



FACULTY OF  
BUSINESS &  
ECONOMICS

**JOURNEYS HOME  
WAVE 4 TECHNICAL REPORT  
September 2013**

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**Fieldwork, Response and Weighting**

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**Report prepared for the Australian Government Department of  
Families, Housing, Community Services and Indigenous Affairs**



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# 1 Introduction

Journeys Home is a national longitudinal survey that aims to shed light on the pathways in and out of homelessness by following a sample of individuals exposed to high levels of housing insecurity. Four waves of fieldwork have past and the response to Journeys Home by sample members continued to be excellent with response rates comparable to those of well-regarded general population longitudinal surveys. This report focuses on wave 4 fieldwork outcomes.

Wave 4 fieldwork for the Journeys Home survey was conducted over an eleven week-period from 1 March 2013. All wave 1 respondents (n=1,682) will be followed through all subsequent waves unless consent is subsequently withdrawn. Fieldwork concluded on 17 May 2013 with an achievement rate of 86.6 per cent (1,456 interviews out of a target sample of 1,682), which is much higher than has been reported by most other longitudinal surveys that target disadvantaged groups.

In wave 4 we continue to collect information on individuals' personal characteristics (and especially those that can change over time), housing and living arrangements, employment, financial situation, support services and networks, health and well-being, contact with the justice system and exposure to violence. From wave 2 onwards, housing moves (up to 21 moves) between the previous and current interview dates are tracked using a housing calendar. For wave 3 respondents, housing moves between respondents' wave 3 and 4 interviews are recorded. For wave 3 non-respondents, housing moves between waves 2 and wave 4 are recorded for wave 2 respondents and between waves 1 and wave 4 for wave 2 and 3 non-respondents. New questions were added about other children (not the respondent's own) and adults living with the respondent and rental arrangements. In addition, the respondents' history of tobacco and drug use and age first diagnosed with mental illness were asked in wave 4 for those who did not respond in wave 3.

This technical report documents wave 4 fieldwork administration, fieldwork outcomes, and weighting. The arrangement of the rest of the report is as follows:

- Section 2, Survey Administration: describes important fieldwork protocol, interview length and major difficulties confronted during wave 4 fieldwork, as well as reporting on interviewer feedback.
- Section 3, Response Rate and Sample Characteristics: summarises wave 4 survey outcomes including response rates and sample characteristics.

- Section 4, Weighting: presents the method used to generate response weights and population weights.

## **2 Survey Administration**

Fieldwork for wave 4 was conducted over 11 weeks from 1 March to 17 May 2013. The procedures for pre-fieldwork approach, tracking and contacting sample members, and incentives remained the same as in wave 3 fieldwork; therefore they will not be discussed in this report. In the following we discuss the sample approached in wave 4, outcomes by survey mode, changes to interviewers and interviewer training and support, DEEWR sample updates, interview duration, length of time between interviews, complaints made and duty of care cases.

### *2.1 Sample*

The survey aimed to conduct follow up interviews with 1,682 wave 1 respondents. However practical reasons prevented all the wave 1 respondents being followed up for an interview during fieldwork for wave 4. Therefore 1,647 wave 1 respondents were approached for an interview. Of the 35 not approached 25 no longer wanted to participate in the survey, 9 are deceased, and 1 is permanently incapable.

### *2.2 Survey Mode*

Interviews were conducted using Computer Assisted Personal Interviewing (CAPI) consoles. Interviews were either done face-to-face or by telephone. Contrary to expectations, the proportion of telephone interviews decreased from 16.6 per cent in the previous fieldwork period to 14.8 per cent. The possible reasons why telephone interviews may have declined are respondents are more stable making face-to-face contact easier, or they may have a preference for face-to-face over telephone interviews. Of those interviewed by telephone 34.4 per cent were within the interview areas. This is a significant decline from 42 per cent in wave 3 fieldwork.

### *2.3 Interviewers and interviewer support*

A total of 30 interviewers conducted interviews during fieldwork. All had prior experience working on Journeys Home with 26 having conducted interviews in all the previous

fieldwork periods. Interviewer training sessions were conducted via teleconference and lasted 3 hours. The training sessions covered the materials added to wave 4, and any areas that needed re-iteration.

Giving support to the interviewers is Team 1800 who assist interviewers by tracking sample members, providing technical support of CAPI, handling safety calls where the interviewer feels they are in an unsafe area, providing emotional support and information on fieldwork protocols. At times Team 1800 conducted telephone interviews. 23 Team 1800 members assisted during fieldwork, 10 were new to the survey. All Team 1800 members received one full day of training which covered an overview of the survey, tracking sample members, fieldwork protocols, DEEWR updates, addressing interviewer and respondent enquiries and tips for telephone interviewing.

#### *2.4 Sample Updates from DEEWR*

Tracking of respondents still is vital for the success of survey. Other than the tracking procedures, which remained the same as in previous fieldwork periods, DEEWR sample updates were invaluable in aiding the tracking of sample members. DEEWR sample updates were used in the pre-field approach and during fieldwork. Listed below are the dates sample updates were extracted by DEEWR

- 1 February 2013 (pre-fieldwork)
- 1 March 2013
- 22 March 2013
- 12 April 2013
- 26 April 2013

Interviewers reported that DEEWR updates were less effective than in previous waves in providing information on the whereabouts of sample members. The reduced effectiveness is mostly likely linked to sample members moving off income support therefore their contact details not being up to date.

#### *2.5 Interview length and duration between interviews*

Only a few additional questions were added to the questionnaire. The questions added in the wave 3 were historical in nature (only required being answered once), therefore those who completed an interview in wave 3 fieldwork were not asked these questions in their wave 4

interview. In effect the questionnaire this fieldwork period was shorter. As a result the average interview length was 31.6 minutes compared to 35 minutes. We find the difference between interview times is statistically significant when we restrict analysis to those who responded in wave 4 and the previous fieldwork period. The shortest interview was 13 minutes whilst the longest was 92.6 minutes. Table 1 shows the distribution of the interview times. 75.1 per cent of the interviews were between 20 to 39 minutes.

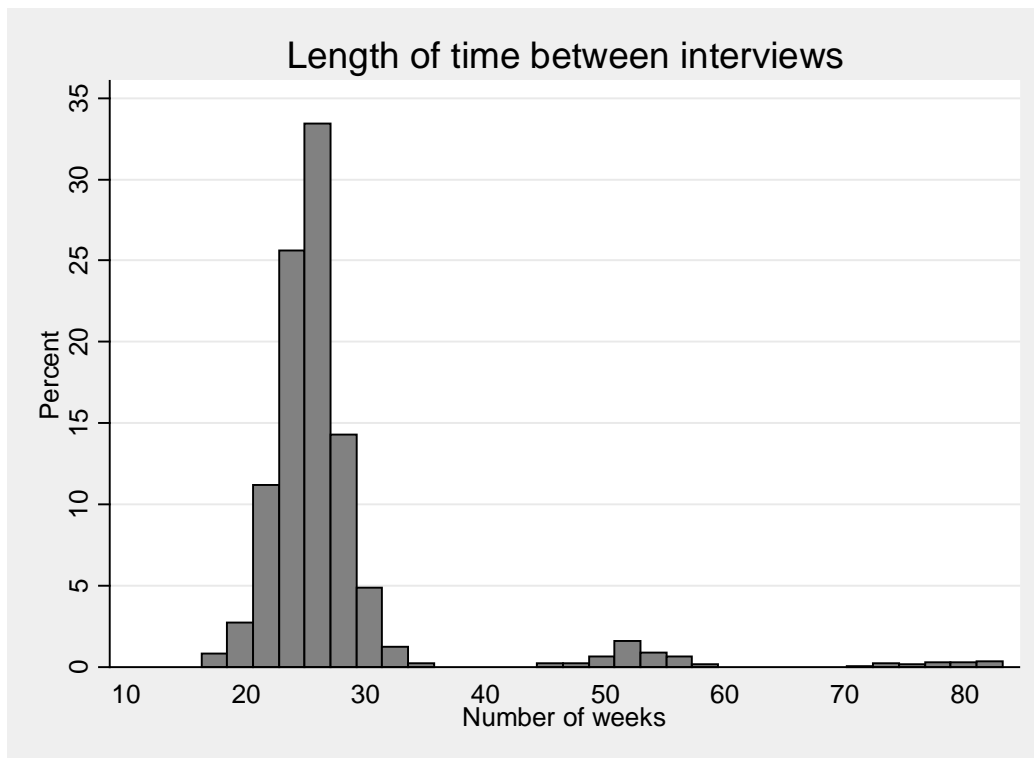
**Table 1: Distribution of Interview times**

<i>Length of interview</i>	<i>Proportion (%)</i>	<i>Total (n)</i>
less than 20 minutes	8.5	124
20 to 29 minutes	42.9	623
30 to 39 minutes	32.2	468
40 to 49 minutes	10.0	146
50 to 59 minutes	4.3	62
60 to 69 minutes	1.2	18
70 to 79 minutes	0.6	9
80+ minutes	0.3	4
<b>Total</b>	100.0	1454 (N)

Notes: The two terminated interviews are excluded

The distribution of the gap between interviews is shown in Figure 1. The gap ranged from 16 to 83 weeks and the mean being 27 weeks (approximately 6 months). Excluding those who were not interviewed in wave 3 fieldwork the mean is 25.2 weeks, showing on average interviews were conducted within 6 months of the previous interview and is highly concentrated around 26 weeks. This result is important as some of the questions asked in the survey capture information about the last 6 month. It shows that 6-month is a reasonable proxy for the length between interviews for samples who did not skip previous interviews.

**Figure 1: Length of time between interviews**



### 3 Response characteristics and rates

#### 3.1 Response rates

As mentioned before 1,647 sample members were re-approached for an interview. Table 2 summarises the response outcomes. By the end of fieldwork 1,632 were considered to be in-scope. Those out-of-scope were either in prison (n=31), deceased (n=12), hospital (n=1) or overseas (n=6). In total 1,456 sample members responded, two of them terminating their interview prior to completion. The response rate for wave 4 fieldwork is 89.2 per cent (1,456 out of 1,632), and the achievement rate is 86.6 per cent (1,456 out of 1682). This is a great achievement after three fieldwork periods of attempting to interview the wave 1 respondents.

**Table 2: Wave 4 fieldwork outcomes**

<i>Sample outcome</i>	<i>Number</i>	<i>% of Total sample</i>	<i>% of In-scope sample</i>
Starting sample (w1)	1,682		

respondents)			
Less out-of-scope	50	3.0	
Total in-scope sample	1,632	97.4	
Completed interviews	1,454	86.4	89.1
Terminations	2	0.1	0.1
Incapable	3	0.2	0.2
In institution	3	0.2	0.2
Refusal	50	3.0	3.1
<i>Other non-response</i>			
Contact made	36	2.1	2.2
Non-contact & all calls made	36	2.1	2.2
Moved to unknown address	48	2.9	2.9

The refusal rate remained quite low but increased from 2.7 per cent to 3.1 per cent. Non-response when contact was made represented 2.2 per cent of the in-scope sample. Non-contact when all call attempts were made represented 2.2 per cent of the in-scope sample. Non-response as a result of being unable to find the location of the sample member represented 2.9 per cent of the in-scope sample. This has only increased slightly by 0.1 per cent from wave 3 fieldwork.

**Table 3: Response patterns**

<i>Response pattern</i>	<i>Observations</i>	<i>Per cent</i>
Only Wave 1	62	3.7
Wave 1 & 2	61	3.6
Wave 1 & 3	22	1.3
Wave 1 & 4	19	1.1
Wave 1,2 & 3	81	4.8
Wave 1,2 & 4	62	3.7
Wave 1,3,4	50	3.0
Wave 1 to 4	1,325	78.8
Total	1,682	100.0

Table 3 summarises the response patterns as at the end of wave 4 fieldwork. Those who have responded in all four fieldwork periods represent 78.8 per cent of the wave 1 sample. Amongst those who responded in wave 4 but not in all waves, 3.7 per cent (n=50) had been interviewed in wave 3, 3 per cent had skipped wave 3, and 1.1 per cent (n=19) had only responded in wave 1.



**Table 4: Response transitions**

<i>Wave 3 Response Status</i>	<b>Wave 4 Response Status (%)</b>						<i>Total (n)</i>
	<i>Responded</i>	<i>Incapable</i>	<i>Refusal</i>	<i>Contact made - but no response</i>	<i>Non-response</i>	<i>Out of scope</i>	
Responded	93.0	0.1	1.0	1.8	2.8	1.3	1478
Incapable	100.0	0.0	0.0	0.0	0.0	0.0	2
Refusal	24.4	0.0	66.7	4.4	2.2	2.2	45
Contact made-non-response	51.2	2.4	9.8	14.6	22.0	0.0	41
Non-response	45.7	0.0	0.0	2.9	44.3	7.1	70
Out of scope	32.6	0.0	2.2	0.0	4.4	60.9	46
<b>Total</b>	86.6	0.2	3.0	2.1	5.0	3.2	1682 (N)

In Table 4 we compare the response status at wave 3 and the outcome in wave 4. Of those who responded in wave 3 fieldwork, 93 per cent responded during wave 4. Amongst those who responded in wave 3, 2.8 per cent were unable to be contacted, 1.8 per cent were contacted but it did not result in an interview, and 1.0 per cent refused to participate.

The conversion of refusals to participation represented 24.4 per cent of wave 3 refusals. Though 66.7 per cent remained as refusals many of them were hard refusals therefore would have not been re-approached during fieldwork to participate in the survey.

Another major non-response group is those where contact was made but sample member did not participate. Just over half (51.2%) the cases from wave 3 were converted into participation this fieldwork period. The proportion of wave 3 non-respondents participating in wave 4 is 45.7 per cent. Many of those who did not respond stayed in the non-response category (44.3 %), only 7.1 per cent became out of scope, for the remaining 2.9 per cent contact was made but did not lead to participation.

**Figure 2: Achievement, response and re-interview rate trends**

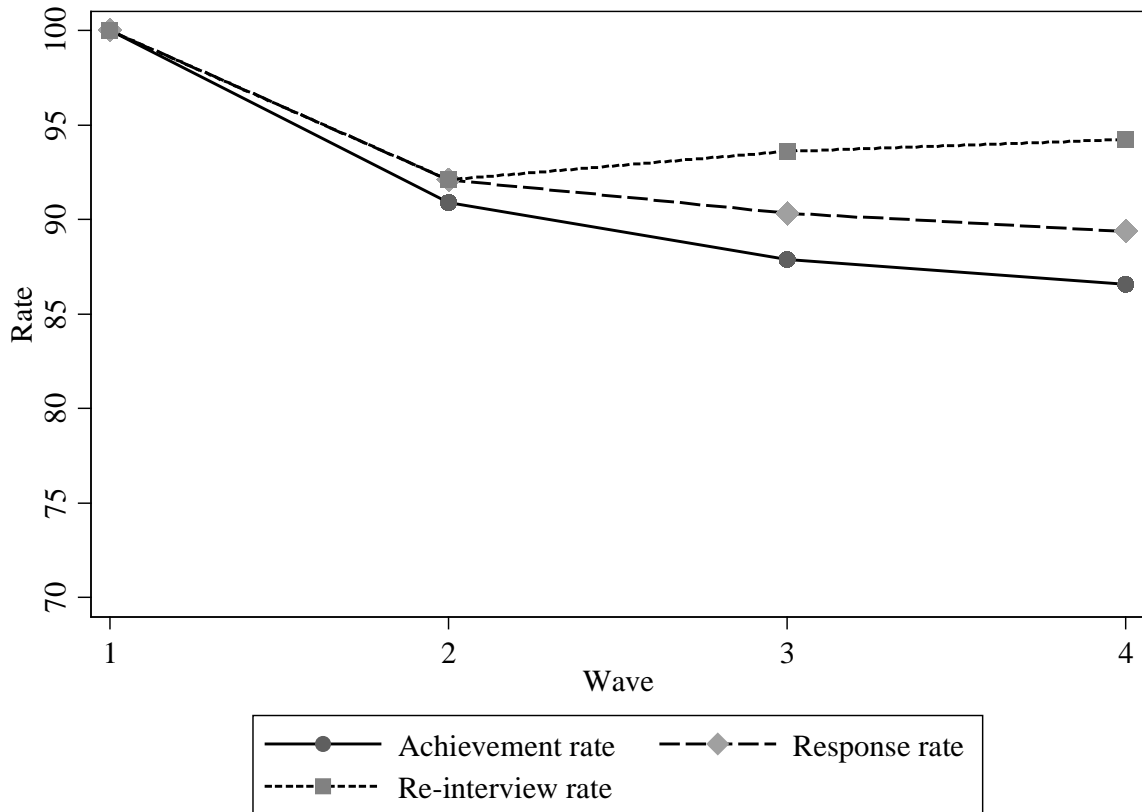


Figure 2 above shows the trends for response rates, achievement rates and re-interview rates. We find that response rates and achievement rates follow a similar pattern, with achievement being slightly lower as it includes sample members who would be considered out of scope. The re-interview rate is the proportion of people who respond in the current fieldwork period given they responded in the previous fieldwork period and are not out of scope in the current fieldwork period. As expected the number of those re-interviewed between wave 1 and 2 dropped. From wave 2 onwards the proportion of sample members who are being re-interviewed has modestly increased.

### 3.2 Sample Characteristics and response bias

Table 5 shows the distributions of the wave 1 demographic characteristics of the wave 4 and continuing respondents (those who have responded in all fieldwork periods) compared to the wave 1 sample characteristics. We also look at achievement rates by characteristics. The wave 4 respondents' characteristics closely resemble those of wave 1. Comparing wave 1 respondents to the wave 4 continuing respondents (responded in all 4 fieldwork periods) there are minor differences. There is a smaller proportion of men, fewer partnered persons, more

respondents with dependent children and fewer indigenous persons represented in the sample of continuing respondents compared to wave 1.

**Table 5: Sample characteristics**

<i>Characteristic</i>	<i>Wave 1 respondents (n=1682)</i>	<i>Wave 4 respondents (n=1456)</i>	<i>Wave 4 continuing respondents (n=1325)</i>	<i>Wave 4 Achievement rate (%)</i>	<i>Achievement by rate by survey mode (%)</i>
<i>Gender</i>					
Male	54.6	53.8	53.1	85.2	85.3
Female	45.4	46.2	46.9	88.2	86.2
<i>Age group</i>					
15-17	9.5	9.8	10.3	89.4	82.8
18-20	16.6	17.0	17.0	88.5	93.6
21-24	12.6	12.6	12.2	86.3	87.2
25-34	21.7	20.7	20.2	82.5	72.2
35-44	20.0	19.6	19.9	85.1	87.8
45-54	14.0	14.4	14.6	88.9	92.3
55+	5.6	6.0	5.9	91.6	100.0
<i>Indigenous status</i>					
Non-Indigenous	80.3	81.8	82.5	88.2	90.0
Indigenous	19.7	18.2	17.5	79.8	60.0
<i>Marital status</i>					
Single	82.7	82.7	83.2	86.6	86.8
Partnered	17.2	17.3	16.8	86.9	80.5
Unknown	0.1	-	-	0.0	-
<i>Dependent children</i>					
No	80.0	79.0	78.6	85.4	86.3
Yes	19.8	20.9	21.2	91.3	82.9
Unknown	0.2	0.1	0.2	66.7	-
<i>Country of birth</i>					
Australia	87.5	88.0	87.9	87.0	85.8
Main English Speaking Country	5.8	5.8	6.0	86.7	86.7
Non-main English Speaking Country	6.7	6.2	6.0	80.4	83.3
<i>Education level</i>					
Less than Year 10	20.3	19.6	19.2	83.9	89.1
Year 12	48.6	49.5	49.4	88.0	86.3
Trade certificate or Apprenticeship (if undefined certificate level)	21.3	21.2	21.7	85.8	80.4
University	8.6	8.8	8.8	88.9	92.0
Unknown	1.2	1.0	0.9	70.0	-

<i>Characteristic</i>	<i>Wave 1 respondents (n=1682)</i>	<i>Wave 4 respondents (n=1456)</i>	<i>Wave 4 continuing respondents (n=1325)</i>	<i>Wave 4 Achievement rate (%)</i>	<i>Achievement by rate by survey mode (%)</i>
<i>Consented to Centrelink data linkage</i>					
No	6.5	6.1	6.1	80.9	72.7
Yes	93.5	93.9	93.9	87.0	86.3
<i>Benefit type</i>					
Not on IS	9.0	8.7	9.0	84.1	83.3
Newstart Allowance	33.9	33.6	33.1	85.8	85.7
Youth Allowance	19.8	20.2	20.2	88.3	88.5
Disability Support Pension	23.1	22.8	22.6	85.6	88.1
Parenting Payment	10.9	11.4	11.7	90.7	77.8
Other	3.0	2.9	3.1	84.0	83.3
Unknown	0.4	0.4	0.4	85.7	100.0

Notes:

- 1) Characteristics are based on wave 1 information.
- 2) The 2 terminated cases in wave 4 fieldwork are included as respondents.
- 3) Dependent children are those under 18 years living with the respondent all or most of the time.
- 4) Achievement rate and telephone interview rate are not reported for cells with less than 15 observations.

There are clear differences in the achievement rates by characteristics. We find females more likely to respond. Aboriginal or Torres Strait Islanders were significantly less likely to respond. Those who did not give consent to link their administrative data to the survey were less likely to respond. Though achievement rates were fairly similar across age groups, those aged between 25 and 34 at their wave 1 interview were less likely to respond this fieldwork period. Those with dependent children were more likely to participate. This may reflect the lower mobility of this group. Supporting this point, those on Parenting Payment at wave 1 were also more likely to participate in wave 4.

As mentioned before the number of telephone interviews decreased during this fieldwork despite the expectation that more interviews would be conducted by telephone based on the assumption that an increasing number of sample members would move out of interview areas over time. The type of survey mode, face-to-face vs. telephone, may have an impact on the likelihood of a sample member being interviewed in the following wave. The achievement rates at wave 4 for the sub-group of sample members who were interviewed by telephone in the previous wave indicate that those of aboriginal origin, on parenting payment at wave 1,

aged between 25 and 34 and who did not give administrative data linkage consent were particularly less likely to have been interviewed in wave 4.

### 3.3 Response rate by geographical area

Changes in the achievement rates between waves 3 and 4 by geographic area are summarised in Table 6 below. Improvements were seen in the interview areas within Sydney, South Australia, and there was a marginal improvement in the achievement rate of those interviewed outside the in-scope interview areas. Outside of Sydney the achievement rate in other areas of New South Wales (including the ACT) dropped considerably from 90.6 per cent to 86.4 per cent. In the Northern Territory interview areas the overall achievement rate dropped by 4.3 percentage points to 77.3 per cent which is below the 80 per cent benchmark. The reasons for these declines include (i) an inability to get in contact with sample members, (ii) sample members being out-of-scope or (iii) moving to an unknown address. Western Australia and interview areas in Queensland outside Brisbane were the next worst performing areas.

**Table 6: Response by geographic areas**

<i>Geographical area</i>	<i>Wave 3 achievement rate</i>	<i>Wave 4 achievement rate</i>	<i>Difference in achievement rate</i>
Sydney	88.1	89.6	1.7
Rest of NSW	90.6	86.4	-4.6
Melbourne	88.0	87.3	-0.8
Rest of VIC	89.2	89.1	-0.1
Brisbane	93.3	93.2	-0.1
Rest of QLD	92.1	89.9	-2.4
SA	91.1	92.5	1.5
WA	90.2	87.8	-2.7
TAS	94.4	92.9	-1.6
NT	80.8	77.3	-4.3
Outside interview areas	79.7	80.0	0.4
Overseas		0.0	
Unknown		11.1	

Notes:

- 1) Geographical region is based on the sample member's last known location.
- 2) Rest of New South Wales includes the Australian Capital Territory

The proportion of those outside the interview areas rose from 13.2 per cent in wave 3 to 16.3 per cent (275 out of 1,682) in wave 4. However the achievement rate improved marginally (by 0.4 percentage points). The average achievement rate for within interview areas is 88.7 per cent, well above the 80 per cent rate for those outside interview areas. Given the increasing proportion of those outside the interview area boundaries, the achievement rates need to improve to reduce the amount of attrition based on sample members moving outside interview regions.

### *3.4 Data linkage*

During wave 4 fieldwork permission to link to administrative data was asked for the last time from those who had not given consent. Five out of the 20 who had not given consent now provided consent. This raises the total number of consents to 1,654 which is 98.3 per cent of sample members, which is an excellent result.

### *3.5 Item non-response*

Consent to the being asked questions on exposure to physical and sexual violence have continued to rise. For wave 4 fieldwork 97.9 per cent of those who completed an interview (n = 1,454; excludes terminated interviews) answered yes to being asked questions on exposure to physical violence in the last six months. Of those who were willing to answer those questions 98.7 per cent of them went on further to being asked questions on exposure to sexual violence in the last six months. Overall 96.6 per cent of those who completed an interview opted to answer questions on sexual violence.

### *3.6 Interviewer Observations*

Trust and understanding of the survey questions improved this fieldwork period. Interviewers reported respondents had a good understanding of the survey, with only 0.4 per cent (n=6) having a poor to very poor understanding of the questions. Only 1.6 per cent (n=24) were somewhat or very suspicious of the survey. Interviewers also found that respondents were more willing to co-operate with 99.8 per cent (n=1,451) being rated as having fair to excellent levels of co-operation. We find language barriers were negligible with only 0.2 per cent (n = 3) of interviews where the interviewer rated the respondent's ability to speak English as poor or very poor. However this may reflect that those less likely to respond have difficulties speaking English.

In some cases interviews were conducted with the assistance of another person such as a family member, friend or carer because of sickness or disability, language difficulties or some other reason. Of the 15 (1.1%) assisted interviews, 10 were assisted by a family member and the rest by a friend. Some interviews had other people present but not to assist the respondent such as partner, family or friends. We ask the interviewer to assess whether the presence of other adults may have influenced the respondent's answers. In 2.6 per cent of interviews the presence of another adult was perceived to have had some influence on the respondent's answers.

Other issues that may impact the respondent's survey answers such as mental illness, hearing problems, reading and language difficulties, poor eyesight, illness, and other problems were recorded at the end of each interview. The proportion of interviews where a problem was recorded is 9.4 per cent (n=136). Information on the respondent's appearance was also captured, this included being under the influence of drugs or alcohol, physical illness, confusion and incoherence. 4.5 per cent (n=65) of the respondent's exhibited at least one of these problems. Overall these results suggest respondents responded well to the survey instrument.

## **4 Weighting**

Weights are generated to take into account the unequal probability of inclusion into the final responding sample. Three types of weight are provided in the data set.

- Design weight adjusts for the probability of selection into wave 1 sample. The design weight remains unchanged for wave 4.
- Response weight adjusts for the differential probability of response.
- Population weight adjusts for design and response factors.

Details of how the response weight and population weight were created are given below.

### *4.1 Response weight*

Response weights correct for the differential probability of response among the sample that was activated, excluding individuals who were recorded as deceased prior the last

information update provided by DEEWR during wave 1 fieldwork (28 October 2011). Two types of response weights are produced. The wave 4 response weight is defined as the wave 1 response weight multiplied by the inverse probability of wave 4 response given response in wave 1:

$$W_{resp}^{wave4} = \frac{W_{resp}^{wave1}}{P(Resp^{wave4} = 1 | Resp^{wave1} = 1)}$$

The wave 4 balanced-panel response weight is defined as the wave 1 response weight multiplied by the inverse probability of response to waves 2, 3 and 4 given response in wave 1:

$$W_{resp}^{BPwave4} = \frac{W_{resp}^{wave1}}{P((Resp^{wave2} = 1 \& Resp^{wave3} = 1 \& Resp^{wave4} = 1) | Resp^{wave1} = 1)}$$

The probabilities of wave 4 response and of response to waves 2 to 4 response are created by estimating logistic regression models with variables from the administrative dataset (RED) extracted on 31 July 2013 and from wave 1 survey data. The probability of response in both models is capped at 0.2. That is the probability of response is set to 0.2 when the predicted probability is lower than 0.2.

The response weights are then rescaled so that the sums of the weights are equal to the size of the responding samples (i.e., 1,325 for response to waves 2 to 4 and 1,456 for wave 4 response).

For the purposes of weighting, a case is considered a ‘response’ if a person is interviewed or has been identified as overseas or deceased (through either DEEWR information updates or other reliable sources), and a ‘non-response’ is all other outcomes.<sup>1</sup>

A complication in estimating the response probabilities is that not all wave 1 respondents provided consent to the Centrelink data linkage. For those who did not provide consent, we can only use either wave 1 survey data or RED data but not both. To fully utilize the available information, four separate models were estimated to obtain the predicted

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<sup>1</sup> In wave 1, deceased sample members were excluded from the analysis instead of counted as response. It is because initial sample were drawn from income support recipients. Wave 1 survey period is not far from sampling reference period so it is unlikely that sample members moved off income support prior the time of death. Therefore, we assume all deaths were known and thus excluded from the analysis. However, in subsequent waves, the same assumption is unlikely to hold (there may be some sample members who passed away after moving off income support and therefore their death may not be captured in Centrelink data base). To allow for this uncertainty, death is counted as response in the logistic regression model.



probabilities of response. We first estimate two logistic models using variables derived from RED for the entire sample (n=1,682) to obtain the predicted probabilities of wave 4 response and waves 2 to 4 response for those individuals who did not provide data linkage consent.<sup>2</sup> Next, variables from wave 1 survey response data are added to the models after restricting the sample to those individuals who provided consent (n=1,654) to obtain the predicted probabilities based on full information.

In general, the explanatory variables in the balance panel model includes individuals' information at wave 1 and between wave 1 and 4 and the variables for wave 4 response model includes information at wave 1, start of wave 4 fieldwork and the period between wave 3 and wave 4 interview periods. Variable definitions and summary statistics are presented in Appendix table A1. The following summarise the explanatory variables from RED and survey administration data used in the final model.<sup>3</sup>

- demographic variables;
- income support status at the start of wave 4 survey period;
- proportion of time on income support in between wave 1 and wave 4 and in between wave 3 and wave 4;
- personal characteristics while on income support, which include:
  - living arrangement (type of accommodation);
  - proxies of the likelihood of contacting Centrelink;
  - whether the partner (if any) was on income support;
  - whether the individual was recorded as homeless in RED.
- whether the individual was ever recorded as an ex-offender (since 1998) and whether the record was recent (i.e. after wave 2 interview period);

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<sup>2</sup> We compared regression results from survey data only model and RED only model. RED only model has better explanatory power and therefore was applied for the non-consent cases.

<sup>3</sup> Many other variables were also tested that can potentially explain the response, such as education, mental health, etc. Due to the small number of non-response observations, inclusion of too many variables may run into degree of freedom problem and yield to results where many variables have large coefficients and large standard errors. As a result the final model only includes basic demographic variables and variables that are statistically significant at 10 per cent (with only a couple of exceptions) to avoid introducing large amount of noise in the probability estimates.

- whether the individual is assigned an interviewer that is different from the previous wave and whether the interviewer is a new interviewer to the survey;
- geographical area at start of the survey periods of waves 2, 3 and 4 (three categories are distinguished— within survey clusters in major capitals, within clusters in regional area, or outside survey clusters).

Explanatory variables from survey response data include:

- homeless status at wave 1 interview;
- whether mobile phone numbers are provided by respondent at wave 1 interview;
- wave 1 interview length.

Table 8 presents results of two logistic regressions for the probability of response to waves 2, 3 and 4 (i.e. balanced-panel model). As noted above, one model uses administrative data (RED) only while the other uses both RED and survey data. Similarly, Table 9 presents results of two logistic regressions for the probability of response to wave 4 only. The results in Tables 8 and 9 show a large degree of consistency. Although not all control variables are significant in both tables, those that are significant in both tables are of the same sign and this sign coincides with the results for the probability of response to previous waves presented in the Wave 2 and Wave 3 Technical Reports. The results are summarised as follows:

- Demographics do not play a large role. Only indigenous Australians/Torres Strait Islanders, and to a lesser extent migrants from non-English speaking countries, are less likely to respond.
- Those on non-activity-tested benefit are less likely to respond to wave 4 than those on activity-tested benefit (Table 9).
- Those who were on income support 100 per cent of the time between interview periods are more likely to respond.
- Those who were recorded as ex-offender, and more particularly those who were recently recorded as ex-offender, are less likely to respond.
- Not being in the rent tables increases the response probability (as does not paying rent in the wave 4 model). Those who are not in the rent tables are those who did not apply for rent assistance. As those who do not pay rent, they may be home owners or

have other living arrangements that do not require rent assistance. Hence, they are more likely to have stable housing and are more likely to respond.

- Those who were outside interview regions in at least one wave are also less likely to respond to waves 2 to 4, whereas those who moved but always stayed in the interview regions are more likely to respond.
- Those who were assigned to a different interviewer are less likely to respond, whereas those who were assigned to one of the new interviewers are more likely to respond.
- Job seekers who had been recorded as homeless because of circumstances beyond their control between waves 1 and 4 interview periods have lower response probabilities.
- Those who were in contact with Centrelink between waves 3 and 4 are more likely to respond to wave 4.
- Those who were homeless in wave 1 (according to survey data) are less likely to respond (Table 8), whereas those who provided mobile phone contact are more likely to respond (Tables 8 and 9).
- Consistent with previous results, those who had a relatively short interview (less than 30 minutes) in wave 1 are less likely to participate in wave 4.

**Table 8: Logistic regression results for probability of response in waves 2, 3 and 4**

<i>Variable</i>	<i>Administrative data model</i>		<i>Survey and administrative data model</i>	
	<i>Coeff.</i>	<i>Std. Err.</i>	<i>Coeff.</i>	<i>Std. Err.</i>
Female	0.021	0.160	-0.038	0.165
Indigenous	-0.573**	0.178	-0.496**	0.182
<i>Country of Birth (Australia)</i>				
Main English speaking countries	0.156	0.344	0.064	0.343
Other non-main English speaking countries	-0.603*	0.278	-0.507#	0.291
<i>Age (15-17)</i>				
18-20	-0.462	0.849	-0.592	0.885
21-24	-1.043	0.848	-1.189	0.884
24-35	-0.859	0.846	-0.954	0.883
34-44	-0.724	0.850	-0.877	0.887

45-54	-0.865	0.858	-0.856	0.896
55+	-0.625	0.893	-0.539	0.928
Always on Income Support between waves 1 and 4	0.437*	0.171	0.459**	0.174
Recent ex-offender (incarcerated)	-0.966**	0.335	-1.022**	0.345
Ever an ex-offender (incarcerated)	-0.671**	0.197	-0.613**	0.202
<i>Rent payment at the start of waves 2 to 4 (Private or government in all waves)</i>				
Other type	-0.007	0.192	0.092	0.198
Not in rent table	1.361**	0.395	1.188**	0.399
Changed rent type	0.054	0.195	0.070	0.198
Contacted Centrelink anytime between middle of wave 1 and middle of wave 4	0.346*	0.172	0.293#	0.176
Recent vulnerability: Homeless beyond control of customer	-0.250	0.178	-0.220	0.181
<i>Geographical location at start of waves 2 to 4 (Regional area in all waves)</i>				
Major capital city in all waves	0.280	0.186	0.215	0.190
Outside interview region at start of at least one wave	-0.847**	0.191	-0.890**	0.194
Changed to location within interview regions	1.176**	0.436	1.116*	0.442
<i>Change in interviewer (No change)</i>				
Change in one wave	-1.372**	0.198	-1.388**	0.201
Change in two waves	-2.580**	0.207	-2.569**	0.212
Change in all three waves	-4.500**	0.370	-4.503**	0.377
New interviewer (in at least one wave)	1.916**	0.282	1.957**	0.288
Homeless at wave 1 interview			-0.394*	0.175
Provided mobile phone contact at wave 1 interview			0.641**	0.193
Constant	3.415**	0.89	3.113**	0.937
Pseudo R-squared		0.265		0.267
Sample size		1682		1654
Log-likelihood		-618.643		-598.562

# p<0.10, \* p<0.05, \*\* p<0.01

**Table 9: Logistic regression results for probability of response in wave 4**

<i>Variable</i>	<i>Administrative data model</i>		<i>Survey and administrative data model</i>	
	<i>Coeff.</i>	<i>Std. Err.</i>	<i>Coeff.</i>	<i>Std. Err.</i>
Female	0.197	0.199	0.188	0.205
Indigenous	-0.910**	0.216	-0.861**	0.223
<i>Country of Birth (Australia)</i>				
Main English speaking countries	-0.048	0.407	-0.223	0.409
Other non-main English speaking countries	-0.339	0.326	-0.355	0.344
<i>Age (15-17)</i>				
18-20	0.512	0.862	0.462	0.873
21-24	0.365	0.863	0.294	0.874
24-35	0.233	0.858	0.242	0.870
34-44	0.339	0.863	0.211	0.875
45-54	0.704	0.873	0.773	0.889
55+	1.207	0.953	1.347	0.968
<i>On activity tested benefit at the start of wave 4 fieldwork</i>				
Non activity tested benefit	-0.319	0.360	-0.360	0.368
Activity tested benefit	-0.674**	0.223	-0.654**	0.231
Always on Income Support between wave 3 and 4 fieldwork	0.931**	0.343	0.905**	0.351
Ever an ex-offender (incarcerated)	-0.563**	0.217	-0.531*	0.224
<i>Rent payment at start of wave 4 fieldwork (Private)</i>				
Government	0.811	0.698	0.859	0.729
Other	0.401#	0.238	0.362	0.244
No rent	0.145	0.222	0.219	0.232
Not in rent table	0.863*	0.351	0.839*	0.365
Contacted Centrelink anytime between middle of wave 3 fieldwork and wave 4 fieldwork	0.696**	0.266	0.693*	0.272
Changed to different continuing interviewer	-2.933**	0.195	-2.868**	0.199
Provided mobile phone contact at wave 1 interview			0.669**	0.233
<i>Interview length (40 to 79 minutes)</i>				
Less than 30 minutes			-1.305#	0.732
30 to 40 minutes			-0.358	0.43
80+ minutes			-0.491	0.311
Constant	2.552**	0.92	2.486*	0.993
Pseudo R-squared	0.311		0.311	
Sample size	1682		1654	

Log-likelihood	-433.838	-414.763
# p<0.10, * p<0.05, ** p<0.01		

#### 4.2 Population Weight

The wave 4 population weight is the wave 1 population weight adjusted for the probability of response in wave 4, while the wave 4 balanced-panel weight is the wave 1 population weight adjusted for the probability of response in waves 2 to 4. That is, the wave 1 population weight is multiplied by the inverse probability of responding in wave 4 (or in waves 2 to 4 for the balanced-panel weight), with group specific rescaling factors so that the sum of the weights across all cases that had an acceptable outcomes in each of the ‘homeless’, ‘at risk’ and ‘vulnerable’ group equals the size of population in that group. The acceptable outcomes include all respondents, persons overseas during the survey period or person deceased after 28 October 2011. The population here refers to the initial Journeys Home population in clusters that were not undersize (i.e., Journey Home survey population) excluding those who were deceased prior 28 October 2011<sup>4</sup>. The size of population is 22,568 for the ‘homeless’ group; 13,101 for the ‘at-risk’ group; and 74,682 for the ‘vulnerable’ group.

The sum of the weights for the wave 4 responding sample is 107,872 (‘homeless’ 22,331; ‘at risk’ 12,895; ‘vulnerable’ 72,646). The sum of the weights for the responding balanced-panel sample is 107,509 (‘homeless’ 22,302; ‘at risk’ 12,831; ‘vulnerable’ 72,376).

We also include another population weight in the data set — the population weight rescaled so the sum of the weights equals the size of the responding sample (i.e., 1,456 for wave 4 and 1,325 for the balanced panel).

#### 4.3 On the use of weights

Wave 4 weights should be used when the analysis focuses on wave 4 only (or wave 1 and wave 4 as all wave 4 respondents also responded wave 1). More generally, wave-specific weights are designed to be used when the analysis focuses on one particular wave or wave 1 and that specific wave (as we only follows wave 1 respondents), whereas for balanced-sample analyses, it is recommended to use the balanced-panel weights.

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<sup>4</sup> To be eligible for inclusion in the final sample of Journey Home survey, a cluster in a major city had to have at least 45 flagged persons (that is, persons flagged as either homeless or at risk) and a cluster in a regional or rural centre at least 65 flagged persons. More details on the sample design is described in the Journey Home wave 1 technical report.

As mentioned earlier, response weights adjust for the differential probability of response but not taking into account the design factors, while population weights account for both differential response and sampling probabilities. Population weights should be used to derive population-representative statistics. However, it is important to keep in mind that the population here refers to the Journey Home survey population only, not the Australian population or income support population. The Journeys Home population is a very specific group of income support recipients that were flagged by Centrelink as ‘homeless’ or ‘at risk’ of homelessness as of May 2011 or in a ‘vulnerable’ group defined by the Melbourne Institute. The ‘vulnerable’ group were those who were not flagged by Centrelink and the predicted probability of being flagged was at top 2 per cent among all income support recipients. See Wooden *et al.* (2012) or wave 1 technical report for further details on the definition of Journeys Home population.

Also note that the population weights for sample in the ‘vulnerable’ group are much higher than those in the other two groups because of the low sampling rate (much lower than the other two groups). If a researcher would like the statistics to be influenced more evenly from the three groups, one may like to consider using the response weight or re-scale the population weight by group-specific scaling factors using the sum of population by ‘homeless’, ‘at risk’ and ‘vulnerable’ groups listed in section 4.2 to lower the effects of the unequal sampling rate.

## 5 References

- Scutella R., Johnson G., Moschion J., Tseng Y. and Wooden M., 2012, Wave 1 findings, Journeys Home Research Report No.1.
- Wooden, M., Bevitt, A., Chigavazira, A., Greer, N., Johnson, G., Killackey, E., Moschion, J., Scutella, R., Tseng, Y., Watson, N. (2012) ‘Introducing Journeys Home’, Australian Economic Review, 45(3): 368-78,

## 6 Appendices

**Table A1 Variable Description and Summary Statistics**

		All Sample (n=1682)		Sample that gave data linkage consent (n=1654)	
Variable	Categories	Frequency (n)	Proportion (%)	Frequency (n)	Proportion (%)
Gender	Male	919	54.6	901	54.5
	Female	763	45.4	753	45.5
Indigenous status	No	1350	80.3	1325	80.1
	Yes	332	19.7	329	19.9
Country of birth	Australia	1472	87.5	1449	87.6
	Main English Speaking Country (these include UK, Ireland, Canada, New Zealand, USA and South Africa)	98	5.8	97	5.9
	Non-main English Speaking Country	112	6.7	108	6.5
Age category reported at wave 4 interview	15-17	23	1.4	23	1.4
	18-20	301	17.9	300	18.1
	21-24	276	16.4	274	16.6
	25-34	366	21.8	359	21.7
	35-44	349	20.7	340	20.6
	45-54	254	15.1	248	15.0
	55+	113	6.7	110	6.7
Always on Income support between middle of wave 1 to the middle of wave 4	No	592	35.2	580	35.1
	Yes	1090	64.8	1074	64.9
Always on Income support between middle of wave 3 to the middle of wave 4	No	419	24.9	408	24.7
	Yes	1263	75.1	1246	75.3



		All Sample (n=1682)		Sample that gave data linkage consent (n=1654)	
Variable	Categories	Frequency (n)	Proportion (%)	Frequency (n)	Proportion (%)
Recent ex-offender That is released from prison between mid point of wave 1 fieldwork to midpoint of wave 4 fieldwork	No	1607	95.5	1580	95.5
	Yes	75	4.5	74	4.5
Ever ex-offender. That is ever been prison prior to wave 1 up to the middle of wave 4 fieldwork	No	1321	78.5	1302	78.7
	Yes	361	21.5	352	21.3
Rent payment type at start of wave 2 fieldwork and start of wave 4 fieldwork	Private or government	458	27.2	447	27.0
	Other type (includes: Mooring fees, site fees, Other housing organisation, net rent being assessed, lodgings and other	597	35.5	589	35.6
	Not in rent table	134	8.0	130	7.9
	Changed rent type	493	29.3	488	29.5
Had contact with Centrelink between the middle of wave 1 and the middle of wave 4 fieldwork	None	861	51.2	844	51.0
	Contact	821	48.8	810	49.0
Recent vulnerability Homeless beyond control of customer. This measured between middle of wave 2 and middle of wave 4 fieldwork	No	1378	81.9	1351	81.7
	Yes	304	18.1	303	18.3

		All Sample (n=1682)		Sample that gave data linkage consent (n=1654)	
Variable	Categories	Frequency (n)	Proportion (%)	Frequency (n)	Proportion (%)
Change in geographical location between wave 2 and 4, measured at the the start of fieldwork for wave 2 and start of wave 4 fieldwork	Regional area both waves	646	38.4	640	38.7
	Major capital city both waves	658	39.1	640	38.7
	Outside interview region at the start of either	331	19.7	328	19.8
	Changed location between waves but never outside interview regions	47	2.8	46	2.8
Change in interviewer between wave 2 and 4. This is a change to different continuing interviewer, that is one who has done wave 1 interviews.	No Change	714	42.4	704	42.6
	Change in one wave	547	32.5	542	32.8
	Change in two waves	355	21.1	346	20.9
	Change in all waves	66	3.9	62	3.7
New interviewer. If respondent has been interviewed by an interviewer who did not do interviews during wave 1 fieldwork	No	1470	87.4	1443	87.2
	Yes	212	12.6	211	12.8

Variable	Categories	All Sample (n=1682)		Sample that gave data linkage consent (n=1654)	
		Frequency (n)	Proportion (%)	Frequency (n)	Proportion (%)
Homeless status. Homeless status derived from wave 1 survey data, using the Melbourne Institute definition <sup>1</sup> . Any classified as primary, secondary or tertiary homeless under the Melbourne Institute homeless definition is in the homeless category.	Not Homeless	1286	76.5	1261	76.2
	Homeless	396	23.5	393	23.8
Length of wave 1 interview. The cut points were derived by taking the points that were 1 and 2 standard deviations from the mean.	less than 30 minutes	18	1.1	18	1.1
	30 to 40	159	9.5	155	9.4
	40 to 80	1304	77.5	1281	77.4
	80+	201	12.0	200	12.1
Had contact with Centrelink between the middle of wave 3 and the middle of wave 4 fieldwork	No	1330	79.1	1309	79.1
	Yes	352	20.9	345	20.9
Assigned to a different interviewer for wave 4 fieldwork. A change in the interviewer excludes those re-assigned to team 1800.	Kept the same interviewer at the start of wave 4	1137	67.6	1228	74.2
	Re-assigned to different continuing interviewer	545	32.4	426	25.8
Rent payment type at the start of wave 4 fieldwork	Private	622	37.0	609	36.8
	Government	47	2.8	46	2.8
	No rent	452	26.9	448	27.1
	Other (includes: Mooring fees, site fees, Other housing organisation, net rent being assessed and other)	352	20.9	348	21.0

		All Sample (n=1682)		Sample that gave data linkage consent (n=1654)	
Variable	Categories	Frequency (n)	Proportion (%)	Frequency (n)	Proportion (%)
	Not in rent table	209	12.4	203	12.3
Activity tested benefit payment at start of wave 4 fieldwork	Not on IS	278	16.5	268	16.2
	Non activity-tested benefit	734	43.6	721	43.6
	Activity tested benefit	670	39.8	665	40.2
Provided mobile number in wave 1	No	283	16.8	274	16.6
	Yes	1399	83.2	1380	83.4

1) Scutella R., Johnson G., Moschion J., Tseng Y. and Wooden M., 2012, Wave 1 findings, Journeys Home Research Report No.1