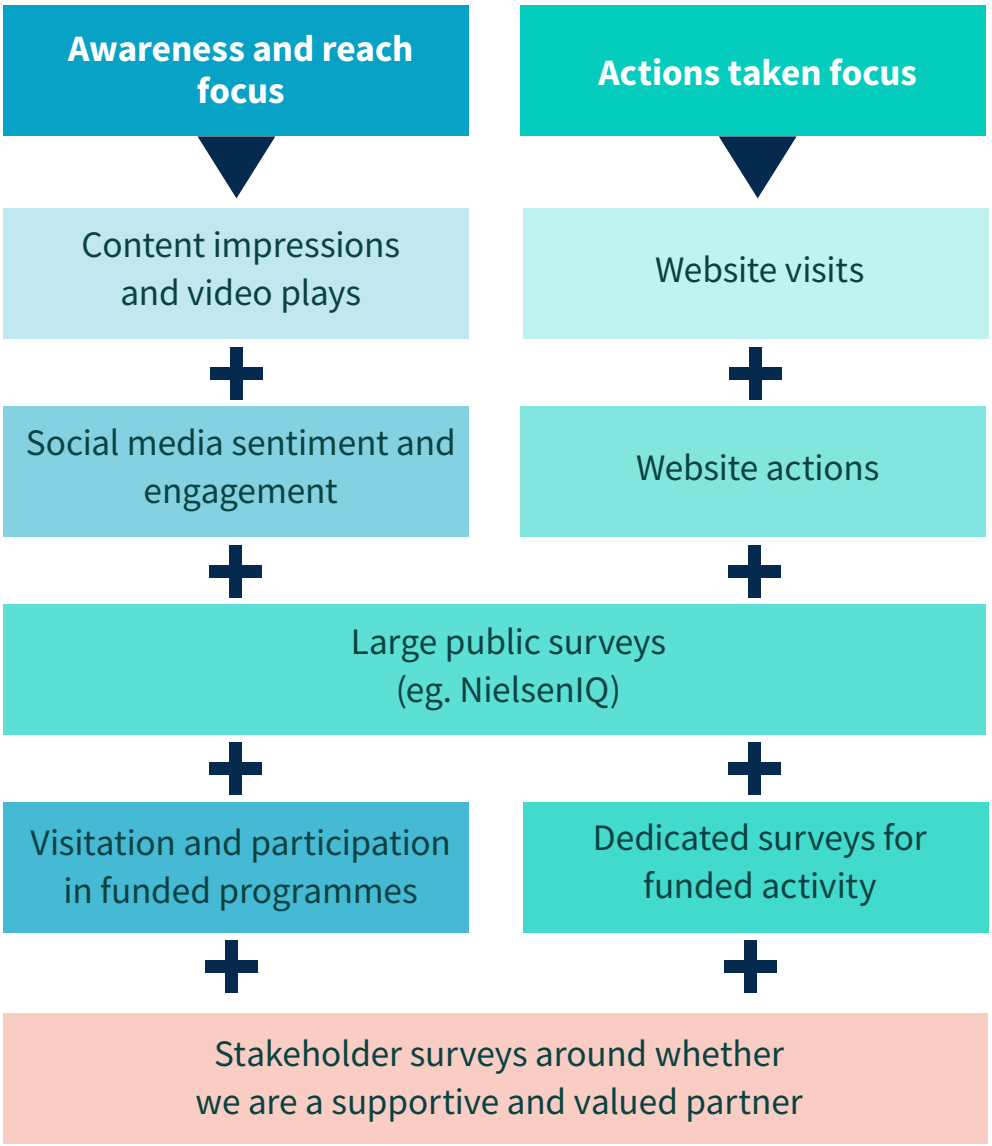
Such a broad programme of work requires different approaches to measurement of success and impact.

At the highest level, representative surveys (such as those provided by NielsenIQ) of the New Zealand adult population, and homeowners in particular, will provide inputs into current Statement of Performance Expectations benchmarks, and provide insights into other key areas of interest.

In the campaign space, we receive regular, useful data on any digital activity we have in market. This will include:

- Impressions of our messages
- Plays of video content (and % played)
- Clicks through to website (and cost per click)
- Shares of content

We will also measure success in the strength of our relationships.



Measuring success of strategic outcomes

Conducted through NielsenIQ, progress is tracked through a survey of 1,000 New Zealand adults every quarter.

Outcome 1	Outcome 2	Outcome 3
Greater awareness of natural hazard risks and possible future impact on New Zealand homes	Increased level of preparedness actions taken in New Zealand homes	Greater understanding of natural hazard insurance, its application to the home, and its role in recovery

To achieve these outcomes we expect to see:

- More than 60% of New Zealand **homeowners** rate their understanding as 'good', 'very good' or 'excellent' of which natural hazards might affect their home.
  Benchmark: 46% NielsenIQ (Q3 2023/24)
- More than 90% of New Zealand **home buyers** say they considered natural hazard risk when choosing a property to buy.
  Benchmark: 88.5% NielsenIQ (2023/24 average)
- More tamariki and rangatahi are connected with natural hazard information through our sponsored schools programme.
  Benchmark: TBC
- Increased reach and reception of campaign and social media messages.
  Benchmark: TBC
- Increased levels of partnership with central and local government agencies on projects involving natural hazard risk communication and preparedness.
- More New Zealand **homeowners** say they've taken action across identified key home preparedness steps.
  Benchmark: TBC
- More than 70% of New Zealand **homeowners** say they have taken some action to make their home safer and stronger for natural hazard events.
  Benchmark: 64% NielsenIQ (Q3 2023/24)
- More than 30% of **homeowners** say that they fully understand the importance of making their home safer and stronger for natural hazards and have taken all the actions they can.
  Benchmark: 20% NielsenIQ (Q3 2023/24)
- More than 75% of New Zealand **homeowners** are aware they can take preparedness actions to make their homes safer and stronger for natural hazards.
  Benchmark: 68% NielsenIQ (Q3 2023/24)
- More than 50% of New Zealand **homeowners** say they are fairly or completely confident that they know what damage to their HOME would be covered following a disaster.
  Benchmark: 37% NielsenIQ (Q3 2023/24)
- More than 40% of of New Zealand homeowners say they are fairly or completely confident that they know what damage to their LAND would be covered following a disaster.
  Benchmark: 29% NielsenIQ (Q3 2023/24)

Measuring the success of strategic objectives

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
Grow a culture of hazard awareness and preparedness	Create great, engaging content with a focus on ease and efficacy and emotion	Develop and maintain strong and enduring partnerships	Enable communities/ hapori to champion the right messages	Grow the next generation of hazard risk-aware New Zealanders

To achieve these objectives we expect to see:

- Being aware of hazards, their impacts, and doing all we can to prepare is part of everyday life in New Zealand.
- New Zealanders understand which hazard risks apply to their property and what impacts might occur in the event of a disaster.
- We have developed content, ideally in partnership with others, that tells the stories of our whenua and how it connects to our people. Linking this in with what it means to be prepared for hazards.
- People see examples of others taking action and feel inspired to do the same.
- We have developed new content and/or partnerships to connect with new New Zealanders.

- We have developed or supported tools/ways to make it quicker and easier to understand natural hazard risk and which preparedness actions are most relevant or urgent.
- New Zealanders better understand how different hazards - particularly earthquakes - might impact their homes.
- New Zealanders feel more capable of taking preparedness and insurance actions.
- New Zealanders value greater understanding of insurance and taking risk reduction actions for their long-term benefit and understand why what they do now will make a positive difference in a disaster.
- Targeted content has been developed for natural hazards beyond earthquakes.
- New campaigns have been developed to connect with key audiences.

- We have continued to support long-standing partnerships which support our goals.
- We have grown productive new partnerships with key identified partners.
- Our partners are clear on our goals and what we feel is required to achieve them.
- People and groups who have particular needs, and those who may be disproportionately affected by disasters, have been supported to improve their resilience.
- Māori communities have been directly supported to increase their resilience.
- We have explored and utilised emerging technologies to better inform and deliver our work.

- We have worked with others to cultivate an environment for social connectedness which promotes a culture of mutual help; embed a collective impact approach to building community resilience.
- We have delivered information in easy to understand and accessible ways and have looked to co-create items with others where possible.
- We have delivered Māori-responsive approaches to the delivery of public education material.
- We have supported varying ways of connecting with communities, including roadshows, workshops and events.
- We have ensured accessibility is delivered across our key content and messages.

- More tamariki and rangatahi are connecting with information about why we have natural hazards in New Zealand, the risks they pose and why it's important we take steps to reduce any impacts.
- We have piloted programmes focued on kura kaupapa, with a focus on mātauranga Māori and te ao Māori.
- We have explored opportunities for the creation of more content designed for rangatahi and tamariki that can be delivered through our own channels - and existing online education channels.
- We have explored greater integration of natural hazard awareness into the school curriculum.

Hazard focus, action focus and timing

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Natural hazard focus

Due to many contributing factors, delivering accurate risk and impact information at a household level is a complex process. Particularly when attempts might be made to 'rank' one hazard above another. As mentioned throughout this strategy, we will aim to deliver New Zealanders with the best hazard risk, preparedness and insurance information that is most applicable for their own situation.

At an organisational level however, the table on the following page shows that we are more likely to see improvements in preparedness/risk reduction - and better future outcomes for the NHCover scheme - through a continued focus on earthquakes.

This suggested primary focus on earthquakes is due to a number of key factors:

- **Risk exposure.** NHC estimates put the number of homes in the two highest risk earthquake zones at around 488,200[10], but all New Zealand homes have some level of risk from earthquakes and damage can still be caused by shaking at lesser intensities.
- **Action efficacy.** There is simply more that can be done - and more easily - to improve the strength and safety of our homes for earthquakes compared to other hazards.
- **Risk awareness.** New Zealanders are already more aware and concerned about the risk of earthquakes compared to other hazards - this gives us a strong base to work from.

More research is required in determining the role hazard risk awareness plays in inspiring greater understanding of insurance cover. However, with fewer risk reduction/ preparedness actions available for hazards such as tsunami and landslides, messaging that focuses on insurance in relation to these hazards could be an area of opportunity.

10 NHC GIS team estimates of the number of dwellings in Zones 3 and 4 of the 2007 BRANZ earthquake zones map.

Chimney damage from the 2013 Seddon earthquake

	Earthquakes	Storms/floods	Landslides	Tsunami	Volcanic activity	Hydrothermal activity
Exposure How many New Zealand properties are at risk from the hazard?	All homes (over 2 million) have some risk, but risk is greater for regions the sit in closer proximity to the plate boundary. NHC estimates put the number of homes in the highest risk seismic zones at around 488,200.	Most homes likely have some risk of storm damage (some apartments might be an exception). 282,395 homes are at risk of flood damage, representing 12% of NZ's housing value. *NIWA and University of Auckland report, 2023.*	NHC estimates show more than half (1.13m) of NZ homes are built on a slope. However, most homes are on slopes <10°. 80,000 homes (3.89%) are built on slopes >10°. *Figures do not include homes close to the top or bottom of slopes.*	399,000 residential buildings in tsunami evacuation zones. *NIWA report 2020* Additional homes will be at risk from lake tsunami/seiches. *Note: Tsunami evacuation zones have some differences to inundation zones.*	Exposure to damage focuses on near-volcanic hazards (lahar, pyroclastic flow, etc) and volcanic ash. Ashfall is highly dependent on wind direction. Number of homes exposed at a national level is unknown.	Primarily localised to specific areas within the Taupō Volcanic Zone. Total exposure of homes unknown.
NHCover What damage would NHC cover?	Home and land covered.	Land cover only.	Home and land covered.	Home and land covered.	Home and land covered.	Home and land covered.
Damage risk reduction Can action be taken to reduce risk of damage to property?	A long list of possible actions that will help reduce damage to home and contents. Contents not covered through NHCover.	Actions focus more on the home than land, so some disconnect with NHCover.	Limited actions. Many require input of professionals and are likely to be expensive.	Very limited.	Little can be done to reduce the damage of near volcanic hazards, so actions primarily focus on reducing damage from ashfall.	Very limited.
Injury risk reduction Can **property action** be taken to reduce risk of injury?	A long list of possible actions that will help reduce injury. Many do focus on contents, but some link to home features.	Some - mostly for storms. Messaging on safety focuses more on personal preparedness (eg. evacuate, stay out of flood water).	Linked to larger actions designed to help prevent a landslide occurring.	Safety messaging focuses on personal preparedness (eg. Long or Strong, Get Gone).	Safety messages focus on personal preparedness (eg. evacuate, wear a mask for ashfall).	Safety messages focus on personal preparedness (eg. evacuate) and knowing warning signs of possible event.
Event warning How much warning before an event?	Seconds.	Days to hours.	From years down to minutes.	Hours (distant source) to minutes (local source).	From months down to minutes.	From weeks down to minutes.
Suggested messaging approach	**Continued primary focus for preparedness/risk reduction** • Web content • Campaign material (updated and new) • Dedicated collateral • Partnered content (new)	**Expanded content** • Web content (new) • Possible partnered content and campaign material (new)	**Expanded content** • Possible new web content • Social media focus for content (new)	**Insurance focus**	**Insurance focus with expanded content** • Web and social media content focused on reducing damage from ashfall	**Insurance focus** • Web content on warning signs

Prioritising actions

Simply asking the public to ‘be prepared’ for natural hazards runs the risk of making our goal vague and unachievable. So it’s important to get specific. By drilling down to individual actions we increase the likelihood of households understanding what needs to be done, actually taking the action, and then experiencing a sense of achievement when they’ve ‘ticked something off’. It also helps us focus our own efforts.

For much of the duration of the previous strategy, Public Education's performance in inspiring preparedness actions has focused across six key steps:

- secure tall and heavy furniture
- secure hot water cylinders
- remove or replace hazardous chimneys
- secure foundations
- know how to turn of mains gas
- know how to turn of mains water.

These six actions were chosen as they represent steps that could help reduce significant damage to homes and/or injuries to people. They also cover a spectrum of effort - from free and easy, to more costly and difficult. The actions are primarily earthquake-focused. Knowing how to turn off gas and water mains are relevant for many hazard types, however they are not 'end-state' actions - which would be taking the action when required in a disaster, to minimise the risk of damage or injury.

To provide added rigour to the prioritisation process, a more complex exercise is required that proposes consideration of the additional factors shown in the model on the following page.

One of the most important steps to mitigate the impact of natural hazards is to build our homes in locations with less risk from natural hazards. This focus on land-use planning is a key aspect of the work of NHC's Risk Reduction team.

For New Zealand's existing dwellings - of which there are more than two million - there is a long list of actions that will reduce the risk of natural hazard damage to our homes and the land they sit on, and injuries to the people who live in them.

Through the development of this strategy, more than 60 separate preparedness actions have been identified across our key natural hazards. To help us prioritise which actions we will focus on, the model to the right is suggested.

Any individual preparedness action must be considered both from our organisation's perspective (eg. I*f 'x' was done in every home what positive impact would it have?*) and from the perspective of a homeowner (*eg. Which action do I feel inspired to take because it will have the greatest positive impact for me?*).

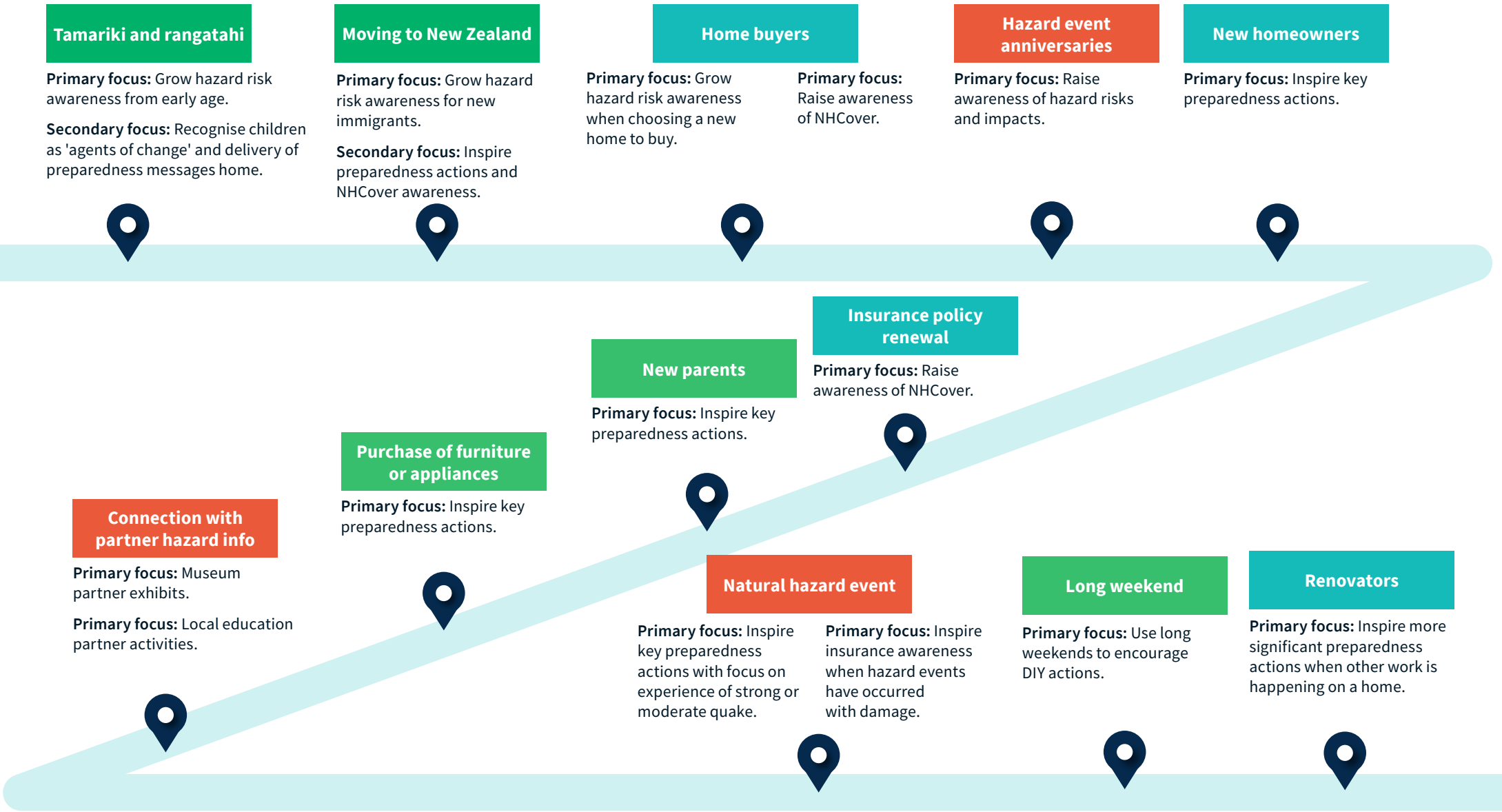
Initial thinking across many possible actions has been conducted, however further prioritisation work is required. This will form an immediate part of action planning for this strategy's delivery.

Proposed prioritisation model

Timing our messages

In inspiring New Zealanders to engage across our strategic objectives, there are key moments when they are more likely to be open to our messages - and more motivated to act. The diagram below maps these moments across three categories:

Life moments | Property moments | Hazard moments



Appendix

Strategy development and next steps

Strategy development

The suggested frameworks and approaches detailed in this strategy were developed through three primary methods:

1. Strategic workshops involving external and internal contributors.
2. Internal focus group sessions.
3. A collation and review of research into areas relevant to the strategy.

Public Education has been fortunate to be able to call on regular public monitors to measure performance. Conducted through NielsenIQ, these monitors survey 1,000 New Zealand adults every quarter and allow us to track hazard awareness and preparedness/risk reduction actions, amongst much else.

The NielsenIQ statistics have been used to set the scene for this strategy's development, and to provide a base indication as to what shifted across the past four-and-a-half years of the previous strategy.

Next steps

- Refresh our process to determine priorities for action/investment.
- Plan implementation, including to form up the work programme and map activities across the strategy's intended five-year lifespan.
- Discuss and agree oversight processes for the public education programme (including any major funding proposals).
- Develop a refreshed reporting process, including schedule of reporting.

Related key work

Whilst not led from Public Education there are some key products being worked on by the wider Resilience team that are intrisically linked to our Public Education work. Dependent on progress, both the items in this section could have significant impacts on the Public Education work programme.

Natural Hazards Portal

Launched in mid-2023, the Natural Hazards Portal is part of our commitment to share information that helps people reduce the risk from natural hazards and build resilience.

The first phase of the Portal provides public information on natural hazards and links people can use to explore natural hazard risk information in their local area, including on past events. It also includes a geospatial view of settled EQCover and NHCover claims nationwide from 1997 to the present. The public can search any property using the claims map.

Some key considerations for the next stage of the Portal are:

- How the Portal brand will live alongside the NHC Toka Tū Ake brand
- How Portal content will co-exist with Be Prepared information at naturalhazards.govt.nz
- How the Portal will be promoted (and by whom) with consideration for other Public Education work.

Incentivising risk reduction

Both this document, and the previous Public Education Strategy, recognise the challenge we face in inspiring risk reduction actions that require significant amounts of cost and effort. Education alone will only ever be able to achieve so much for larger, expensive actions.

As such, a think piece was developed by the NHC Toka Tū Ake Risk Reduction team that examines New Zealand and overseas examples of incentivising risk reduction actions, and behaviour change generally.

Potential risks involved with this work have been recognised and it could be socially, politically, legally and financially complex to achieve. However, direct risk reduction investment is becoming easier, and the benefits are becoming clearer. We anticipate assessing and addressing these risks via our scoping. Our aim would be to develop something that is equitable, fair and fiscally responsible.

Continuation of the scoping element of this work is expected to commence in October 2024 and continue through 2025.

Risk reduction and preparedness action

The terms 'risk reduction action' and 'preparedness action' are both used throughout this strategy. Both these concepts can be applied at an organisational, or even societal levels. However, in the context of this document, both terms are primarily applied at a household or individual level.

Risk reduction action

Used to refer to an 'end-state' action at the household level that actively reduces the risk of damage to a home, injuries to people, or financial risk. Examples include:

- Removing a hazardous chimney from a home.
- Maintaining a retaining wall so a slope is better able to withstand the challenges of heavy rainfall or an earthquake.
- Turning off leaking gas or water mains following a hazard event.
- Increasing the amount of sum-insured on a home to enable full replacement following significant damage in a disaster.

Preparedness action

Used to refer to actions that are intended to lead to an end-state, risk reduction action. Examples include:

- Talking to a builder about whether household features might pose a greater risk of damage.
- Finding out where to turn off gas and water mains if they're damaged in a disaster.
- Making a plan for action.
- Taking action to understand insurance cover.

Our primary goals will most likely focus in the risk reduction action space. However, some of the actions we hope to inspire cost significant amounts of time, money and effort. Depending on the context in which our messaging will be viewed, it is possible that a final risk reduction action is framed more as preparedness. For example, *'remove your chimney'* becomes *'talk to a builder about your chimney'*. In this way we are able to make our actions feel more achievable.

Housing in New Zealand

2,089,400
private dwellings in New Zealand. +178,000 from 31 Dec 2019
Stats NZ estimate for 30 June 2024

1,287,800
private dwellings are owner-occupied, or 62%.
Stats NZ estimate for 30 June 2024

33,921
new dwellings consented for the year ended July 2024. Down 22% from year ended July 2023.
Stats NZ

1/3
of New Zealand homes have been built since 2000.
Stats NZ: Housing in Aotearoa 2020 (updated 2021)

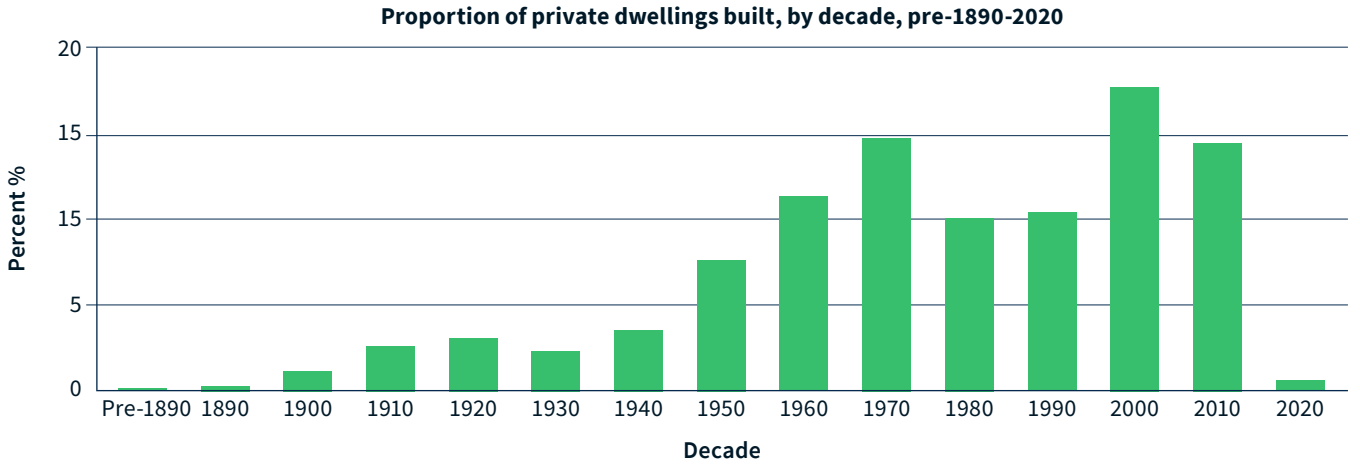
73%
of New Zealand dwellings are standalone houses.
Stats NZ 2018 Census

18.1%
private dwellings are joined to other private dwellings (eg. units, apartments, and terraced housing).
Stats NZ 2018 Census

125,466
home transfers in the year ended June 2024. Up 7% from year ended July 2023.
Stats NZ

<10%
of homes were constructed prior to the 1940s.
Stats NZ: Housing in Aotearoa 2020 (updated 2021)

90%
of New Zealand homes are constructed using light timber framing.
A Comparative Study on the Life Cycle Assessment of New Zealand Residential Buildings, 2022



Note: Detailed housing data from the most recent, 2023 Census was not available at the time of writing.

Stats NZ, data from Ministry of Housing and Urban Development; CoreLogic

Barriers and solutions: PESTLE analysis

Political

Declining trust in government

Distrust in messaging from government can undermine public confidence in our preparedness initiatives and insurance messages.

Strategies to overcome this barrier:

- Engage community leaders, organisations and respected partners to contribute to and deliver our messages.
- Use transparent and accessible communication.
- Provide clear, evidence-based information.

Economic

Increased cost of living

Financial constraints are likely to limit New Zealanders' ability to invest in preparedness measures and insurance.

Strategies to overcome this barrier:

- Promote cost-effective preparedness actions.
- Develop useful products that the public can access for free to better understand hazard risks and make plans for action.
- Emphasise the long-term benefits and possible savings of proactive measures.
- Focus on positive messaging that won't exacerbate an already stressful situation for whānau
- Advocate for mechanisms to help incentivise more expensive actions.

Increased frequency and impact of natural hazard events

Challenges of climate change may increase the number of disaster events, straining public resources and attention.

Strategies to overcome this barrier:

- Highlight the links between preparedness and reduced impact in a disaster.
- Use recent events as case studies to illustrate the benefits of taking action.

Social

Competing demands from organisations for public attention

Limited public attention and resources may be divided among various initiatives.

Strategies to overcome this barrier:

- Collaborate with other organisations to integrate messages.
- Prioritise clear, concise, and impactful communication to stand out.

Disaster fatigue

Repeated exposure to disasters may lead to apathy and inaction.

Strategies to overcome this barrier:

- Vary communication strategies, use positive and hopeful messaging.
- Share success stories to combat fatigue and inspire action.

Barriers and solutions: PESTLE analysis

Technological

Lack of access to online resources

Digital divides may prevent some communities from accessing information.

Strategies to overcome this barrier:

- Ensure information is available in multiple formats (e.g., print, radio, brochures).
- Create offline resources and support community events.

Disinformation and misinformation

False information can mislead and hinder effective preparedness.

Strategies to overcome this barrier:

- Provide clear and accurate information.
- Quickly counteract false narratives with factual data.

Accessibility for vulnerable communities

Ensure that preparedness information reaches all demographic groups.

Strategies to overcome this barrier:

- Tailor messaging and delivery methods to the needs of vulnerable communities.
- Partner with organisations that serve vulnerable communities.

Legal

Meeting our obligations to Māori as outlined in our Te Ao Māori Strategy

Meeting these obligations ensures fair and respectful engagement with Māori communities.

Strategies to overcome this barrier:

- Ensure all actions and communications respect a Māori world view.
- Engage in and encourage genuine partnership with Māori communities.

Environmental

Providing hazard risk information that is relevant and connective

Tailoring messages to specific regions enhances relevance and impact.

Strategies to overcome this barrier:

- Use local examples and data.
- Collaborate with local authorities to ensure messages address area-specific risks.

Incorporation of Māori environmental views

Integrating Māori perspectives will enrich our understanding of understanding of the Aotearoa hazard-scape and ensure more effective approaches for Māori communities.

Strategies to overcome this barrier:

- Respect and incorporate Māori environmental knowledge.
- Support initiatives that align with Māori ways of viewing and managing natural hazards.

Natural hazards and injuries at home

Protecting loved ones from harm is the primary motivator for inspiring preparedness actions for natural hazard events. But casualties (deaths and injuries) from past New Zealand disasters are relatively rare - particularly casualties that can be directly linked to design or features of our homes.

185 people tragically lost their lives in the 2011 Christchurch earthquake. However, just 12 of those deaths occurred in suburban areas. It appears two of those deaths - both babies - can be directly attributed to household items or features.[11]

Injuries in disasters are far more prevalent than deaths - and many of these occur at home. Research into injuries from seven significant New Zealand earthquakes between September 2010 and February 2014 showed that approximately two-thirds of injuries occurred at home.[12]

More than 10,000 injuries relating to the 2010/11 Darfield and Christchurch, and the 2016 Kaikoura earthquakes resulted in claims to the Accident Compensation Corporation (ACC). The vast majority (72%) of injuries were to soft tissue (eg. strains, sprains, and bruises). Across those three events, the 2011 Christchurch earthquake saw the greatest percentage (15%) of projectile injuries.[13]

With more than 600 deaths, it is commonly reported that more people have been killed by landslides than any other natural hazard in New Zealand. However, like earthquakes, fatalities primarily occur away from residential buildings (eg. avalanches and a number of rail disasters, including the 151 people killed in the 1953 Tangiwai disaster).

Of course, death and injury figures by hazard could all change in an instant due to a significant future event of any type. Tsunami and earthquakes in particular, have the potential to cause fatalities on a large scale.

For our Public Education work, messaging will focus on actions that can be taken to reduce casualties in relation to residential property. For most of the hazards we provide cover for (tsunami, floods, landslides, volcanic activity) the key factor contributing to casualties will be intention and ability to evacuate - which is a personal, not property, preparedness message. For these hazards, work to encourage construction of new homes in less risky locations becomes key. For existing homes, messaging focused on ensuring adequate insurance cover is most relevant.

Across the various hazard types, more actions that are likely to have a greater positive impact on personal safety in the home exist for earthquakes.

11 NZ Police data from 2011 Chrischurch earthquake. See following page.
12 Basharati et al. A research update on the demography and injury burden of victims of New Zealand earthquakes between 2010 and 2014
13 Horspool et al. Damage and Losses to Residential Buildings during the Canterbury Earthquake Sequence

The 2016 M7.8 Kaikōura earthquake was one of the largest earthquakes to occur in New Zealand in the past 100 years and resulted in two deaths and 618 injuries. Research into Accident Compensation Corporation (ACC) data following the quake showed:

- 37% of casualties were from falls
- 44% were from actions of people during shaking
- 8% were due to being hit by contents
- 9% of people were injured after shaking stopped during evacuations, or clean-up[14]

Greater numbers of injuries were reported from the 2010 Darfield (2,256 injuries) and 2011 Christchurch (7,171 injuries) earthquakes.

For the Darfield quake:

- 28% of casualties were from trips/falls
- 14% were injured helping others
- 9% were injured by projectiles
- 14% of people were injured during clean-up.

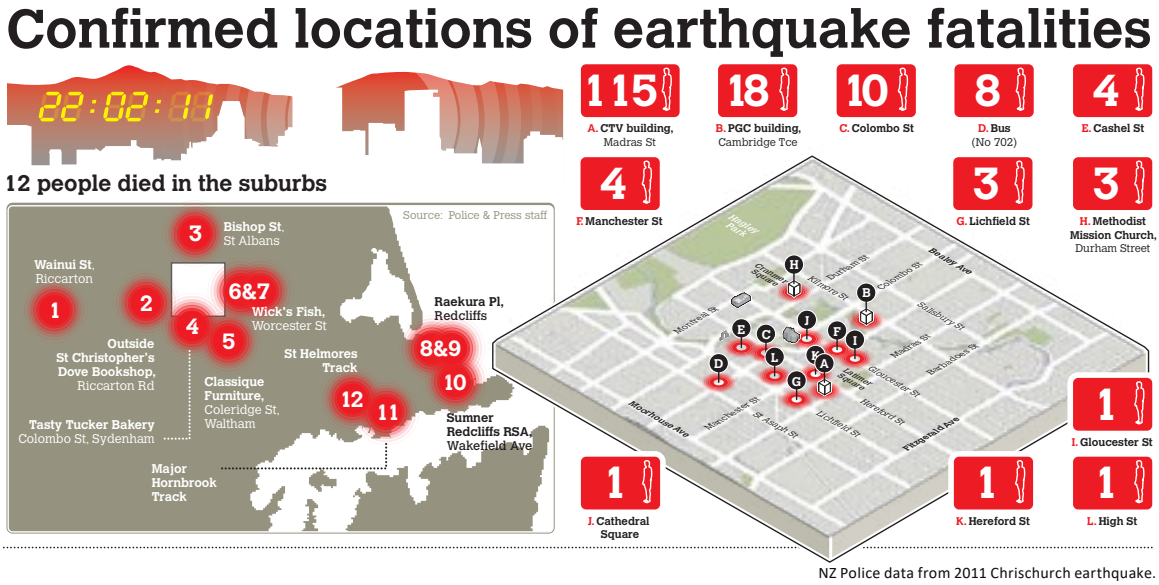
For the Christchurch quake:

- 26% of casualties were from trips/falls
- 15% were injured by projectiles
- 10% were injured due to ground damage
- 9% of people were injured during clean-up[15].

Looking across these three events, the vast majority (72%) of injuries were to soft tissue (eg. strains, sprains, and bruises).

Eight-month-old Jayden Harris died when a 21-inch television fell from a chest of drawers during the earthquake, killing him instantly.

Five-month-old Baxtor Gowland died from injuries sustained when an exposed brick fireplace collapsed at his home on Bishop Street.



NZ Police data from 2011 Chrischurch earthquake.

14 Horspool et al. Factors influencing casualty risk in the 14th November 2016 MW7.8 Kaikōura, New Zealand earthquake
15 Johnston et al. The 2010/2011 Canterbury earthquakes: Context and cause of injury

Factor	Hazard	Audience	Evidence
Those more likely to suffer injuries due to mitigable property factors	**Earthquakes**	**Women**	• Women were twice as likely to be injured than men in the 2016 M7.8 Kaikōura earthquake.[16] • More females than males were also reported injured in the two main Canterbury quakes (1,453 vs. 803 Darfield; 4,646 vs. 2,525 Christchurch).[17] • Research following the M6.7 1994 earthquake in Northridge California showed females were 2.4 times more likely to be injured than males.[18]
		Older people	• In the Kaikōura earthquake, injury risk was higher for those above the age of 30 and increased by 30% with every 10-year age band.[16] • The Northridge California quake showed individuals over age 65 had 2.9 times the risk of injury as younger people. Every 10-year increase in age over age 18 led to a 30% increase in injury risk.[18]
		At risk of greater shaking intensity	• In the Kaikōura earthquake, injury risk increased 2.2 times for every unit increase in MMI shaking intensity.[16] • In the Northridge California earthquake, every 10km increase in distance from the quake's rupture plane led to a 10% reduction in the risk of injury.[17]
		Those with home features that are a falling hazard	• In Kaikoura approximately 10% of injuries were from being hit by contents. Of these, approximately 50% were from furniture (wardrobes, shelving units, etc) and the remainder from wall hangings, electronics and items of shelves.[16]
		Babies and young children	• Two babies were tragically killed in the 2011 Christchurch earthquake - one by a falling television and the other from internal bricks falling from a chimney.[19]
	Multi-hazard (likely)	**Those less aware of hazard risk**	• Knowledge of the local landslide hazards increases the likelihood of an individual making advanced preparations, such as identifying or creating a structurally reinforced refuge space, relocating bedrooms to the downhill side of a home, and moving beds away from windows and doors.[20]
		People with physical disabilities	• People with physical disability are two to four times more likely than the general population to die or sustain injuries during disaster events (Fujii 2012) Note: More detailed analysis of this data could not be found at the time of writing. It's possible many injuries or deaths could be attributed to issues with evacuation, rather than being tied to property factors.

16 Horspool et al. Factors influencing casualty risk in the 14th November 2016 MW7.8 Kaikōura, New Zealand earthquake
17 Horspool et al. Damage and Losses to Residential Buildings during the Canterbury Earthquake Sequence
18 Peek-Asa et al. Seismic, structural, and individual factors associated with earthquake related injury, 2003
19 NZ Police data from 2011 Chrischurch earthquake
20 Pollock. Wartman. Human Vulnerability to Landslides 2020

Public Education and Te Ao Māori

Our Te Ao Māori Strategy supports the NHC's aspirations to be an unconsciously competent bi-cultural and multi-cultural organisation.

Our Public Education work is well placed to play an important role in bringing effect to our Te Ao Māori Strategy across all four of its key priorities - shown to the right.

Within strategic priority three, there is specific reference to our Public Education work, in that we explore 'Māori-responsive approaches to the delivery of public education material.'

One of the success measures for achieving strategic priority four is that 'Māori communities feel/are supported to increase their resilience.'

Our Te Ao Māori Strategy commits us to the following strategic priorities:

1. Building our Māori capability and capacity – including learning about and understanding our communities and customers.
2. Building enduring, committed, authentic, reciprocal, genuine and trusted relationships with Māori - recognising the expertise of tangata whenua and co-designing how best we work together.
3. Ensuring Māori have equitable access to our insurance cover recognising the unique circumstances of Māori and the relationship Māori have with their whenua and kainga.
4. Recognising and valuing mātauranga Māori within all appropriate aspects of our work

> "Homes are not just buildings, but important emotional resources with a strong degree of personal significance for their occupants, including belonging, comfort, safety, and wellbeing. For Māori, home tends to be more about connection to people and communities rather than a physical location or a physical dwelling.[21]

21 Housing and disaster recovery. Policy brief. 2024

Māori and whānau resilience

He Arotakenga Manawaroa is a kaupapa Māori framework that provides a holistic approach for assessing and evaluating resilience. The approach is designed to assess a level of risk and resilience for Māori communities and enterprise, as well as resources and assets – pre-event and post-event. The derived information can then be used to formulate adaptation and response plans, strategies and actions, in order to build long term sustainable and resilient communities.

The hope for the framework is that it is widely accepted and applied to assess Māori resilience and to help communities identify and articulate risk, hazards, and potential impacts on communities, Māori enterprise, resources, and assets. Kaupapa Māori assessment approaches should be used alongside mainstream technical and science approaches within three main interlinked domains or wāhanga.

Wāhanga/domains

The assessment of resilience for sustainability planning is proposed across three main interconnected or linked wāhanga domains:

- **Whakaora whānau** – Resilient and strong whānau/ families (social/cultural).
- **Whakahoki mauri** – Ensuring the essence of life and vitality remains intact and connected (cultural, metaphysical, spiritual).
- **Whakapakari kāinga** – Sustaining and enhancing the built and natural environment (social and cultural capital, biophysical).

Attributes within each wāhanga are identified as integral for assessment. Quantitative and qualitative indicators and measures can then be developed by local communities within each of the attributes. Domains, attributes and indicators could be extended in future and developed to be more locally explicit.

In the context of our Public Education work programme, linkages are apparent between the wāhanga domains and our strategic objectives and thus have been incorporated into our Public Education Strategy on a page 2024-2029. This framework can also play an important role is action planning for delivery of this strategy.

> “Hazards and risk can be understood from both a Te Ao Māori mātauaranga based lens, of stories, concepts, and traditional and historic knowledge handed down through generations, and often from very locally specific iwi/hapū/whānau and marae-based knowledge (Gabrielsen et al. 2017). It can also be understood from a more recent scientific and technical/planning lens with vastly improving knowledge and discovery about our world. The two worldviews are complementary and conflicting.

Acknowledgements and frameworks

Natural Hazards Commission Toka Tū Ake would like to acknowledge the invaluable input from the following people as contributors to this strategy's development:

- Kelvin Tapuke, Massey University
- Prof. Julia Becker, Massey University
- Prof. Emma Hudson Doyle, Massey University
- Petra Satele, Massey University
- Anna Cardno, GNS Science
- Georgia McCombe, East Coast LAB
- Lindsay Poll, National Emergency Management Agency
- Gretchen Young, Strategic Facilitator

Also thanks to the many Natural Hazards Commission Toka Tū Ake staff who leant their time and expertise to the process.

Ngā mihi nui ki a koe!

Contributing frameworks for this strategy

- Natural Hazards Commission Toka Tū Ake Resilience Strategy for Natural Hazard Risk Reduction 2024-29
- Natural Hazards Commission Toka Tū Ake Te Ao Māori Strategy
- New Zealand Disaster Resilience Strategy
- Sendai Framework for Disaster Risk Reduction 2015-2030

NHC Toka Tū Ake companion strategies

- Risk Reduction Strategy
- Research Strategy
- Loss Modelling Strategy
- Communications & Engagement Strategy

V1. 2025.