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Internet Data Collection in the  
Canadian Census

International Conference on Census Methods

August 1<sup>st</sup> , 2014



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Outline

- Evolution of Internet Collection in the Canadian Census
- The Wave Methodology
- The 2011 Experience
- The 2016 Wave Methodology
- The Electronic Questionnaire
- Developing new ideas for testing in 2016

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## Evolution of Internet Collection in the Canadian Census

- 2001 Census – Pilot test
  - Small pilot test for Internet response
- 2006 Census – Passive offer
  - Internet response option offered on paper questionnaires mailed/dropped off (link to website and secure access code)
    - 18.3% of internet response
- 2011 Census – Active offer
  - Introduction of the Wave collection methodology – push for Internet response
    - 54.4% of internet response

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## The Wave Methodology

- Reminds Canadians to fill out their census form, at specific times throughout the collection period
- Encourage respondents to use the Internet, while trying to maximize self-response, not just Internet response.

### Concept of the Wave Methodology:

- Wave 1: Send out an Invitation Letter instead of a questionnaire.
  - No immediate option for paper response but the letter must provide an effective method to request a paper questionnaire (about 1 million requests in 2011).
- Wave 2: As the returns from Wave 1 start to decline, send out a reminder letter
- Wave 3: As the returns from Wave 2 start to decline, send out a questionnaire
- Wave 4: Start NRFU after the returns from the questionnaire mail-out start to decline.
- Aligned public communication messages.

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## The 2011 Experience

### ■ Mail-out

- Live test in 2006 showed there was a risk of a higher NRFU workload if a letter is sent out in Wave 1
  - Concentrated Wave Methodology in areas more likely to respond by internet and with higher self-response (based on 2006 results)
  - Selected a 75/25 split in terms of mailing a letter or a questionnaire as a balance to increase internet but not NRFU

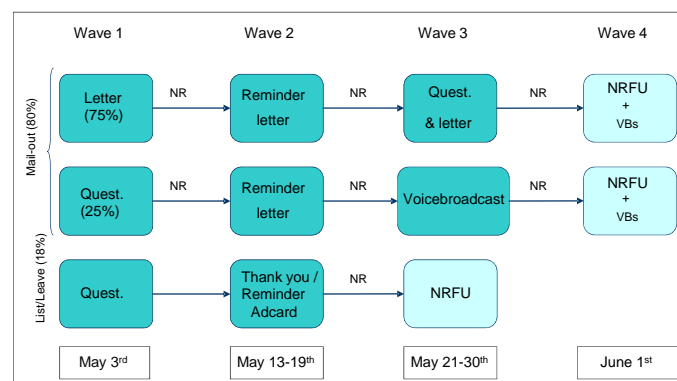
### ■ List/Leave

- Delivered questionnaire since we drop-off anyhow, only once
- Expected less internet connectivity

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## The 2011 Experience



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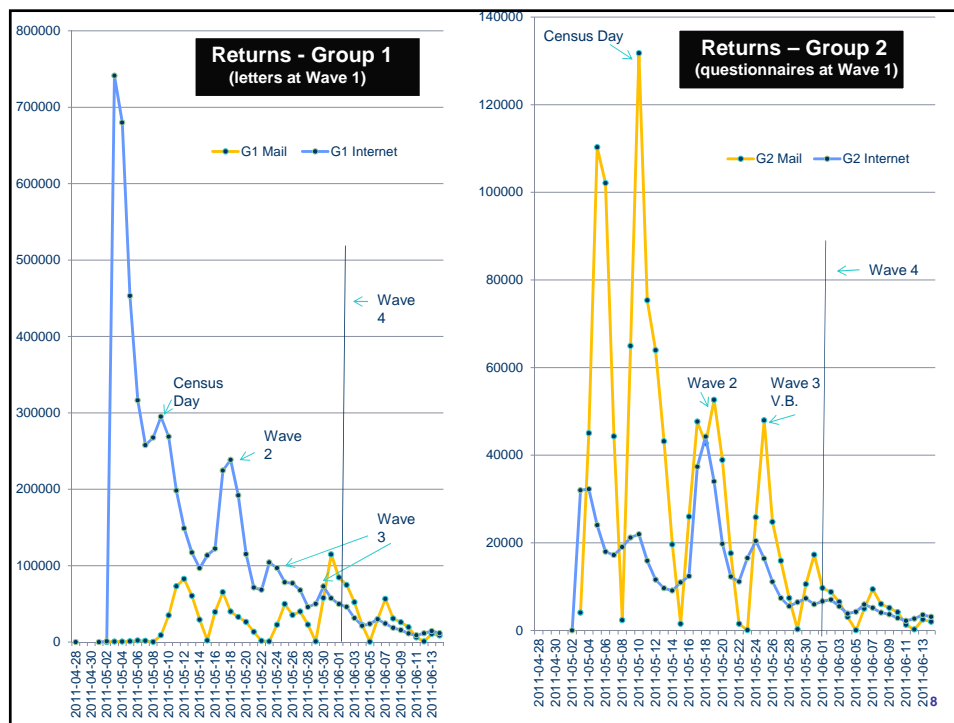


## 2011 Results

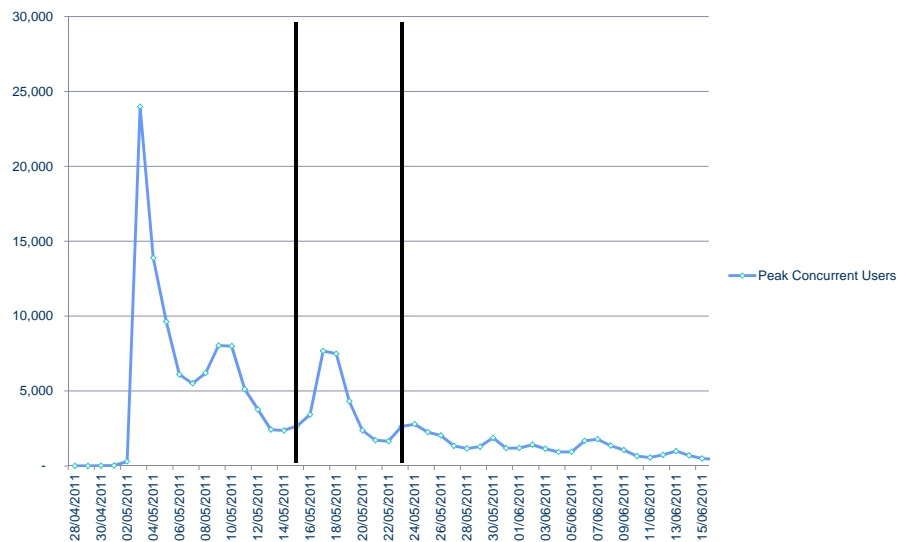
Collection method	Response Mode				Non-response	Total
	Mail	Internet	CHL	NRFU		
G1 - Letter	16.3%	71.6%	0.7%	9.1%	2.3%	100.0%
G2 - Questionnaire	50.1%	25.8%	0.8%	20.0%	3.4%	100.0%

### Live Test – Switch Methodology

Collection method	Response mode				Non-response	Total
	Mail	Internet	CHL	NRFU		
G1 - Letter	16.3%	71.6%	0.7%	9.1%	2.3%	100.0%
G1 - Questionnaire	53.3%	32.3%	0.5%	11.6%	2.4%	100.0%
G2 - Letter	23.4%	57.3%	1.1%	15.3%	3.0%	100.0%
G2 - Questionnaire	50.0%	25.5%	0.8%	20.3%	3.4%	100.0%



### Internet Peak Concurrent Users

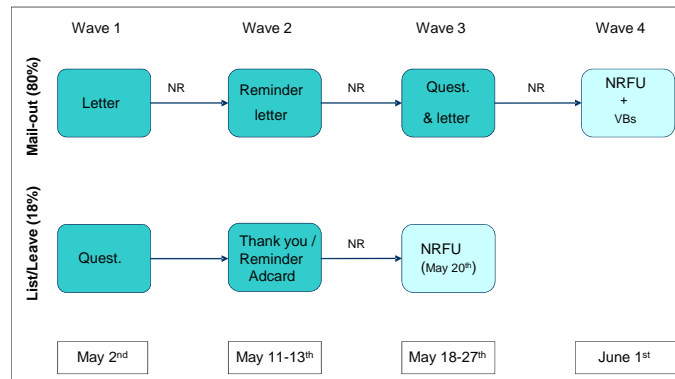


## 2016 Census Wave Methodology

### ■ Recommendations from 2011 evaluation

- Re-use Wave Methodology for 2016, tweaking where necessary
  - Implement a tighter application of the approach, look for ways to produce and mail-out each wave in much shorter timeframe
- For mail-out areas:
  - Expand universe for Wave 1 letters
  - Leave more time between Wave 3 and NRFU (move Wave 3 earlier) to allow more time to react to Wave 3
- For list/leave areas:
  - Consider the feasibility of using a Wave 1 Letter and adapting the subsequent waves to keep response rate up
- Wave methodology dependent on Postal Service, and the use of traditional mail by Canadians. Other alternatives should be studied

## 2016 Census Wave Methodology



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## The Electronic Questionnaire

- In 2011, the Internet was the primary mode of response for Canadians
  - 54.4% by internet, 29.7 by paper, 14% by NRFU
- The Paper version still limits the complexity of the questionnaire (to keep the 2 versions comparable), but the Internet version has its own specificities.
  - Automated skip patterns
  - Help button for each question
  - Additional screening questions
  - Soft and hard edits

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## Additional Screening Questions

- Paper:
  - Step B: Including yourself, how many persons **usually** live at this address on May 10<sup>th</sup>, 2016? (include persons temporarily away)
    - Short instructions on who to include in step B provided on questionnaire
  - Step C: Did you leave any one out of step B because you were not sure...?
    - If yes, Failed-Edit Follow-up by telephone is done
- Internet:
  - Including yourself, how many persons **are staying** at this address on May 10<sup>th</sup>, 2016? (include persons temporarily away)
  - Followed-up by additional screening questions (including Step C above), with detailed Help screens – No Failed-Edit Follow-up required
- If household size = 0, screening questions to derive the dwelling status
  - Self-identification of Unoccupied or Cancelled dwellings is allowed on the internet, not on paper (evaluation study done during 2011 Census)

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## Validation Messages

- Hard edits on some questions
- Soft edits on most questions
  - i.e. most questions cannot be left blank without a message asking to complete the question being displayed

2011 Census Item Non-response rates by Response Mode

		CENSUS 2011 Item non-response rates in %			
		Mail-back	Internet	NRFU	Total 2011
Number	QUESTIONS				
2	Sex	4.1	0.1	3.1	1.6
3	Date of Birth	3.4	0.1	2.3	1.3
4	Marital Status	7.8	0.7	3.8	3.1
5	Common Law Status	13.2	1.0	5.9	5.1
6	Relationship to Person 1	8.0	0.2	3.4	2.7
7	Official Languages	6.3	0.1	2.4	2.2
8A	Home Language	7.0	0.1	2.6	2.4
8B	Other Languages	7.5	0.1	2.9	2.6
9	Mother Tongue	7.3	0.1	2.6	2.5
10	92 Years Consent	14.7	2.1	3.8	5.9

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## Developing new ideas for testing in 2016

- Post Census evaluation revealed many Canadians do not make extensive use of traditional mail service
  - Alternatives to using traditional mail:
    - Pre-registration
    - Use of e-post service offered by Canada Post
    - Other?

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Questions?

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