

# Een mixed-mode design voor de zelf-in-te-vullen vragenlijst van de Belgische Gezondheidsenquête: resultaten van een haalbaarheidsstudie

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# Belgian Health Interview Survey (BHIS)

## Aim

To **monitor** the health of the population

To make **time trends**

To compare with other **European countries**

## Data collection

**Cross-sectional study:**  
household level

**Sample:**  
 $\pm 10.000$  individuals

**Every 4 to 5 years:**  
next in 2018

**Proxy interviewing**  
only in well defined circumstances

## Questionnaires

**Interview:**  
Face-To-Face (F2F)

**Self-administered:**  
Paper-and-Pencil (P&P)

**Topics:**  
health status,  
medical consumption,  
lifestyle habits

# Challenges Self-Administered Questionnaire (SAQ)

- Drop in response rate
- Increasing use of proxy interviews
- Low data quality

Test out a new design:



VS.



Mixed-mode design: web **or** P&P SAQ

# Mixed-mode design

Expectations

**Higher response rate:**  
web SAQ can be completed at any moment;  
even by (some) proxy respondents

**Better data quality:**  
automatic routing  
error messages  
no manual data entry

**A mixed-mode design within a F2F survey:**  
little research has been done

**Fieldwork implementation:**  
acceptance rate web?  
response rate web?  
user-experience web?

Challenges

A feasibility study was organized

# Research questions

*What is the feasibility of organizing mixed-mode data collection including web as an alternative for the SAQ within a F2F survey?*

- *What is the acceptance rate of the web SAQ?*
- *What is the profile of the web SAQ acceptors?*
- *What is the response rate of the web SAQ among face-to-face respondents?*
- *What is the response rate of the web SAQ among proxy respondents?*
- *What is the user-experience of the web vs. the P&P SAQ?*

# Methodology (1)

## Based on BHIS 2013:

- Cross-sectional study
  - household level
  - interviewers were involved
- Multistage sampling design with geographical stratification
- Sample size:
  - target=270
  - net=266

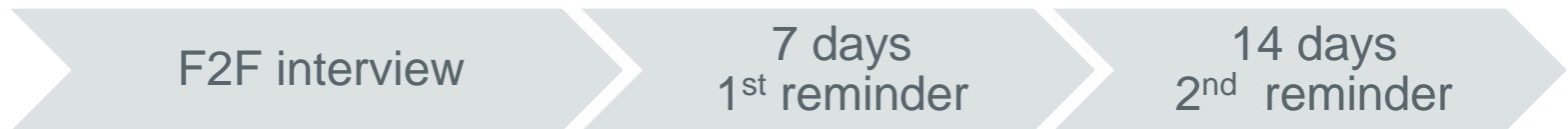
# Methodology (2)

## New elements compared to BHIS 2013 – web SAQ:

- Sequential introduction of SAQ:

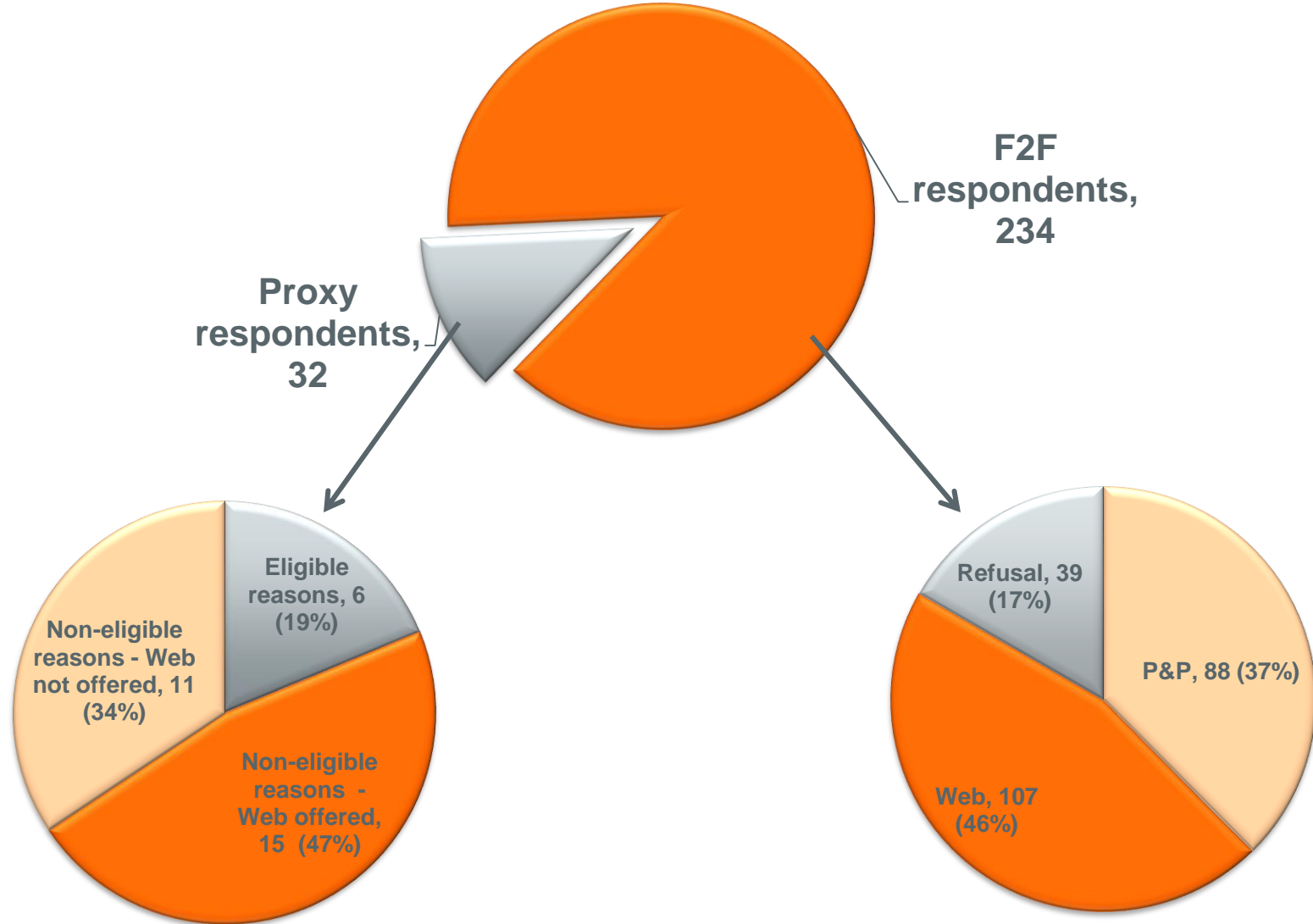


- Web SAQ during the interview or afterwards:



- Proxy could also complete web SAQ
- Only respondents of 15 years and older

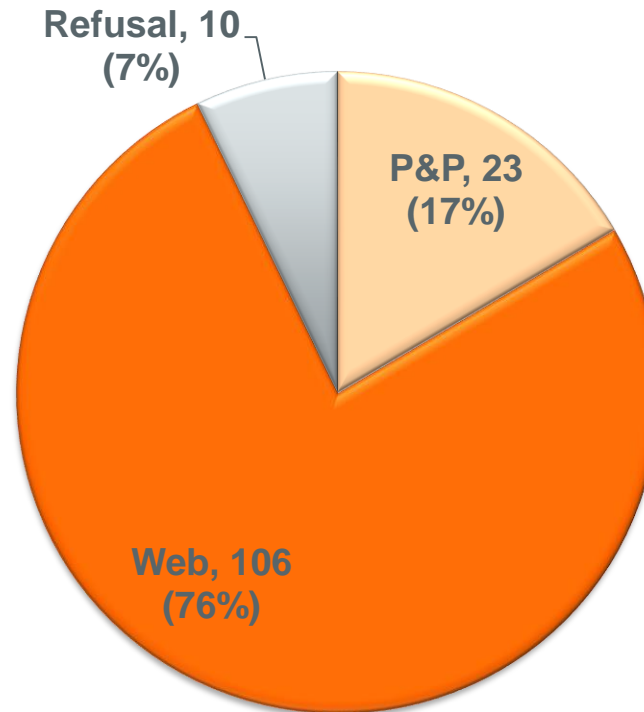
# Results: Acceptance rate (1)





# Results: Acceptance rate (2)

Acceptance rate among F2F respondents who have internet, access, computer access and who use the internet (n=139)



# Results: Profile web acceptors

	P&P (n=88)		Web (n=107)		Refusal (n=39)		Web vs. P&P		Web vs. Refusal	
	Mean	SD	Mean	SD	Mean	SD	t	p	t	p
<b>Age</b>	57.13	20.55	44.36	15.52	53.82	18.44	4.81	<0.0001	3.1	<0.01
	n	%	n	%	n	%	chisq	p	chisq	p
<b>Sex</b>							0.02	0.89	0.79	0.37
Men	37	42.0	46	43	20	51.3				
Women	51	58.0	61	57	19	48.7				
<b>Municipality</b>							28.34	<0.0001	81.06	<0.0001
Beauraing	10	11.4	21	19.6	3	7.7				
Marche-en-Famenne	19	21.6	14	13.1	9	23.1				
Saint-Josse	18	20.4	1	0.9	23	59				
Ixelles	7	8.0	21	19.6	2	5.1				
Bruges	14	15.9	21	19.6	2	5.1				
Heist-op-den-Berg	20	22.7	29	27.1	0	0.0				
<b>Education level (n=211)</b>							28.02	<0.0001	44.49	<0.0001
low	37	46.3	10	10.6	25	67.6				
intermediate	24	30.0	43	45.7	8	21.6				
higher	19	23.7	41	43.6	4	10.8				
<b>Country of birth</b>							2.91	0.23	44.12	0.0001
Belgium	68	77.3	90	84.1	16	41.0				
EU	9	10.2	11	10.3	2	5.1				
Non-EU	11	12.5	6	5.6	21	53.9				
<b>Working status (n=211)</b>							23.47	<0.0001	13.86	<0.001
working	25	31.2	64	68.1	12	32.4				
non-working	55	68.7	30	31.9	25	67.6				
<b>Marital Status</b>							14.03	<0.01	1.65E-04	<0.05
Single	27	30.7	37	34.6	6	15.4				
Married/cohabiting	36	40.9	53	49.5	24	61.5				
Widowed	15	17.0	2	1.9	4	10.3				
Divorced	10	11.4	15	14.0	5	12.8				
<b>Household size</b>							6.62	0.08	8.31	<0.05
1	39	44.3	35	32.8	10	25.6				
2	22	25.0	45	42.1	14	35.9				
3	13	14.8	15	14.0	3	7.7				
4	14	15.9	12	11.2	12	30.8				

# Results: Web response rate

## Web response rate among F2F and proxy respondents (n=122)

	F2F respondents	Proxy respondents
# Responses	84	9
Sample size	107	15
Response rate (%)	78.5	60.0



Depends on age and municipality of F2F respondent

## Impact reminder letters on web response rate among F2F and proxy respondents (n=93)

	F2F respondents (n=84)		Proxy respondents (n=9)	
	n	%	n	%
Without reminder	68	81.0	5	55.6
After one reminder	6	7.1	0	0.0
After two reminders	10	11.9	4	44.4

# User-experience

## User-experience P&P vs. web SAQ

	P&P		Web		
	n	%	n	%	
<b>User-friendliness</b>					*
Easy to use	55	63.2	80	87.9	
Not easy to use	32	37.8	11	12.1	
<b>Attractive design</b>					
Attractive	47	54.0	47	52.8	
Not attractive	40	46.0	42	47.2	
<b>Experienced problems</b>					
Yes	12	14.0	7	7.8	
No	74	86.0	83	92.2	

Remains significant after controlling for background characteristics

# Limitations

- Small sample size
- Variance between interviewers:
  - contact strategy
  - introduction of web/P&P
- High refusal rate for SAQ

# Take-home messages

User-friendliness web SAQ?

Yes

Acceptance web SAQ?

Yes however ...

- strongly depends on municipality (interviewer)
- less than 80% response after sending two reminders



**A mixed-mode web & P&P SAQ within a face-to-face survey: risky**



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Thank you!