



Poor water service quality

How are people affected?
Who suffers most,
and why?

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Topics

- Research aim
- Previous studies in averting behaviours in water
- Method
- Findings
- Conclusions
- Recommendations

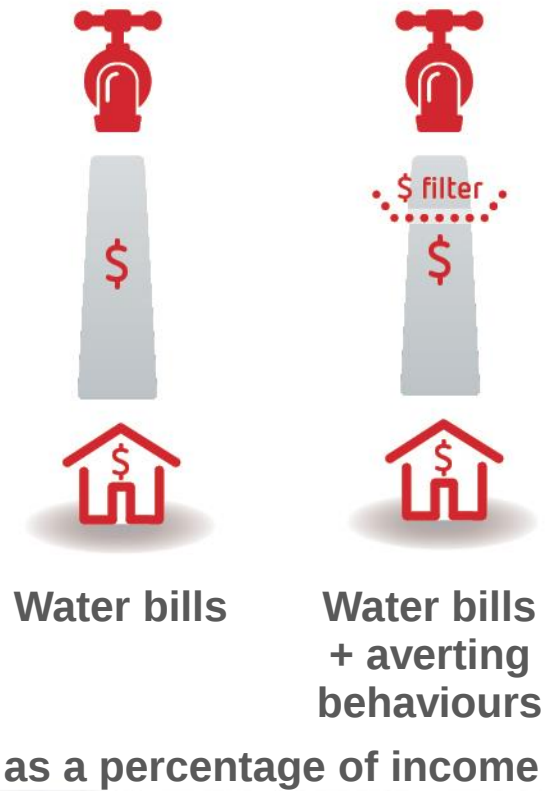
Motivation

- Pressure from regulators and consumers to provide affordable services. What are implications of reducing level of service to meet cost expectations?

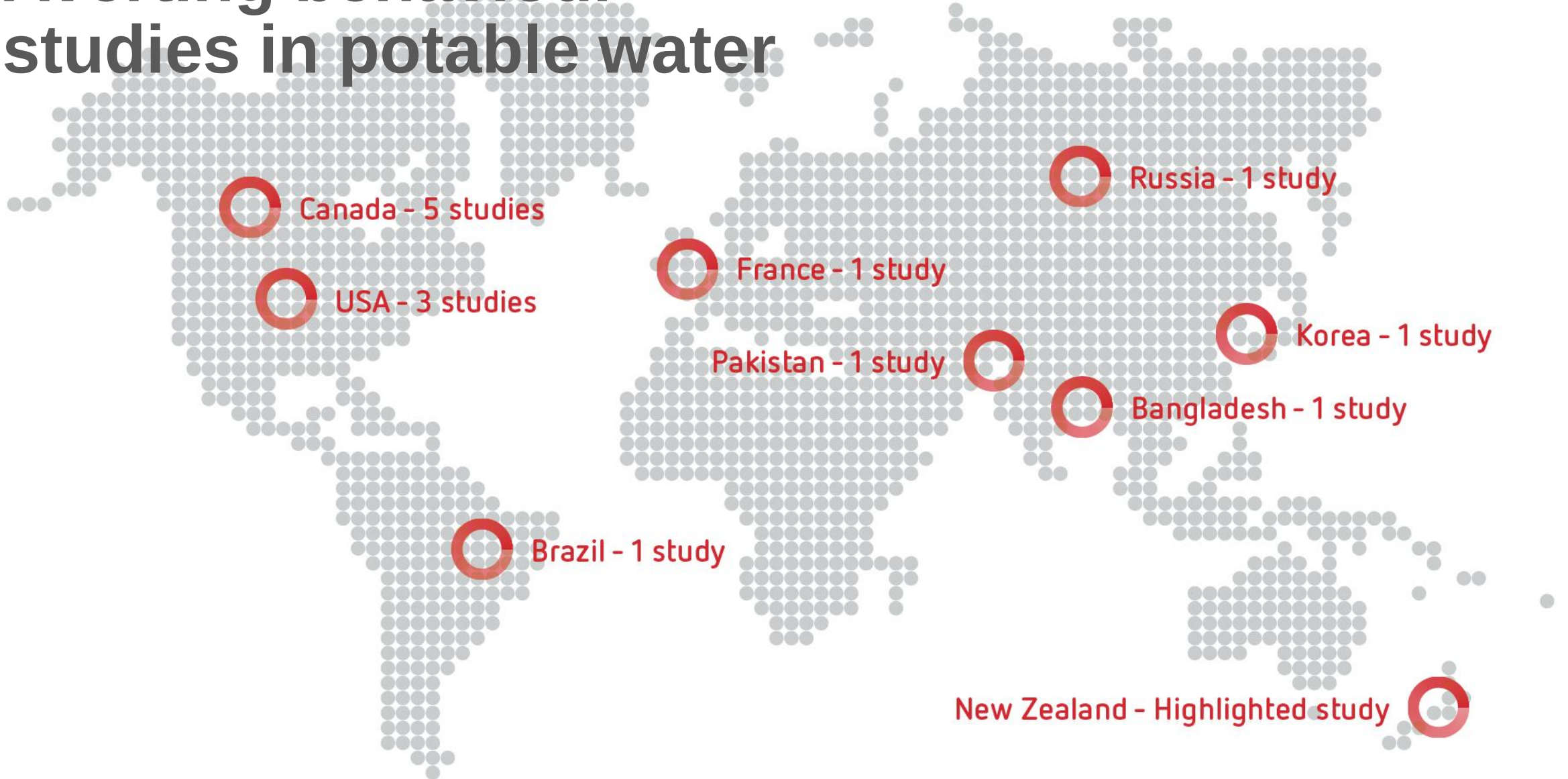
Research aim

- To understand the prevalence and nature of averting behaviours associated with poor water service quality in a developed country context (New Zealand)

What is affordable water?



Averting behaviour studies in potable water

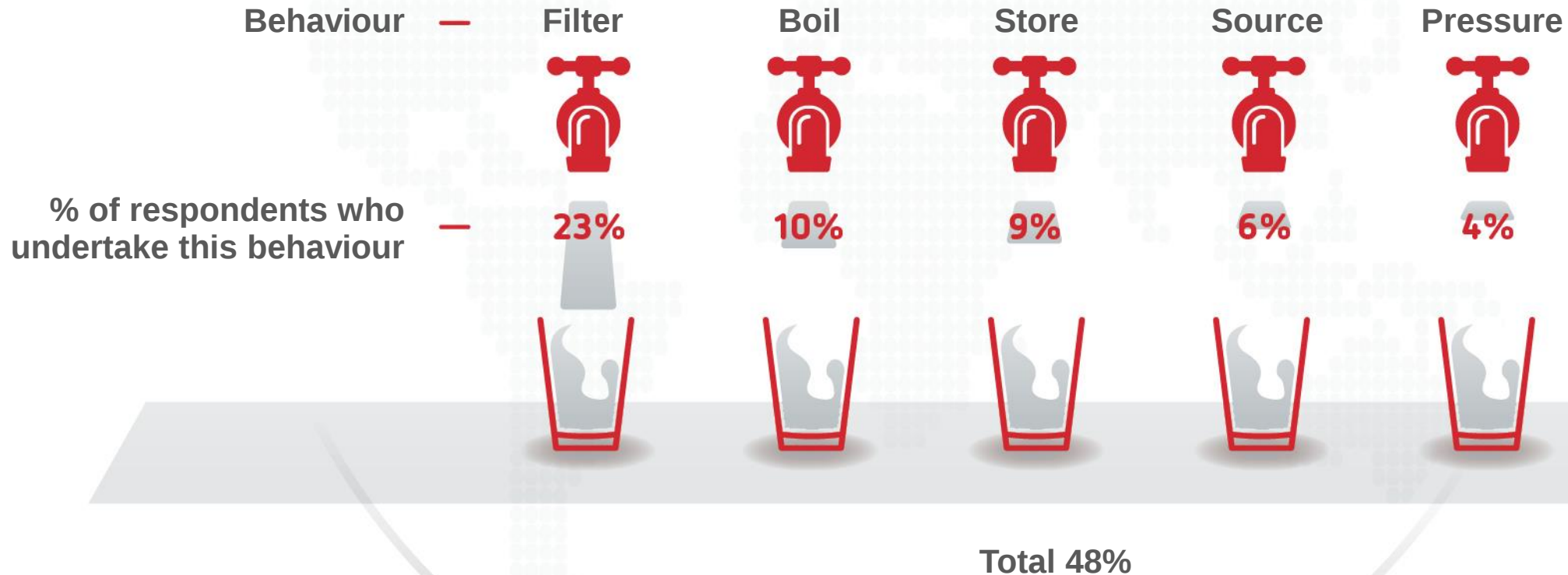




The research

- Revealed preference study
- Dynamic online survey
- 1917 valid responses
- Representative of NZ water consumers

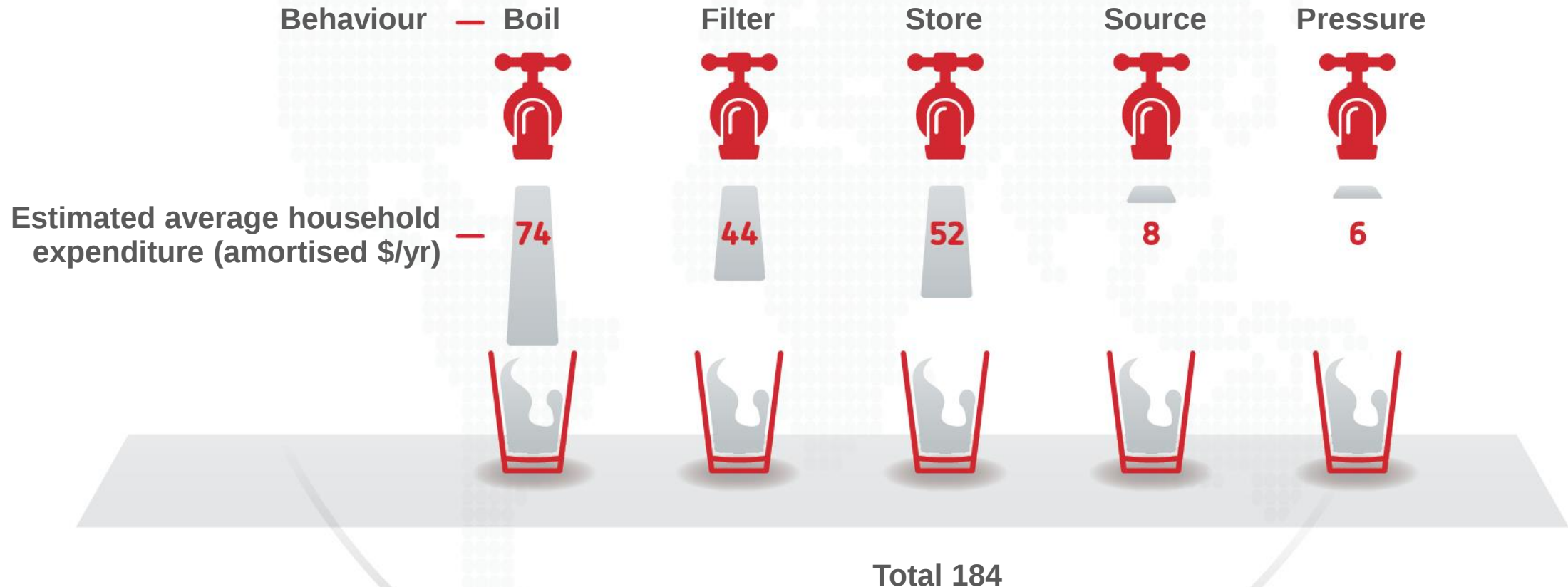
Averting behaviours (% of People)



Escalating behaviours

		% of respondents that treat their water	
Attribute	Perception		
Taste, smell & appearance	Terrible	38%	
	Bad	35%	
	Could be better	24%	
	Excellent	10%	***
Protection from microorganisms	Not at all	1.5%	***
	Somewhat or mostly	8%	***
	Completely	4%	***
Protection from chemicals	Not at all	15%	**
	Somewhat or mostly	5%	**
	Completely	2%	***
Hardness	Not hard	0.3%	***
	Hard	3%	***

Averting behaviours (spend \$)



The background of the slide features a dynamic water splash effect. A large, clear droplet is captured mid-fall at the top center, creating a series of concentric ripples and smaller droplets as it impacts the surface below. The water is depicted in various shades of blue and white, with some areas appearing more turbulent and frothy. This splash effect is layered over a solid red background that occupies the majority of the slide's area.

Higher-income households that undertake averting behaviours to improve the taste and odour of their water spend between \$135 and \$170 per year on those averting behaviours

Lower-income households spend between \$190 and \$220

lower-income spend more than higher-income



Findings: Poor water service quality in NZ

1. Motivates 50% of customers to averting behaviours
2. Avert for aesthetics, microbes, chemicals & hardness
3. Economic burden >\$184 per household per year
4. As service quality degrades, more households act, but already-averting households do not invest more
5. When taste is poor, lower income households are both more likely than higher income households to act, and invest more time in averting behaviours
6. Even when consumers perceive service quality as excellent, some undertake averting behaviours

Conclusions

1. Averting behaviours make up a significant portion of total household water service costs
2. Taste and odour motivate the largest household-level investments
3. Excellent service quality will not eliminate all averting behaviours

Change the definition of affordable water

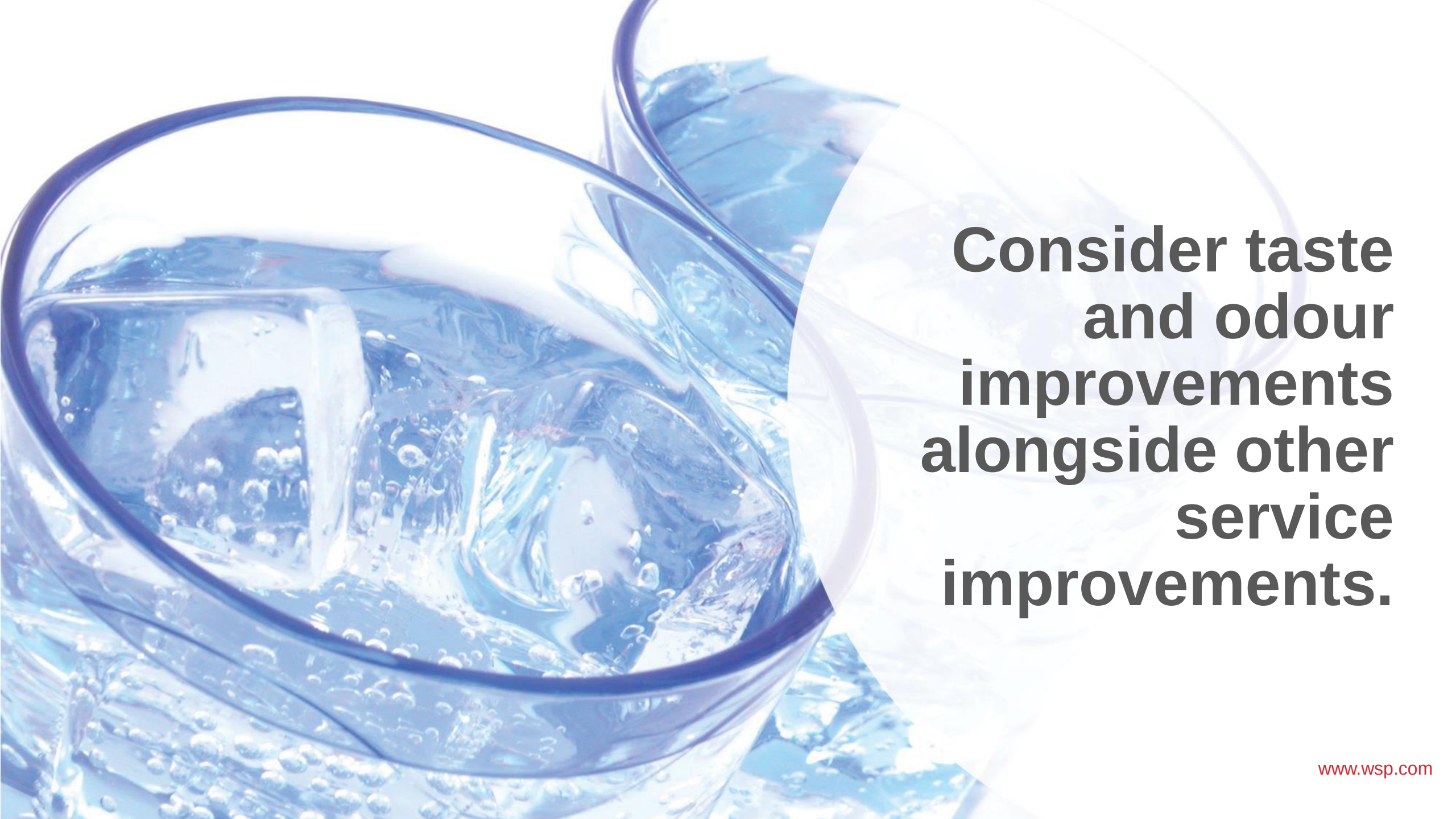
Unaffordable



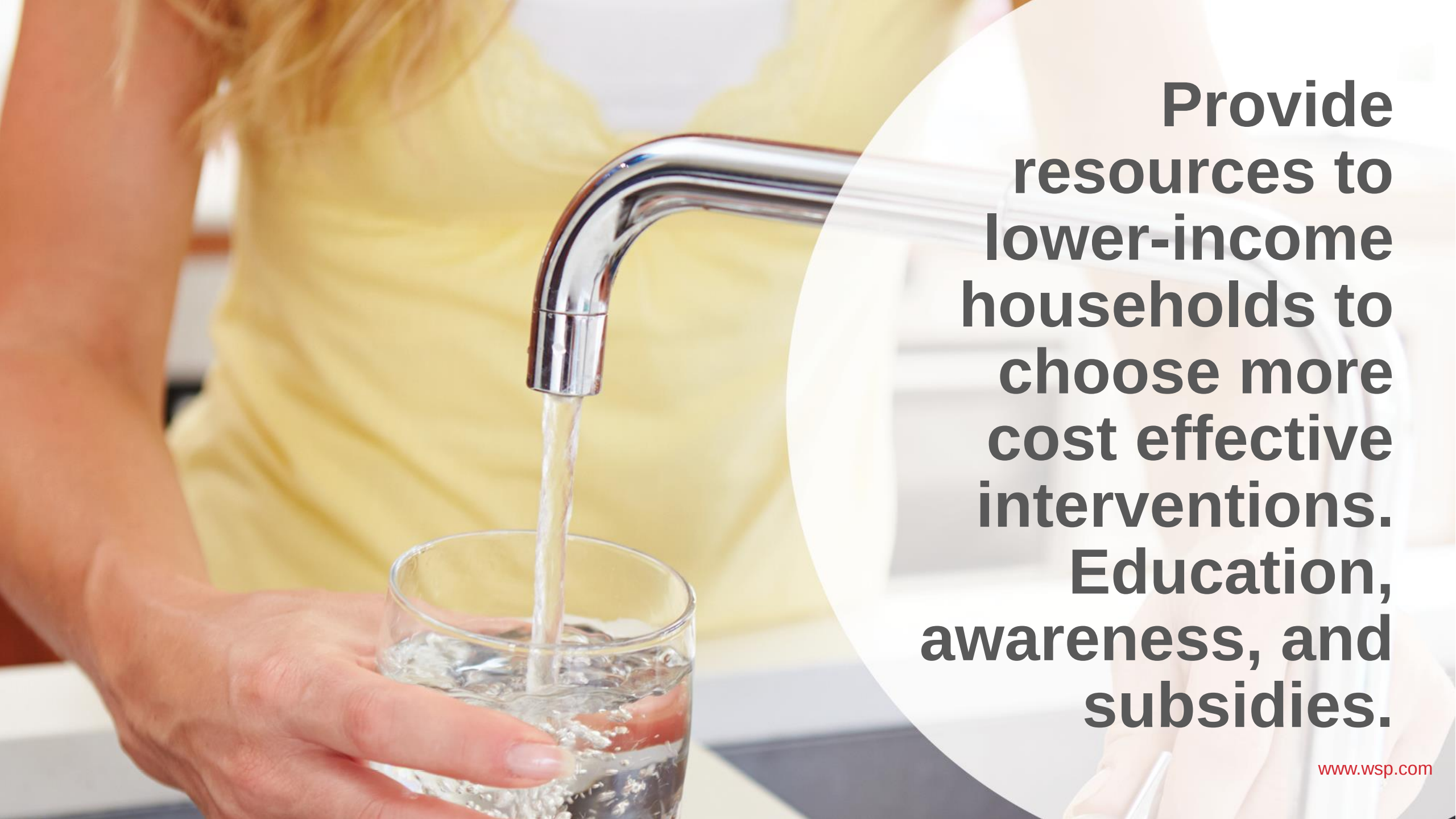
Affordable



(Water bills + averting
behaviours), as a
percentage of income

A close-up photograph of two glasses filled with water and ice cubes. The water is clear and bubbly, with many small bubbles visible on the surface and around the ice. The glasses are made of clear glass, and the background is a soft, out-of-focus white. The overall tone is fresh and clean.

**Consider taste
and odour
improvements
alongside other
service
improvements.**

A close-up photograph of a person's hand holding a clear glass under a chrome faucet. Water is flowing from the faucet into the glass. The person is wearing a yellow shirt. The background is slightly blurred, showing a kitchen setting. A large white circular graphic is overlaid on the right side of the image, containing text.

**Provide
resources to
lower-income
households to
choose more
cost effective
interventions.
Education,
awareness, and
subsidies.**



The economic burden of water service quality in New Zealand is significant. Can this burden be more efficiently mitigated through centralised improvements to water supply systems, or through household-level customisation?



Thank you!

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