

WP3 Individual Resilience

Health Related Outcomes of Disasters

Progress and plans 2017-2018

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WP3 Individual Resilience – Health Related Outcomes of Disasters

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graph TD; A[WP3 Individual Resilience – Health Related Outcomes of Disasters] --> B[WP 3.1 Long term physical and psychological health following natural disasters. Arna Hauksdóttir]; A --> C[WP 3.2 Children in natural disasters. Communication and risk perception. Atle Dyregrov]; A --> D[WP 3.3 Psychosocial support and intervention following natural disasters. Ask Elklit];
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WP 3.1

Long term **physical and psychological health** following natural disasters.

Arna Hauksdóttir

WP 3.2

Children in natural disasters. Communication and risk perception.

Atle Dyregrov

WP 3.3

Psychosocial support and intervention following natural disasters.

Ask Elklit

Data sources

- ***Data collected with questionnaires.*** Tsunami study – Swedish survivors (2005), Earthquake study – South of Iceland (2008), Volcano study – Eyjafjallajökull (2010 and 2013), Avalanche studies – West of Iceland (1996 and 2011) Avalanche studies - West of Iceland – rescue workers (1996).
- ***Data from health registers.*** Information on causes of mortality, morbidity (in-patient records) and pharmaceutical information (prescriptions and purchases of medicines), both for adults and children.

A photograph of a volcanic eruption. A large, dark, conical mountain dominates the background. A massive, bright orange and red plume of smoke and ash rises from the summit, filling the upper half of the frame. In the foreground, a town with numerous buildings is visible, situated on a flat, light-colored landscape. The text "Progress in 2017" is overlaid in white on the mountain's slope.

Progress in 2017

Completed articles in 2017

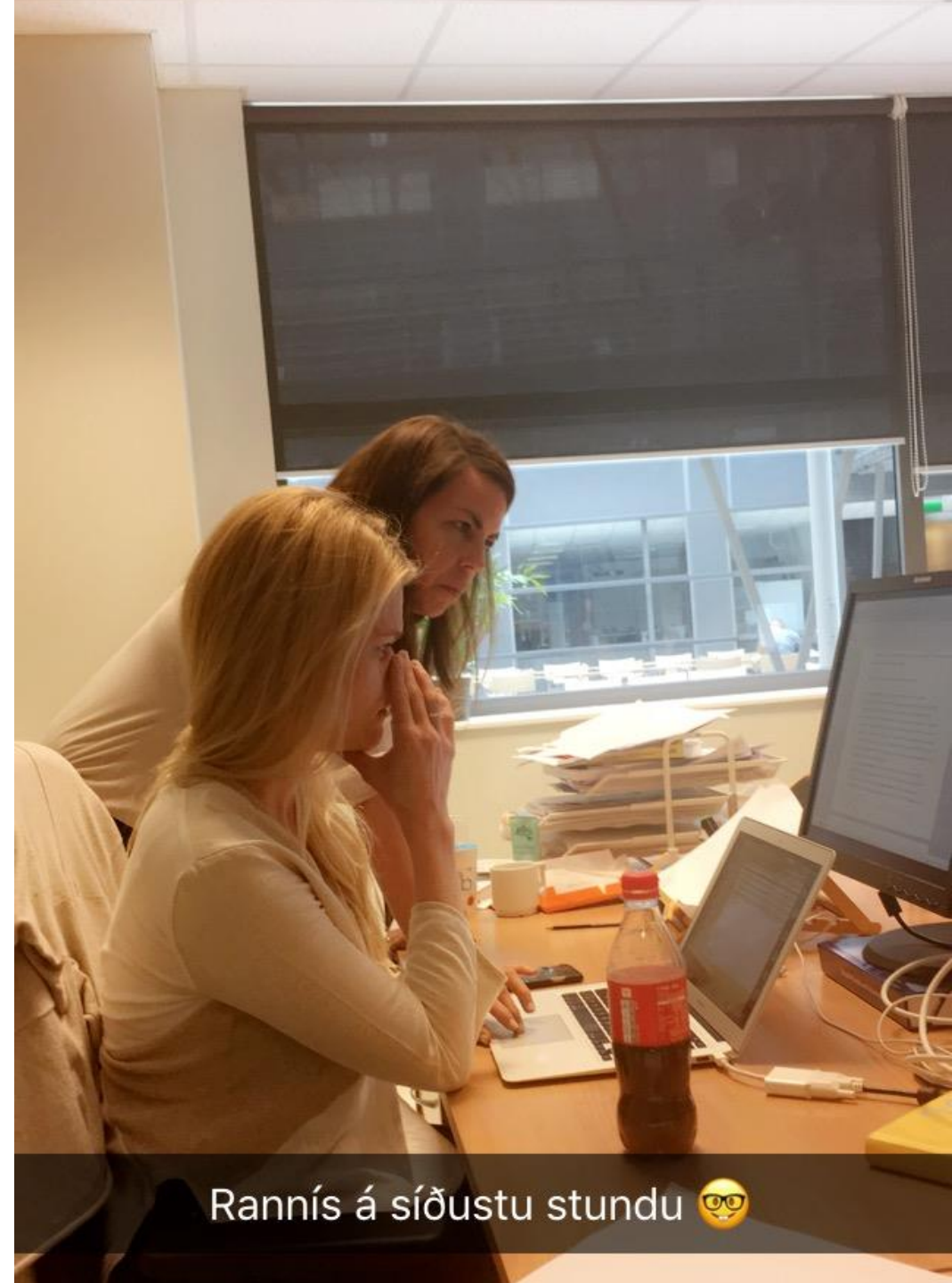
- Gissurardóttir ÓS, Hlodversdóttir H, Thordardóttir EB, Pétursdóttir G, Hauksdóttir A. **Mental health effects following the eruption in Eyjafjallajökull volcano in Iceland – A population-based study.** Scand J Public Health. 2018
- Thordardóttir EB, Gudmundsdóttir B, Pétursdóttir G, Valdimarsdóttir UA, Hauksdóttir A. **Psychosocial Support After Natural Disasters in Iceland-Implementation and Utilization.** Int J of Disaster Risk Reduction. 2018
- Hlodversdóttir H, Thorsteinsdóttir H, Thordardóttir EB, Pétursdóttir G, Hauksdóttir A. **Long-term health of children following the Eyjafjallajökull volcanic eruption – A prospective cohort study.** Accepted for publication in the European Journal of Psychotraumatology (in press).
- Thordardóttir EB, Gudmundsdóttir H, Gudmundsdóttir B, Hrólfsdóttir AM, Aspelund T, Hauksdóttir A. **Development and predictors of psychological outcomes following the 2008 earthquake in Iceland: A longitudinal cohort study.** Scand J Public Health. (in press)

Conferences

- **15th Conference of European Society for Traumatic Stress Studies,**
University of Southern Denmark.
- Two presentations: Arna and Edda presenting.
- **IDRiM2017 - the 8th Conference of the International Society for
Integrated Disaster Risk Management, Iceland.**
- Six presentations: Arna, Edda, Heiðrún presenting.

Research grant

- The Icelandic Research Fund
- Post doctoral grant 2018-2020:
Edda Björk Þórðardóttir
- Project: Long-Term Morbidities and Comorbidities After Exposure to Trauma and Bereavement

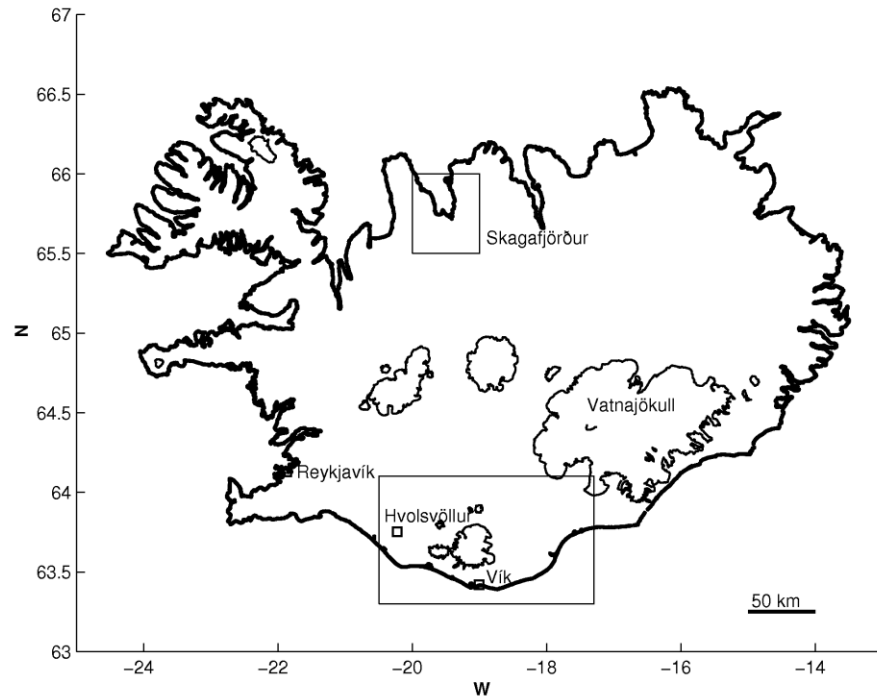


Rannís á síðustu stundu 🧐

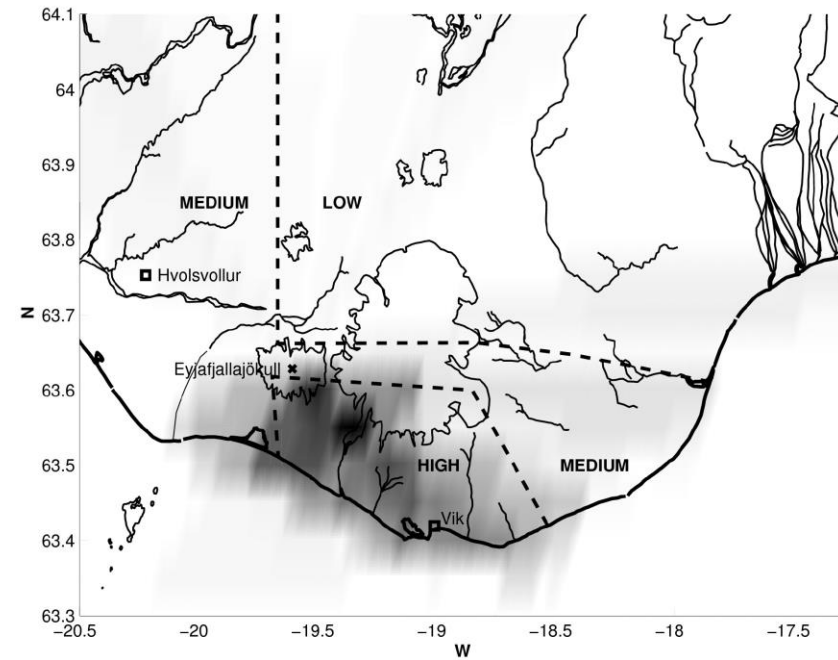


Volcanic eruption and children's health in Iceland – A population-based study

Study area

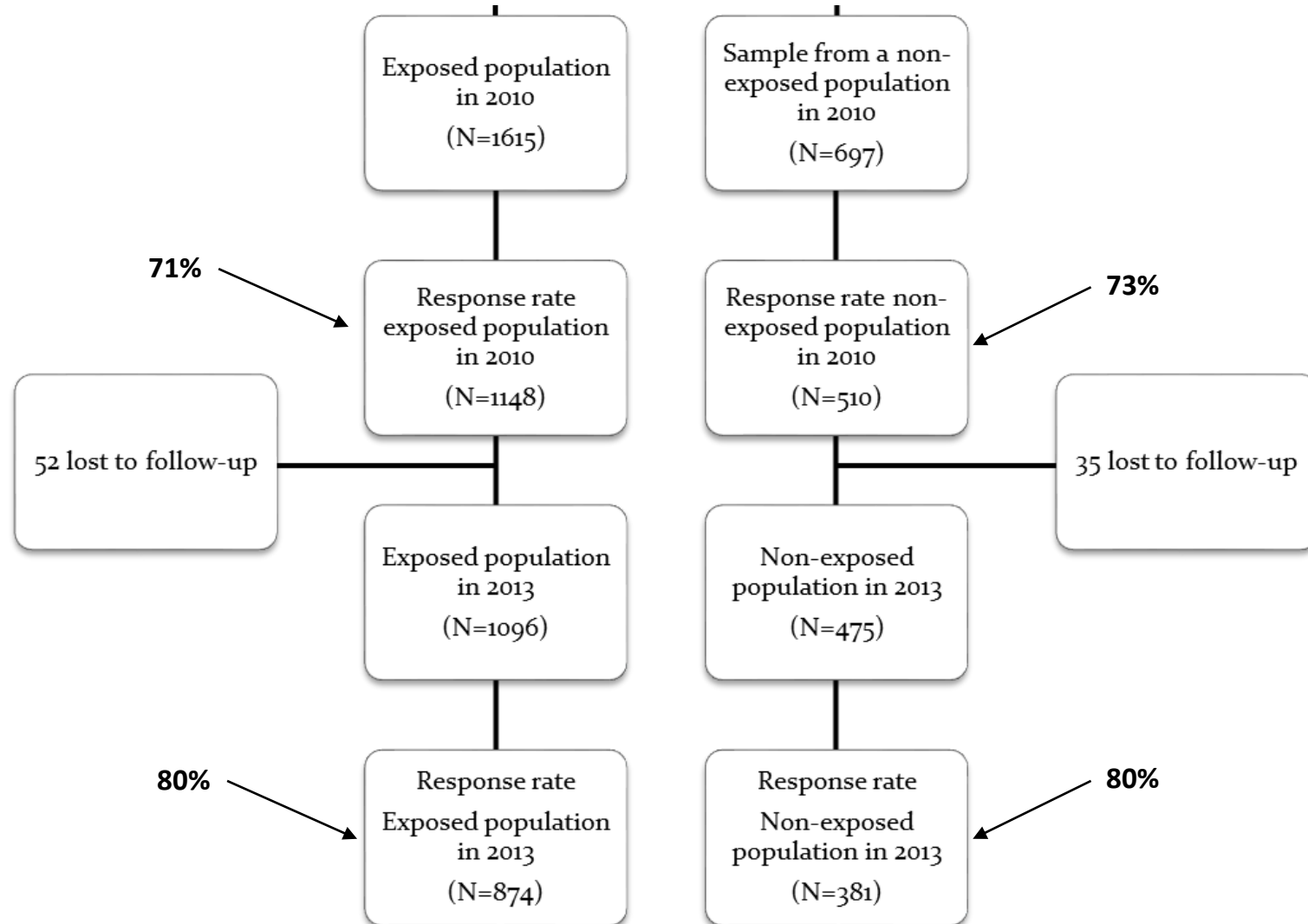


Map of Iceland showing the study area exposed to the volcanic eruption in southern Iceland, and the non-exposed control area in Skagafjörður, northern Iceland.



Close-up of the exposed area, with the Eyjafjallajökull volcano marked with an "x" and the low, medium and high exposure areas used in the study. The shading shows the estimated ash exposure during the eruption.

Participants 2010 and 2013



Questionnaire

All participants

- Background (8)
- Symptoms (30)
- Sleep (5)
- Respiratory symptoms (13)
- Alcohol use (2)
- Intake of medicines (9)
- Well being of children (5+5+5)
- Mental health (GHQ - 12)
- Stress (PSS - 4)

- Experience of participation (txt)
- Other (txt)

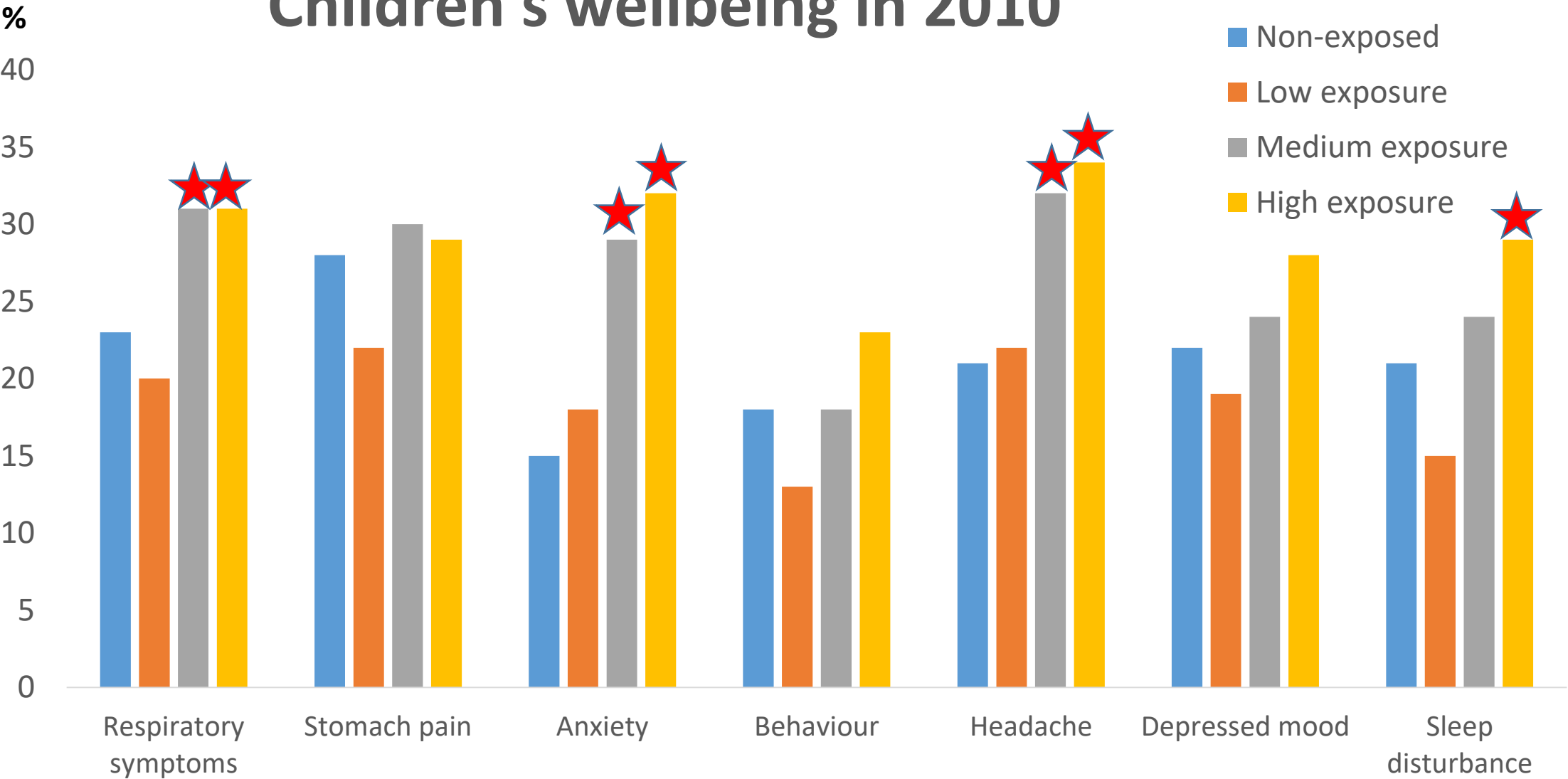
In addition for exposed population:

- PTSD (4)
- Exposure (5)
- Behavior during eruption (5)
- Property damages (6)
- Support from professionals/others
- Positive consequences (7)

Well being of children

- Respiratory symptoms
- Stomach pain/ nausea
- Headache
- Anxiety/concerns
- Behavioural problems
- Depressed mood
- Sleep disturbance

Children's wellbeing in 2010



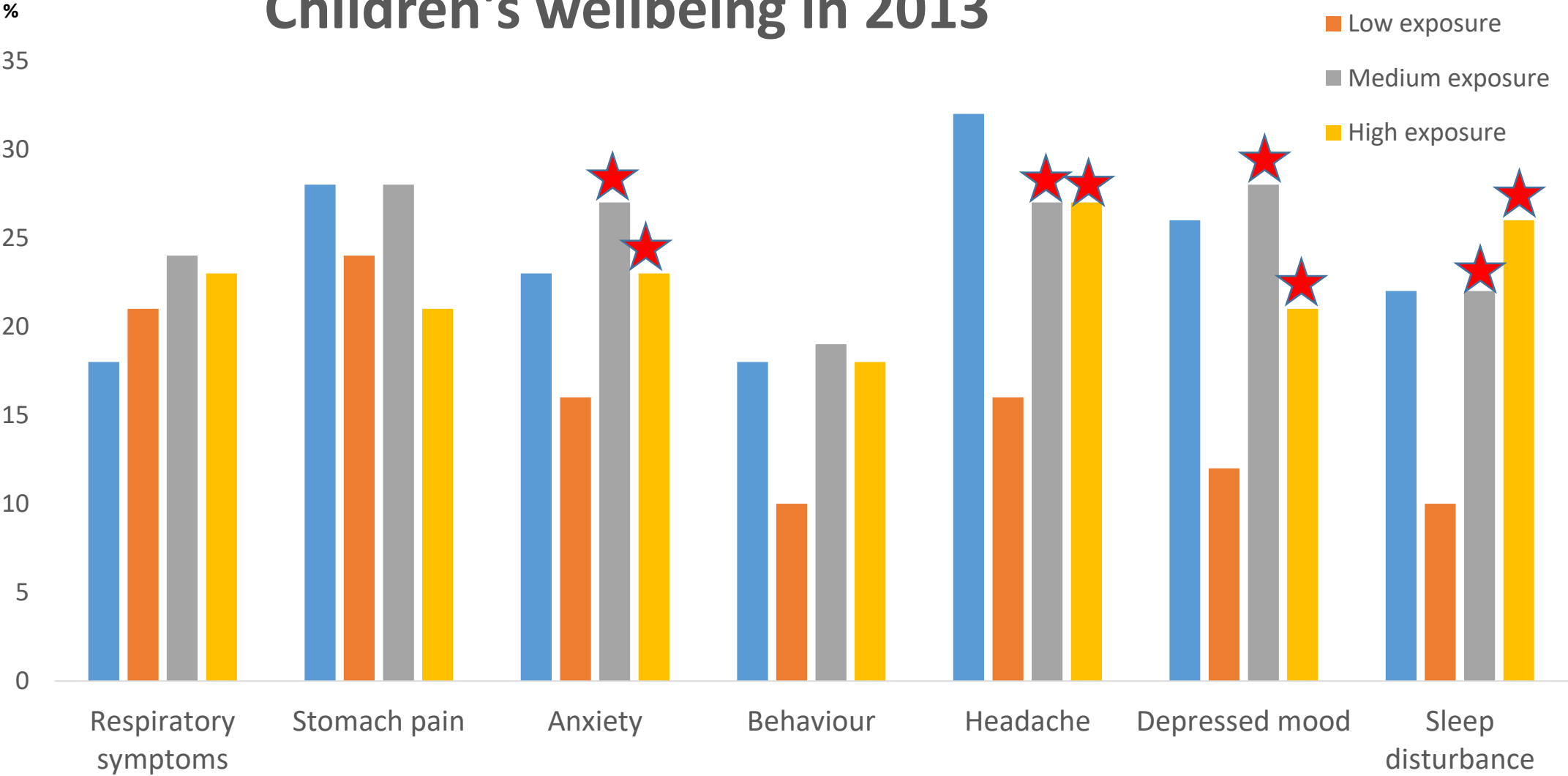
Children's wellbeing and damages

Children's symptoms	No damage on house	Damage on house	OR (95% CI)
	% (n/N)	% (n/N)	
Anxiety	25,2 (146/580)	37,5 (75/200)	1,78 (1,24 to 2,55)
Headache	28,8 (166/567)	37,6 (77/205)	1,42 (1,00 to 2,02)
Depressed mood	22,5 (131/583)	30,7 (62/202)	1,59 (1,09 to 2,30)
Sleep disturbance	23,8 (138/579)	23,9 (48/201)	1.19 (0,80 to 1,76)
Stomach pain	27,2 (158/580)	32,8 (67/204)	1,44 (1.00 to 2.02)
Behavior	19,4 (112/577)	18,4 (37/201)	1.05 (0,68 to 1,61)

Children's wellbeing 2010-2013

	Exposed 2010 (n = 835)	Exposed 2013 (n = 541)	
	% (n/N)	% (n/N)	OR (95% CI) [†]
Respiratory symptoms	29.9 (236/788)	23.76 (115/484)	0.89 (0.82 to 0.98)
Stomach pain/nausea	28.5 (226/793)	25.8 (123/476)	0.97 (0.88 to 1.05)
Headache	28.3 (223/788)	25.9 (124/479)	0.92 (0.84 to 1.00)
Anxiety/concerns	19.0 (149/786)	25.2 (121/480)	0.94 (0.86 to 1.03)
Behavioral problems	31.1 (245/789)	17.8 (83/467)	0.98 (0.89 to 1.09)
Depressed mood	24.6 (195/793)	24.7 (118/478)	1.01 (0.92 to 1.10)
Sleep disturbance	24.0 (189/789)	21.9 (104/474)	0.98 (0.90 to 1.08)

Children's wellbeing in 2013



Conclusions

- A dose-response relationship between exposure and symptoms, with those in the more exposed areas at greatest risk for physical and psychological symptoms.
- No decrease in symptoms between 2010 and 2013.
- Children exposed to damages to homes at greater risk.

These results underline the importance of appropriate follow-up on children and identification of potential risk groups after a natural disaster.

Plans for 2018



Eyjafjallajökull volcano studies

- **Registry data:** Data analysis, writing of 2 manuscripts, based on the very comprehensive data set (registry data) on respiratory morbidity, sleep disturbances, anxiety and depression following the Eyjafjallajökull eruption – A population-based study.



Avalanche study (aim 1, questionnaire data): Submission/publication of 1 manuscript:

- Disaster-related risk factors associated with sleep disorders among Icelandic avalanche childhood and adult survivors, 16 years post-disaster.

Tsunami study (aim 2, registry data): Submission of manuscript 1:

- Utilization of drugs for sleep disorders during a 10-year follow-up among Swedish adult and childhood survivors of the 2004 Tsunami in South East Asia.





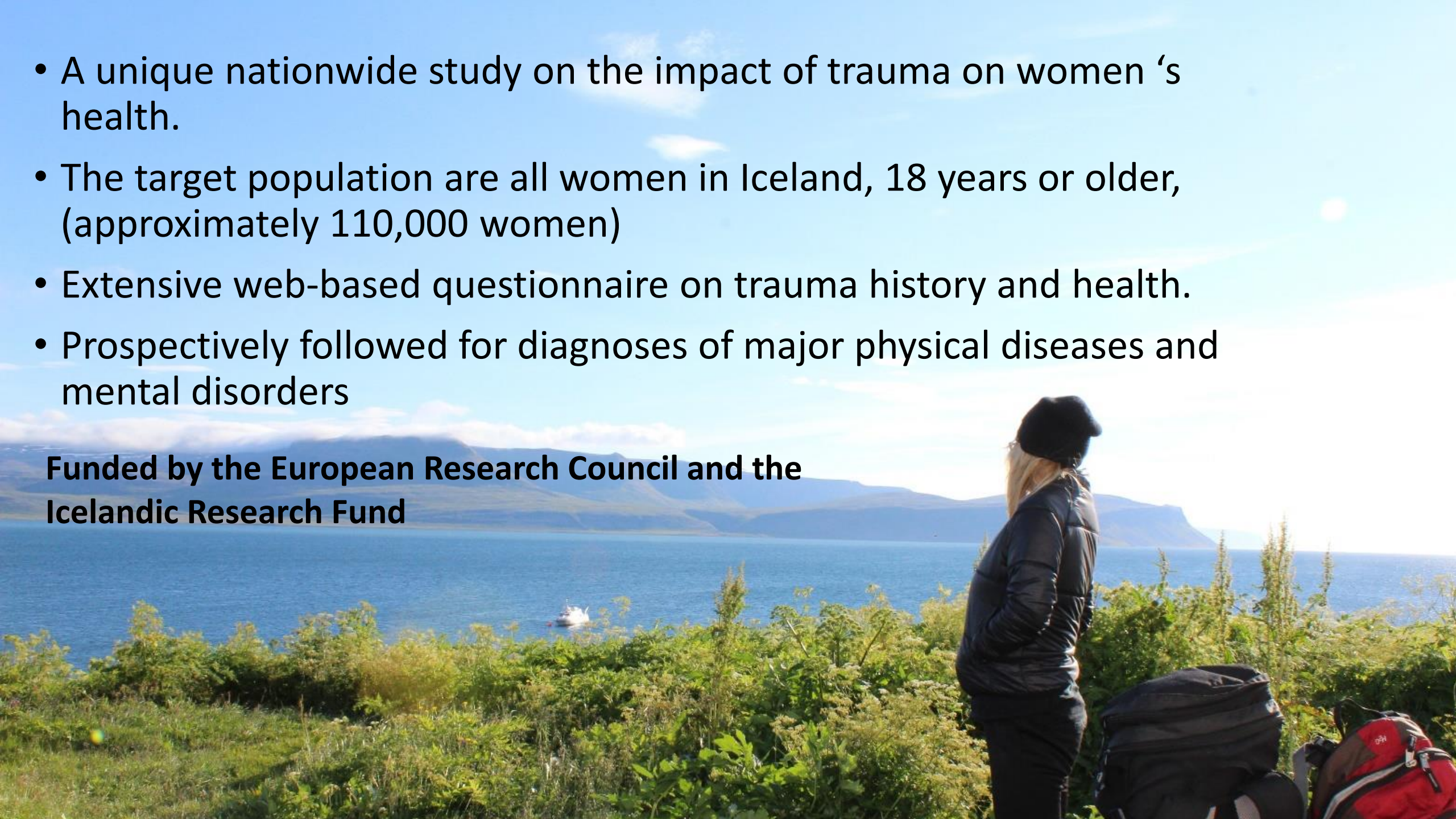
Áfallasaga kvenna

Vísindarannsókn Háskóla Íslands

THE SAGA (Stress-And-Gene-Analysis) COHORT

- A unique nationwide study on the impact of trauma on women 's health.
- The target population are all women in Iceland, 18 years or older, (approximately 110,000 women)
- Extensive web-based questionnaire on trauma history and health.
- Prospectively followed for diagnoses of major physical diseases and mental disorders

Funded by the European Research Council and the Icelandic Research Fund



Specific aims

1. Lifetime prevalence of various trauma and major adversities among Icelandic women
2. Health consequences suffered by women exposed to trauma or major adversities
3. Genetic contribution to varying health trajectories following exposure to trauma

A person is sitting at a wooden desk, typing on a silver laptop. A black mug with a tea bag is on the desk. A list of measurements is overlaid on the right side of the image. The item 'The Life Events Checklist' is highlighted with a red box.

Measurements

- Pittsburgh Sleep Quality Index
- ACE - Adverse Childhood Experiences International Questionnaire
- The Life Events Checklist
- The Post-traumatic stress disorder Social support
- Depression
- Anxiety
- Charlson Comorbidities Index
- Perinatal depression

The Life Events Checklist

Event	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
1. Natural disaster (for example, flood, hurricane, tornado, earthquake)						
2. Fire or explosion						
3. Transportation accident (for example, car accident, boat accident, train wreck, plane crash)						
4. Serious accident at work, home, or during recreational activity						
5. Exposure to toxic substance (for example, dangerous chemicals, radiation)						
6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)						
7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)						
8. Sexual assault (for example, being sexually abused, raped)						

Women of Iceland



The research team



In 50 days – 15 000 women have registered