Stats NZ
Tatauranga Aotearoa

2018 Census: Design of forms

New Zealand Government

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Citation
Stats NZ (2018). *2018 Census: Design of forms*. Retrieved from www.stats.govt.nz.

ISBN 978-1-98-852855-7 (online)

Published in February 2018 by
Stats NZ Tatauranga Aotearoa
Wellington, New Zealand

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Contents

List of figures 5

About 2018 Census forms and summary of changes 7

About 2018 Census forms 7

Summary of changes to 2018 Census questions 8

Developing the forms and content 11

'Digital-first' census 11

Auto suggestion of responses 11

Reuse of respondent-entered data 12

Design optimised for smart-phones 13

Approach used to develop the forms 14

Changes to paper forms 15

Testing overview 18

Pre-testing to evaluate proposed changes 18

General test objectives 18

Recruitment for qualitative pre-testing 19

Cognitive testing of paper forms 19

Mass completion of paper forms 20

Usability testing of online forms 20

Three census tests 20

How te reo Māori/English forms have evolved 22

Online forms: changes since 2006 Census 22

Paper forms: changes since 1996 Census 22

Developing the 2018 Census te reo Māori/English forms 24

Processing issue with 2013 Census te reo Māori/English forms 24

Testing the te reo Māori/English forms 25

Design of questions 28

Dwelling Form – new questions 28

Individual Form – new questions 35

Household Set-up Form / Dwelling Form – changed questions 44

Dwelling Form – changed questions 52

Individual Form – changed questions 64

Dwelling Form – unchanged questions 83

Individual Form – unchanged questions 84

Guide notes 97
Background 97
Online guide notes 97
Paper guide notes 98
References 100
Appendix 101

List of figures

1. Banners for paper forms, 2018 and 2013 Censuses 16
2. Page from the paper bilingual Individual Form, 2018 Census 23
3. Te reo Māori and English text side-by-side for a paper Individual Form, 2013 Census 25
4. Example of how to complete the form, 2018 Census 27
5. Dwelling dampness indicator 29
6. Dwelling mould indicator 31
7. Access to basic amenities 33
8. Usual residence one year ago 35
9. Main means of travel to education 38
10. Educational institution address 39
11. Disability/activity limitation 41
12. Dwelling address 45
13. Name, People present on census night, and Relationship to reference person 46
14. 2013 Census English form – paper 48
15. Absentees 49
16. Online household set-up confirmation, 2018 Census English form 50
17. Household summary page 51
18. Dwelling description 52
19. Dwelling joined or separate 53
20. Number of storeys 54
21. Dwelling owned or in family trust (tenure) 55
22. Mortgage payments 56
23. Sector of landlord 58
24. Number of rooms 59
25. Main types of heating 61
26. Access to telecommunication systems 63
27. Usual residence 64
28. Years at usual residence 65
29. Birthplace 66
30. Māori descent 67
31. Iwi affiliation 69
32. Additional geographic information that tested unsuccessfully 70
33. Religious affiliation 71
34. Religious affiliation design that tested unsuccessfully (Q 20 & 21) 72
35. Religious affiliation design that tested unsuccessfully (Q 16 & 17) 72
36. Living arrangements 73
37. Number of children born 74
38. Individual home ownership (formerly tenure holder) 76
39. Highest post-school qualification – Level, Subject, NZ/overseas 77
40. Testing additional text for qualifications that previously tested unsucces 79
41. Sources of personal income 80
42. Main means of travel to work 82
43. Weekly rent paid by household 83
44. Number of motor vehicles 84
45. Age / date of birth 84
46. Sex 85
47. Census night address 85
48. Ethnicity 86
49. Years since arrival in New Zealand 87
50. Languages spoken 87

51. Study participation....88
52. Cigarette smoking behaviour....89
53. Legally registered relationship status....89
54. Highest secondary school qualification....90
55. Total personal income....91
56. Job indicator – work and labour force status....92
57. Hours usually worked....92
58. Status in employment....93
59. Occupation....93
60. Industry: Name of business or employer, Main activity of business or employer....94
61. Workplace address....94
62. Seeking paid work, Job search methods, Available for work....95
63. Unpaid activities....96
64. Declaration....96
65. 'Show help' in online guide notes....97
66. Help given within the form....98
67. Question notes ("Don't count …")....98
Appendix figure 1. Landscape view of figure 2....101
Appendix figure 2. Landscape view of figure 3....102

About 2018 Census forms and summary of changes

2018 Census: Design of forms summarises how we at Stats NZ developed the forms, guide notes, and online help for the 2018 Census of Population and Dwellings. The focus for our design decisions was 'digital-first', with easy-to-use forms that will result in good quality data and meet customer information requirements. We present examples of the census forms, including online forms optimised for different devices.

Sample forms are available from Stats NZ Store House (Stats NZ, 2017,b).

See also 2018 Census report on final content (Stats NZ, 2017,a).

About 2018 Census forms

Our first 'digital first' census

The 2018 Census is 'digital first', to reduce costs and improve the quality and timeliness of the information we produce. This means we focused on the online forms, which have been designed and built to be easy to complete. This includes the functions of 'as-you-type' suggestions and presenting the next relevant question (depending on answers already given).

See Developing the forms and content.

We are encouraging as many New Zealanders as possible to complete the census using the online forms.

With little change to census content since 2001, we reviewed all the topics and asked customers who use census data what information they need from the 2018 Census. Following this review, we tested draft content with members of the public and community groups. We appreciate the input from everyone involved in our testing. As a result, the 2018 Census includes new topics and changes to several existing topics. These changes will improve the relevance and quality of the information we collect.

See Testing overview and 2018 Census report on final content (Stats NZ, 2017,b).

Our 2018 Census forms are available in English and te reo Māori, for both paper and online. See How te reo Māori/English forms have evolved.

The chapter Design of questions presents first the questions that are new to the 2018 Census, then those that have been updated since the 2013 Census, and then lists the unchanged questions.

Images of each question from both the online and paper forms are included, plus te reo Māori/English version for any new questions. We've indicated the rationale for including or updating the question, what functionality the online form has to assist respondents (eg delivering the next relevant question), and some of the findings from testing that support the final design.

Summary of changes to 2018 Census questions

Criteria for determining the change status of questions

We defined each census question as new, changed, or unchanged, using the following criteria.

New questions are those included in the 2018 Census that were not collected in the last two censuses (for which there was largely no change to the question content).

The questions included as changed are those where the concept, design, or wording has changed since the 2013 Census. Generally, how Stats NZ or our customers use the information collected by these questions has not changed. We made the changes to capture real-world changes or improve data quality. Another significant source of changes to questions was as a result of streamlining our operational processes and developing 'digital first' online forms (see Developing the forms and content). This includes the questions in the online Household Set-up Form (HSF) which have been optimised (ie designed and built) for online collection, and are fundamental to the design of the online forms. The questions included on the online HSF are included on the paper Dwelling Form; there is no paper HSF.

The questions included as unchanged are those where the concept underpinning the question is unchanged and the design and wording are essentially the same as for the 2013 Census. Note that for some questions, we used slightly different design and wording for the online and paper forms, to optimise the collection of quality data for each mode.

New questions

Dwelling Form – new questions

- Dwelling dampness indicator
- Dwelling mould indicator
- Access to basic amenities

Individual Form – new questions

- Usual residence one year ago
- Main means of travel to education
- Educational institution address
- Disability / activity limitations

Changed questions

Household Set-up Form (online) / Dwelling Form (paper) – changed questions

- Dwelling address
- Name, People present on census night, and Relationship to reference person
- Absentees
- Online household set-up confirmation
- Household Summary Page

Dwelling Form – changed questions

- Dwelling description

- Dwelling joined or separate
- Number of storeys
- Dwelling owned or in family trust (tenure)
- Mortgage payments
- Sector of landlord
- Number of rooms
- Main types of heating
- Access to telecommunication systems

Individual Form – changed questions

- Usual residence
- Years at usual residence
- Birthplace
- Māori descent
- Iwi affiliation
- Religious affiliation
- Living arrangements
- Number of children born
- Individual home ownership (formerly tenure holder)
- Highest post-school qualification – Level, Subject, NZ/overseas
- Sources of personal income
- Main means of travel to work

Unchanged questions

Dwelling Form – unchanged questions

- Weekly rent paid by household
- Number of motor vehicles

Individual Form – unchanged questions

- Age / date of birth
- Sex
- Census night address
- Ethnicity
- Years since arrival in New Zealand
- Languages spoken
- Study participation
- Cigarette smoking behaviour
- Legally registered relationship status
- Highest secondary school qualification
- Total personal income
- Job indicator – work and labour force status
- Hours usually worked
- Status in employment
- Occupation
- Industry: Name of business or employer, Main activity of business or employer
- Workplace address
- Seeking paid work, Job search methods, Available for work
- Unpaid activities
- Declaration

Excluded topics

Topics we have not included in the 2018 Census are:

- Sexual orientation
- Gender identity
- Step-families
- Licence to occupy
- Ownership of other dwellings
- Second address/residence

The 2018 Census report on final content (Stats NZ, 2017,b) has some detail about each topic and the findings from our testing. We are looking at publishing a more detailed report after the census. Contact our Census Customer Relations team for further information.

Developing the forms and content

This chapter explains how we developed the forms and content for 2018 Census, see:

- 'Digital-first' census
- Auto suggestion of responses
- Reuse of respondent-entered data
- Design optimised for smart-phones
- Approach used to develop the forms
- Changes to paper forms

'Digital-first' census

Although previous censuses have had an online option, in 2018 we have designed the forms for online completion, rather than copying the layout of the paper forms. The online forms are optimised to work on different devices, from personal computers through to smart-phones.

Our aim is that at least 70 percent of respondents complete their census forms online in 2018. To help achieve this goal, we optimised the design for small screen devices as many people's main device is now a smart-phone. In the context of the census this is especially important as one of the key 'hard-to-reach' respondent groups (those aged 15–24 years) are the most likely to use a smart-phone.

This digital-first approach also means we can better meet the expectations of respondents. The 2013 Census was generally well received by respondents, but some were disappointed by the lack of expected functionality. For example, it was not possible to assist the respondent with answering, or to reuse information already entered by the respondent, particularly for the address questions.

Auto suggestion of responses

A benefit for people who complete their form online is the new 'as-you-type' function. When they begin typing into a response field, suggested options are displayed, which they can select from. If more detail is entered, the list of suggestions is refined.

This auto suggestion can make it easier for respondents to answer as they may only need to enter a few letters rather than the whole word or string of words. Also, auto-suggested options meet data quality needs, in particular they are at the required level of detail.

Given the number of address-based questions, we've built an address as-you-type list based on a national address list developed for the 2018 Census. This reduces respondent burden as the street number and name is completed as one field, and also as a respondent begins typing, possible addresses are suggested to select from.

People can also type in a response.

Auto-suggestion of responses are used for text responses in the following questions.

Household Set-up Form

- Address you are completing the census for (if required)

Dwelling Form

- Main type of heating used

Individual Form

- Usual residence address
- Census night address
- Ethnicity
- Country of birth
- Iwi
- Usual residence address 1 year ago
- Country of residence 1 year ago
- Languages spoken
- Religious affiliation
- Name of educational institution attended
- Educational institution address
- Secondary school qualification
- Highest qualification
- Main subject of highest qualification
- Other highest qualification

Reuse of respondent-entered data

A commonly-expressed frustration amongst users of the online form in the 2013 Census was that the system did not make use of information that they had already entered, for example, a parent completing forms on behalf of their children.

The 2013 Census and previous censuses used paper forms as the primary mode, with a Dwelling Form and Individual Forms. We purposefully made the online forms in the 2013 Census match the paper forms closely in look and feel of layout and design. To reuse information within and between forms would have been technically difficult. Also, the most logical form to share information from was the Dwelling Form, however there was no guarantee that this form would be completed first.

The 2018 Census, being digital-first, allows the opportunity to reinvent the online process and introduce a third type of form. We created the Household Set-up Form, which takes the household membership component of the traditional Dwelling Form. The first respondent in the household to log into the 2018 Census website, answers questions about the following:

- Confirming the address: Respondents enter an access code to start their census forms. The access code has been matched with a dwelling address, and the respondent is asked to confirm that they are completing forms for that address. In the event that the address does not match, or the code is not paired to an address, the respondent will be prompted to provide an address.
- Providing these details for all the people present in the dwelling on census night:
  - name
  - age
  - relationship to person completing the Household Set-up Form

- Identifying whether any of the people present are visitors, and if so, who they are.
- Identifying if anyone who usually lives in the dwelling is away on census night. If so, the person completing household set-up is asked for details of the people away:
  - name
  - age
  - relationship to person completing household set-up
  - if the person is overseas or elsewhere in New Zealand
  - if the person is overseas, whether they will be away for more (or less) than 12 months.

Asking this information first has several benefits, including reuse of respondent-entered data – in particular this can reduce burden for respondents completing forms on behalf of others. For example, confirming the address and identifying who are usual residents of a dwelling means that these Individual Forms will include the name and address information piped in (from the Household Set-up Form). In most cases, it is then a simpler task of confirming rather than entering this name and address information.

It also reduces the burden associated with providing addresses, which was a known concern for 2013 Census respondents.

In the 2018 Census, a respondent is asked for three different (residential) addresses, plus other address-based questions. Making use of data entered in the Household Set-up Form reduces the burden associated with entering addresses as compared to the 2013 Census, and with the paper form experience. For example:

- Most respondents, who are likely to complete their Individual Form at their usual residence on or before census night, would not need to add their usual address, they only need to confirm what was reported by the person who set up the household. In the paper forms, all respondents must write in a usual residence address.
- Because census night address is identified in the household set-up process, this question does not need to be asked of usual residents of private dwellings or their visitors. A respondent completing on paper can select an option to state their census night and usual addresses are the same, otherwise they must enter an address.
- The usual residence address one year ago question automatically pipes in (inserts) the usual address provided earlier. This means people who have not changed usual residence in the last 12 months can simply select their address as a listed option. The paper respondent has a similar option provided, although it will not include their specific address.

Respondents who are at their usual address on census night and have not changed address in the previous 12 months will not have to complete a residential address field at all as a result.

Design optimised for smart-phones

To achieve our goal to optimise the census form for completing online, including to work well on a smart-phone, we built the form using ‘responsive design’, where the device being used is recognised by the application and the form is rendered (ie displayed) accordingly.

On a smart-phone, the respondent is presented with a 'question by question' format, with one question per screen. This minimises the need for vertical scrolling, which is both burdensome for the respondent and introduces potential for response error, where applicable options might be below the scroll horizon. The form presents the next relevant question based on their answer, and skips questions that are not applicable, almost as if the form has been designed specifically for them.

On a larger device, the experience is different. The respondent is presented with questionnaire sections for which scrolling is necessary. Based on a respondent's answer, a new question may appear, or a question that is shown by default may disappear. The experience of seeing the form adapt like this is quite different from that seen on a smart-phone screen.

Responsive design ensures a good user experience regardless of device.

Approach used to develop the forms

We took an agile development approach when building the 2018 Census online forms. We specified elements of the application (functionality, content, aesthetics, security etc) as individual pieces of work (stories). These stories were added to a backlog, which is essentially the 'wish-list' for the 2018 Census design if unconstrained by time and budget.

With very real constraints of time and budget, agile development requires constant prioritisation, with effort concentrated in 'sprints' of development, where the stories determined as highest priority are delivered.

The theory behind agile development is that while you will likely never build all the things in your backlog, you will build the highest priority things. This means at the end of the development effort, the product represents the best product possible given the constraints of time and budget.

Prioritisation

To prioritise, we determined whether an item was:

- 'must have' ie essential to the respondent being able to complete the census, at peak census day load, to the required standard, and with appropriate concern for privacy and security.
- 'should have' ie functionality that might be reasonably expected by a significant number of users but, if not present, would not stop them from completing the census. These respondents may have a slightly diminished user experience but would be able to complete their census online without too much trouble.
- 'nice to have' ie functionality that would add 'polish' to the respondent experience but, if not present would not seriously diminish the user experience or quality of data received. This might also be something that could significantly impact the user experience but the number of users affected is expected to be negligible. In technical terms, these are described as 'edge cases'.

The objective of the online census development was to deliver everything that was prioritised as "must have" while hoping to deliver as many "should have" functions and features as time and budget allowed.

Fit-for-purpose, within time and budget

The final online forms for Census 2018 represent the best forms that could be delivered for the time and budget allowed. While some functional and aesthetic elements had to be deprioritised, the final forms represent a modern, fit-for-purpose census experience that greatly improves on 2013.

The details about non-delivered 'should have' and 'nice to have' functions and features have been retained and will be considered for future census designs.

Changes to paper forms

We made the following changes to the paper forms, to reflect our new operational processes and the digital-first approach.

Form size

We reduced the size of the forms from 'oversized A4' booklets to standard A4 booklets. This was to accommodate digital printing of the letter, paper forms, and guide notes, with customised information such as dwelling address and the internet access code. The standard A4 booklets can be returned in C4-sized envelopes by post.

The smaller form size, but with more content compared with the 2013 Census, gave us design challenges, not all of which could be overcome. One major concession due to space was that fewer people are able to be listed on the Dwelling Form. In the 2013 Census, the forms had space to record up to 10 people present on census night, and up to five usual residents who were away. By reducing the size of the form, we could not accommodate these numbers. The 2018 English forms have space for up to eight people present on census night and up to four absent usual residents. The te reo Māori/English form has space for up to eight people present and two absentees

The compromises made in order to fit the content onto the forms has not affected the usability of the forms. Font sizes remain at or above recommended sizes for readability and elements are spaced adequately for respondent use and machine processing.

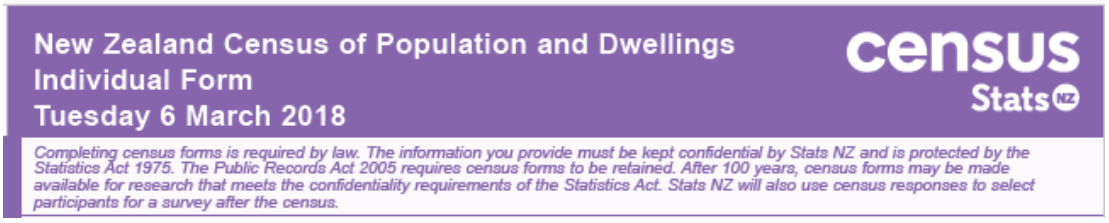
Banner

Changes in the collection model, meaning most respondents will receive some version of a call to action letter, meant elements of the previous census form design are now redundant (see figure 1).

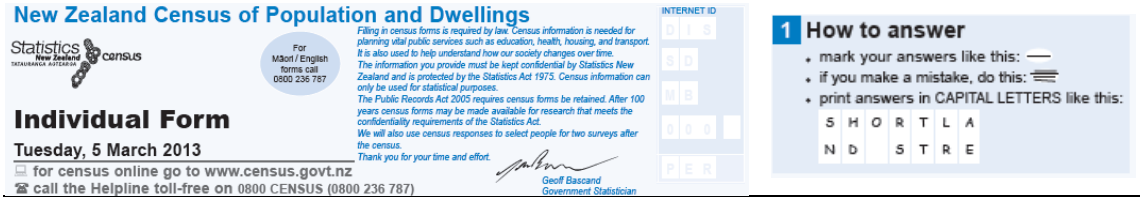
Figure 1

Banners for paper forms, 2018 and 2013 Censuses

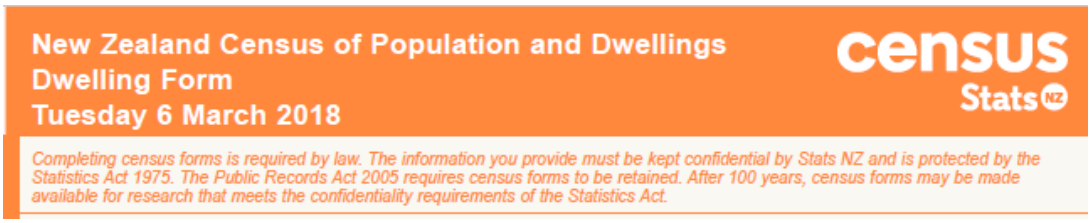
2018 Census – Individual Form



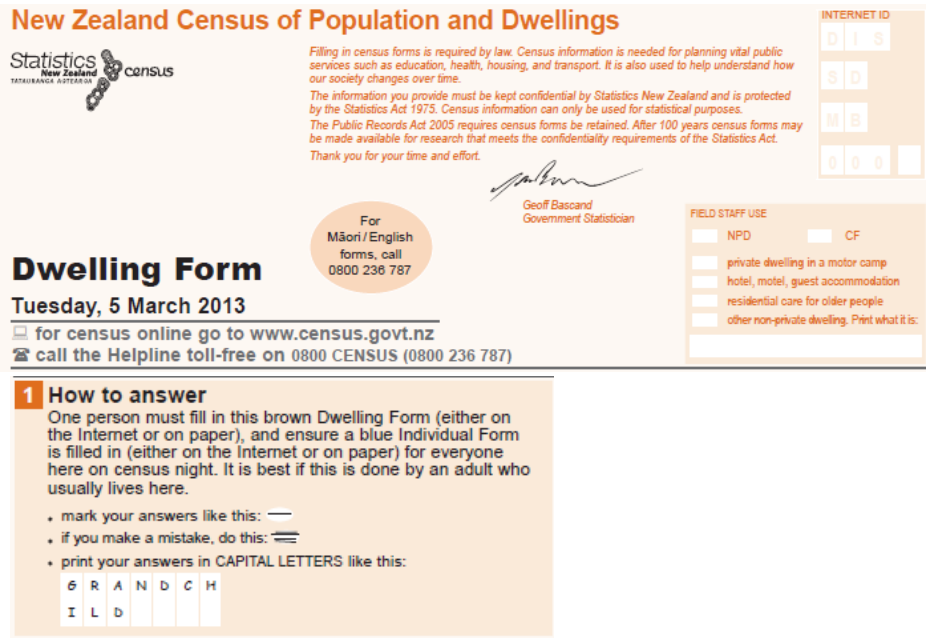
2013 Census – Individual Form



2018 Census – Dwelling Form



2013 Census – Dwelling Form



Elements of the 2013 Census banners that have been removed are:

- fields provided for the internet ID, as the internet access code for accessing the 2018 Census online forms are included in the call-to-action letter. Instead, we've added our new census logo
- part of the Government Statistician message, which is also included in the call-to-action letter that conveys more information
- the signature of the Government Statistician, as there is no legal requirement for the form to carry a signature, and this is included on the letter
- the 'how to answer' guidance showing how to mark ovals and write in the white boxes, which is included as the first question for each form.

The banners in the 2018 forms have a cleaner aesthetic compared with the 2013 Census form

Order of content in the Dwelling Form

A large component of the traditional Dwelling Form (content about census night occupants and usual residents absent on census night) has been moved in the online version into the Household Set-up Form. As a result, we also revised the order of these in the paper Dwelling Form. They have been brought together so they are no longer separated by questions about the dwelling tenure, rooms, and availability of amenities. This gives the form a more coherent flow.

Testing overview

Here is an overview on our testing programme, see:

- Pre-testing to evaluate proposed changes
- General test objectives
- Recruitment for qualitative pre-testing
- Cognitive testing of paper forms
- Mass completion of paper forms
- Usability testing of online forms
- Three census tests

Pre-testing to evaluate proposed changes

We followed a robust programme to pre-test the content of the 2018 Census forms. Pre-testing allowed both us and our stakeholders to evaluate the merits of proposed changes to form design, and confirmed the forms collect data of acceptable quality.

The content redevelopment was based on multi-faceted consultation, which primarily took place in 2015. The consultation findings were developed into a report on the 2018 Census content: Summary of feedback from engagement and consultation.

Pre-testing the online and paper forms included qualitative testing, that is testing the performance of the forms and gathering feedback one-to-one or in group settings. The testing included cognitive testing of paper forms, mass completion of paper forms, and usability testing of online forms. We also undertook three large-scale quantitative Census Tests, in March 2016, July 2016, and April 2017, each with a different focus.

Based on the pre-testing, we refined question wording, response options, question note text and other help information, question order, layout, and form design, plus other operational processes.

General test objectives

Across our programme of pre-testing, we wanted to assess whether the forms were working as expected and intended, and identify any areas where the design was resulting in errors or avoidable burden for respondents. Examples are questions that are answered incorrectly (which may result in later questions being either missed or answered when they shouldn't be), or answers that are inconsistent.

As well as the general test objectives, we had several specific test objectives. These include things like burden due to the:

- number of new topics or complex topics
- number of address-based questions
- layout, eg number of questions, text size.

Recruitment for qualitative pre-testing

To gather a list of volunteer respondents, we ran social media campaigns, posted flyers in public places (eg library noticeboards), and engaged with community groups (eg contacted marae). We selected respondents using a variety of methods, including purposive sampling (selecting those with required characteristics, eg those studying) and snowball sampling (asking those with required characteristics to encourage others with the same or similar characteristics to participate). We also made some use of personal contacts.

For our mass completion testing, we selected groups, for example school students, people living in a caravan park or at retirement villages, volunteer firefighters, and young farmers.

Our recruitment aimed to balance basic demographic characteristics such as age, sex, and ethnicity. We also tested questions with those who have the required characteristics and those without, to ensure the questions perform well for both groups, in terms of things like understandability and sufficient response options.

Respondents who agree to be involved in voluntary testing may represent people who are more engaged and civic-minded. In order to encourage wider participation, and to compensate participants for their time and any costs, MTA (petrol) vouchers were given.

Cognitive testing of paper forms

Our development and cognitive testing was based on paper forms, which are quicker to redevelop with findings from testing.

Cognitive testing is a method used to test how well a question meets the combined needs of respondents and customers. A good question should be both easy for respondents to accurately understand and answer, and collect data of sufficient quality for customers.

Typical cognitive testing involves one-to-one interviews with respondents who complete census forms while being observed by interviewers. Respondents were encouraged to verbalise the thought process they were using to answer the questions – a technique referred to as 'think aloud'. Interviewers also used a testing protocol which specified the questions to further check respondents' understanding of the questions and the cognitive processes they used to select their answers. Extra questions may also be asked in response to possible errors (eg missed instructions).

Another way we assessed how well the forms were working was observing any difficulties or signs of burden, such as a respondent squinting to read the font size, signs of fatigue such as sighing, and their reaction and comments as they worked through the forms.

We conducted cognitive testing of the 2018 Census forms between October 2015 and December 2016, across 13 sprints. Testing was carried out in Christchurch and Wellington, and some testing in rural Canterbury, Gisborne, and Auckland. Venues included Stats NZ offices, schools, marae, and libraries.

The significant findings from each sprint were incorporated into the next sprint.

Mass completion of paper forms

Another type of testing we used was mass completion of paper forms. We conducted this testing in group settings, without interviewers directly observing participants as they completed their forms. The mass completion exercises involved handing out census forms for respondents to complete, followed by a group discussion to get respondents' feedback on the forms. Respondents were asked to circle anything they were not familiar with or confused by, which fed into a discussion about wording and other design elements that might be made clearer.

This testing was used mainly to test new concepts and look for some indication of item non-response. Anything that seemed to work satisfactorily in mass completion was tested further either in cognitive testing or in one of the large-scale field tests. Looking at the completed forms gives a general sense for how questions are working. However, there is no opportunity to observe the respondent as they answer, or ask them for feedback about particular questions, or discuss problems they might have. Mass completion data was keyed into spreadsheets for analysis of things like which questions were left blank (non-response).

Mass completion testing of the 2018 Census forms was conducted in 2016. Respondents were tested in Christchurch and Wellington, in Stats NZ offices, retirement villages, schools, marae, and libraries.

Usability testing of online forms

We held a small number of usability tests of the online forms to test for a streamlined log-on process and the usability of the redesigned Internet Access Code. Usability testing focused on respondents' accessibility of the forms, navigation, and selection of responses including the as-you-type lists. The design of the form and question developments were secondary objectives of the usability testing, since they had been extensively tested in the development phase of the paper forms.

Our usability tests followed a similar structure to the cognitive interviews. We observed respondents (who we had encouraged to think aloud during the process) as they completed the forms online.

Three census tests

We conducted three major tests of the census forms, covering collection methodology and content.

Census Test (March 2016)

Our first major test for 2018 Census, Census Test (March 2016) was an integrated field test, to develop and test each part of the proposed collection methodology. This included how we to enable access to the online forms, how to make paper forms available for those who needed them and receive them back, and follow up those who hadn't responded. Key to this was enabling respondents to be successful in completing their census forms, and encouraging people to complete them online rather than using paper forms, while maintaining the collection of quality information.

Census Test (July 2016)

The Census Test (July 2016) was our first major test of content (ie topics) and form design for the 2018 Census. This test enabled us to make further decisions on content and form design to be informed by test data at a quantitative level.

The online and paper forms used for this test included a number of questions not included on the 2018 Census forms. Some aspects of the online form functionality to be used in the finalised 2018 Census forms were not yet built in the online form used for this test.

Census test (April 2017)

Our Census Test (April 2017) in Whanganui was the last test to assess questionnaire content, before the Government Statistician made final decisions for the 2018 Census. The online and paper forms we used for the Census test (April 2017) included all variables that we've included on the 2018 Census forms, and as such they closely resemble each other. As a result of our analysis of this test data, we made a small number of minor question design changes. This test included the te reo Māori/English forms.

How te reo Māori/English forms have evolved

Stats NZ has offered census respondents the option of paper census forms in te reo Māori since the 1996 Census, and for each online census since the first in 2006. This chapter describes how the forms have evolved. See:

- Online forms: changes since 2006 Census
- Paper forms: changes since 1996 Census
- Developing the 2018 Census te reo Māori/English forms
- Processing issue with 2013 Census te reo Māori/English forms
- Testing the te reo Māori/English forms

Online forms: changes since 2006 Census

Te reo Māori online forms have been offered for each of the online censuses to date (2006 to 2018), and have evolved over time.

In the 2006 Census, the te reo Māori online forms featured a 'hover' function to allow the respondent an experience similar to the side-by-side format of the paper forms. Respondents could hover the cursor over a target in a te reo Māori question to see the English translations of the text.

The 2013 Census forms featured a toggle function for each question, where a respondent could switch languages to check a particular question by using a language toggle within the question. Here, only the question clicked would translate and the rest of the form would remain in the originally-selected language.

Design of 2018 Census online forms

The 2018 Census online form experience begins with a login page presented in English by default, with a 'toggle' function for the whole questionnaire. The language toggle button is in the header of the form.

Respondents can select the toggle button in the top right of the window, 'Switch to Māori' from any part of the form. This translates to te reo Māori the questions, help text, response options, and form error messages.

If a respondent toggles to te reo Māori to complete a form and then logs out, the system will 'remember' their choice and at subsequent logins the form will present in te reo Māori.

Paper forms: changes since 1996 Census

The format for te reo Māori paper forms has also evolved, from separate forms for English and te reo Māori (1996 Census) to formats that present the te reo Māori and English languages in the one form (2001, 2006, 2013, and 2018 Censuses). This format is seen as more accessible as it allows respondents to easily compare the te reo Māori and English language used, particularly where terms might be unfamiliar.

For the 2001, 2006, and 2013 Censuses, the layout was 'side-by-side on facing pages', where the left half of the double-page spread gave the questions and their response spaces in te reo Māori, and the right half of the double-page spread gave the questions and their

response spaces in English. (See figure 3, Te reo Māori and English text side-by-side for a paper Individual Form, 2013 Census.) This lead to some issues in processing, for example a respondent might start responding using the Māori side of the form but change part way through the form to respond using the English side (see Processing issue with 2013 Census te reo Māori/English forms).

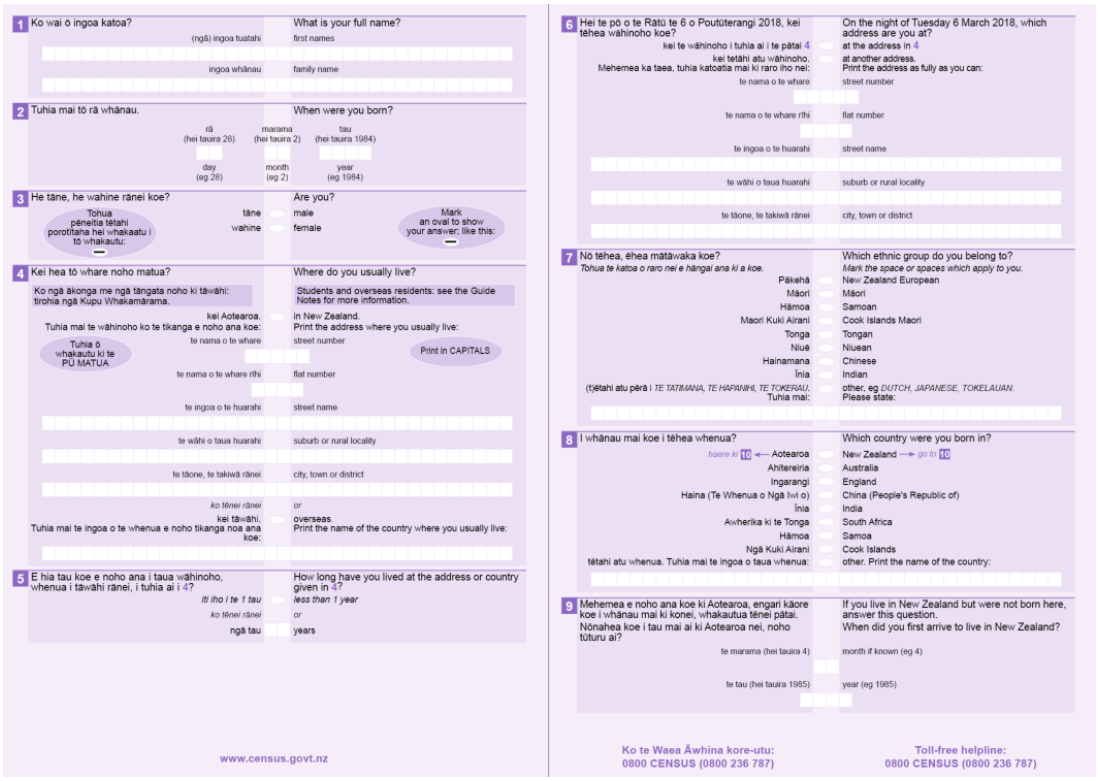
Design of 2018 Census paper forms

To address the issues observed with the previous 'side-by-side on facing pages' format, we created a form with side-by-side columns that makes use of a shared response space. That is, the te reo Māori and English versions of the question are now side by side on the same page, with one shared space to respond in either language.

This format retains (and perhaps enhances) the philosophy of allowing easy comparability of the two languages but aims to reduce the issues created through the offer of separate response spaces for each language.

Figure 2

Page from the paper bilingual Individual Form, 2018 Census



See appendix figure 1 for this image in landscape format.

We carefully considered which half/side of each page to use for which language. The left hand side is considered to be prime space, and deemed most appropriate for the te reo Māori language. However, the left hand side is also the side where aesthetic compromises are most required – for example the left pointing routing instructions. In the end, given te reo Māori language respondents' expectations were generally for te reo Māori to appear first (ie on the left) and no major issues were observed with the design compromises, we decided to present te reo Māori in the left column and English in the right column of each page.

While, in general, the design tested well from a processing perspective, it does present some peculiarities from a respondent perspective. For example, on the te reo Māori side, routing instructions (such as haere ki 10/go to 10) point to the left and therefore may be read before the response options. This is not only unusual for the respondent but may exacerbate the effect where respondents act on the routing instruction without answering the question first (which may create processing issues). Our testing did not suggest this was a large problem and it may prove difficult to evaluate given the single response space doesn't easily allow us to infer which language was being used.

Another design peculiarity is the question numbers are located on the left margin only. Respondents who complete this form using the English text may find it a little difficult to line up the question numbers with the appropriate question. Therefore, we included several visual design techniques, such as the dark lines added to the tops of the question panes, to draw attention to the fact the question has changed and to help draw the eye back to the question number.

See Review of design and layout for more detail about the issues we were trying to solve with the finalised design.

Developing the 2018 Census **te reo Māori**/English forms

Scope for redevelopment in the two previous censuses was limited as we operated in a 'minimum change' environment where the scope for updates to language were restricted to correcting things that were wrong or necessary to reflect real world changes.

Our process for developing bilingual forms in the 2001, 2006, and 2018 Censuses was an in-house questionnaire designer with te reo Māori language skills who worked alongside the English language questionnaire designers. For the 2018 Census forms, we translated the new content as well as the online terminology for example, 'select' rather than 'mark', and reviewed all the remaining content. To assure quality of the in-house translation, a reviewer certified by Te Taura Whiri i te Reo Māori/The Māori Language Commission was contracted to review te reo Māori used throughout the census.

Our two main objectives for te reo Māori content of the forms were:

- understandability, that is, new questions and text needed to be simple and understandable, and cater to a range of proficiency levels in te reo Māori
- conceptual equivalence, that is, information collected from the te reo Māori and English questions must produce comparable responses if the data are to be meaningful. The questions need to convey and measure equivalent concepts across te reo Māori and English.

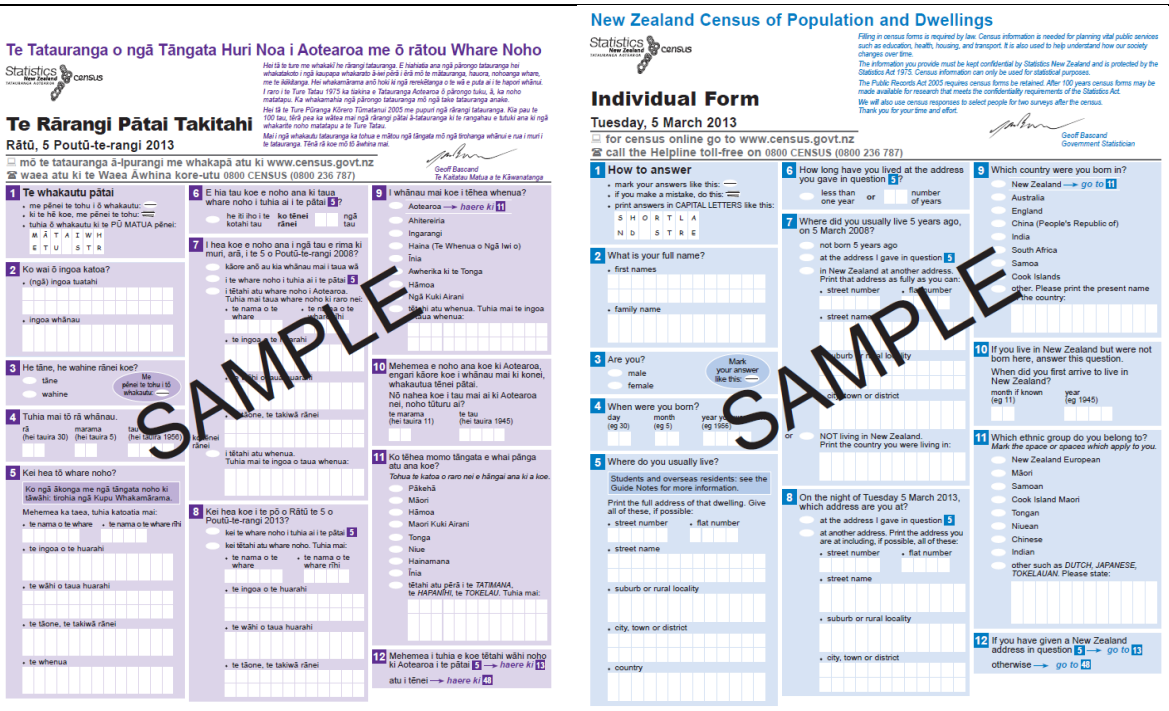
Our 2018 development included a review of the 2013 Census forms, checking for conceptual differences, typographic or grammatical errors, and inconsistent use of words.

Processing issue with 2013 Census te reo **Māori**/English forms

In terms of layout and design, te reo Māori/English forms in the 2006 and 2013 Censuses presented both languages on side-by-side pages. As the form was intended to be used by many respondents, regardless of their preference for te reo Māori or English, each side of the form contained response spaces to allow for this.

Figure 3

Te **reo Māori and English text side**-by-side for a paper Individual Form, 2013 Census



See appendix figure 2 for this image in landscape format.

While this design allowed for easy reference to both languages, the presence of response spaces on each side meant that some respondents wrote answers on both sides of the form, which was not expected. We checked forms and found three main patterns for these responses (in no particular order):

- Some respondents started in te reo Māori and switched to English, or completed some questions in each language. These respondents appeared to prefer to complete the form in te reo Māori where possible but sometimes referred to the English translation and wrote their answers there.
- Other respondents completed all answers in both English and te reo Māori, taking more effort than was intended.
- Others used one form to provide responses for two different respondents, one on each side of the form. Respondents' reasons for doing this were unclear –they may have been short of forms and not wanted to request another, or simply have felt it was more economical to use one form allowing the other to be recycled.

These unexpected patterns of responses created the risk that we missed counting respondents' information correctly. Additional checks were put in place, which slowed our processing. For example, we needed to look at both sides of a form to determine the response intended and to establish if the form included answers from one or two respondents.

Testing the te reo Māori/English forms

We tested the te reo Māori/English forms using similar methods as used for the English forms (see Testing overview). They were pre-tested in the Census test (April 2017), being the final test of the majority of systems, processes, and near-final forms.

Cognitive testing

Cognitive testing of te reo Māori/English forms is particularly important, as it serves the dual purpose of testing the two development objectives of understandability and conceptual equivalence with the English questions. Also, cognitive testing is useful for identifying previously undetected issues with existing language.

We interviewed both men and women from different age groups, backgrounds, regions, and ethnicities (though the majority were Māori). Respondents reported a range of proficiencies in te reo Māori, from being able to understand basic language (instructions and simple phrases) through to those who said they were able to understand nearly everything in te reo Māori. Respondents knew they were testing the bilingual form, but were not instructed to complete it in any particular way. Most chose to complete it in te reo Māori with reference to the English as needed.

Testing showed that proficient te reo Māori speakers encountered few problems with comprehension of the te reo Māori used in the forms, although some terms were unfamiliar. For example, we used 'kāhekaheka' for mould, and even the most proficient te reo Māori speakers referred to the English (on the right hand side of the page) to check how we were using this term, and their feedback was that it was an appropriate term.

Usability testing of the online form

Generally, respondents who used te reo Māori portion of the form found the design intuitive and easy to use, consistent with the findings of usability in general. However, we observed some issues with the understandability of the messages displayed when a respondent made an error. These messages tend to use language that is more technical than the main content of the form. This could lead to some difficulty in resolving the error, as while it was obvious to the respondent something was wrong, they may not have known what that was and what to do.

One usability issue was around respondents checking the meaning of an unfamiliar word or phrase. The toggle button is in the top right of the form, which is very accessible for making the initial decision to change language. However, on large-screen devices such as a larger tablet or desktop computer, the toggle button is no longer visible when the respondent scrolls down the form within a section.

To check a translation, the respondent has to scroll to the top of the form to select the language toggle, and back to the question to check the term that needed to be clarified. They might scroll back to the top to switch languages again, and finally back to their place in the form. Respondents expressed feelings of fatigue at the process and some mentioned they would possibly stop seeking clarification of unfamiliar terms or use one language – likely English.

On a smart-phone, the questions are displayed question-by-question, meaning the scrolling required to access the toggle is minimal.

While there was a potential fix to this issue, our agile development process meant we constantly prioritised development in the context of time and resources available. This was classified as 'should have' because while the process had the potential to be burdensome, it was possible. Our priority in development was delivering 'must have' functionality.

Usability testing of the paper form

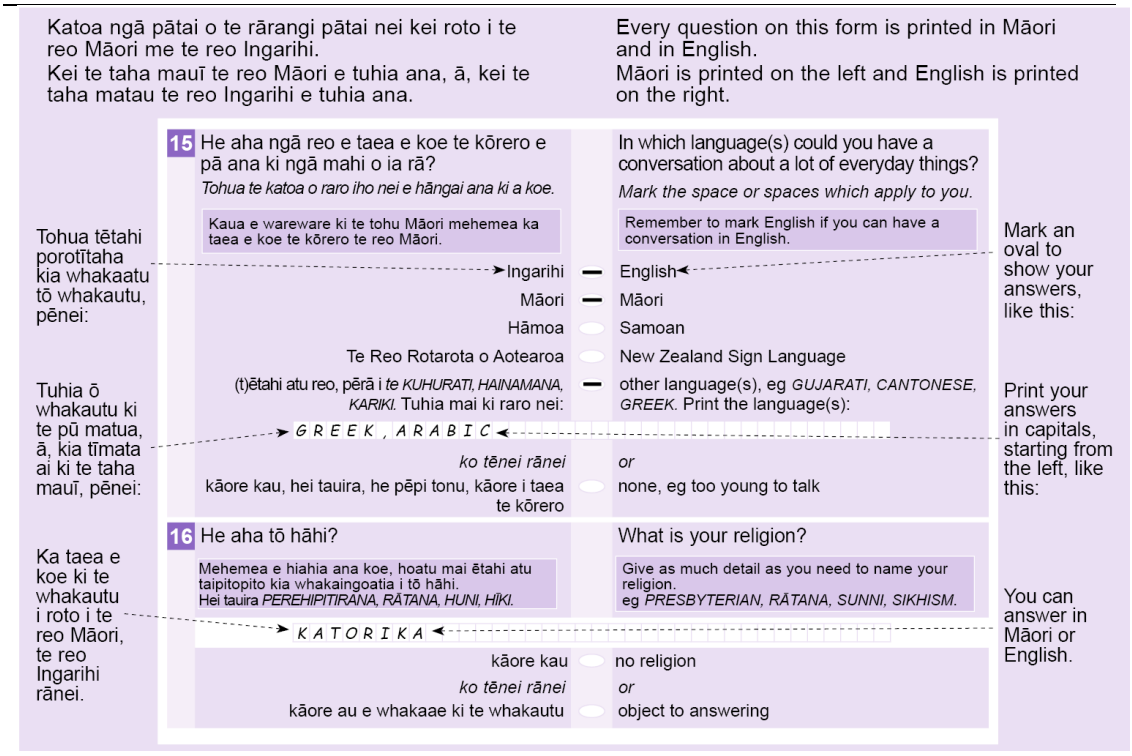
The shared response space format we implemented for the bilingual paper form design tested well, despite some respondents' initial reaction being one of surprise. The format is unusual, causing many respondents to take a moment to understand what was going on. Once they understood the design, we did not observe major issues with usability.

A key finding was that respondents completing text answers in English tended to begin writing their answers toward the middle of the response field area (due to English being on the right-hand side of the form). This, in itself, is not problematic for processing but does cause issues for the respondent if they run out of room to make their intended response.

To assist the respondent, the front cover of the form has a snapshot of a form demonstrating how to complete the form, including instruction on where to begin text responses and where and how to mark response ovals.

Figure 4

Example of how to complete the form, 2018 Census



Design of questions

This chapter explains the design of questions from the 2018 Census forms.

See:

- Dwelling Form – new questions
- Individual Form – new questions
- Household Set-up Form / Dwelling Form – changed questions
- Dwelling Form – changed questions
- Individual Form – changed questions
- Dwelling Form – unchanged questions
- Individual Form – unchanged questions

Within these sections, the questions are ordered according to their order in the forms.

The full set of forms are available from Stats NZ Store House.

We present images of each question from both the online and paper forms. For new questions, we've included te reo Māori/English version, and for changed questions, we've included the 2013 Census version.

We've indicated the rationale for including or updating the question, what functionality the online form has to assist respondents (eg delivering the next relevant question), and some of the findings from testing that support the final design.

In the Individual Form, the questions that come first are key variables. The remaining questions are ordered according to things like their priority, grouping together questions based on who needs to answer, logical flow, and space requirements.

Dwelling Form – new questions

Dwelling dampness indicator

Information collected by this question

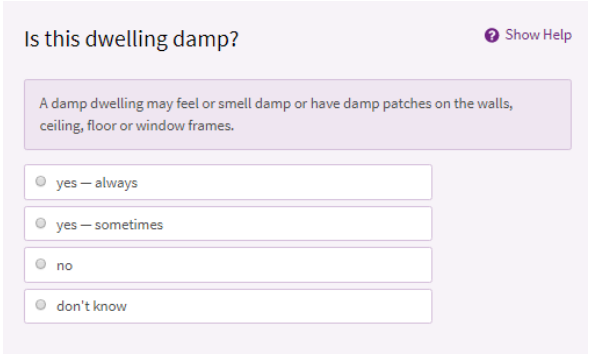
The information collected in this question is a self-evaluated assessment of whether the dwelling is damp or not. Some subjectivity in responses to this question is expected and acceptable. The concept of a damp dwelling is intended to mean something more significant than some condensation on windows. This information has not been collected in the Census of Population and Dwellings before.

The rationale for collecting dwelling dampness is given in *2018 Census report on final content* (Stats NZ, 2017, b), in the Housing topic, under Housing Quality.

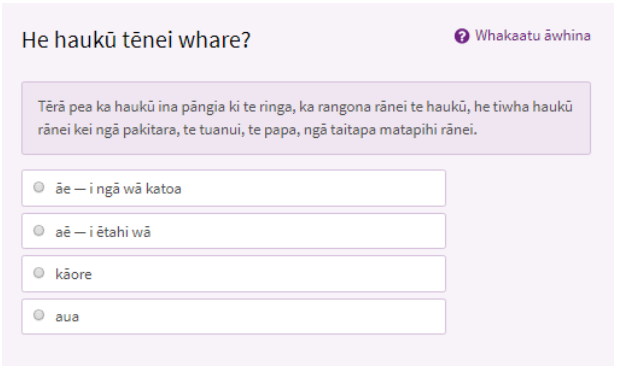
Figure 5

Dwelling dampness indicator

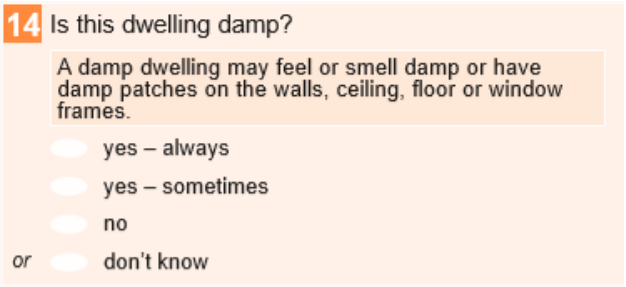
2018 Census English form – online



2018 Census te reo Māori– online



2018 Census English form – paper



Developing the question

We started by reviewing the questions relating to dwelling dampness used in Te Kupenga 2013[1] (Statistics NZ, 2014)and the General Social Survey 2016 (Statstics NZ, 2014), which asked about the degree of any problem with dampness (that is, no problem, small or minor problem, big or major problem).

We did not alter the question wording during the process of developing the question, but we did refine the response options and note text.

Help text

The guide notes and online help state that if bedding or furniture feel or smells damp, to mark one of the 'yes' response options.

Developing the te reo Māori version

Initially we used the word 'mākūkū' for dampness. We conducted separate cognitive testing and mass completions of forms with respondents whose proficiency in te reo Māori varied from low to fluent. We observed that most respondents checked the English wording for this question. Some respondents reported that the word 'mākū' is commonly used to mean 'wet', so assumed that the word 'mākūkū' would have a similar meaning. Some commented that 'dampness' would not be commonly spoken about in te reo Māori. However, the external te reo Māori reviewer changed 'mākūkū to 'haukū', meaning to be

[1] Te Kupenga collects information on a wide range of topics to give an overall picture of the social, cultural, and economic well-being of Māori in New Zealand. The survey also provides important information about the health of the Māori language and culture.

damp and covered in dew, or dew, damp, moisture. We tested and implemented this change.

Findings from cognitive testing

Early results from testing found that respondents preferred a question that included a note explaining what to think about ("A damp dwelling may feel …") rather than a question that did not have this type of note.

Early in testing, we trialled an introductory statement "The next three questions relate to housing issues that are common in New Zealand, and can affect people's health and wellbeing". We removed this as some feedback indicated it may be problematic (eg leading respondents to answer a particular way), also it would create extra reading and take up space.

An earlier version of this question included the response option of 'yes – often'. We tested without it and looked for evidence whether the options 'yes – always' and 'yes – sometimes' were sufficient. There were no concerns, so the simpler version was kept, which is aligned with the response options for the mould question (see also Findings from large-scale testing).

Overall, we found that respondents answered the question without observed difficulty, and when questioned, reported that they were comfortable answering. However, respondents' explanations of why they had chosen a particular answer showed subjectivity or variation in what they were including or excluding, which indicates that the concept of a damp dwelling has not been so clearly defined that everyone answers consistently. For example, some respondents were unsure how to answer if their home was damp during some parts of the year only, and some said they had answered with respect to the rooms they live in or use and had excluded unused rooms. Current weather patterns may affect responses too, as some included dwelling dampness they had experienced following rain that was from a particular direction or particularly heavy, which others may not.

Subjectivity was also expressed by respondents who thought that someone else living in their dwelling might answer the question differently.

The question includes a 'don't know' option for respondents who are unsure of how to answer, for example, those who have moved recently and have not lived in their dwelling during times when it may become damp, such as winter.

Findings from large-scale testing

In the Census Test (July 2016), a small proportion of respondents selected the 'yes – often' option, indicating this response option could be removed. When compared with the Census Test (April 2017), which excluded this category, the biggest change in response patterns (ie the largest percentage point change between the categories that were common to both tests) was an increase in 'not stated', but it was still at an acceptable level.

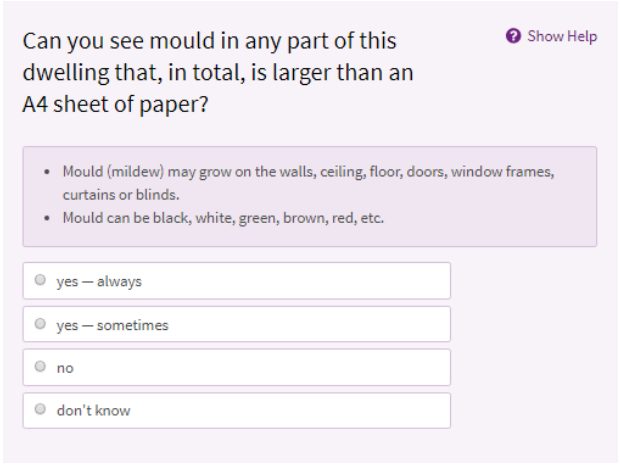
Overall, this most recent test indicated a low level of non-response and 'don't know' answers. There was no evidence of respondents of particular household tenures (such as renting or owning) or with particular landlord types being unwilling to answer.

Dwelling mould indicator

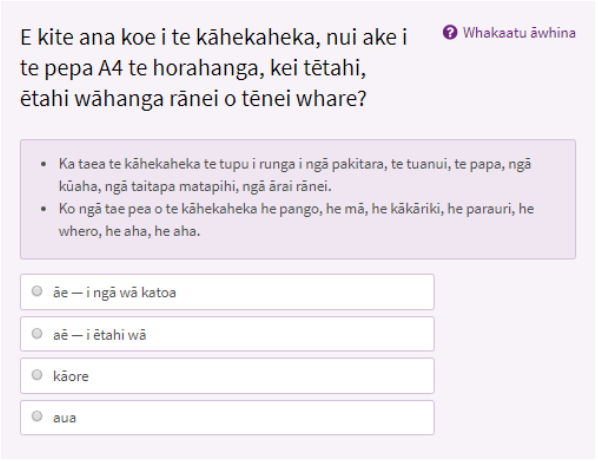
Figure 6

Dwelling mould indicator

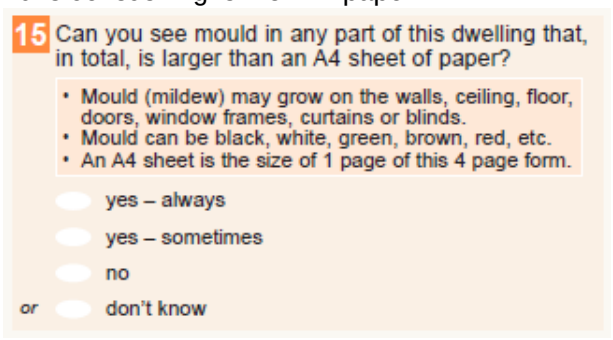
2018 Census English form – online



2018 Census te reo Māori form – online



2018 Census English form – paper



Information collected by this question

The information being collected is the presence of visible mould inside a dwelling. The measure used is whether any patches of mould together would cover an area larger than an A4-size sheet of paper. Some subjectivity in responses to this question is expected and acceptable.

The paper form includes a note explaining what an A4 size is by referring to the paper form size. The online form does not include this size reference.

The rationale for collecting dwelling mould is given in *2018 Census report on final content* (Stats NZ, 2017) in the Housing topic, under Housing quality.

Developing the question

We started by reviewing the question relating to dwelling mould used in the General Social Survey 2016 (ie "Does your house or flat have no problem, a minor problem or a major problem with dampness or mould?") and testing whether a question like this would work in the context of the census.

The question wording did not vary much during our development process, but we did refine the response options and note text.

The use of an A4 page as a size measure is consistent with that used in research where trained building inspectors checked that surfaces in rental houses were clear of mould (Bennett, Chisholm, Hansen, & Howden-Chapman, 2014). In another study (Shorter, Crane, & Pierse, 2018), an A4 page equated to 'moderate' or category 2 mould on a scale assessing the extent of mould using ratings of 0-3 (that an A4 page equates to category 2 was confirmed in personal communication from P Howden-Chapman, 6 April 2016). Category 2 mould was highly predictive of new onset wheezing over someone living in a dwelling with a mould score of zero.

The phrase 'can you see' is intended to make it easier to answer, however this means that any mould growing in wall linings or other places that are not visible is excluded.

Help text for dwelling mould indicator

The guide notes state that respondents should include mould in a garage or attic, or mould which regrows after being cleaned off. Mould on furniture and clothing is excluded.

Developing the te reo Māori version

Testing provided feedback on our use of the word 'kāhekaheka' for mould. Most respondents had to check the English wording, and then were comfortable with our use of this term. The external te reo Māori reviewer amended the grammar.

Findings from cognitive testing

Early results from testing found that respondents preferred having, rather than not having, a note describing what to think about (including the colours of mould and where it may grow) as part of the question.

Discomfort about reporting mould may affect the accuracy of responses to this question. An early version of this question used the wording 'inside this dwelling'. One person commented that they were uncomfortable reporting that they had mould inside their dwelling as this implies it is throughout, and suggested changing the question to "in any part of this dwelling'. This suggestion was implemented.

Testing also found that some respondents wanted to confirm their understanding of the concept of total mould covering an area greater than an A4 page, which shows they had some difficulty with the question itself. Respondents tended to re-read the question and/or think for a moment before selecting an answer.

Generally, responses to this question appear to be valid, with respondents explaining their answer, so interviewers could assess that it was consistent with the question concept. Also, most were able to quickly choose an answer rather than deliberating.

The question includes a 'don't know' option and help notes for respondents who are unsure of how to answer.

Later in our cognitive testing, we split the 'yes' option into 'yes – always' and 'yes – sometimes', to give more choice in the response options, and to align it with the dampness response options. We did not observe respondents having difficulty choosing between these options.

Overall, our testing found that respondents answered the question without observed difficulty, and when asked, reported that they were comfortable answering this question.

Findings from large-scale testing

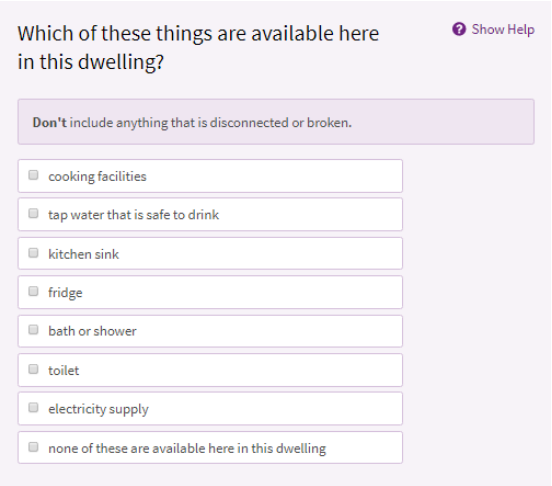
The Census Test (April 2017) found that non-response to the mould question was acceptably low, and there was a low rate of 'don't know' responses. Our analysis found no evidence of respondents of certain household tenures (such as owning or renting) or landlord types being unwilling to answer this question.

Access to basic amenities

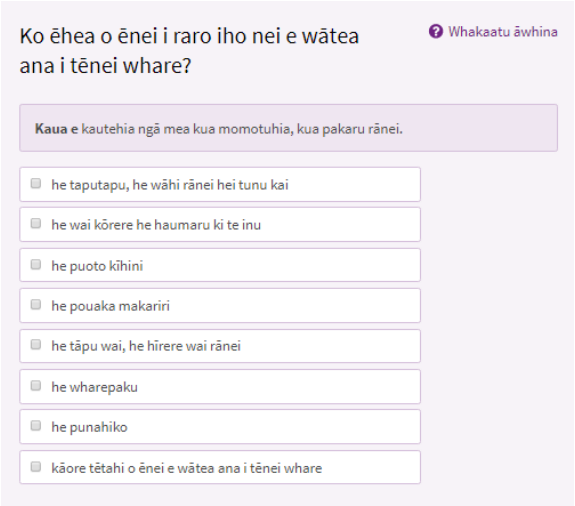
Figure 7

Access to basic amenities

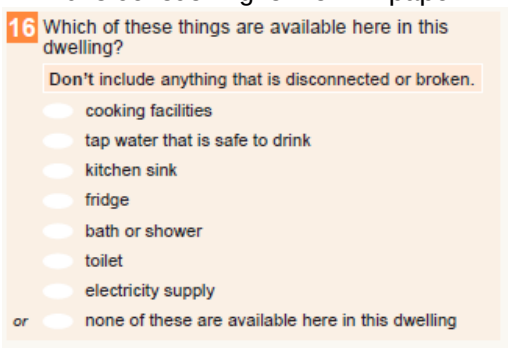
2018 Census English form – online



2018 Census te reo Māori form - online



2018 Census English form – paper



Information collected by this question

The question collects whether certain basic amenities are available inside the dwelling. To be counted, each amenity needs to be in working order. If more than one of a particular amenity is present in a dwelling (eg a toilet) then at least one needs to be in working order.

The number of dwellings with these amenities absent is expected to be small.

The rationale for collecting access to basic amenities is given in the *2018 Census report on final content* (Stats NZ, 2017), in the Housing topic, under Housing Quality.

Developing the question

We developed and tested several variations of wording and layout. The final wording is similar to other census questions on access to items in a dwelling.

For the amenities list, we took into account information from consultation, building code requirements, requirements for rental housing, and criteria used in defining severe housing deprivation (homelessness) (Statistics NZ, 2015). Keeping the list relatively short was also a consideration.

Help text

The guide notes clarify that using solar panels to provide electricity counts as electricity and composting toilets in working order count as a toilet and can be ticked in the respective categories. Amenities that are to be repaired, replaced or reconnected can be counted if this will occur within several weeks.

Developing the te reo Māori version

Our testing found that the terms used in the amenities question were generally understood, with only minor grammatical changes needed. The external te reo Māori reviewer made further grammatical suggestions to the Māori wording of the question, and the response options 'tap water that is safe to drink' and 'kitchen sink'.

Findings from cognitive testing

Our testing began with a list of five amenities. Later in our testing process and following consultation, the categories 'kitchen sink' and 'fridge' were added. We did not observe respondents having any extra difficulty after these two categories were added.

A challenge during testing was finding respondents living in dwellings without one or more selected amenities, given the low rate of occurrence of this and the sensitivity associated with collecting this information. We carried out some testing in lower socio-economic areas. However everyone who attended testing was renting from Housing New Zealand Corporation, and they all reported having all the specified amenities. A group test was carried out with respondents living in a caravan park, some of whom reported that some amenities were absent from their dwelling. During a group discussion, when asked whether they thought the census should collect this type of information, they were generally supportive, especially if it resulted in improvements in the quality of their housing or amenities they shared.

Discomfort about reporting the absence of amenities may affect the accuracy of responses to this question. Overall though, our cognitive testing found that respondents were generally happy to answer the question, without observed difficulty.

We tested a version of this question that asked respondents to tick amenities that were absent ('which of these things are not available here in this dwelling?'). This was an attempt to speed up the answering process for respondents, given that most dwellings will contain all the listed amenities. With this style of question, most respondents would be able to tick one response option to indicate this, for example, 'or, all of these things are available here'. However, this was more mentally challenging and respondents suggested that we ask them to tick what is present, despite this meaning that most people will need to select every amenity in the list.

The category 'tap water that is safe to drink' may be affected by local conditions, especially at the time of census collection, for example, heavy rainfall affecting the availability or quality of drinking water (as happened during the Census Test (April 2017) in Whanganui). Also, subjectivity may affect responses, as people may vary in their perception of what constitutes 'safe to drink'.

We received comments on the value of asking a question about access to basic amenities. Some respondents commented that housing quality is topical, this question would result in useful information, and that they were grateful to be able to tick all amenities. Others, however, felt this question was 'out of left field' and that there were more important questions to ask.

Findings from large-scale testing

There was low non-response to this question in the Census Test (April 2017), the pattern of responses was as expected, and our testing indicated it would produce sound data.

However, there was some evidence of respondent error. Following this test, we phoned a small number of respondents who had not selected one or more amenities, and found that some of them had missed selecting some amenities for no apparent reason, particularly those using the paper form. Given space was available on the paper Dwelling Form, the response options were spread apart a little more to help with visibility.

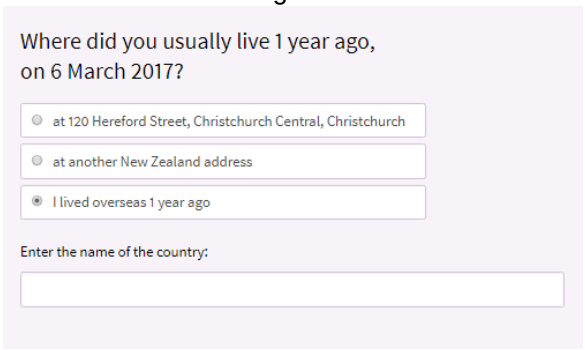
Individual Form – new questions

Usual residence one year ago

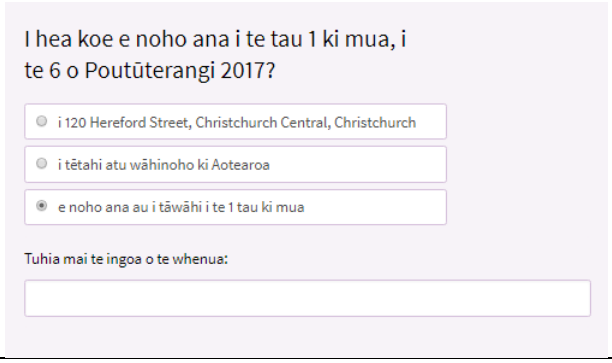
Figure 8

Usual residence one year ago

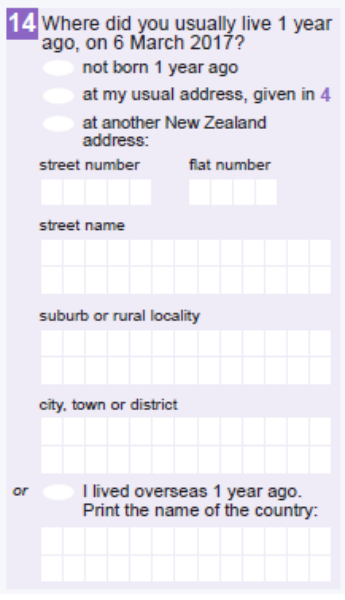
2018 Census English form – online



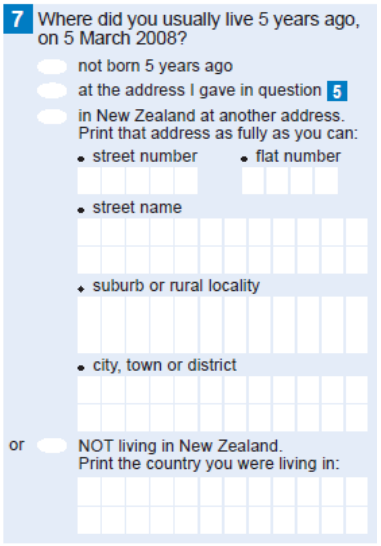
2018 Census te reo Māori form – online



2018 Census English form – paper



2013 Census English form – paper



Findings from cognitive testing of usual residence one year ago

Generally, on the paper form, the option 'at my usual address, given in 4' enabled many respondents to answer quickly. When asked, some felt that this wording, which gives the question number only, was not as clear as '… given in question 4' as used in the 2013 Census. The abbreviation has been retained given space constraints on the Individual Form.

Findings from large-scale testing of usual residence one year ago

The responses given appeared appropriate using general checking of addresses. Non-response was low, with unidentifiable responses mainly as a result of multiple responses or conflicting answers.

The question used in the Census Test (April 2017) included the response category 'at my census night address'. This category appeared to confuse respondents who completed the paper form, and was not used by most online respondents. Our analysis showed few respondents actually lived at their census night address one year ago unless it was their usual residence, for which there is a separate response option. As a result of this finding, the response option 'at my census night address' was not included, and a write-in space for country, for those who lived overseas one year ago, has been added.

Main means of travel to education

See figure 9

. Information collected by this question

Information on main means of travel to education will be collected for people who are engaged in education, either full-time or part-time. All levels of education are covered (pre-school, school, and tertiary).

Customers engaged in our consultation process indicated a preference for usual means of travel rather than that used on census day.

As this question is about travel to education, it excludes transport methods on other journeys, for example, travelling home.

Respondents answer this question if they indicate that they study full-time or part-time in the preceding question on participation in education (see Individual Form – unchanged questions: study participation).

The rationale for collecting main means of travel to education is given in *2018 Census report on final content* (Stats NZ, 2017,b), in the Transport topic.

Online functionality

This question is only presented to those that indicate they participate in education, and only one option may be selected.

The 'other' option includes an as-you-type list.

Developing the question 'main means of travel to education'

This question was based on the one used for main means of travel to work, with some changes to the forms of transport to suit travel to education.

Developing the te reo Māori version

Testing found that the terms used in the travel to education question were generally understood. Some grammatical changes were needed to the question wording as well as the guide note.

The external te reo Māori reviewer made further suggestions to refine the wording of the question, responses, and guide note, for grammatical correctness and to align better with the English.

The reviewer suggested changing the te reo Māori term for 'select' in the guide note from 'tohua' to 'tīpakohia'. However, this change was not implemented for consistency with 'tohua' used elsewhere in the paper form to translate both 'mark' and 'select'.

Findings from cognitive testing of main means of travel to education

We found that some respondents completing a paper form selected more than one option. In some cases, this was reported as easier than working out which means of travel was the main one. Others explained they use a different means of travel on different days of the week. Also, some respondents had little understanding of the distance, and were more aware of other measures such as how long the journey usually took.

An early version of this question had the 'study from home' response category at the end of the list. Those who were distance learning (eg online, skype, video chat) were unsure about how to answer this question. To remedy this, we moved 'study from home' to the top of the list to reduce their burden.

Findings from large-scale testing of main means of travel to education

Our analysis showed non-response was very low. However, a small number of respondents using paper forms gave multiple responses.

Response patterns by age met our expectations. There were some forms completed for (or by) children where the response 'drive a car, truck or van' had been selected. In these cases, it seems likely that the next category of 'passenger in a car, truck or van' would be correct. For the 2018 Census, checks on the data will be in place to identify errors such as this.

The number of 'other' responses was quite low, which suggested that the list of categories covered the majority of travel options used by respondents.

Figure 9

Main means of travel to education

2018 Census English form – online

What is the **one main way** you usually travel to your place of education — that is, the one you use for the greatest distance?

If you don't have a usual method, select the one you used most recently.

- study at home
- drive a car, truck or van
- passenger in a car, truck or van
- bicycle
- walk or jog
- school bus
- public bus
- train
- ferry
- other, eg taxi, motorbike

2018 Census te reo Māori form – online

Ko te tikanga, haere ai koe **mā runga aha** ki tō whare mātauranga, arā, te momo e whakamahia ana e koe mō te nuinga o tō haerenga?

Mehemea kāore he momo haere e whakamahia nuitia ana e koe, kōwhiria tērā i whakamahia i nā tata nei.

- ako ai au i tōku whare noho
- ka taraiwa motokā, taraka, pahi-iti rānei
- he pāhihi au i roto i tētahi motokā, taraka, pahi-iti rānei
- mā runga paihikara
- ka hīkoi, ka oma rānei
- mā runga pahi kura
- mā runga pahi tūmatanui
- mā runga tereina
- mā runga waka kōpiko
- mā runga i tētahi atu, pērā i te tēkehi, te motopaika

2018 Census English form – paper

19 What is the **one main way** you usually travel to your place of education – that is, the one you use for the greatest distance?

If you don't have a usual method, select the one you used most recently.

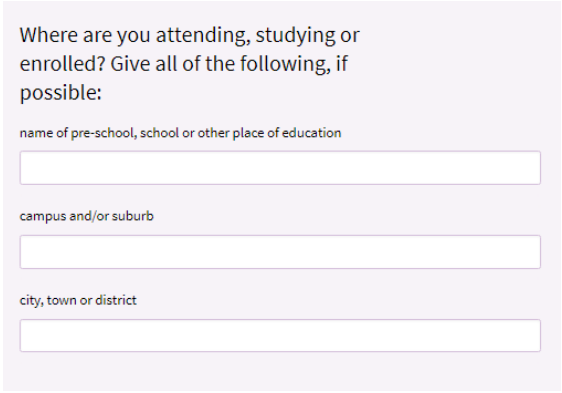
- study at home → go to 21
- drive a car, truck or van
- passenger in a car, truck or van
- bicycle
- walk or jog
- school bus
- public bus
- train
- ferry
- other, eg taxi, motorbike

Educational institution address

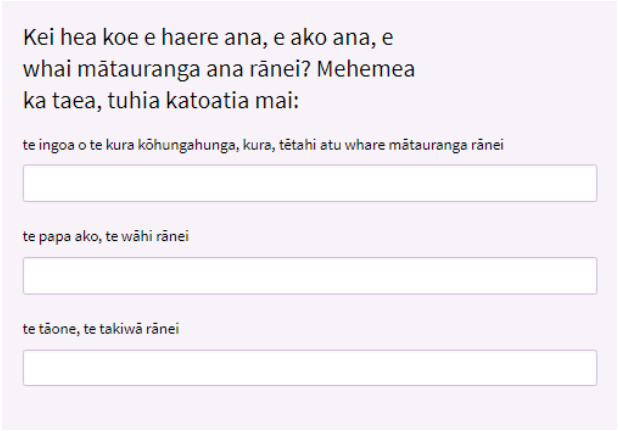
Figure 10

Educational institution address

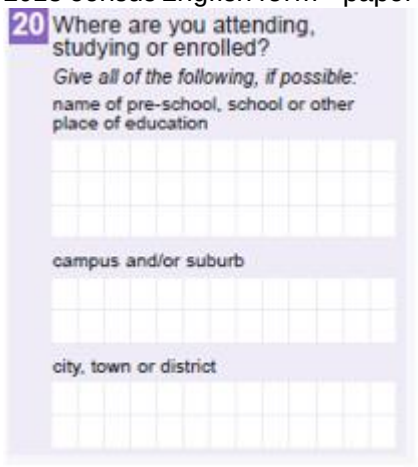
2018 Census English form – online



2018 Census te reo Māori form - online



2018 Census English form – paper



Information this question collects

This question collects the location of educational institutions which people attend for study purposes.

The rationale for collecting educational institutional address is given in 2018 Census report on final content (Stats NZ, 2017,b), in the Transport topic.

Online functionality

This question is only presented to those who select their main means of travel to education in the preceding question (other than 'study at home') (Main means of travel to education).

Each of the three answers have an independent as-you-type list to help make it easier for respondents to answer.

Help text for educational institution address

The guide notes explain that this information is being collected to help measure traffic flows and plan transport services.

Developing the te reo Māori version

Testing found that the terms used in the educational institution address question were generally understood.

The external te reo Māori reviewer made suggestions for the wording of the question and one of the responses, which were implemented, for grammatical correctness and to align better with the English. However, we did not implement the reviewer's suggestion for changing the translation of 'city, town or district', as the suggestion was inconsistent with the same response in previous address questions.

Findings from cognitive testing of educational institution address

The version of this question used in cognitive testing asked for the street address of the educational institution. Many respondents had difficulty with this (some attempted to find the information on their smart-phone), so this field was removed once we established that name and suburb were sufficient.

Findings from large-scale testing of educational institution address

The Census Test (April 2017) found non-response for 'educational institution name' was low, and non-response for 'city' was reasonably low, but non-response for 'suburb' was very high. It should still be possible to determine the geographic location of most educational institutions with the suburb missing if the other information has been provided.

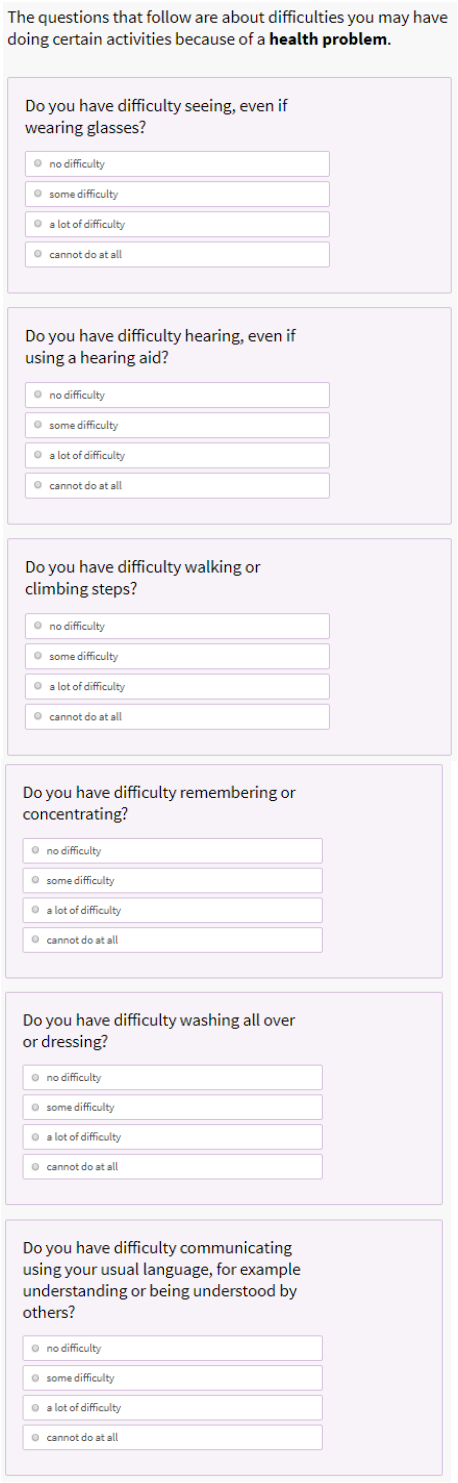
Our analysis indicated that this information can be successfully collected for pre-schoolers as well as for school and tertiary students, but that data quality issues are more likely to affect the information collected for tertiary students.

Disability / activity limitations

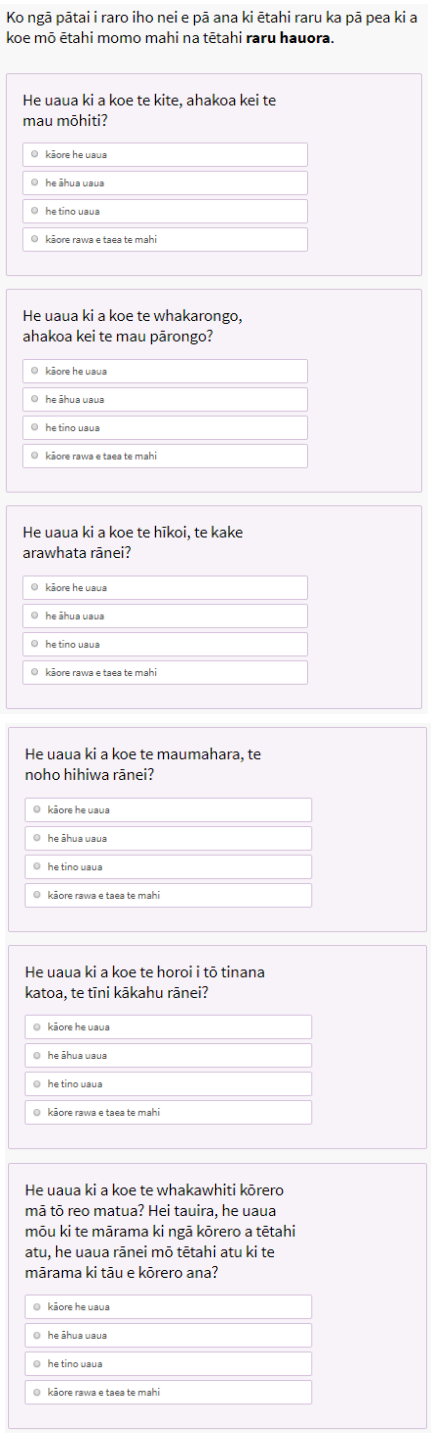
Figure 11

Disability / activity limitations

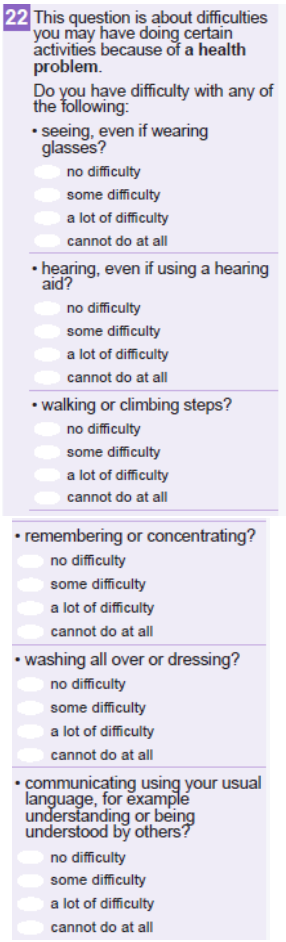
2018 Census English form – online



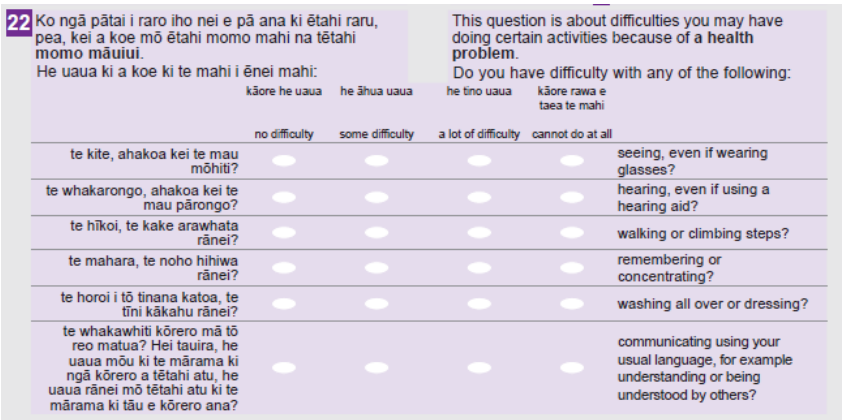
2018 Census te reo Māori – online



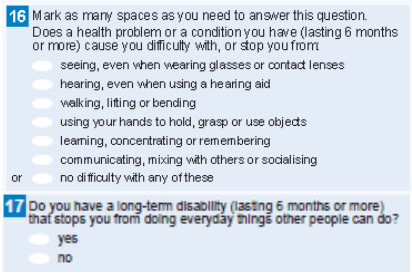
2018 Census English form – paper



2018 Census te reo Māori – paper



2013 Census English form – paper



Information collected by this question

The information being collected is difficulties people may have doing activities as a result of a health problem. It is a different concept from the 2013 Census, when we asked about a health problem or condition lasting six months or more. (The two questions used in the 2013 Census were designed to identify a potential sample for the post-censal New Zealand Disability Survey. There will not be a survey on disability following the 2018 Census.)

The question set and definition of what is to be collected is informed by the Washington Group on Disability Statistics (2016) as an internationally-recognised method of collecting information appropriate to informing needs of the disabled population. International comparability was our major focus for selecting the Washington Group question set.

The international recommendation is to collect information for respondents aged 5 years and over. This question is preceded by a routing instruction, directing those who are answering on behalf of someone who is aged less than 5 years to go to the declaration (ie final question).

We also use this set of questions in the General Social Survey 2016 and the Household Labour Force Survey (both are interviewer-administered surveys).

The rationale for collecting disability /activity limitations is given in 2018 Census report on final content (Stats NZ, 2017,b), in the Health topic.

Developing the te reo Māori version

Testing found that the terms used in the activity limitations questions were generally understood, with minor grammatical changes needed.

The external te reo Māori reviewer gave suggestions for refining wording of the question and all of the responses, for grammatical correctness and to be more reflective of the English version. These were tested and implemented.

The paper bilingual form uses a table/matrix layout, rather than the question-by-question approach used in the online form and the paper English form. This layout fits with the design of a single response space between te reo Māori and English wording, and is more space-efficient.

Developing the question

The Washington Group set of questions has been developed for interviewer-administered surveys. To retain international comparability, we did not test any wording changes, however we modified the layout of the questions to be more appropriate for the census (that is, a self-administered questionnaire).

Findings from cognitive testing of activity limitations

The modified layouts that we tested included setting out the question as a table/matrix, and a question-by-question approach. Some cognitive test respondents were shown both these formats for this question and asked about their format preferences. Findings were fairly evenly split, with none of the respondents expressing a strong preference for one format over the other. The question-by-question approach has been retained as a more compact design given the space constraints of smart-phone screen size and on the English paper form.

Our cognitive testing found conceptual and interpretation issues with the question wording. Some respondents had difficulties interpreting the response categories, in particular the difference between ‘some difficulty’ and ‘a lot of difficulty’, and felt that examples would be useful to help distinguish between them.

Some respondents took into account the use of assistive devices in assessing their difficulty, as directed to in the questions, while others missed this and did not.

Respondents did not always assess their answers within the context of a health problem. This was most common for ‘remembering or concentrating’ and ‘communicating using your usual language’, with comments showing they were thinking about other reasons, for example, age-related memory decline. Bolding was added to draw attention to this criterion.

Findings from large-scale testing of activity limitations

Overall, non-response rates for the question set were acceptable. Unidentifiable responses were relatively few.

Non-response rates to each activity limitation type were acceptable overall (although higher than ideal on the paper forms). Non-response was highest for the 'hearing' question; feedback from cognitive testing indicated some respondents were finding the wording confusing, as it includes a reference to using a hearing aid.

The overall level of reported activity limitation is within the expected range. The respondents using the paper form were more likely to indicate limitations, probably reflecting the tendency for older people to respond on paper.

The Census Tests July 2016 and April 2017 indicated that the data produced for the overall disability indicator should be fit for purpose (ie of suitable quality for output).

Household Set-up Form / Dwelling Form – changed questions

Overview

This section includes the question set from the new online Household Set-up Form, and its equivalent on the paper Dwelling Form. The online versions of these questions have been optimised for the 2018 Census collection model and an online format.

These questions specify the dwelling address, and the people present there on census night (usual residents and visitors) and absentees (usual residents who are away). The information collected about each person is their name, age, sex, and relationship to the reference person.

For the age and sex questions, see the section Individual Form – unchanged questions.

Dwelling address

See figure 12.

Description of change

Operational changes for the 2018 Census mean that most dwellings in New Zealand will receive a letter with an access code related to that particular dwelling address. When this access code is entered online, the address is presented within the first question, to be confirmed or changed if it is incorrect.

Once the dwelling address is confirmed, the online form pipes this address in to later questions in the Individual Form. This means the respondent can reconfirm or change the address later, and so improves both the experience for respondents and the data quality.

The paper form has space for the address to be written in, and the design has not changed from the 2013 Census.

Rationale for change

Dwelling address is essential to the census, partly for collecting information on the New Zealand dwelling stock, as well as where people usually live (its collection is legislated).

Although the conceptual basis and information use have not changed, the question design has been adapted to the operational changes and the digital-first methodology. Also, it uses an as-you-type list of New Zealand addresses.

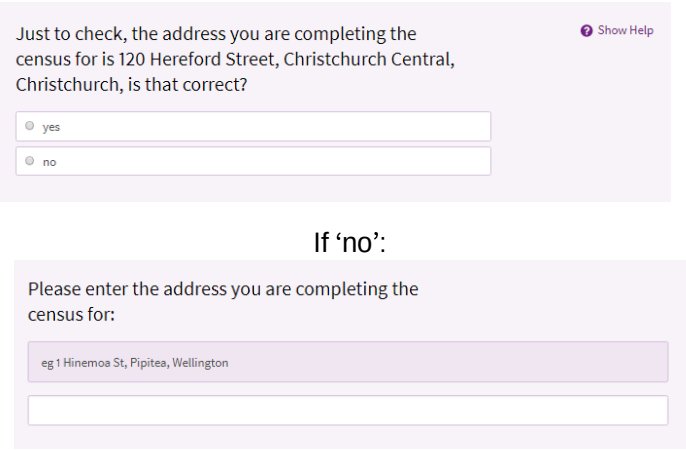
Findings from testing of dwelling address

There were no specific development considerations or issues.

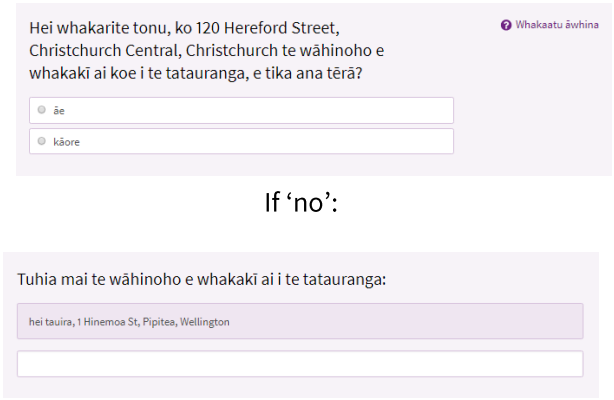
Figure 12

Dwelling address

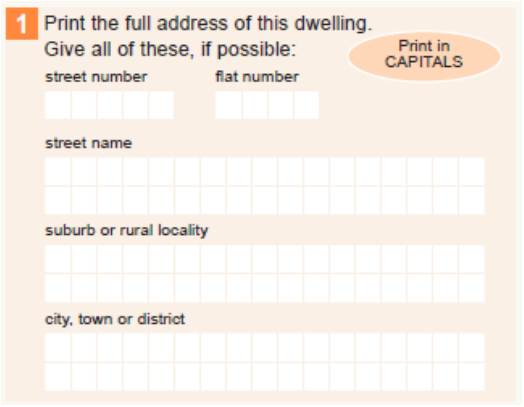
2018 Census English form – online



2018 Census te reo Māori form – online



2018 Census English form – paper

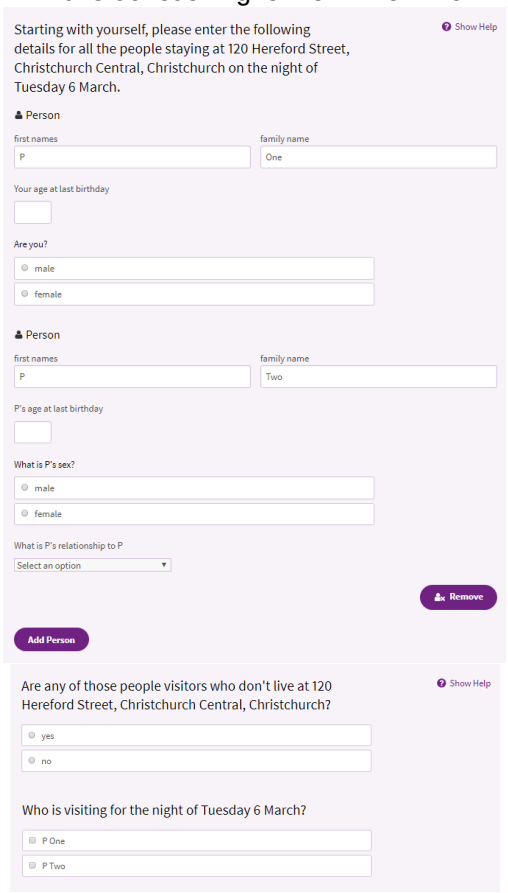


Name, People present on census night, and Relationship to reference person

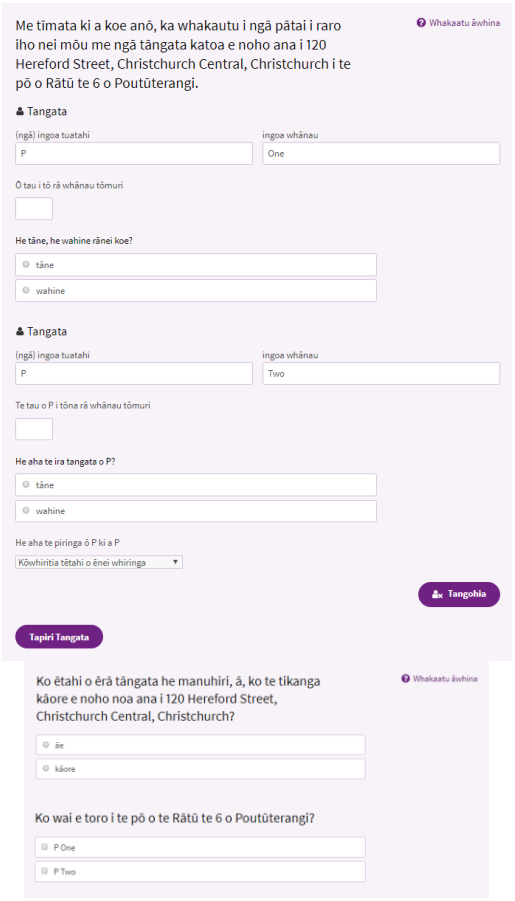
Figure 13

Name, People present on census night, and Relationship to reference person

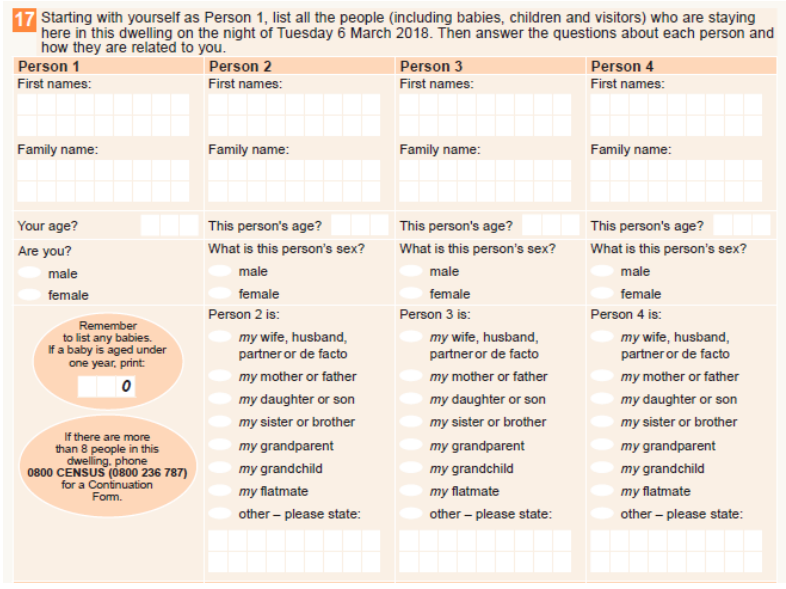
2018 Census English form – online



2018 Census te reo Māori – online



2018 Census English form – paper (image omits persons 5-8)



Description of change to name

The online form requests the first person logging in to list the names of all the people who usually live at that dwelling, plus any census night visitors. It enables 25 names to be added.

The names given are automatically piped to label each person's Individual Form (see Household Summary Page), and are piped into the 'name' fields within each Individual Form, with an opportunity to correct or change them.

The paper form design is unchanged.

Rationale for change to name

Piping of given name information helps clarify which forms need to be completed and for whom. Some burden will be saved in confirming (rather than entering) names in the Individual Forms.

Findings from cognitive testing of name

There were no specific development considerations or issues.

Description of change to relationship to reference person

The relationships question lists eight relationship types to the reference person, including 'other'. The list has been updated to remove the same-sex and opposite-sex distinction referring to 'my wife/husband/partner/de facto', since same-sex marriage has been legalised. The space has been utilised by adding 'grandparent' and 'grandchild' categories. In the 2013 Census, these were the most common relationship types given in the 'other' category.

Online, the question set has been designed with a question-by-question approach (not the grid format used on paper), which is easily resizable for a smart-phone screen.

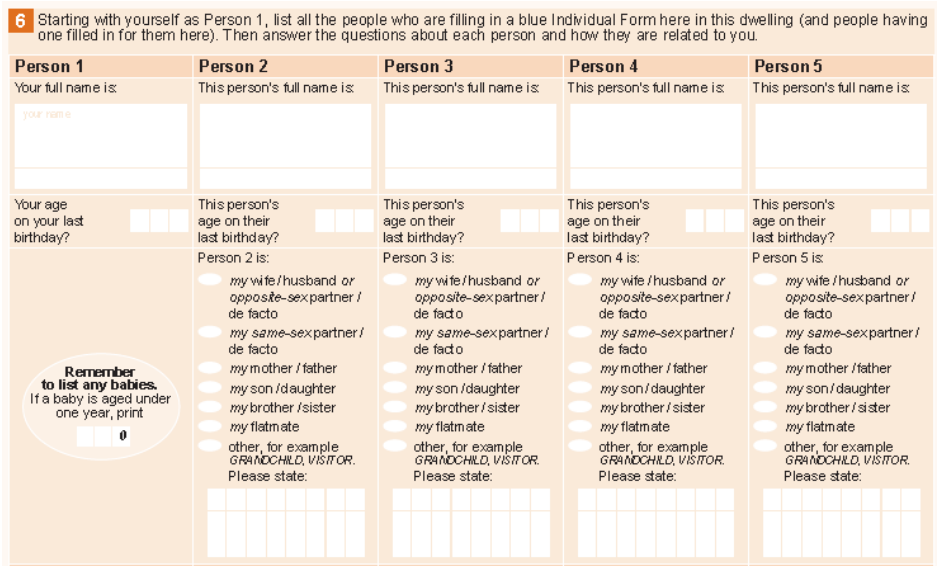
On paper, the question (see figure 13) has been reworded slightly to better reflect what information is required:

> Starting with yourself as person 1, list all the people (including babies, children, and visitors) who are staying here in this dwelling on the night of Tuesday 6 March 2018. Then answer the questions about each person and how they are related to you.

It has space for eight residents and visitors (the 2013 Census form had space for 10). Compare this with the 2013 Census question (figure 14).

Figure 14

2013 Census English form – paper (image omits persons 6-10)



6 Starting with yourself as Person 1, list all the people who are filling in a blue Individual Form here in this dwelling (and people having one filled in for them here). Then answer the questions about each person and how they are related to you.

Person 1	Person 2	Person 3	Person 4	Person 5
Your full name is:	This person's full name is:	This person's full name is:	This person's full name is:	This person's full name is:
Your age on your last birthday?	This person's age on their last birthday?	This person's age on their last birthday?	This person's age on their last birthday?	This person's age on their last birthday?
Remember to list any babies. If a baby is aged under one year, print 0	Person 2 is:	Person 3 is:	Person 4 is:	Person 5 is:
	my wife / husband *or opposite-sex* partner / de facto	*my* wife / husband *or opposite-sex* partner / de facto	*my* wife / husband *or opposite-sex* partner / de facto	*my* wife / husband *or opposite-sex* partner / de facto
	my same-sex partner / de facto	*my same-sex* partner / de facto	*my same-sex* partner / de facto	*my same-sex* partner / de facto
	my mother / father	*my* mother / father	*my* mother / father	*my* mother / father
	my son / daughter	*my* son / daughter	*my* son / daughter	*my* son / daughter
	my brother / sister	*my* brother / sister	*my* brother / sister	*my* brother / sister
	my flatmate	*my* flatmate	*my* flatmate	*my* flatmate
	other, for example *GRANDCHILD, VISITOR.* Please state:	other, for example *GRANDCHILD, VISITOR.* Please state:	other, for example *GRANDCHILD, VISITOR.* Please state:	other, for example *GRANDCHILD, VISITOR.* Please state:

Rationale for change to relationship to reference person

Respondents found the relationship types list too wordy and difficult to find their category. We updated the list to make it easier for respondents to read and select relationship types, reflect changes to society (ie legalisation of same-sex marriage), and add common familial relationships (ie grandparent and grandchild).

As the online form specifically asks about visitors, it is likely to collect better information than the paper form. The paper form requests that visitors are listed, but the 'other – please state' does not give the example of 'visitor' as in the 2013 Census.

Findings from cognitive testing of people present on census night and relationship to reference person

Our testing found that some respondents living with family members were unsure whether to include people who lived part-time in the household, particularly children in shared custody, as it was not apparent from the question instructions.

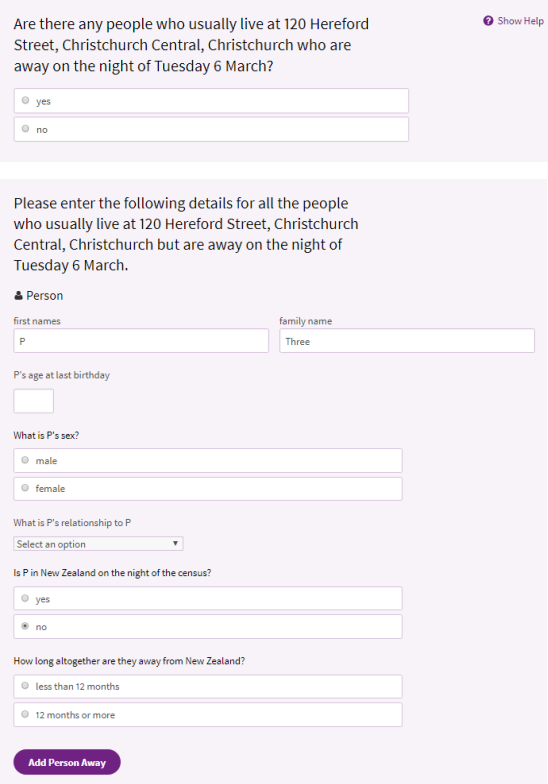
For respondents living in flatting situations, the main difficulty was around proxy responding (ie reporting on behalf of someone else in the household) leading to some discomfort with answering. Respondents in these household types commented that they wouldn't necessarily know the full name and age information for all of the people living in the household. Additionally they couldn't be confident whether all of the people in the household would be present on census night. As such there was a degree of 'guessing' involved in providing this information.

Absentees

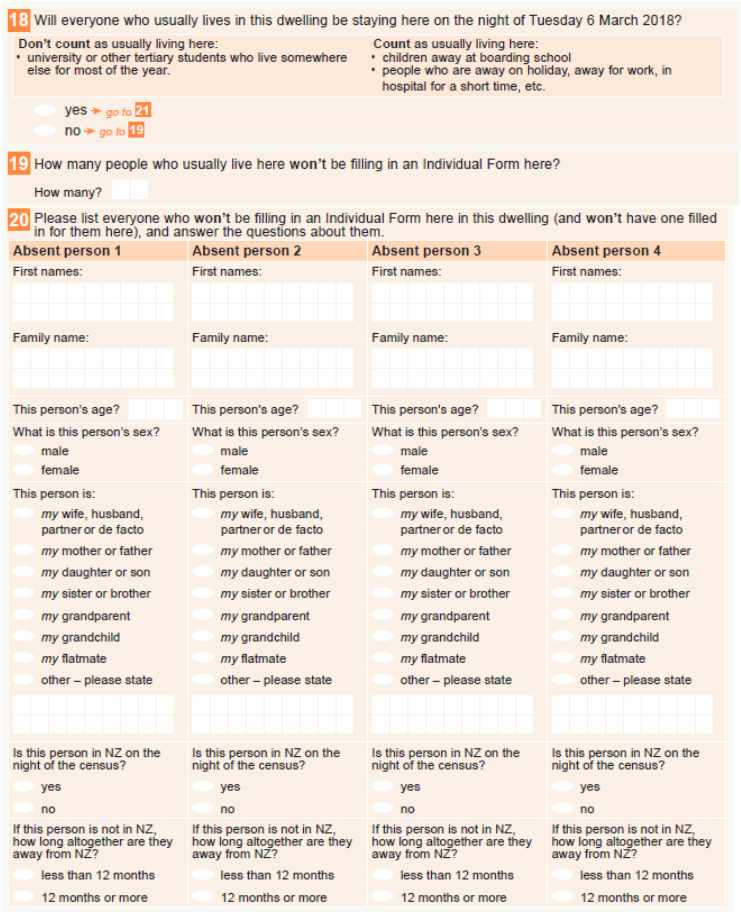
Figure 15

Absentees

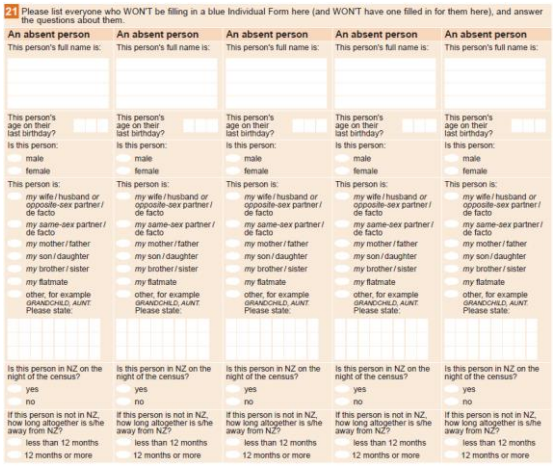
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

This question includes the same set of response options given in the previous question.

The English paper Dwelling Form has space for four absentees (the 2013 Census form had space for five), while the bilingual Dwelling Form has space for two absentees.

Rationale for change

As for the previous question, people found the list too wordy and difficult to find their category. The list has been updated to reflect current relationship types.

Online functionality

The first person to begin completing the online census forms enters the names and other details of absentees.

The online form enables five people absent in the dwelling on census night to be entered.

Findings from cognitive testing of absentees

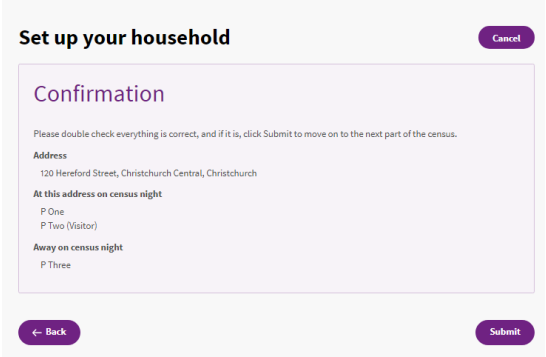
There were no specific development considerations or findings beyond those found for the previous relationship to reference person question (including how to answer for children in shared custody and flatmates). Few test respondents reported absentees.

Online household set-up confirmation

Figure 16

Online household set-up confirmation

2018 Census English form



Online, this page presents for confirmation all of the information which was entered on the Household Set-up Form. Once this information is submitted, the Household Summary Page (shown next) lists the dwelling address, and the forms that need to be completed.

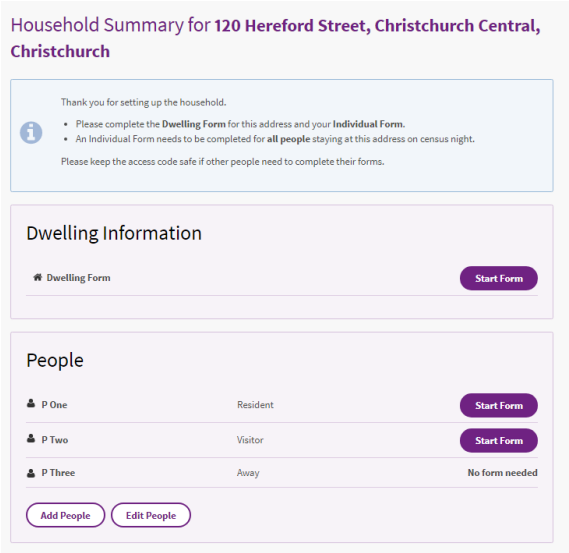
The paper form does not have an equivalent confirmation.

Household Summary Page

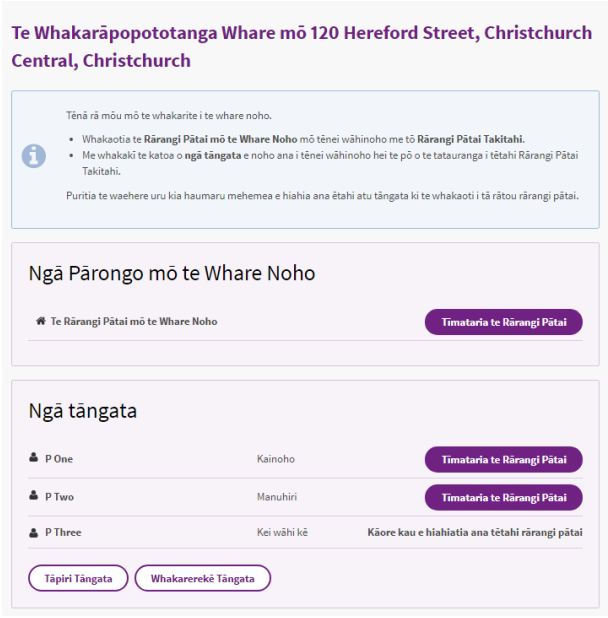
Figure 17

Household Summary Page

2018 Census English page – online



2018 Census te reo Māori page – online



Description of change

This summary page is new, and shows the information entered or confirmed.

Additional people can be added (eg visitors), or their status can be altered from 'resident' to 'away', and vice versa), and people can be removed from the list, such as an anticipated visitor who did not come.

Rationale for change

This page is designed to provide clarity to respondents about who needs to complete a census form at this address, and whether each form has been completed or not.

People who usually live at this dwelling but are absent are listed as 'away'. The Household Summary Page shows 'no form needed' ie an Individual Form does not need to be completed for them at this address. However, an absentee who is elsewhere in New Zealand on census night should complete their Individual Form at the address they are staying at.

Findings from cognitive testing of the Household Summary Page

There were no specific development considerations or issues.

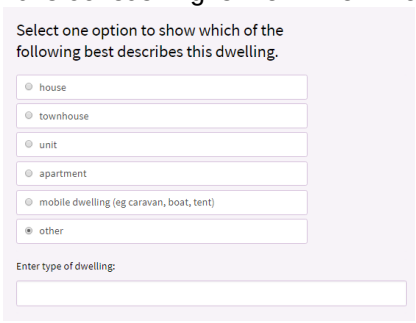
Dwelling Form – changed questions

Dwelling description

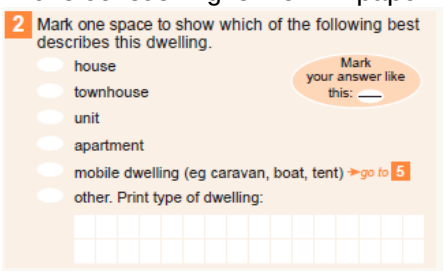
Figure 18

Dwelling description

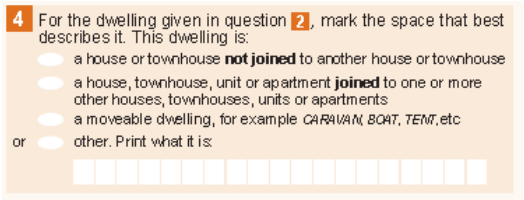
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

The 2013 Census question about describing the types of dwelling (house, townhouse, unit or apartment) and whether or not it was joined to another dwelling has been split into two simpler questions.

The list of dwelling descriptions is based on those used in the 2013 Census question, to maintain as much comparability as possible between the 2018 Census data and data collected previously.

Rationale for change

Our analysis of 2013 Census responses given in the 'other, print what it is' space showed some respondents were confused about what type of information this question was asking for. Respondents did not always provide the type of information we needed. To address this issue, we changed the design of the questionnaire into two simpler questions.

Online functionality

If 'mobile dwelling' is selected, the respondent will be directed to the dwelling joined or separate (ie next) question, but past the number of storeys question (ie, the routing is a little different from that on the paper form).

The 'other' option includes an as-you-type list.

Cognitive test findings

Most respondents chose one of the listed options without issue. There was some discussion about whether other dwelling types could be listed. A small number of

respondents who selected ‘apartment’ felt it was implicit that their dwelling was joined and they should be directed past the dwelling joined or separate question. This was not done to keep the questionnaire as simple as possible with only essential routing instructions, given the joined or separate dwelling question is relatively simple to answer.

Findings from large-scale testing

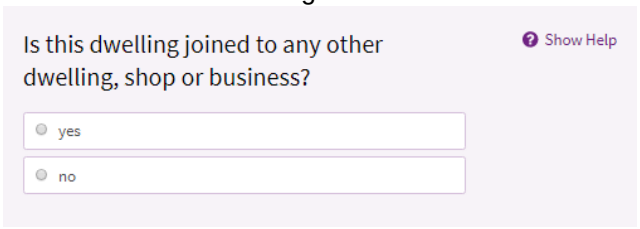
Non-response was in the acceptable range. Most respondents selected one of the listed response options, and for the ‘other’ option, some of the entered responses were ‘villa’, and ‘flat’.

Dwelling joined or separate

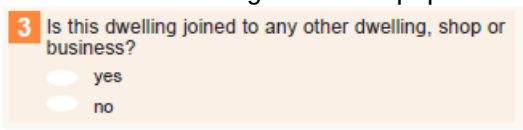
Figure 19

Dwelling joined or separate

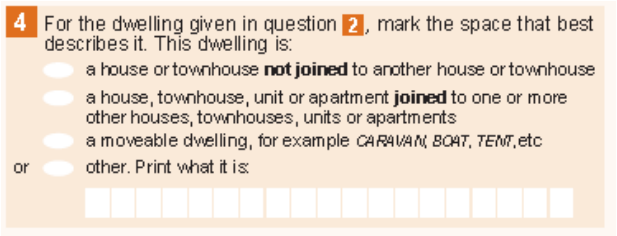
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

The 2013 Census question about whether the dwelling was joined or not joined and a description of the type of dwelling (house, townhouse, unit or apartment) has been split into two simpler questions.

In addition to the question design change, the concept has changed to incorporate a dwelling that is joined to another dwelling as well as a shop or business, given this is fairly common.

Rationale for change

The two new questions are simpler as they focus on one concept at a time (dwelling type and joined or not), and take account of the many dwellings that are joined to buildings that may or may not be dwellings.

Cognitive test findings

Generally this question was straightforward to answer, although some people sought clarification or reassurance that the join could be through walls and ceilings or floors. Some people had to make a judgment call when the join was small, such as part of a

shared wall between dwellings on hills, but this situation did not warrant any further question design change.

Findings from large-scale testing

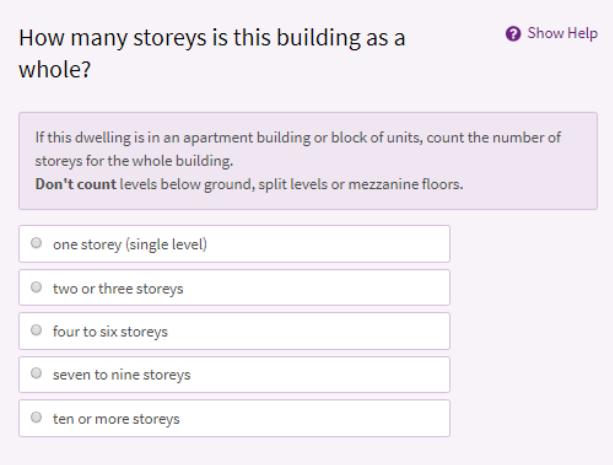
Overall, responses were as expected, and non-response was within the acceptable range.

Number of storeys

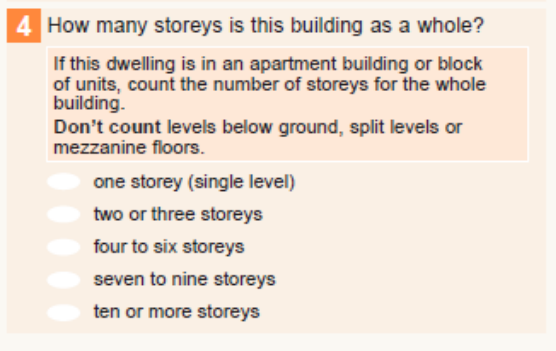
Figure 20

Number of storeys

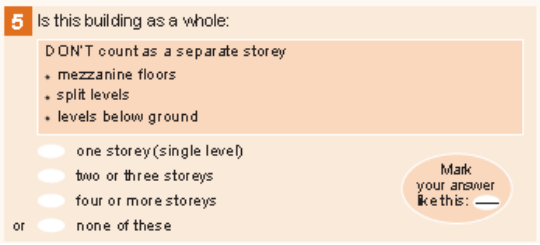
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

The previous category of 'four or more storeys' has been split into four to six storeys, seven to nine storeys, and 10 or more storeys.

Rationale for change

The number of storeys question has been changed because there is a need for better information on apartments in high-rise buildings.

Cognitive test findings

Most respondents found this question straightforward. Our testing, however, did not include many participants living in multi-storey buildings for which they needed to choose between the options four to six, seven to nine, or ten or more storeys.

Findings from large-scale testing

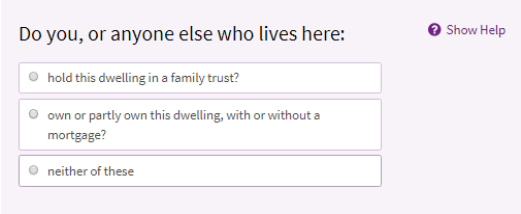
While the non-response rate was acceptable, the storeys question was not well-tested in Census Test (April 2017) as it was located in Whanganui which doesn't have high-rise apartments.

Dwelling owned or in family trust (tenure)

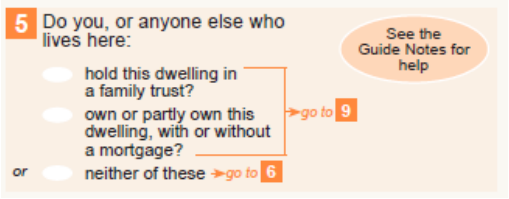
Figure 21

Dwelling owned or in family trust (tenure)

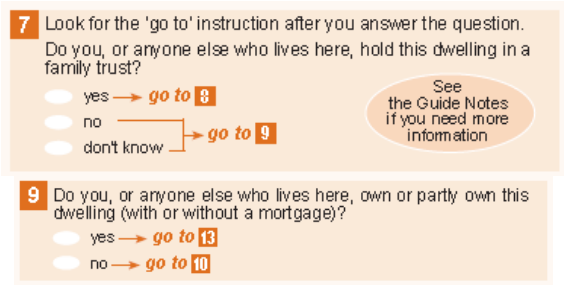
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

We simplified the design by reducing the number of questions and the number of routing instructions (ie go to X) across the tenure question set.

Rationale for change

We simplified the tenure question set to make it easier for respondents to answer these questions and improve data quality.

Online functionality

Once an option is selected, the next relevant tenure question is presented (see the 'go to' instructions on the 2018 Census English form – paper, figure 21).

Help text

The help text is largely the same as that used in the 2013 Census (regarding dwelling ownership including family trusts), but includes a paragraph explaining why licence to occupy is treated as owning for census purposes.

Findings from cognitive testing of dwelling owned or in family trust

The performance of the tenure question set hinges on respondents being able to answer this question and correctly follow the routing instruction to the next relevant tenure question(s).

Respondents using the paper forms who have a family trust or make mortgage payments generally know this and are able to answer easily. However, some of those who rent are less familiar with these tenure types and less sure of how to answer this question, and may continue to the next question (ie who owns this dwelling) to see if that is relevant or understandable, without selecting a response to this question.

Some respondents who have a licence to occupy have indicated dissatisfaction with the design that requires them to indicate they own their dwelling, as they know they do not legally own it. This may result in errors by those who are not aware that, for census purposes, this is what is needed.

Overall, this new question set still caused some cognitive burden for respondents, who may make errors in answering the questions or miss following routing instructions. However, it appears to be an improvement on the previous questionnaire design.

Findings from large-scale testing of dwelling owned or in family trust

We found that the non-response rate for the Census Test (April 2017) was acceptable overall. However, the data quality from the paper form was lower due to higher non-response.

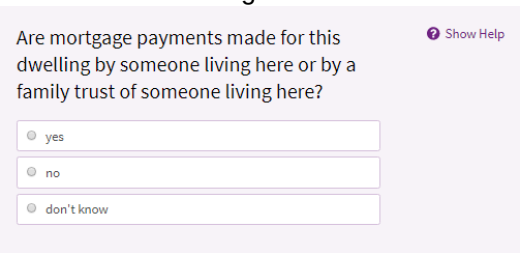
There was some evidence that people with a licence to occupy did not answer as per the guide notes.

Mortgage payments

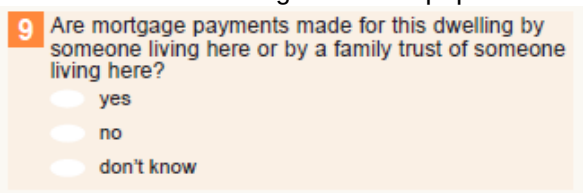
Figure 22

Mortgage payments

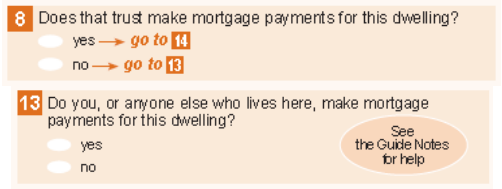
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

This question combines two questions from the 2013 Census.

Rationale for change

This change is to reduce the number of questions in the tenure suite and make it easier for respondents to answer them.

Help text

The help text is largely the same as that used in the 2013 Census – it clarifies what counts as making mortgage payments.

Findings from cognitive testing of mortgage payments

The performance of the tenure question set hinges on respondents being able to answer the previous question on tenure correctly and correctly following the routing instruction to this question on mortgage payments, if appropriate.

Our testing found that a few respondents expressed dissatisfaction with the question and response options. The question wording was described as 'confusing' and 'oversimplified'. These respondents anticipated a selection of response options that related to the question wording more closely rather than a simple 'yes' or 'no', commenting that "you couldn't respond yes or no to an 'or' question". However, the level of detail that this question collects fits the information need.

Findings from large-scale testing of mortgage payments

Online, non-response was within the acceptable range. However, the non-response rate on the paper form was higher than desirable, which appears to be a result of issues with seeing and/or following routing instructions. A common pattern was for homeowners to miss the 'go to 9' instruction in the previous question and answer the rent questions. The instruction was moved closer to the wording so it was more likely to be noticed.

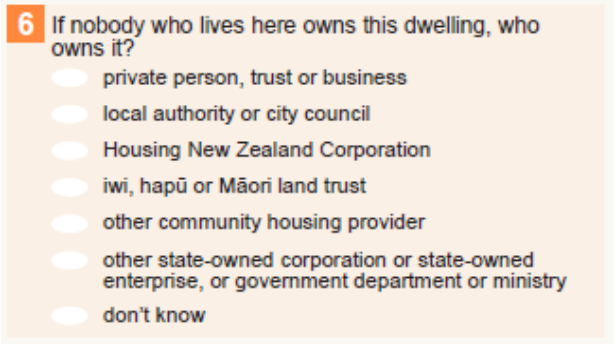
Sector of landlord

Figure 23

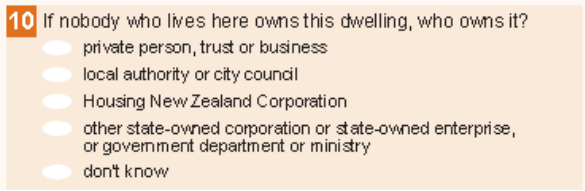
Sector of landlord

2018 Census English form – online

2018 Census English form – paper



2013 Census English form – paper



Description of change

The question includes two new response options for new types of providers of housing – 'iwi, hapu, or Māori land trusts', and 'other community housing providers'. The 'other community housing provider' category includes social housing providers such as Accessible Properties NZ Ltd (owned by IHC NZ Inc).

Rationale for change

Our consultation found there is an information need for the new types of housing providers that were not covered in the 2013 Census question.

Online functionality

Online, this question is presented after selecting 'neither of these' in the earlier question 'dwelling owned or in a family trust'.

Findings from cognitive testing of sector of landlord

The performance of the tenure question set hinges on respondents correctly answering the question on tenure and following the routing instruction to this question, if appropriate.

Limited testing was conducted on the two new categories due to difficulties with targeting and recruiting people with these landlord types.

Findings from large-scale testing of sector of landlord

Overall non-response was within the acceptable range. There was no evidence of major issues with the new categories. However, there was some evidence that respondents living in a retirement village (who likely have a licence to occupy their dwelling) selected 'other

community housing provider'. This may indicate issues with a preceding question 'dwelling owned or in a family trust'.

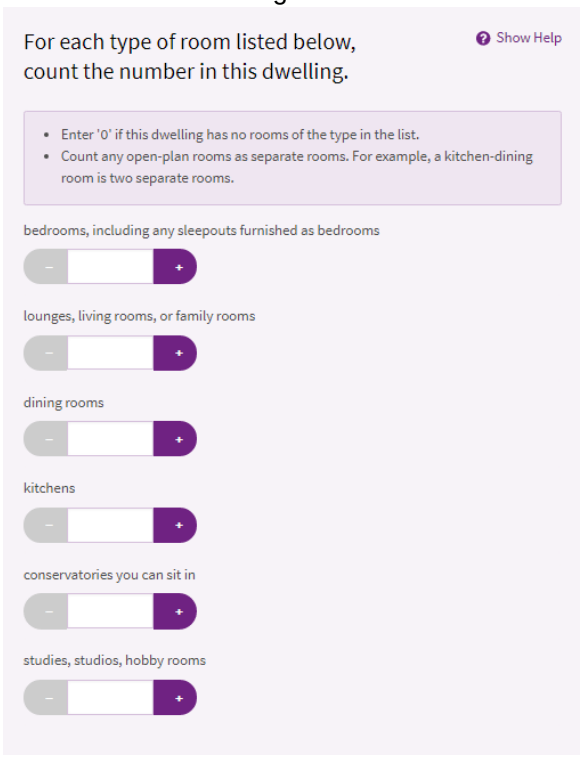
Numbers in the new categories are likely to be small, so any error affecting them could have a significant effect on their data quality.

Number of rooms

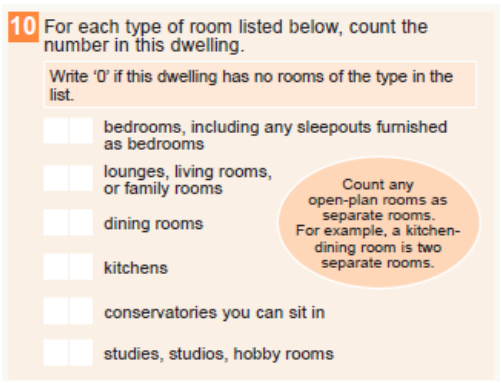
Figure 24

Number of rooms

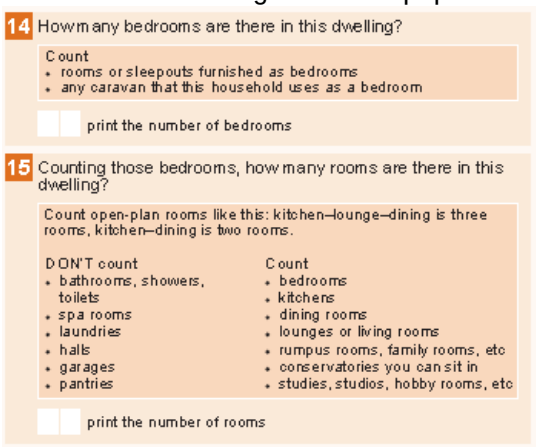
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

The 2013 Census collected the number of bedrooms and the total number of rooms. For the 2018 Census, we merged these two questions into one question about the number of each room type. The total number of rooms will be summed from the listed categories.

The bedrooms category has been included first in the list, to help reinforce to paper form respondents that a number is required.

Rationale for change

This redesign is to make it easier to answer and to help improve data quality.

Findings from cognitive testing of number of rooms

The types of rooms listed prompted some comments, for example, people wondering why rooms like bathrooms are not listed. For paper forms, the instruction to write '0' was not read or followed by some respondents. The instruction for how to count open-plan rooms was helpful for some respondents but not for others (of those who read it).

Findings from large-scale testing of number of rooms

Non-response to this question was higher than desirable and some respondents marked boxes instead of giving a number. There also seemed to be a common pattern of respondents leaving boxes blank (rather than writing '0') if they did not have rooms of that type (eg if they did not have a conservatory or study). The design of the derivation for number of rooms allows for this pattern of responding.

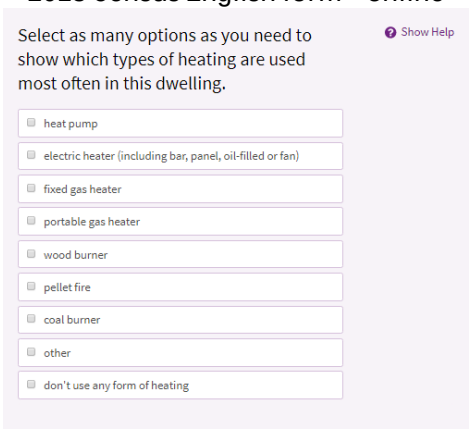
We also found that the new question design, which lists room types, might be negatively affecting the quality of the bedrooms data, which is an important piece of information given its use in measuring household crowding. For the Census Test (April 2017), the category order included bedrooms part-way down the list. To help make it clearer that a numerical response is required for each room type, bedrooms was moved to the top of the list.

Main types of heating

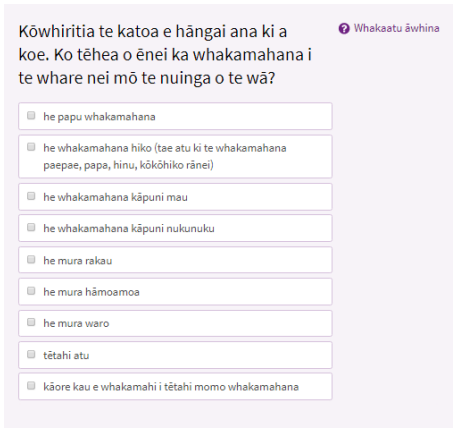
Figure 25

Main types of heating

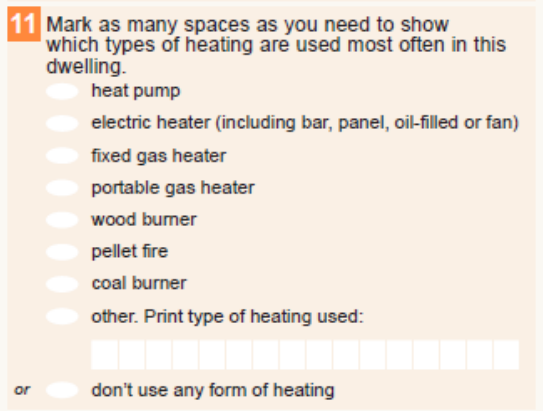
2018 Census English form – online



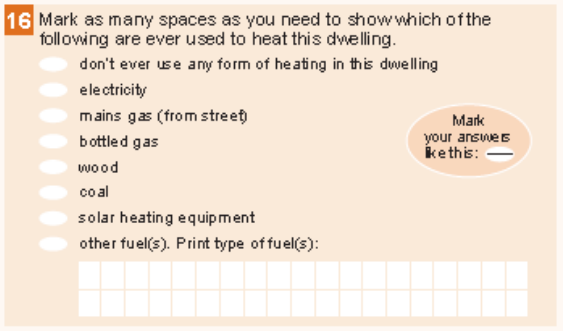
2018 Census te reo Māori form - online



2018 Census English form – paper



2013 Census English form – paper



Description of change

The information being collected is the type of heating appliances (although there is still interest in continuing to derive (allocate) the fuel types used most often to maintain the previous time series). The concept has also changed, to the heating types being used most often in private dwellings (ie excluding those available in the dwelling but not being used).

Rationale for change

The previous concept, of fuel types that had ever been used, has been changed in response to customers' needs. Submissions indicated the importance of distinguishing current use of heating as well as the types of appliances used.

Online functionality

The online form includes an as-you-type list for the 'other, give type of heating used' option. This is to assist respondents and improve data quality.

Help text

The help notes give guidance that 'most often' means every day or several times a week.

Development of te reo Māori version

In testing, most respondents reported the word 'mura' (fire, burn) was unfamiliar. Respondents tended to check the English version and considered the context of this question, and agreed the terms were adequate.

The word 'hīta' (heater) was included in testing and was also found to be unfamiliar to respondents. Several improvements were made to the wording of the response options for this question by the external te reo Māori reviewer. These changes were to ensure the best terms were used, and this included removing 'hīta'.

Findings from cognitive testing of main types of heating

Most cognitive testing used an earlier version of this question, which asked for the one heating type used most often. This meant some respondents had issues resolving what they used 'most often', for example, if they used a heat pump and a wood burner in quite different ways. Some respondents incorrectly selected more than one option, but this was not widespread.

Findings from large-scale testing of main types of heating

For the online form, non-response was low, and for the paper form, it was within an acceptable level.

There were very few occurrences of 'don't use any form of heating' as well as one or more heating types selected (ie inconsistent multiple responses).

There were a small number of entered responses for 'other, print type of heating used', and these were generally sensible.

Access to telecommunication systems

See figure 26 below

Description of change

We removed the 'fax access' response option and the bracketed text "that is here all or most of the time" from the cellphone category to simplify this option.

This question remains on the Dwelling Form rather than being included on the Individual Form, and as such reflects the household's access to telecommunications.

Rationale for change

These changes have been made to reflect more current use and availability of technology, while preserving the essence of this question.

Findings from cognitive testing of access to telecommunications

Early in testing, we removed the wording 'that is here all or most of the time' from the response option 'a cellphone/mobile phone' that was used in the 2013 Census, as it was found to be confusing. Most people have their own cellphone, and take it with them when they leave their dwelling.

When we retested this question, some respondents reported that the question wording "… available here in this dwelling" was still confusing in relation to a cellphone, explaining that their cellphone is their personal property and not available for the household to use, and is not fixed like a landline. Therefore, although small changes were made to this

question, our testing found it appears to still be a little out of date. We considered this a low priority question to change further.

On paper, some respondents wrote the number of each item available (particularly when this question was preceded by one requiring a count). The note text has been changed from ‘don’t count’ to ‘don’t include’, to reinforce that we don’t need people to count the items.

Although there is overlap between the categories, most respondents appeared to be correctly thinking of each response option as a separate device.

Findings from large-scale testing of access to telecommunications

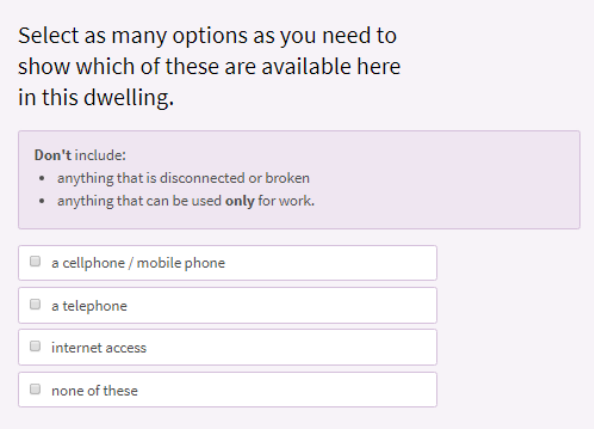
Non-response was acceptably low, both on paper and online, with low numbers of inconsistent multiple responses.

The data fitted with expectations of increases in internet and cellphone use, a decrease in landline use, and a very low proportion of respondents with no access to any telecommunication systems.

Figure 26

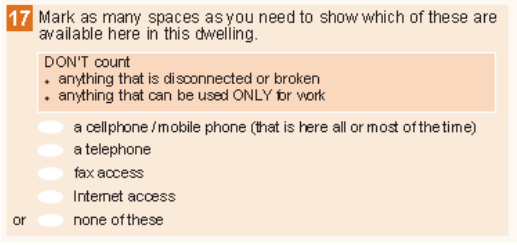
Access to telecommunication systems

2018 Census English form – online



2018 Census English form – paper

2013 Census English form – paper



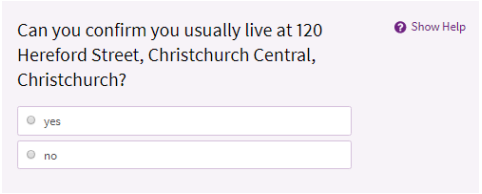
Individual Form – changed questions

Usual residence

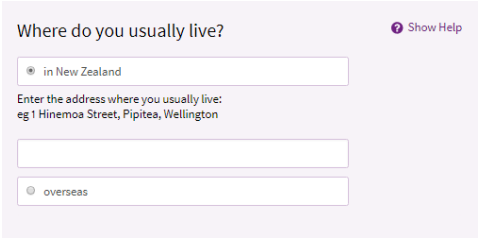
Figure 27

Usual residence

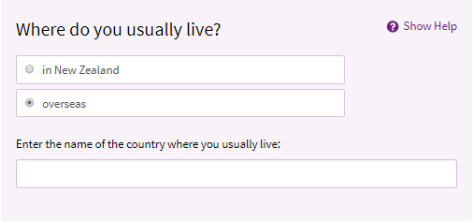
2018 Census English form– online



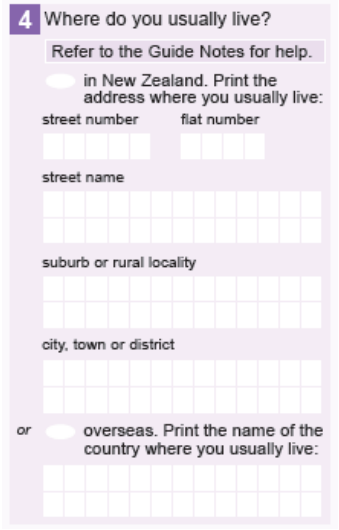
If no, and usual residence is in NZ:



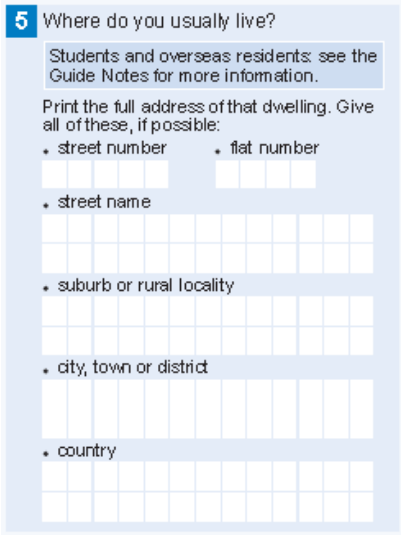
If no, and usual residence is overseas:



2018 Census English form – paper



2013 Census English form – paper



Description of change

This question no longer collects a street address for people who usually live overseas.

Online functionality

Responses to the Household Set-up Form determine if census night occupants are usual residents, visitors, or absentees. For those who are usual residents, the address is automatically piped into this question text (in the Individual Form).

Rationale for change

Customers of census data indicated they don't need information about overseas residents' usual address.

Findings from cognitive testing of usual residence

There were no issues with testing the design of this question, and respondents did not demonstrate surprise or confusion that the address given earlier was automatically included in question text.

Findings from large-scale testing of usual residence

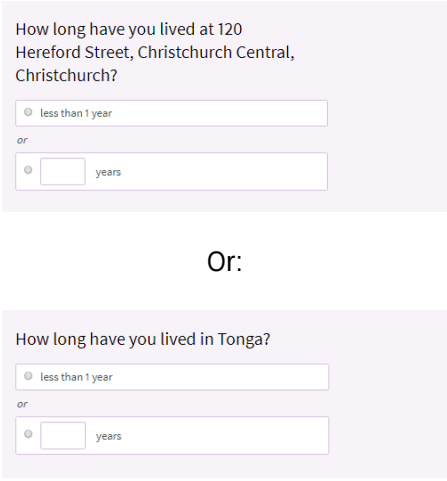
A small number of people using the paper form had trouble with this question, including overseas-born students who had difficulty determining their usual residence, or people who ticked a box without filling in an address. Around half the paper respondents wrote in an address, but did not tick either of the usual residence tick boxes provided (in New Zealand or overseas). Most residents were at their usual residence on census night.

Years at usual residence

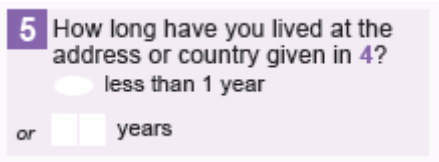
Figure 28

Years at usual residence

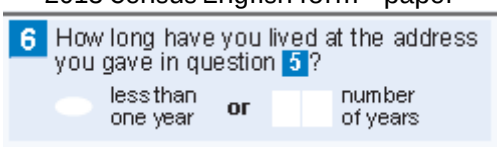
2018 Census English form– online



2018 Census English form – paper



2013 Census English form – paper



Description of change

This question has been adapted to suit online and paper versions. Online, the question wording includes piped address information, and on paper, it refers to years lived at an

address or country. In the 2013 Census, this question only referred to address, as overseas residents were also asked to provide their usual address rather than country only.

Online functionality

The address or country of usual residence that was confirmed or given previously in the online form is piped (ie automatically included) in this question wording.

Rationale for change

The design for each mode simplifies the answering process. The change regarding country accounts for current information needs.

Findings from cognitive testing of years at usual residence

Although some respondents answered with respect to how long they had lived in New Zealand rather than at their usual residence and others wanted to report half years (months), we did not make any design changes.

Findings from large-scale testing of years at usual residence

Analysis of our large-scale test found a similar proportion of respondents reported living at their current usual residence for less than 10 years, when compared with the 2013 Census.

Birthplace

Figure 29

Birthplace

2018 Census English form– online

2018 Census English form – paper

2013 Census English form – paper

Description of change

The paper and online forms use the same question wording, but the design of responses is adapted to best suit each mode.

Also, the 'other' response option asks for the name of the country to be given, whereas in the 2013 Census, the present name of the country was specified.

Online functionality

Selecting 'overseas' presents a free text field in which to enter a country name, with an as-you-type list.

Rationale for change

The design for each mode simplifies the answering process, while maintaining very similar wording between online and paper. Removal of the word 'present' will have minimal effect on data quality.

Findings from cognitive testing of birthplace

There were no specific development considerations or issues.

Findings from large-scale testing of birthplace

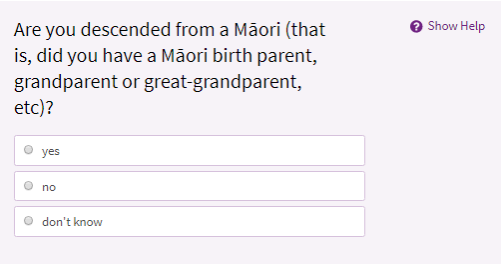
There were few missing or unidentifiable responses, and birthplace patterns fit with expectations.

Māori descent

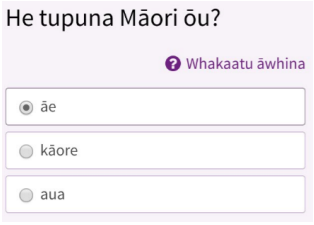
Figure 30

Māori descent

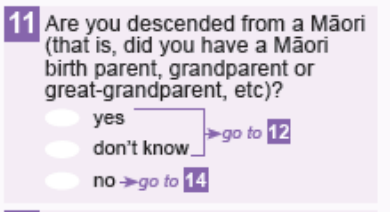
2018 Census English form – online



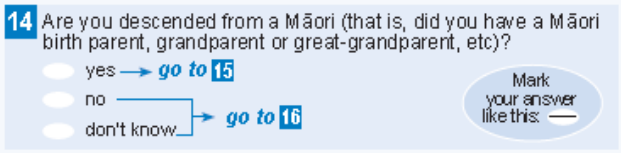
2018 Census te reo Māori form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

Those who answer 'don't know' are now directed to the iwi affiliation question (both online and on paper), rather than past it, as occurred in the 2013 Census.

Rationale for change

Analysis of the 2013 Census data found that some people who answered 'don't know' continued on to report their iwi affiliation(s). This change is to improve the quality of information collected about people of Māori descent and their iwi affiliation(s).

Findings from cognitive testing of Māori descent

There were no specific development considerations or issues.

Findings from large-scale testing of Māori descent

Our large-scale census test found that on the paper form, some people missed this question, and some of these people went on to report their iwi affiliations. For the online form, this question requires a response.

Iwi affiliation

See figure 31.

Description of change

The design of the response options has undergone a small wording change. On the English form, the term 'rohe' has been replaced with 'region' as a broader term to better reflect the information that is needed. The te reo Māori/English Form uses 'rohe', with 'region' as the English translation. A geographic area is needed to accurately identify individual iwi as some individual iwi may have the same name but be located in a different rohe.

Online functionality

Respondents can provide up to five iwi affiliations, whereas the paper form has space for only four (the 2013 Census paper and online forms both allowed for up to five iwi, due to fewer space restrictions).

Help text

To support responses to this question, the online form includes an as-you-type list.

The paper guide notes and online help provide the list of iwi in the classification. It advises that the list is a guide only, and iwi not on the list may still be entered.

A 2017 review of the iwi classification resulted in a new standard, see Iwi statistical standard: September 2017 (Stats NZ, 2017,c).

Rationale for change

Testing found that some respondents were not clear on the meaning of rohe (ie region).

A 2017 review of the iwi classification resulted in a new standard, see Iwi statistical standard: September 2017 (Stats NZ, 2017,c).

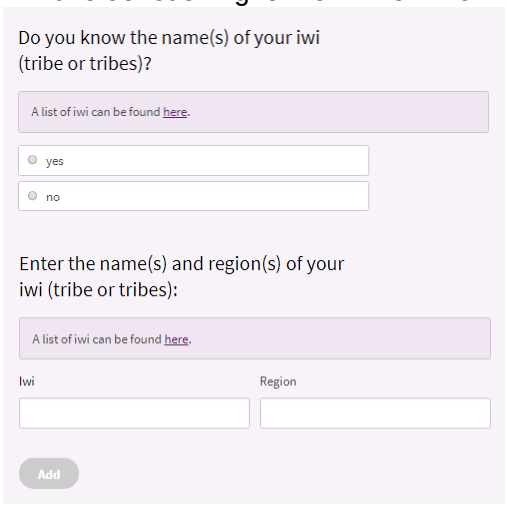
Findings from cognitive testing of iwi affiliation

To address the uncertainty around the meaning of rohe, we tested a question with the geographic fields 'iwi', 'hapu', 'marae', and 'location', see figure 32.

Figure 31

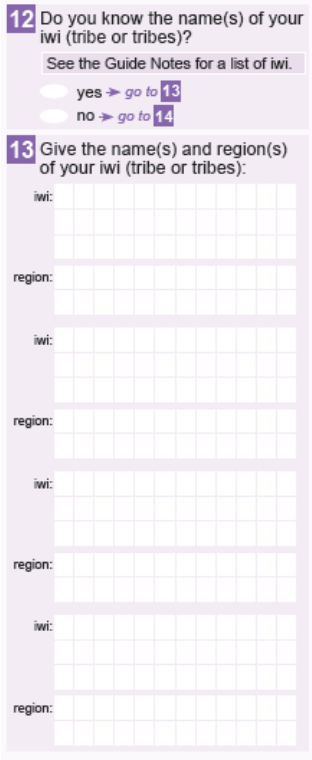
Iwi affiliation

2018 Census English form – online



2018 Census te reo Māori form – online

2018 Census English form – paper



2013 Census English form – paper

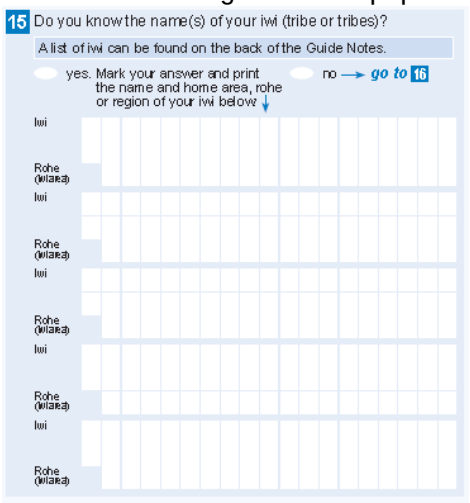
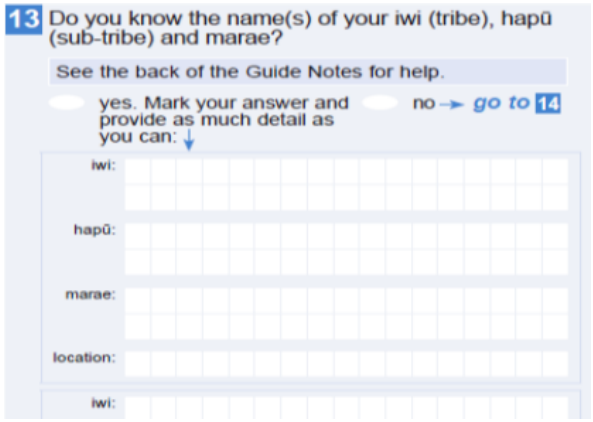


Figure 32

Additional geographic information that tested unsuccessfully



We found respondents had difficulty recalling the requested information. Also, while some respondents were positive about giving this information, others 'felt bad' that they couldn't answer some or all fields. Some respondents said they had the information at home, while others needed help or guidance and tried finding the information on their smart-phone. The guide notes provided some help to those who used them by jogging memories or clarifying spelling. Also, the 'location' response field wasn't specific as to a marae location or a more general sense of belonging.

Given the additional fields did little to help with accurately identifying each iwi, and was also a less positive experience for respondents, we returned to collecting one geographic area.

Once the design was finalised, our testing with 'region' found that generally respondents were able to provide their iwi and region.

Developing te reo Māori/English form

We found respondents had no issue with answering te reo Māori/English version of this question.

Findings from large-scale testing of iwi affiliation

No significant issues were found, and our analysis showed that a majority of respondents who answered this question named one iwi affiliation.

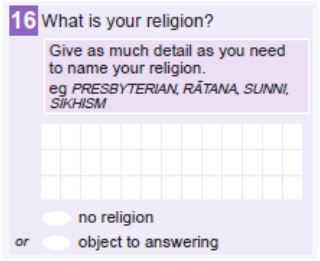
Religious affiliation

Figure 33

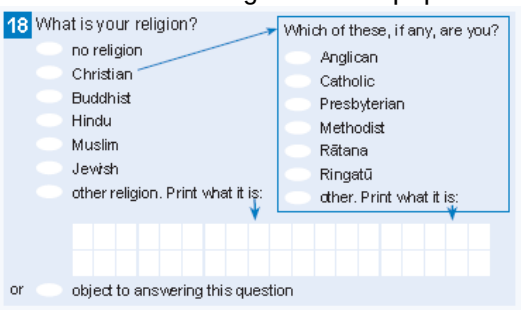
Religious affiliation

2018 Census English form – online

2018 Census English form – paper



2013 Census English form – paper



Description of change

This question collects religious affiliation via a write-in box. In the 2013 Census, the question listed major religions and included an inset box for Christians to identify their denomination. Only respondents who indicated 'other religion' or 'Christian – other' were asked to provide more detail on their religious affiliation. The 2018 Census question enables all respondents to give whatever level of detail they choose, and the examples listed are denominations, to encourage that level of detail.

Online functionality

Respondents completing the online form will be assisted by as-you-type suggested responses, to facilitate higher quality responses at the appropriate level of detail.

Rationale for change

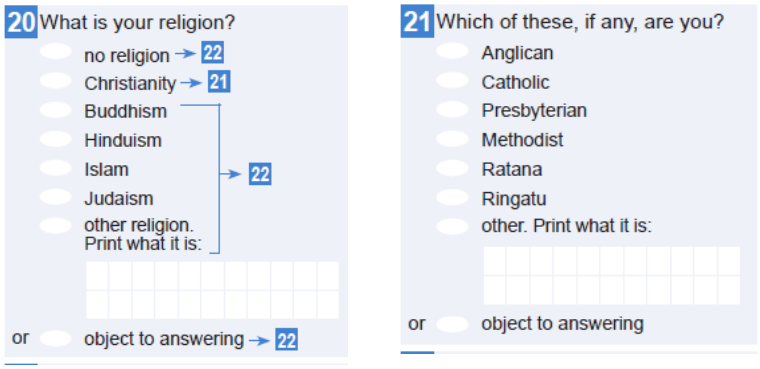
The changed design partly reflects some advocacy for a question that collects information at the same level of detail for all religions rather than focusing on Christianity, and is partly a result of space restrictions on the paper form. This change in the question format may affect data comparability over time but may produce better-quality data on religious diversity. Also, there is some information need for more detail (eg denomination) on all religious groupings.

Findings from cognitive testing of religious affiliation

Testing initially used the 2013 Census question, but was redesigned into two questions to better fit the narrow space constraints of the paper form and smart-phone screen, see figure 34.

Figure 34

Religious affiliation design that tested unsuccessfully



Our cognitive testing of this design found that some respondents missed the routing instructions, and those who moved onto the next question showed confusion about how to answer question 21. This situation included a small number of respondents who marked Christian, and at question 21 did not realise that the list given includes denominations of Christianity.

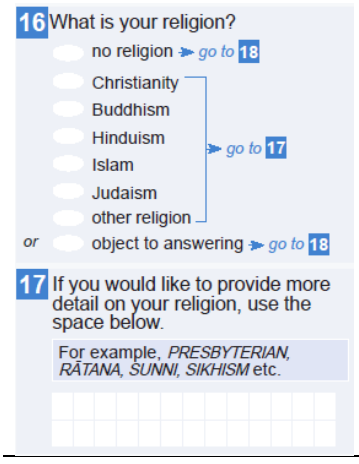
As a result of these findings and space constraints, the design was further updated for the large-scale test, as below.

Findings from large-scale testing of religious affiliation

This is the question design that was used in the Census Test (April 2017), see figure 35.

Figure 35

Another religious affiliation design that tested unsuccessfully



The Census Test (April 2017) results indicated that while the question 'what is your religion' was working successfully, the response rate to 'provide more detail' was very low. In order

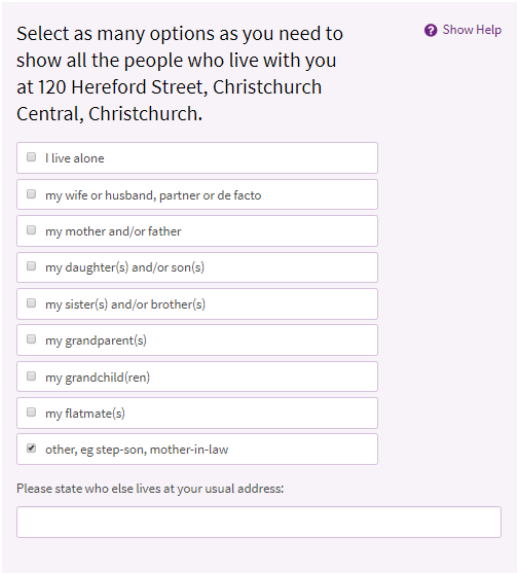
to meet the information needs for this variable, it is necessary to collect information on the more detailed religious groupings. As a result this question has been redesigned for the 2018 Census, to primarily use a write-in box for respondents to enter their religious affiliation.

Living arrangements

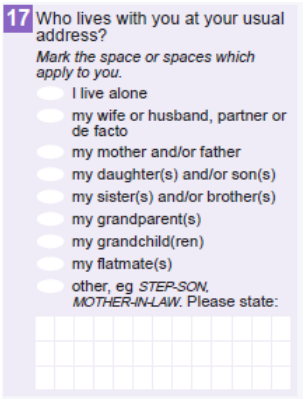
Figure 36

Living arrangements

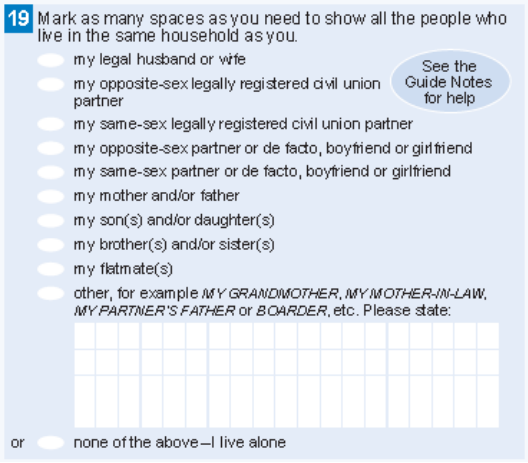
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

We adapted the wording of the living arrangements question to suit online and paper versions, and refer to usual address rather than household. We updated the response options list to remove the same-sex and opposite-sex distinction referring to ‘my wife/husband/partner/de facto’, since same-sex marriage has been legalised. The ‘boyfriend/girlfriend’ categories have been removed. Categories for ‘grandparent’ and ‘grandchild’ have been added. The option ‘I live alone’ has been shifted to the top of the list.

Online functionality

Online, the question wording automatically includes the usual residence address that was confirmed earlier in the Individual Form.

Selecting 'other' presents a free text field to describe other relationships not listed.

Selecting 'I live alone' prevents other response options from being selected.

Rationale for change

Respondents found the relationship types list too wordy and difficult to find their response option. The list has been updated to make it easier for respondents to read and select relationship types, to reflect changes to society (ie legalisation of same-sex marriage), and to add common family relationships (ie grandparent and grandchild).

Findings from cognitive testing of number of living arrangements

There were no specific development considerations or issues.

Findings from large-scale testing of number of living arrangements

The non-response rate was higher for paper, but low overall.

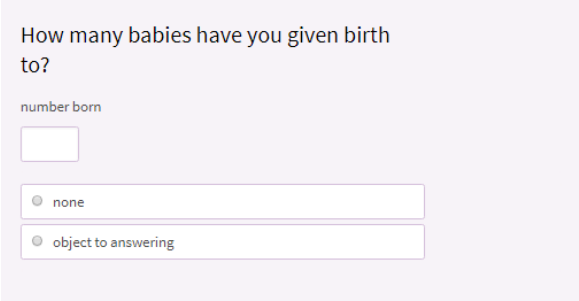
Results were generally comparable with 2013 Census data, although there were some differences that are likely due to the characteristics of those people who participated in our voluntary test. For example, fewer children and fewer flatmates were reported. Also, there was a higher proportion of people living alone that completed paper forms, and a higher proportion of families completing online.

Number of children born

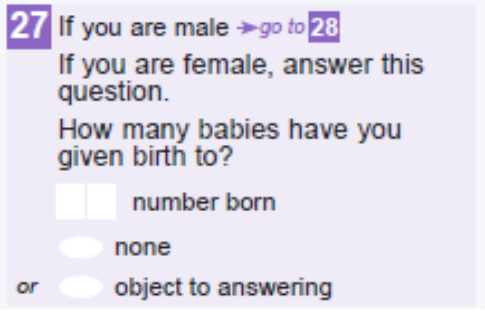
Figure 37

Number of children born

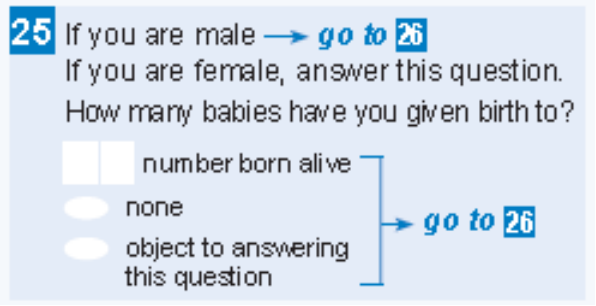
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

This question collects the number of babies born, and the removal of the word ‘alive’ means respondents can now include stillborn babies.

Online functionality

The question will not appear if a respondent has selected ‘male’ as their sex. The question will also not appear for children under 15 years old.

Rationale for change

Removing the term ‘alive’ is in response to feedback received from some special interest groups who have expressed concern about the sensitivity of this prompt. We expect removing the word ‘alive’ to have minimal impact on the data due to the low number of stillbirths in New Zealand.

Findings from cognitive testing of number of children born

We tested using the 2013 version, and the only modifications were to the instructions regarding males (as needed to fit the content and question order of other questions).

Findings from large-scale testing of number of children born

The Census Test (April 2017) included the wording ‘number born alive’. We removed the term ‘alive’ following this test.

Overall, our analysis found results were consistent with the 2013 Census.

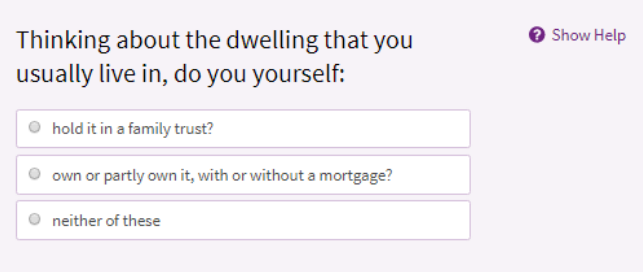
Some respondents using the paper form incorrectly answered this question, after missing an earlier ‘go to’ instruction that directed them past it according to their age or sex. Also, some gave text responses instead of numbers, which weren’t processed for this test. We will have consistency checks and edits in place to address these situations for the 2018 Census.

Individual home ownership (formerly tenure holder)

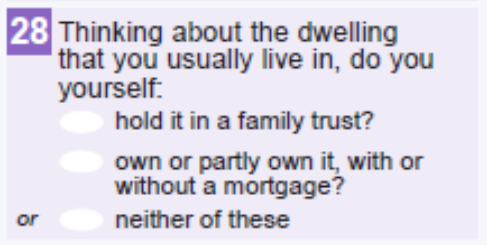
Figure 38

Individual home ownership (formerly tenure holder)

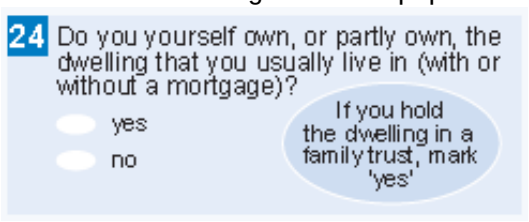
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

The question has changed from a yes/no question into a question with a short list of response options. It complements the updated tenure question set on the Dwelling Form.

Rationale for change

The change in the design of the question removed a confusing instruction used in the 2013 Census ("if you hold the dwelling in a family trust, mark 'yes'"), and the need to explain why we want respondents to do this, given that legally they do not own their dwelling. In the 2006 and 2013 Censuses, people in this situation may have marked 'no' because they didn't read the instruction or chose not to follow it.

Findings from cognitive testing of individual home ownership

We tested a question with a response option of 'have a licence to occupy it'". The testing for this question (and the tenure question set on the Dwelling Form) found that the concept of licence to occupy was not well understood by respondents, so we will not be collecting separate licence to occupy information.

Without the licence to occupy wording, those who do not have a licence to occupy will find it easier to answer this question. For those people who do have a licence to occupy their dwelling, this question gives guidance to answer 'yes', and explains that this form of tenure is most similar to owning.

Findings from large-scale testing of individual home ownership

Non-response was very low, possibly reflecting the characteristics of respondents (ie skewed toward home-owners), who are generally able to answer this question easily and accurately. Generally, there was no evidence of major problems with this new question design.

Highest post-school qualification – Level, Subject, NZ/overseas

Figure 39

Highest post-school qualification– Level, Subject, NZ/overseas

2018 Census English form – online

Apart from secondary school qualifications, do you have another completed qualification?

Don't count qualifications that take less than 3 months of full-time study to get.

- yes
- no

If "yes" is selected, this question is presented:

What is your highest qualification?

- Level 1 Certificate
- Level 2 Certificate
- Level 3 Certificate
- Level 4 Certificate
- Level 5 Diploma
- Level 6 Diploma
- Bachelor's Degree or Level 7 qualification
- Bachelor Honours Degree or Postgraduate Certificate/Diploma
- Master's Degree
- PhD
- other qualification

Enter your highest qualification:

Enter the main subject of your highest qualification.

eg Electrical Engineering

Was your highest qualification gained in New Zealand or overseas?

- New Zealand
- overseas

2018 Census English form – paper

30 Apart from secondary school qualifications, do you have another completed qualification?

Don't count qualifications that take less than 3 months of full-time study to get.

- yes ➔ *go to* **31**
- no ➔ *go to* **34**

31 What is your highest qualification?

- Level 1 Certificate
- Level 2 Certificate
- Level 3 Certificate
- Level 4 Certificate
- Level 5 Diploma
- Level 6 Diploma
- Bachelor's Degree or Level 7 Qualification
- Bachelor Honours Degree or Postgraduate Certificate/ Diploma
- Master's Degree
- PhD
- other qualification. Please state:

32 Print the main subject of your highest qualification.
eg *ELECTRICAL ENGINEERING*

33 Was your highest qualification gained in New Zealand or overseas?

- New Zealand
- overseas

2013 Census English form – paper

27 Apart from secondary school qualifications, do you have another completed qualification?

DON'T count qualifications that take less than 3 months of full-time study to get.

- yes → *go to* **28**
- no → *go to* **29**

28 Print your highest qualification, and the main subject, for example:

qualification: *TRADE CERTIFICATE*
subject: *ELECTRICAL ENGINEERING*

- qualification (and level, if applicable)
- subject

Description of change

The highest post-school qualification question includes a list of response options to select the qualification level, rather than the write-in space used in the 2013 Census. We also now collect information on whether the qualification was attained in New Zealand or overseas.

Online functionality

The qualification level question includes the response option of 'other qualification – please state', which has an as-you-type list. The question for 'subject' (ie field of study) also has an as-you-type list. These lists assist respondents to answer (using the classification entries as a guide, which can be easily coded).

For the online form, if the highest qualification is not listed, selecting 'other qualification' will present a text box to enter the qualification.

Rationale for change

An issue identified in previous censuses was the difficulty in coding post-school qualifications due to the diversity of qualification titles, especially for those attained overseas. As a result, we added a question asking whether the qualification was attained in New Zealand or overseas.

Findings from cognitive testing of highest post-school qualification

Towards the end of our testing, we found this question set still posed a burden, due to difficulties respondents had in choosing the right qualification level from the list. Generally, respondents with a bachelor degree or higher qualification had no difficulties with this question, while respondents who had gained their qualification some time ago and those with certificates and diplomas continued to have some problems choosing a response category. For example, some respondents knew their qualification was a certificate or diploma, but were unable to determine its level.

When testing the paper form, we observed some respondents marked 'no', then answer later questions in this set indicating they do have a post-school qualification. It is unclear what the reason for this is.

Early in the development of this question, we tested a version of the question with example text in brackets for each option, to give respondents more guidance, for example, (eg Introduction Level Certificate) for level 1 certificate, see figure 40.

Figure 40

Example text that tested unsuccessfully

We found this helped some respondents to choose a level amongst the certificate and diploma categories. However, for others this text was not useful, for example, one respondent commented that two examples related to trade qualifications, which weren't relevant to them.

Also, respondents who had gained qualifications some time ago continued to have difficulty. In this situation, some opted to select the 'other' category and write in their qualification, while others made a 'best guess'.

As a result of these findings, the extra wording was removed.

Findings from large-scale testing of highest post-school qualification

Our analysis found that overall non-response rates were relatively high for both online and paper forms. Data quality was slightly better for the online form, perhaps as a result of the as-you-type list helping respondents.

We weren't able to determine a highest qualification where respondents had given occupations or job titles. These were captured as unidentifiable.

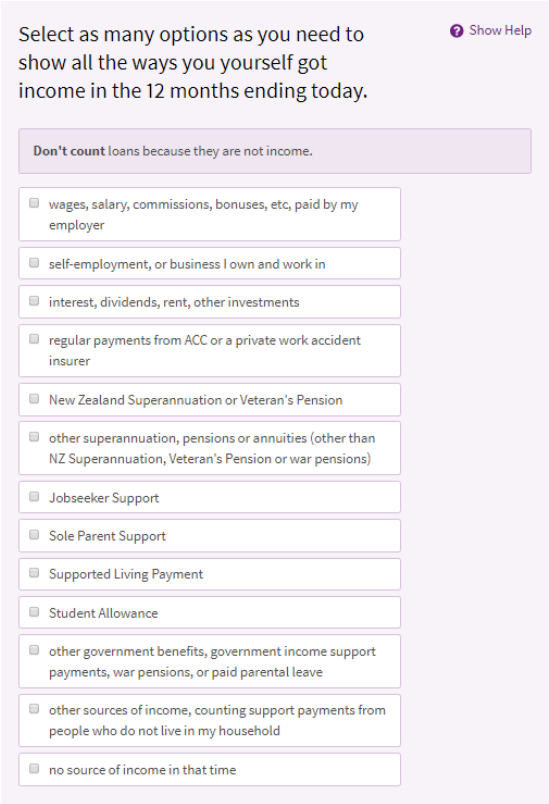
About a quarter of respondents who indicated they have a post-school qualification did not select one of the given qualification levels, instead they entered their level in the 'other qualification' text box. This indicates some difficulty in reporting their qualification level in terms of the current list of categories.

Sources of personal income

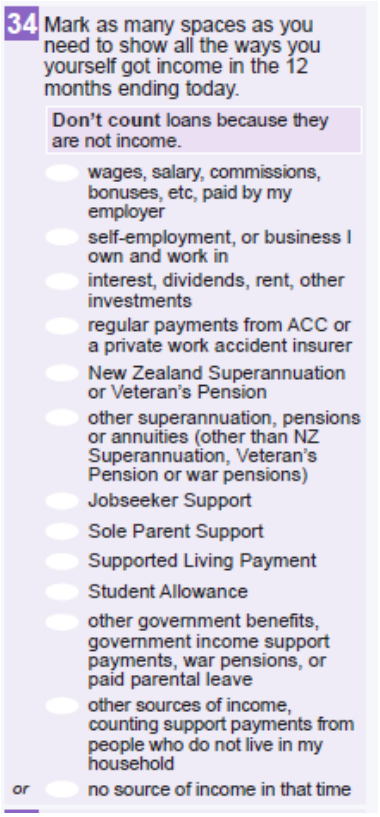
Figure 41

Sources of personal income

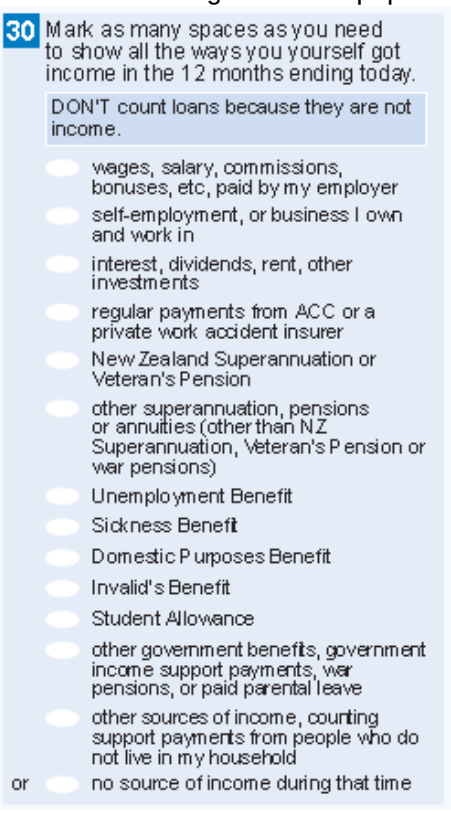
2018 Census English form – online



2018 Census English form – paper



2013 Census English form – paper



Description of change

Some of the response options for the sources of personal income question have been updated to reflect changed names. Jobseeker Support, Sole Parent Support, and Supported Living Payment benefits have respectively replaced the Unemployment Benefit, Domestic Purposes Benefit, and the Invalid's and Sickness Benefits.

Rationale for change

We've made these updates to incorporate the changes made by Work and Income New Zealand since the 2013 Census.

Findings from cognitive testing of sources of personal income

As a real world change, this question was not a focus of our testing.

Findings from large-scale testing of sources of personal income

Overall, we found non-response was low. The distribution of responses met expectations, and we did not observe any issues arising from the changes to some response options.

It may be that the greater use of online forms has improved the response rate and increased data quality.

Main means of travel to work

See figure 42.

Description of change

This question now collects usual means of travel rather than census day travel. We added a note on how to answer the question to help respondents who have difficulty determining their usual method.

The list of different forms of transport was refined to reflect the most common transport methods from the 2013 Census. A separate category for ferries has been added, and the separate category for 'motorbike' has been removed and included as an example of 'other'. The 'other' write-in box has been removed as this is not a high priority to collect.

Online functionality

This question will not be asked if the respondent indicated that they worked at home in the previous question.

Rationale for change

Our consultation found that usual means of travel would be more useful than continuing to collect census day travel. One reason is that usual travel includes everyone who travels to work, rather than excluding those who didn't travel on census day. It is also less likely that the weather on census day will affect how people respond.

In addition, customers indicated usual means of travel would give a more accurate picture of the most common transport patterns, including private and public transport, and exercise-based means.

Findings from cognitive testing of main means of travel to work

Most respondents had no difficulty reporting their usual travel. However, some respondents needed guidance as they used different modes of travel on different days of the week, or had multiple jobs.

Findings from largescale testing of main means of travel to work

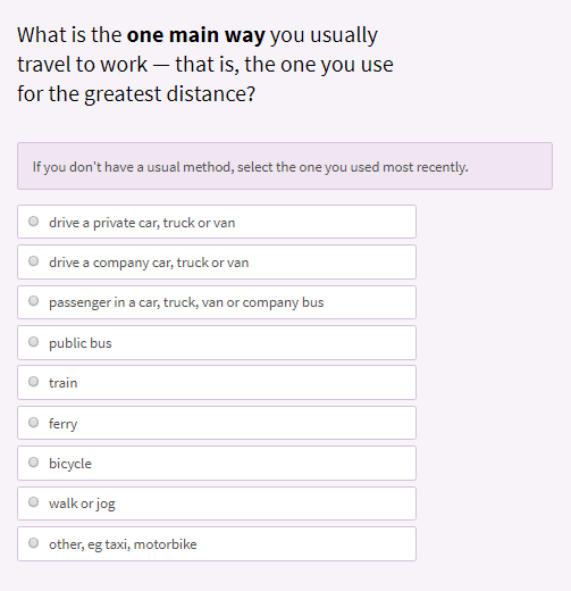
Non-response to this question was exceptionally low, even on paper. The pattern of responses across the different modes of transport was as expected.

The number of 'other' responses was relatively low, suggesting that the selection of response boxes provided worked well.

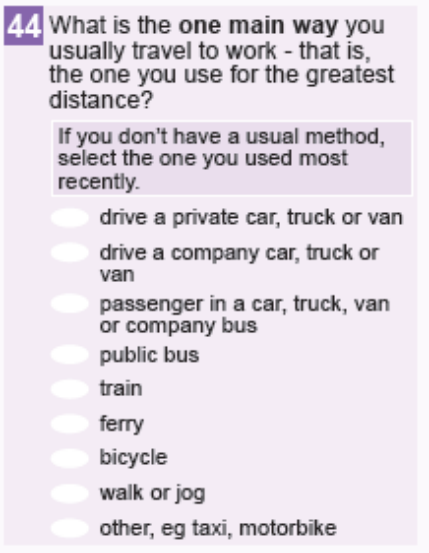
Figure 42

Main means of travel to work

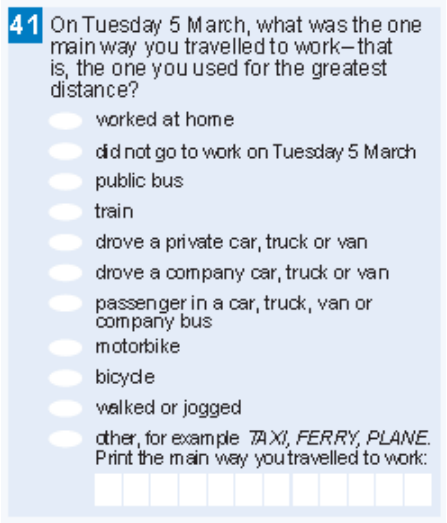
2018 Census English form – online



2018 Census English form – paper

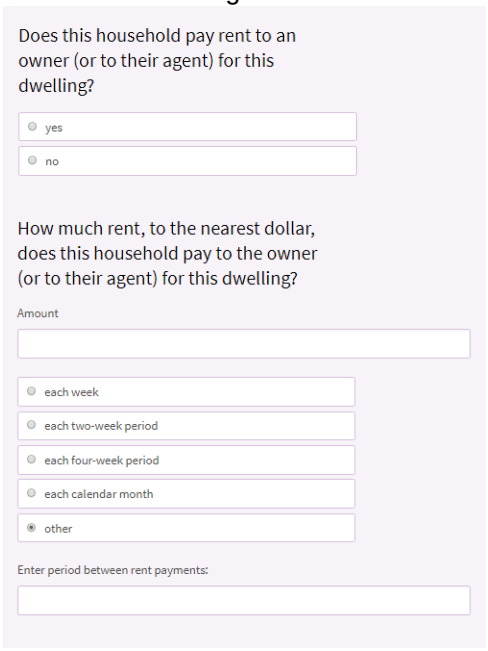
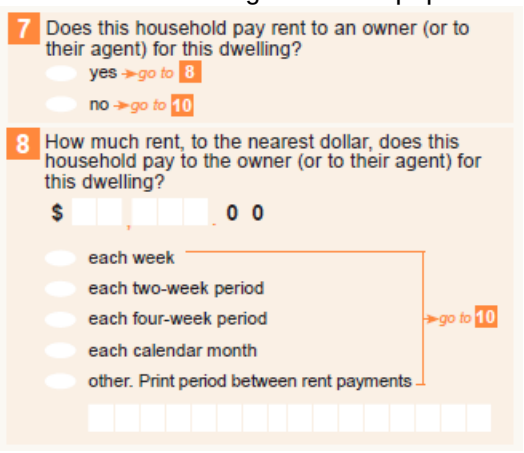


2013 Census English form – paper



Dwelling Form – unchanged questions

Figure 43

Weekly rent paid by household	
2018 Census English from – online	2018 Census English form – paper
	

Weekly rent paid by household

For the online form, selecting 'no' in the question on whether rent is paid means that the rent amount question is not presented.

Selecting 'other' in the rent amount question online presents a text box for respondents to enter a rent payment period, with an as-you-type list.

Findings from large-scale testing

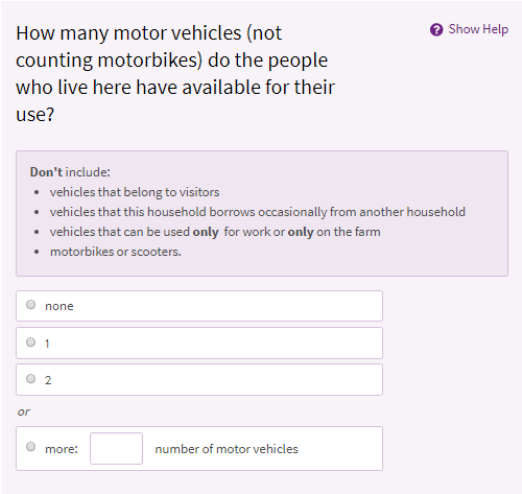
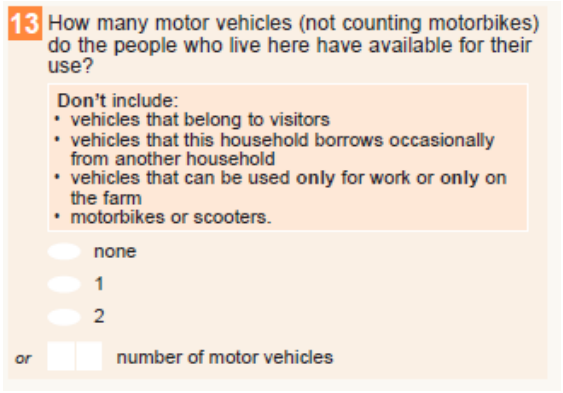
The level of non-response was acceptable, but higher than in the 2013 Census.

Most online respondents who didn't give a rent amount had given their rent period. This suggests that rent period may be easier to answer than rent amount for some respondents, for example, those in a flatting situation, or they may be unwilling to give their rent amount.

On the paper form, there were a few cases of very high, incorrect rent amounts, as a result of how respondents wrote the rent amount in the given boxes and how this was automatically captured during our scanning process. Checks will be done during the evaluation phase of the 2018 Census to identify and address this type of error.

Number of motor vehicles

Figure 44

Number of motor vehicles	
2018 Census English form– online	2018 Census English form – paper
	

Findings from testing

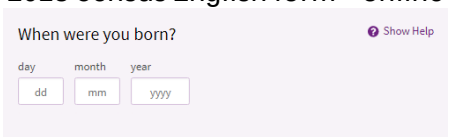
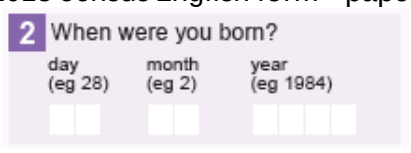
The overall non-response rate was acceptable, and the pattern of responses was as expected.

We looked more carefully at the responses for three or more vehicles, to check that these had been counted correctly.

Individual Form – unchanged questions

Age / date of birth

Figure 45

Age / date of birth	
2018 Census English form – online	2018 Census English form – paper
	

Online functionality

The online form requires a response to this question.

Findings from testing

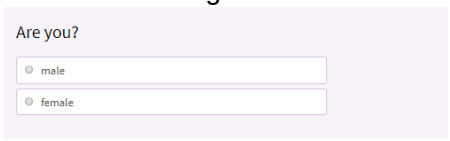
There were no issues from cognitive testing and non-response was minimal.

Sex

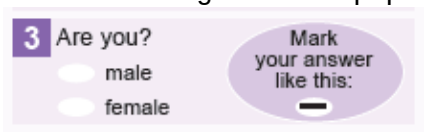
Figure 46

Sex

2018 Census English form – online



2018 Census English form – paper



Respondents whose biological sex is not male nor female (ie intersex), are able to mark both 'male' and 'female' on a paper form for this question. They will need to request a paper form from our contact centre.

Online functionality

The online form requires a response of 'male' or 'female' to this question.

Findings from testing

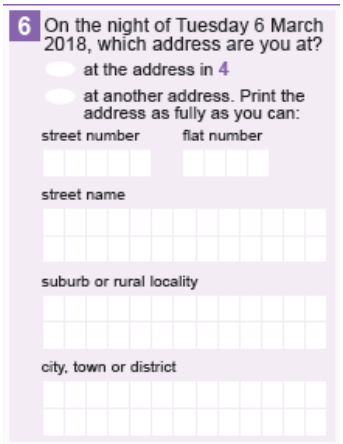
No specific issues were identified.

Census night address

Figure 47

Census night address

2018 Census English form – paper

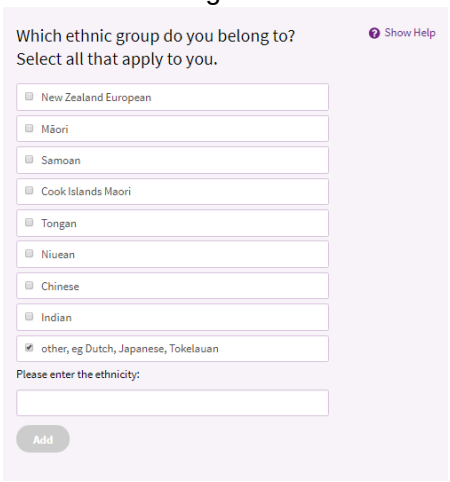


This question is not asked in the online form of people living in private dwellings, as the dwelling address is allocated to each person present (usual resident or visitor) as their census night address. (However, this question is asked of anyone in a non-private dwellings eg hotel.)

Ethnicity

Figure 48

Ethnicity

2018 Census English form – online	2018 Census English form – paper
	

Respondents can select up to six ethnic groups in the ethnicity question. The ethnic groups listed on the form are the same as those used in the 2013 Census.

Online functionality

The online form requires at least one ethnic group to be selected.

Online, when the 'other' option is selected, a free text space will appear for the respondent to enter their first other ethnicity. This includes an as-you-type list, so as a respondent begins to type, responses will be suggested to select from or an entry can be typed in. Each time an ethnicity is added, an 'add' button will appear so the respondent can enter another ethnicity, up to a maximum of six.

Findings from testing

Although this question was not a focus of our cognitive testing, we received a few comments; that the category 'New Zealand European' was old-fashioned, that a 'NZ Pākehā' category should be added, and they would like a refusal option.

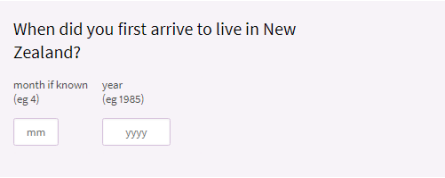
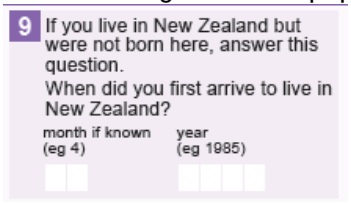
A small number of people used the 'other, please state' option to report their ethnicity as 'New Zealander'.

Our large-scale test found non-response was low on the paper forms.

Years since arrival in New Zealand

Figure 49

Years since arrival in New Zealand

2018 Census English form – online	2018 Census English form – paper
	

The online version of this question is worded succinctly for those who indicated in the previous question that they were born overseas. The paper form has extra wording to give context about who should answer this question, and its design is unchanged from the 2013 Census.

Online functionality

For the online form, this question is only shown to those who indicate they were born overseas.

Findings from testing

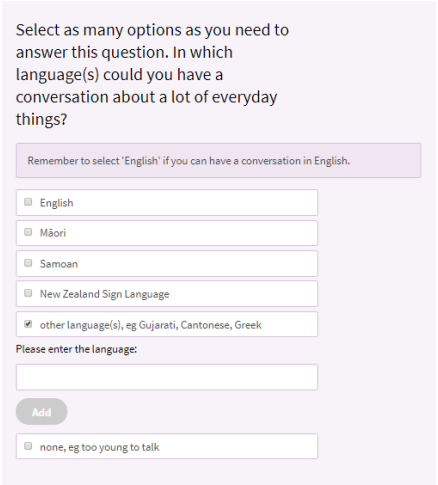
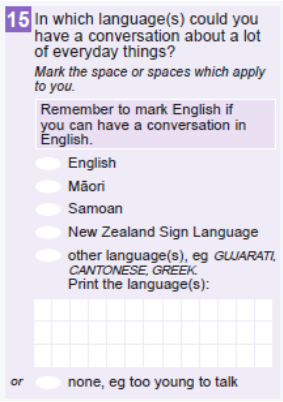
Overall, data fits with expectations, but some issues were found, as expected. Some New Zealand-born respondents using the paper form missed the routing given at the birthplace question and incorrectly answered this question.

There was also an issue with those who are New Zealand residents but were born overseas not answering this question. Most of these people also missed answering the country of birth question. It is unlikely that question design changes would adequately address this.

Languages spoken

Figure 50

Languages spoken

2018 Census English form – online	2018 Census English form – paper
	

Online functionality

Online, when the 'other' option is selected, a free text space will appear for the respondent to enter their first other language. This includes an as-you-type list, so as a respondent begins to type, responses will be suggested to select from or an entry can be typed in. Each time a language is added, an ‘add’ button will appear so the respondent can enter another.

Findings from testing

Our large-scale census test found that non-response was low overall, although slightly higher than desirable on the paper form.

Language responses were as expected.

Everyone who selected the ‘other’ option went on to report another language, online and on paper. However, on the paper form, some people gave ‘other’ languages without ticking the ‘other’ box.

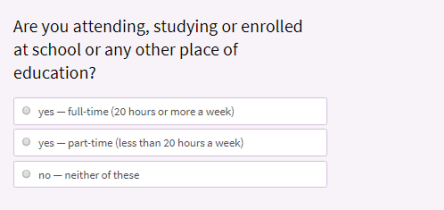
The as-you-type list was not in place on the online form for this test. It is expected that this will support answering of ‘other’ languages for the 2018 Census, and so increase the quality of the data.

Study participation

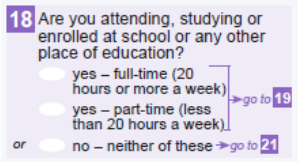
Figure 51

Study participation

2018 Census English form – online



2018 Census English form – paper



The ‘participation in study’ question is now asked of all New Zealand residents; the 2013 Census directed those aged less than 15 years old past this question. Its design is unchanged.

Those who select a ‘yes’ option are directed to the new questions on main means of travel to education, and educational institution address.

Findings from testing

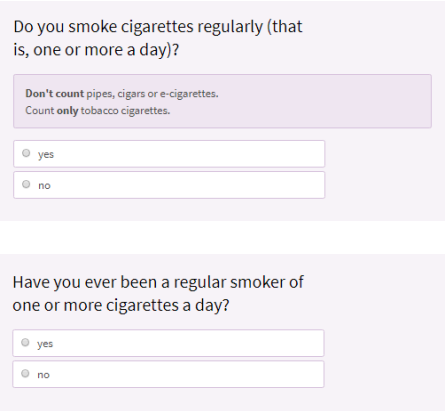
Our large-scale test found non-response was within an acceptable range. Only a few people reported studying both full-time and part-time.

Cigarette smoking behaviour

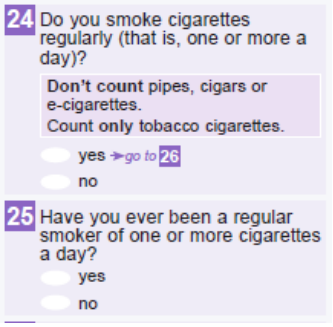
Figure 52

Cigarette smoking behaviour

2018 Census English form – online



2018 Census English form – paper



Online functionality

Selecting 'no' in the online version of this question presents the 'ever been a regular smoker' question.

Findings from testing

Non-response for this variable is generally acceptable. However, we found a small number of respondents answer 'no' to current smoking behaviour (question 24) go on to skip the second question on ever smoked, both on paper and online.

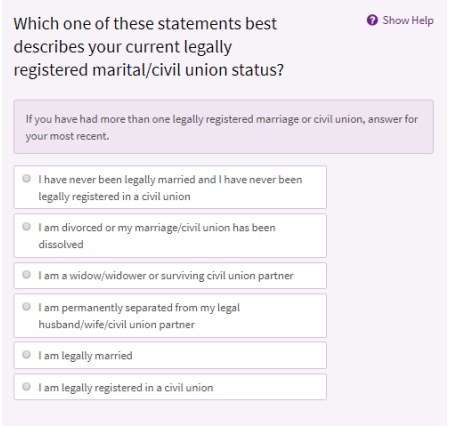
Our analysis showed lower than expected rates for people reporting that they smoke or used to.

Legally registered relationship status

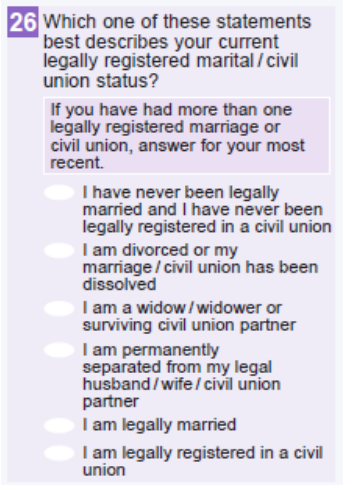
Figure 53

Legally registered relationship status

2018 Census English form – online



2018 Census English form – paper



Findings from testing

Overall, the non-response rate was acceptable (this comprised a very low non-response rate for the online form, however for paper forms it was higher than desirable).

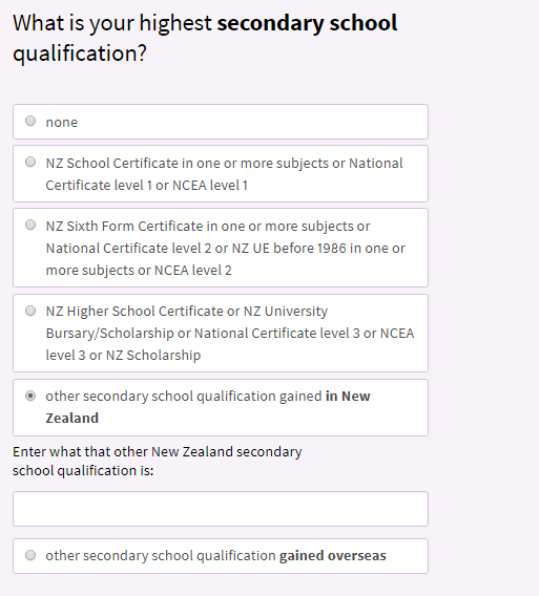
The pattern of responses was as expected across the relationship categories. Our analysis population showed more married respondents used the online form, and more divorced and widowed/widowered respondents used the paper form.

Highest secondary school qualification

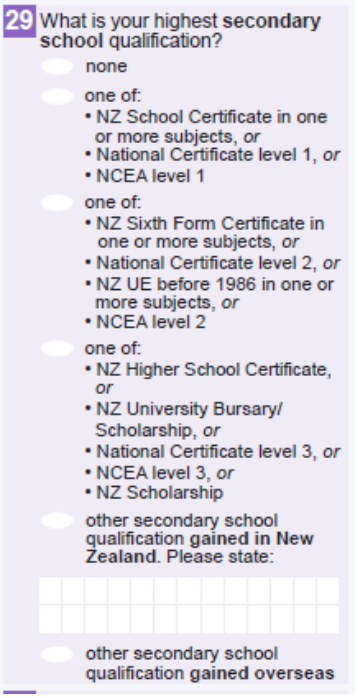
Figure 54

Highest secondary school qualification

2018 Census English form – online



2018 Census English form – paper



Online functionality

Online, selecting 'other secondary school qualification gained in New Zealand' will present a text box to report this, with an as-you-type list.

Findings from testing

We found that overall non-response to this question was acceptable; however responses to the paper form had higher levels of responses that were unidentifiable or not stated, compared with the online form.

The results were comparable to the 2013 Census results. Our analysis showed a decrease in no secondary school qualifications, which fits with the trend for increasing formal qualifications over time.

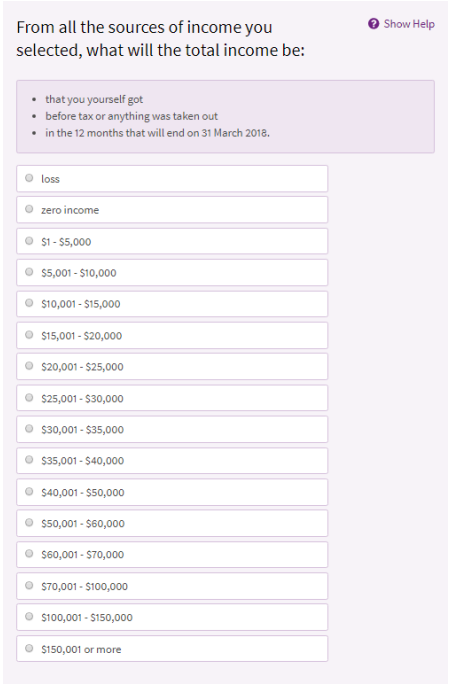
We also found a direct relationship between the level of qualification reported and the mode of completion, that is, respondents with low-level school qualifications were more likely to complete paper forms.

Total personal income

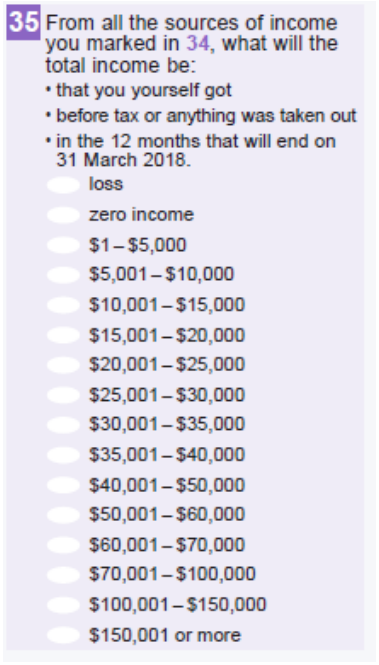
Figure 55

Total personal income

2018 Census English form – online



2018 Census English form – paper



Findings from testing

During our cognitive testing, some participants expressed dissatisfaction at being asked this question.

Our large-scale census test resulted in relatively high non-response for paper forms.

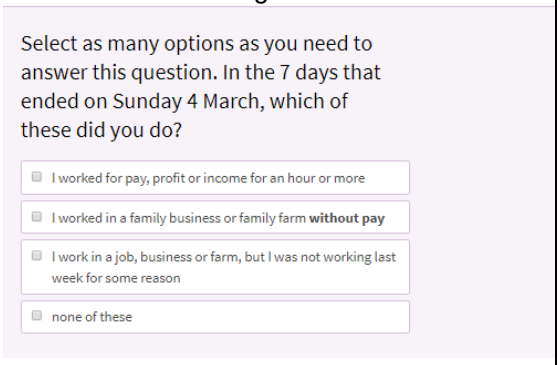
Income levels reported by respondents using our paper forms were lower than those online.

When compared with results from the 2013 Census, the data overall was as expected, and show expected increases in income levels over time. No new issues were found with this data

Job indicator – work and labour force status

Figure 56

Job indicator – work and labour force status

2018 Census English form – online	2018 Census English form – paper
	

Online functionality

For the online form, selecting one or more of the first three options directs the respondent to the remaining work questions, beginning with hours usually worked.

Selecting 'none of these' directs the respondent to the 'seeking paid work' question set.

Findings from testing

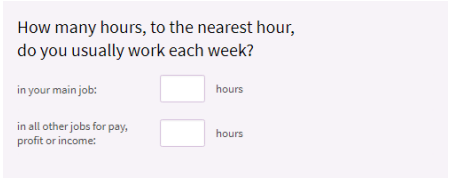
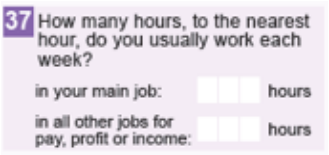
The online response rate to this question was good. However, the non-response rate for paper forms was relatively high, in particular, for those aged 65 years and older.

Generally though, response patterns by age group were as expected.

Hours usually worked

Figure 57

Hours usually worked

2018 Census English form – online	2018 Census English form – paper
	

Findings from testing

We had an issue with capturing the data for the number of hours worked online on our large-scale census test. As a result, we did not make any question design changes but we implemented processing system changes.

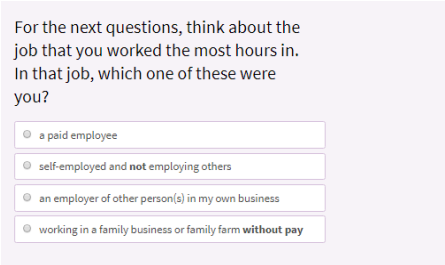
Overall, our analysis showed that the hours worked in 'your main job' is similar to results from the 2013 Census.

Status in employment

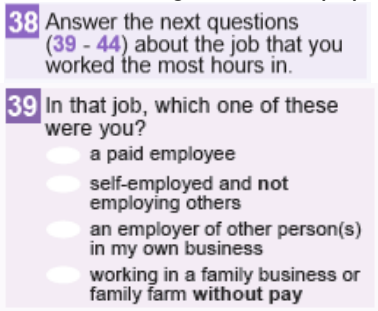
Figure 58

Status in employment

2018 Census English form – online



2018 Census English form – paper



Findings from testing

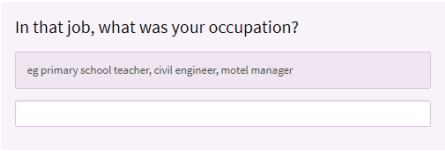
Non-response to this question was very low. For the paper form, the instruction 'Answer the next questions …' appeared to work well (ie only a few non-working respondents answered the question). Overall, the data was as expected.

Occupation

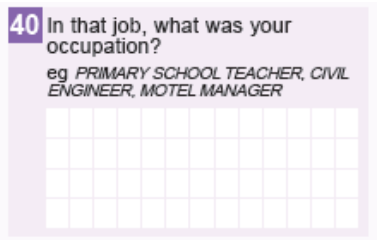
Figure 59

Occupation

2018 Census English form – online



2018 Census English form – paper



Online functionality

The online form has an as-you-type list for occupations, which will improve data quality overall. We no longer ask for tasks and duties to assist with classifying occupation. (In the 2013 Census, question 36 asked, "In that job, what tasks and duties did you spend the most time on, for example, running motel, servicing and repairing cars, answering phones?".)

Findings from testing

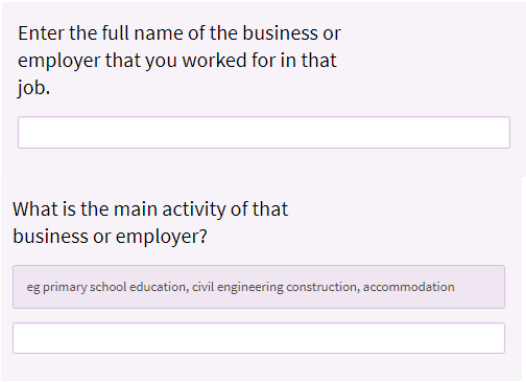
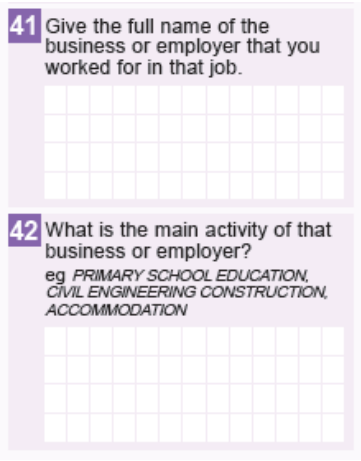
Responses given to the occupation question were mostly able to be coded, probably due in part to suggestions from the as-you-type lists.

The number of occupations for which insufficient detail was given and that could only be coded to a higher level (eg Labourers Not Elsewhere Classified) was relatively small.

Industry: Name of business or employer, Main activity of business or employer

Figure 60

Industry: Name of business or employer, Main activity of business or employer

2018 Census English form – online	2018 Census English form – paper
	

Online functionality

This question includes an as-you-type list from Stats NZ's business register database.

The main activity question includes an as-you-type list of industries.

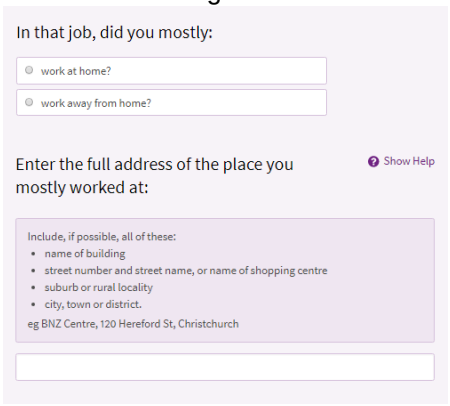
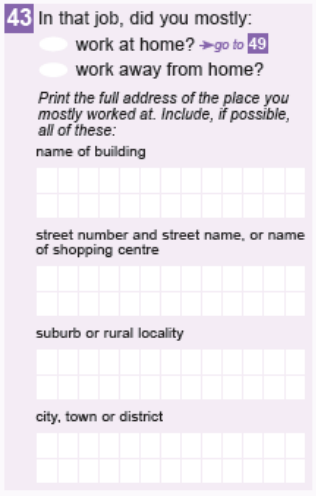
Findings from testing

Our analysis of this variable was at a high level only, and no major issues were identified.

Workplace address

Figure 61

Workplace address

2018 Census English form – online	2018 Census English form – paper
	

Online functionality

For the online form, selecting ‘work away from home’ directs the respondent to workplace address. Selecting ‘work at home’ directs the respondent to the ‘unpaid activities’ question.

Findings from testing

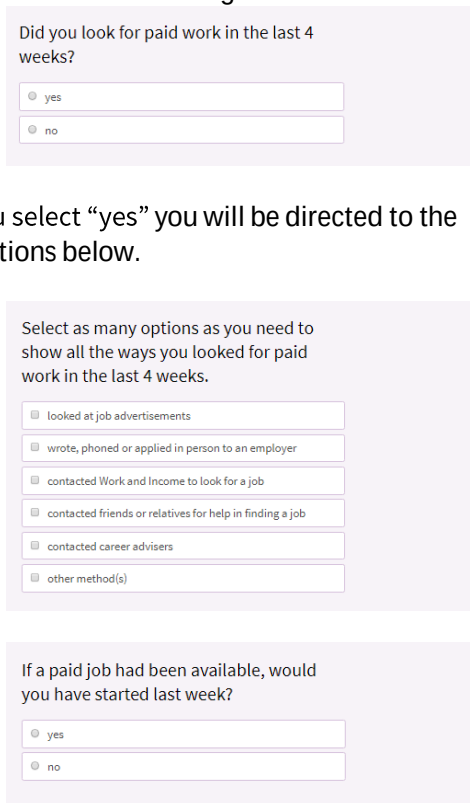
As expected, most respondents worked away from home in their main job. Our analysis of this variable was at a high level only. The as-you-type list is expected to result in good quality information from the online forms.

Seeking paid work, Job search methods, Available for work

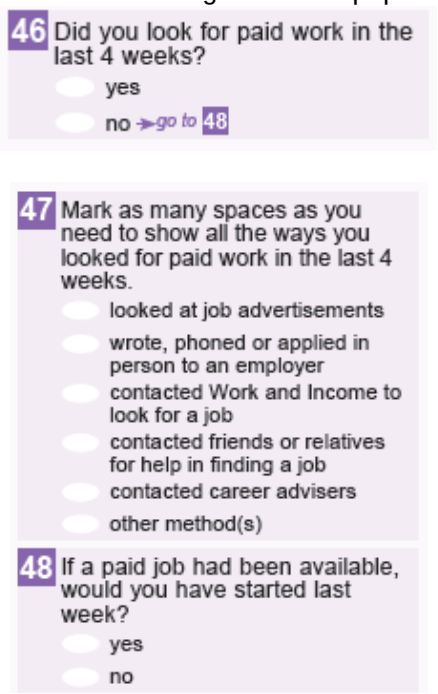
Figure 62

Seeking paid work, Job search methods, Available for work

2018 Census English form – online



2018 Census English form – paper



Online functionality

In the job indicator question, selecting ‘none of these’ presents the ‘seeking paid work’ question set.

Findings from testing

The majority of respondents who should have answered this question gave valid responses.

Most respondents were not looking for paid work in the past four weeks.

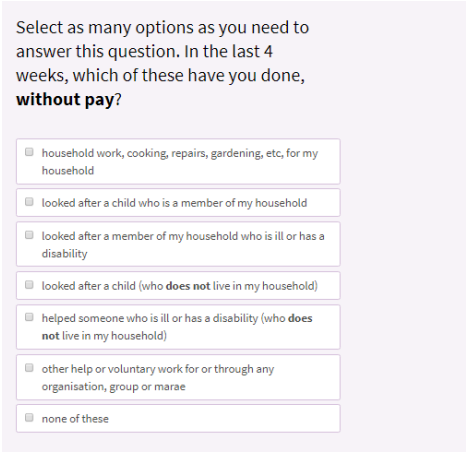
Of those respondents who were actively seeking work, the most common method used was looking at job advertisements.

Unpaid activities

Figure 63

Unpaid activities

2018 Census English form – online



2018 Census English form – paper

Findings from testing

We found that non-response for paper forms was quite high, and did not appear to be directly related to low response rates to the work questions preceding it. About three-quarters of those who did not answer this question were aged 65 years or older. This is consistent with their response pattern to the work indicator question, indicating a drop-off in completing the form.

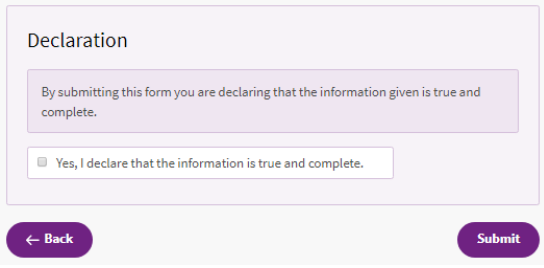
Generally though, the results at the category level are comparable to the 2013 Census results

Declaration

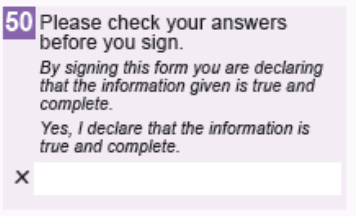
Figure 64

Declaration

2018 Census English form – online



2018 Census English form – paper



Online functionality

Once the declaration box has been ticked and the 'submit' button clicked, the form can no longer be accessed or edited.

Guide notes

Background

For the 2018 Census, we redeveloped the 2013 Census guide notes to give help with questions known to cause respondents the most difficulty. We identified areas of difficulty during testing, and from respondents' calls to the 2013 Census helpline.

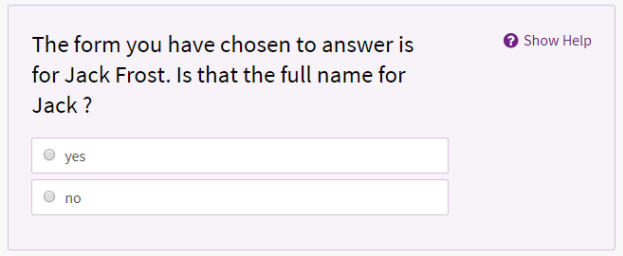
Guide notes/help are provided in English and in te reo Māori, both in print and online. In the print format, due to the limitations of paper size, we had to prioritise content. The online guidance is more comprehensive.

Online guide notes

We provide online help both as a page accessed from any part of the online form website, and from within the online forms by clicking a 'show help' icon within the question (up to half of the questions have this).

Figure 65

'Show help' in online guide notes



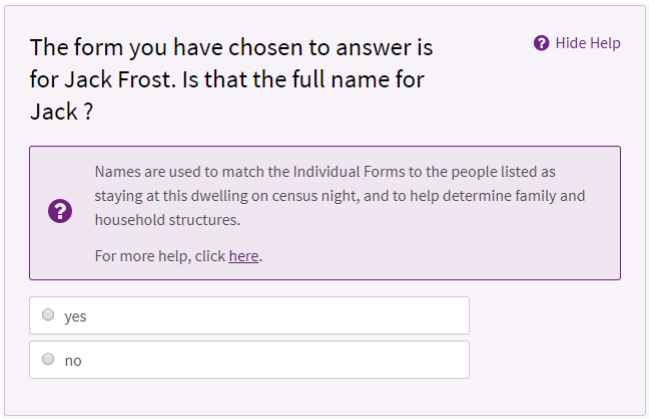
Clicking the 'show help' icon from within a question expands a help note box within that question. In some cases, where the guide note is brief, the full guide note is displayed in the 'show help' note box.

In other cases where the full guide note is too long to display in this way, a link is provided to the more complete information on the help page. The link opens as a new page so that the respondent does not lose their place or information already entered.

Some questions combine these approaches by including guidance for the most immediate question a respondent might have, and also including a link for further information.

Figure 66

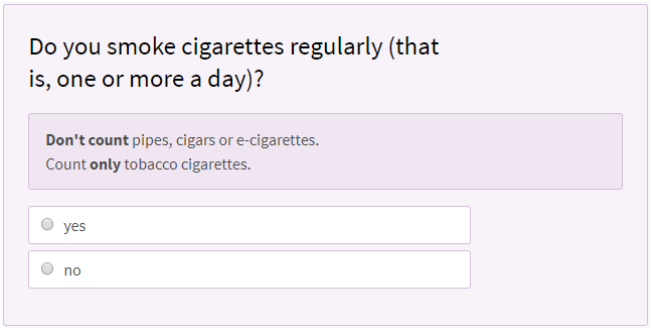
Help given within the form



The ‘show help’ note boxes are different from the note boxes that are always visible and that duplicate the content of note boxes in the paper form. These notes are important for all respondents to see in order to answer accurately and so are always visible to the respondent.

Figure 67

Question notes (“Don’t count …”)



When a respondent is using the te reo Māori form, the ‘show help’ note will be presented in te reo Māori. However, if the respondent needs further help and clicks the link ‘ki konei’ (‘click here’) they will be taken to the applicable English language information on the help page.

Paper guide notes

The most significant change for the paper guide notes in both English and te reo Māori/English is the absence of general instructions and information about the census. As almost all respondents will receive some version of a call to action letter containing this kind of information, we decided there was no need to duplicate these messages. This had the effect of allowing for a simpler design that also allowed for more question related guidance as compared to 2013. This extra space for question guidance was put to good use with the inclusion of guidance for new topics in the census.

The English paper guide notes for 2018 appear on a single sheet of A3 paper folded in half to create an A4 booklet. This differs from the format used in the 2006 and 2013 Censuses which used an A3 sheet folded in thirds.

The te reo Māori/English guide notes for 2018 take a very different approach to the previous census, where the guide notes were integrated into the design of the te reo Māori/English forms. For the 2018 Census, te reo Māori/English guide notes are separate to the forms and laid out as two sets of guide notes back-to back, with the alternate language available by turning the booklet over.

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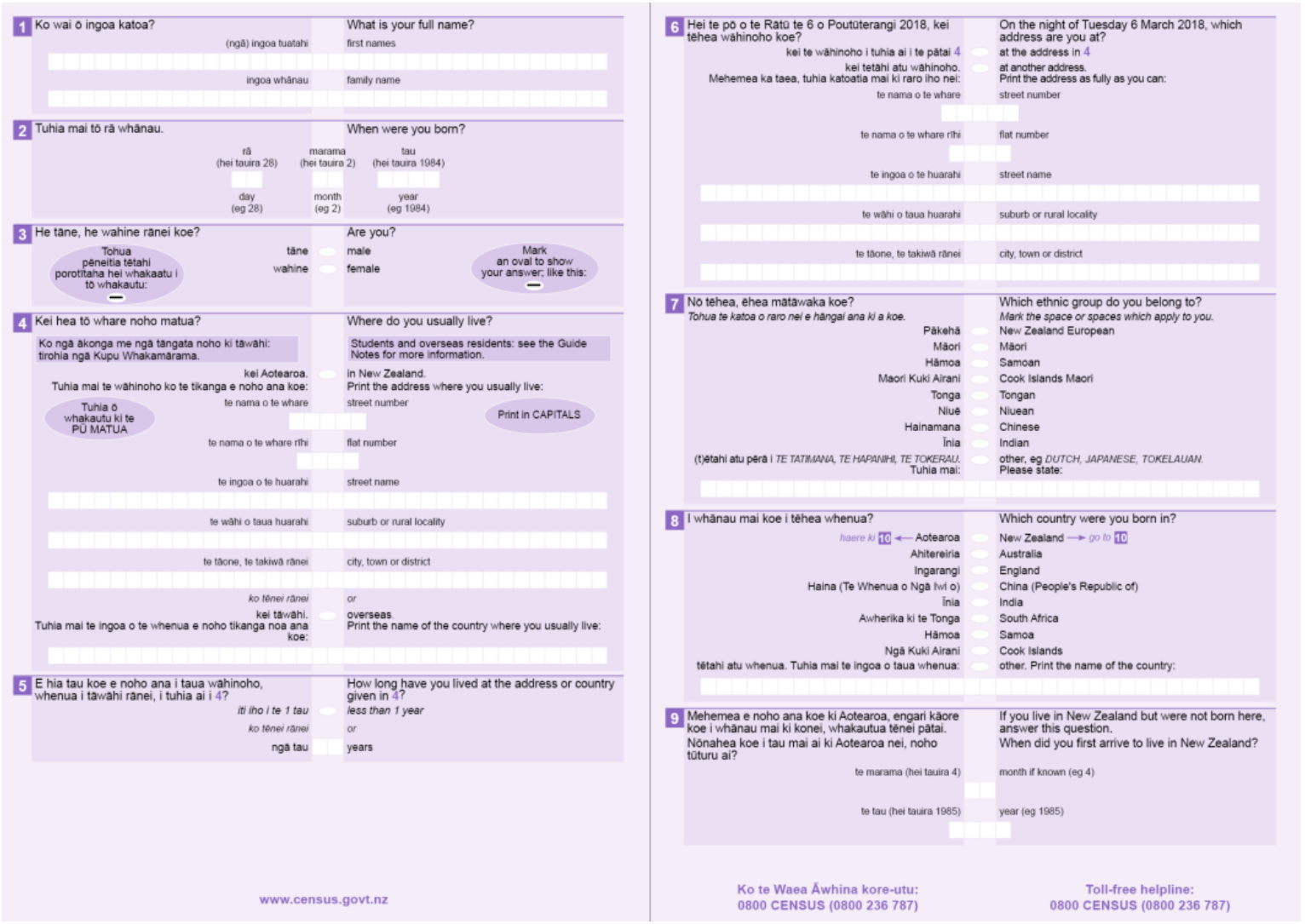
Appendix

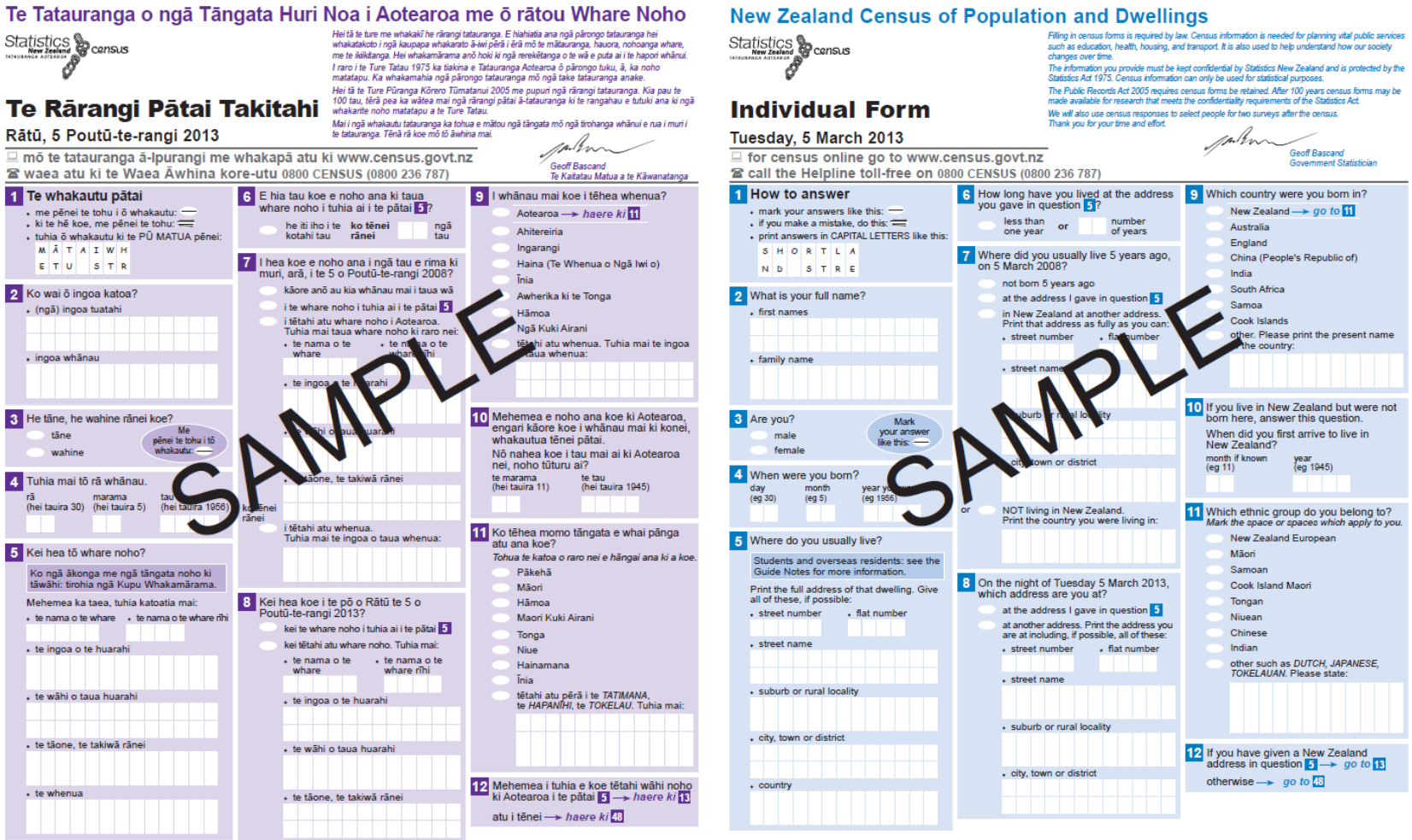
Appendix figure 1, landscape view of figure 2

Page from the paper bilingual Individual Form, 2018 Census



Appendix figure 2, Landscape view of figure 3

Te reo Māori and English text side-by-side for a paper Individual Form, 2013 Census



Te Tatauranga o ngā Tāngata Huri Noa i Aotearoa me ō rātou Whare Noho

Statistics New Zealand census

Te Rārangi Pātai Takitahi

Rātū, 5 Poutū-te-rangi 2013

mō te tatauranga ā-Ipurangi me whakapā atu ki www.census.govt.nz

waea atu ki te Waea Āwhina kore-utu 0800 CENSUS (0800 236 787)

Hei tā te ture me whakakī he rārangi tatauranga. E hiahiatia ana ngā pārongo tatauranga hei whakatakoto i ngā kaupapa whakaroto ā-iwi pērā i ērā mō te mātauranga, hauora, nohoanga whare, me te ikiikitanga. Hei whakamārama anō hoki ki ngā rerekētanga o te wā e puta ai i te hapori whānui.

I raro i te Ture Tatau 1975 ka tiakina e Tatauranga Aotearoa ō pārongo tuku, ā, ka noho matatapu. Ka whakamahia ngā pārongo tatauranga mō ngā take tatauranga anake.

Hei tā te Ture Pūranga Kōrero Tūmatanui 2005 me pupuri ngā rārangi tatauranga. Kia pau te 100 tau, tērā pea ka wātea mai ngā rārangi pātai ā-tatauranga ki te rangahau e tutuki ana ki ngā whakarite noho matatapu a te Ture Tatau.

Mai i ngā whakautu tatauranga ka tohua e mātou ngā tāngata mō ngā tirohanga whānui e rua i muri i te tatauranga. Tēnā rā koe mō tō āwhina mai.

Geoff Bascand
Te Kaitatau Matua a te Kāwanatanga

1 Te whakautu pātai
- me pēnei te tohu i ō whakautu:
- ki te hē koe, me pēnei te tohu:
- tuhia ō whakautu ki te PŪ MATUA pēnei: M Ā T A I W H E T U S T R

2 Ko wai ō ingoa katoa?
- (ngā) ingoa tuatahi
- ingoa whānau

3 He tāne, he wahine rānei koe?
tāne
wahine
Me pēnei te tohu i tō whakautu:

4 Tuhia mai tō rā whānau.
rā (hei tauira 30) marama (hei tauira 5) tau (hei tauira 1956)

5 Kei hea tō whare noho?
Ko ngā ākonga me ngā tāngata noho ki tāwāhi: tirohia ngā Kupu Whakamārama.
Mehemea ka taea, tuhia katoatia mai:
- te nama o te whare
- te nama o te whare rīhi
- te ingoa o te huarahi
- te wāhi o taua huarahi
- te tāone, te takiwā rānei
- te whenua

6 E hia tau koe e noho ana ki taua whare noho i tuhia ai i te pātai 5?
he iti iho i te kotahi tau
ko tēnei rānei
ngā tau

7 I hea koe e noho ana i ngā tau e rima ki muri, arā, i te 5 o Poutū-te-rangi 2008?
kāore anō au kia whānau mai i taua wā
i te whare noho i tuhia ai i te pātai 5
i tētahi atu whare noho i Aotearoa. Tuhia mai taua whare noho ki raro nei:
- te nama o te whare
- te nama o te whare rīhi
- te ingoa o te huarahi
- te wāhi o taua huarahi
- te tāone, te takiwā rānei
i tētahi atu whenua. Tuhia mai te ingoa o taua whenua:

8 Kei hea koe i te pō o Rātū te 5 o Poutū-te-rangi 2013?
kei te whare noho i tuhia ai i te pātai 5
kei tētahi atu whare noho. Tuhia mai:
- te nama o te whare
- te nama o te whare rīhi
- te ingoa o te huarahi
- te wāhi o taua huarahi
- te tāone, te takiwā rānei

9 I whānau mai koe i tēhea whenua?
Aotearoa → haere ki 11
Ahitereiria
Ingarangi
Haina (Te Whenua o Ngā Iwi o)
Īnia
Awherika ki te Tonga
Hāmoa
Ngā Kuki Airani
tētahi atu whenua. Tuhia mai te ingoa o taua whenua:

10 Mehemea e noho ana koe ki Aotearoa, engari kāore koe i whānau mai ki konei, whakautua tēnei pātai.
Nō nahea koe i tau mai ai ki Aotearoa nei, noho tūturu ai?
te marama (hei tauira 11) te tau (hei tauira 1945)

11 Ko tēhea momo tāngata e whai pānga atu ana koe?
Tohua te katoa o raro nei e hāngai ana ki a koe.
Pākehā
Māori
Hāmoa
Maori Kuki Airani
Tonga
Niue
Hainamana
Īnia
tētahi atu pērā i te *TATIMANA, te HAPANĪHI, te TOKELAU.* Tuhia mai:

12 Mehemea i tuhia e koe tētahi wāhi noho ki Aotearoa i te pātai 5 → haere ki 13
atu i tēnei → haere ki 48

SAMPLE

New Zealand Census of Population and Dwellings

Statistics New Zealand census

Individual Form

Tuesday, 5 March 2013

for census online go to www.census.govt.nz

call the Helpline toll-free on 0800 CENSUS (0800 236 787)

Filling in census forms is required by law. Census information is needed for planning vital public services such as education, health, housing, and transport. It is also used to help understand how our society changes over time.

The information you provide must be kept confidential by Statistics New Zealand and is protected by the Statistics Act 1975. Census information can only be used for statistical purposes.

The Public Records Act 2005 requires census forms be retained. After 100 years census forms may be made available for research that meets the confidentiality requirements of the Statistics Act.

We will also use census responses to select people for two surveys after the census.

Thank you for your time and effort.

Geoff Bascand
Government Statistician

1 How to answer
- mark your answers like this:
- if you make a mistake, do this:
- print answers in CAPITAL LETTERS like this: S H O R T L A N D S T R E

2 What is your full name?
- first names
- family name

3 Are you?
male
female
Mark your answer like this:

4 When were you born?
day (eg 30) month (eg 5) year (eg 1956)

5 Where do you usually live?
Students and overseas residents: see the Guide Notes for more information.
Print the full address of that dwelling. Give all of these, if possible:
- street number
- flat number
- street name
- suburb or rural locality
- city, town or district
- country

6 How long have you lived at the address you gave in question 5?
less than one year
or
number of years

7 Where did you usually live 5 years ago, on 5 March 2008?
not born 5 years ago
at the address I gave in question 5
in New Zealand at another address. Print that address as fully as you can:
- street number
- flat number
- street name
- suburb or rural locality
- city, town or district
or
NOT living in New Zealand. Print the country you were living in:

8 On the night of Tuesday 5 March 2013, which address are you at?
at the address I gave in question 5
at another address. Print the address you are at including, if possible, all of these:
- street number
- flat number
- street name
- suburb or rural locality
- city, town or district

9 Which country were you born in?
New Zealand → go to 11
Australia
England
China (People's Republic of)
India
South Africa
Samoa
Cook Islands
other. Please print the present name of the country:

10 If you live in New Zealand but were not born here, answer this question.
When did you first arrive to live in New Zealand?
month if known (eg 11) year (eg 1945)

11 Which ethnic group do you belong to?
Mark the space or spaces which apply to you.
New Zealand European
Māori
Samoan
Cook Island Maori
Tongan
Niuean
Chinese
Indian
other such as *DUTCH, JAPANESE, TOKELAUAN.* Please state:

12 If you have given a New Zealand address in question 5 → go to 13
otherwise → go to 48

SAMPLE