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# MIXED-MODE CENSUS 2021 SURVEY WITH VOLUNTARY PART IN ESTONIA TO IMPROVE QUALITY OF THE ESTIMATES

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# Survey component of the census

The purpose of the sample survey was to collect information on people living in Estonia that is not available in the registers

The questions concern the following:

- knowledge of languages (incl. mother tongue) and dialects
- religious affiliation
- existence of a long-term illness or health problem and health-related limitations on daily activities



# Sample design

Stratified systematic sampling from dwellings

Stratification is made by local government units

Size of municipality/Tallinn district	Size of sample
Municipalities with less than 2,001 residents, i.e. small islands	all residents
Municipalities with 2,001 to 20,000 residents	300 inhabited addresses
Municipalities with 20,001 to 49,999 residents	500 inhabited addresses
Municipalities with 50,000 to 100,000 residents (incl. Tartu)	800 inhabited addresses
Tallinn districts	500 inhabited addresses
<b>Total – 78 municipalities and 8 Tallinn districts</b>	<b>approximately 40,000 dwellings (around 30,000 of these inhabited)</b>



# Data collection methods of the survey component

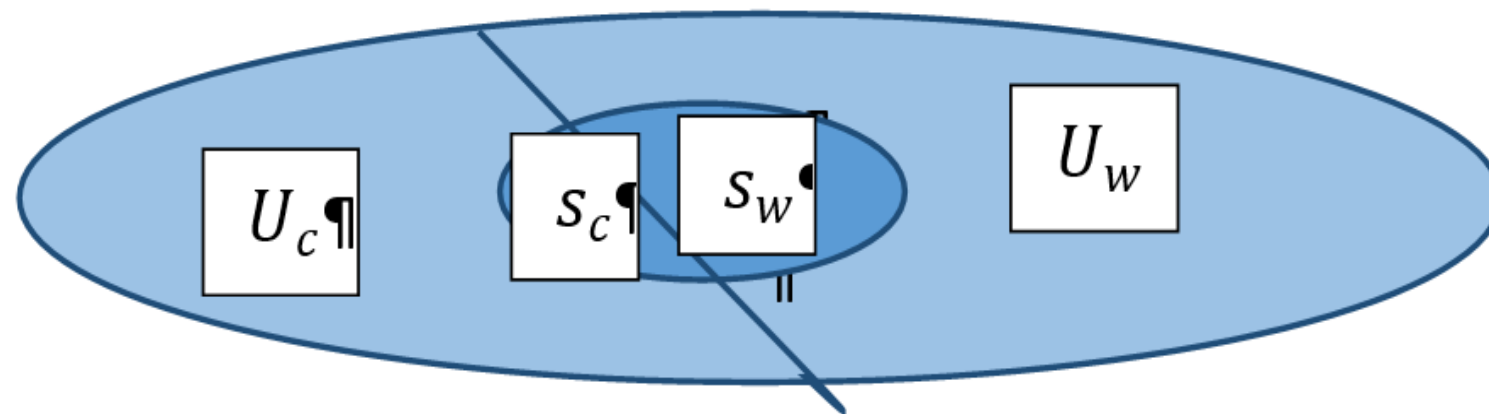
First, people had the opportunity to respond to an online questionnaire during a specific period (CAWI). Then, enumerators received a list with dwellings from where residents did not answer to the questionnaire (CATI/CAPI)

Online questionnaire was available for self-response to anyone (28 December 2021 – 22 January 2022)

Phone or face-to-face interviews with persons living at sampled addresses (1 February 2022 – 28 February 2022)



# Target population and sample by mode



w=web=CAWI

c=CATI/CAPI



# Weighting

All households with at least one CAWI respondent belongs to the CAWI population, the rest of the people belong to the CATI/CAPI population

Households that were originally included in the random sample, but responded via CAWI, are part of the general population of CAWI

The population of the CATI/CAPI is described by people who were randomly sampled and answered to the interviewers (CATI/CAPI)



# Weighting 2

To estimate the influence of voluntary part to the **accuracy** we calculated second weights to take into account only persons who belonged to the initial probability sample (excluding voluntary part)



# Results

Criteria	The share of the religiously affiliated persons, at least 15 years old	The share of persons who can speak at least one foreign language, at least 3 years old	Share of persons who have a long-term illness or health problem
Standard error is bigger in simple random sample	76	75	83
Standard error is smaller in simple random sample	10	11	3
Number of municipalities/Tallinn districts	86	86	86





# Conclusions

The large number of volunteers in the Census survey helped to improve the accuracy of the estimates compared to the simple random sample

Improvement of the accuracy wasn't connected to the voluntary rate

Detailed breakdowns belong to the Census output and was one of the reasons to use voluntary CAWI part in Estonia Census survey 2021



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Thank you for your attention!