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2010 Pandemic Vaccination Survey

Summary results

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Any enquiries about or comments on this publication should be directed to:

Pramod Adhikari
Australian Institute of Health and Welfare
GPO Box 570
Canberra ACT 2601

Phone: (02) 6249 5111

Email: pramod.adhikari@aihw.gov.au

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Abbreviations

AIHW	Australian Institute of Health and Welfare
CATI	computer-aided telephone interview
ERP	estimated resident population
EWP	electronic White Pages
PVS	2010 Pandemic Vaccination Survey
RDD	random digit dialling
WHO	World Health Organization

Summary

This report presents results from the 2010 Pandemic Vaccination Survey conducted in January and February 2010 by the Australian Institute of Health and Welfare. The survey provides estimates of the uptake of swine flu vaccination by Australians, along with the motivation for, and barriers to, vaccination.

The survey showed that, up to the end of February 2010, the swine flu vaccination uptake was estimated at 18.1% of the total population (about 3.9 million people).

Some of the reasons people gave for wanting to get vaccinated included the seriousness of swine flu (24.7%), doctor's advice (16.8%), employment-related reasons (13.7%) and being in an at-risk group (10.9%).

The survey showed that more than half of all adult Australians (50.7%) were not intending to get vaccinated for swine flu. The main reasons for not getting vaccinated included that swine flu was not a serious risk to their own health (26.7%), the vaccine had problems (15.7%), vaccination was not a priority for them (10.9%) and the threat of swine flu had already passed (11.6%).

Among those who had not been vaccinated already, more than 1 in 4 adult Australians (28.8%) intended to get vaccinated before the 2010 winter season.

There appears to be some state variation in vaccination uptake, ranging from 23.5% in Tasmania (23.5%) to 15.0% in Western Australia; however, only Tasmania had a statistically significant different rate from the national average (18.1%).

The major barriers to vaccination uptake included the perceived problems with the vaccine (such as side effects and the vaccine was unsafe) and the perception that swine flu is not a serious health risk.

1 Introduction

In late April 2009, following reports of an outbreak of a flu virus in North America, the World Health Organization (WHO) raised its pandemic alert level to level four (out of six). Level four represents confirmed human-to-human transmission of an animal or human–animal influenza virus able to cause outbreaks in the community. The virus—later labelled H1N1 09—produced severe illness and had a high mortality rate in at-risk groups.

In response, the Australian Government declared H1N1 09 to be a quarantinable disease in humans under the *Quarantine Act 1908*. The H1N1 09 virus (sometimes called 'swine flu') was a new influenza virus that spread from person to person, probably in much the same way that regular seasonal influenza viruses spread.

As at 27 December 2009, the WHO Regional Offices reported at least 12,220 deaths associated with pandemic H1N1 09 influenza worldwide (WHO 2010). At that time, the most active areas of pandemic influenza transmission in the Northern Hemisphere were in Central and Eastern Europe, while overall disease activity had already peaked in Western Europe, North America and Asia. In Australia, by 1 January 2010 there had been 37,553 confirmed cases and 191 deaths, according to the Australian Government Department of Health and Ageing (DoHA 2010).

In this country, the H1N1 09 pandemic influenza vaccine was available free of charge from 30 September 2009. At the time of release it was approved for people aged 10 years and older, and subsequently approved for children aged 6 months to 9 years from 3 December 2009 (DoHA 2009a,b). Although all people were able to get vaccinated, some were more at risk of severe illness if they caught the virus. Vaccination was strongly recommended for pregnant women, parents and guardians of infants up to 6 months old, people with underlying chronic conditions, people who were severely obese, Indigenous Australians, and health and community care workers.

The 2010 Pandemic Vaccination Survey (PVS) was designed to measure:

- pandemic vaccination uptake, specifically
  - uptake nationally, and by jurisdiction
  - uptake in children
  - uptake in other pandemic vaccination priority groups
- community attitudes towards the pandemic vaccine, including
  - the motivation behind people accessing the pandemic vaccine
  - the barriers preventing people from accessing the pandemic vaccine.

About the survey

The PVS was a national computer-aided telephone interview (CATI) survey of 6,226 adult respondents. A random digit dialling (RDD) sampling technique was used to select households across all of Australia. Once the selected dwelling was contacted, any respondent aged 18 or over was eligible to take part in the survey. The respondent answered questions about their own experience of and attitudes to H1N1 vaccinations, as well as reporting the vaccination status of all household members. Using this method, the survey collected

information on 17,102 enumerated persons. The survey served two purposes: a weekly tracking measure and an overall survey when all the weekly responses were combined. Each sample of potential respondents was retired after 1 week and a new sample was loaded for each state the following week. The survey was conducted over a 7-week period (11 January – 28 February 2010). The CATI survey was conducted by the Social Research Centre.

The survey had a weekly sample size of between about 700 and 1,000 completed responses, which, on a survey estimate of 50%, gives a confidence interval of about ± 4%. This means that there would have to be a difference of eight percentage points between two results (say, from one week to the next) for it to be a statistically significant change. Most of the weekly variations shown in this report arise from the different samples in each week rather than any underlying change in the population.

About this report

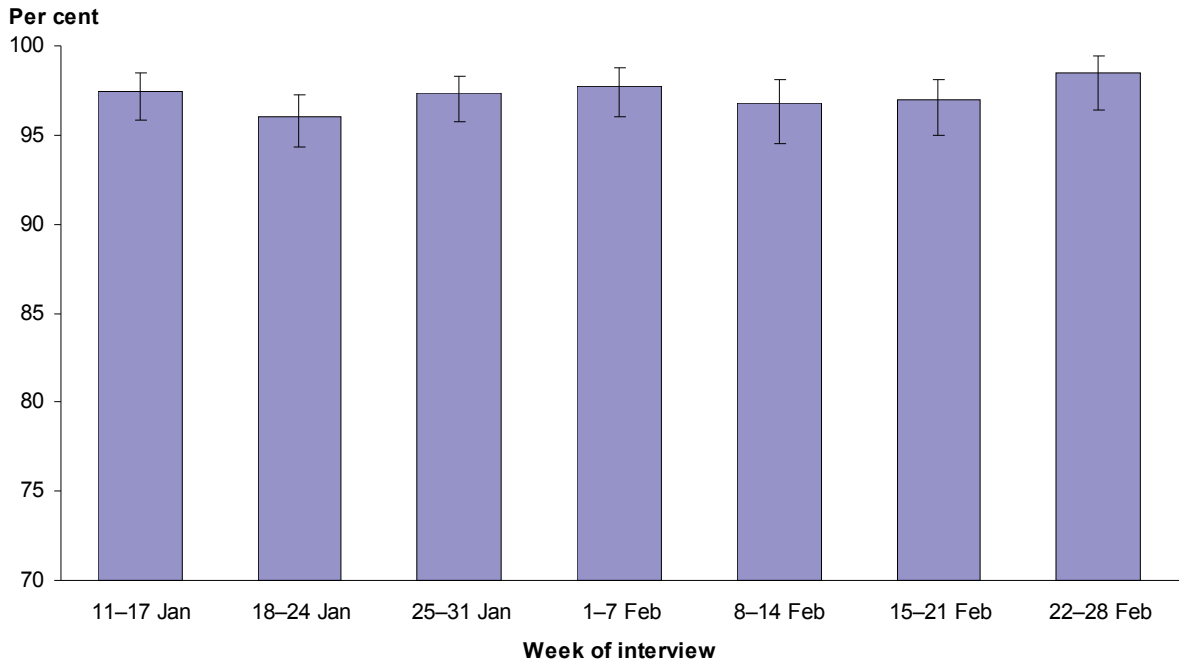
This report presents estimates obtained from the survey respondents weighted to the Australian adult population, and estimates for the whole population from enumerated persons (weighted to the whole Australian adult population).

Chapter 2 describes vaccination uptake rates across Australia. The chapter also contains an analysis of vaccine awareness. Vaccination uptake by selected sociodemographic groups—including some at-risk groups—is also presented in this chapter. In Chapter 3, motivation and barriers to vaccination uptake are explored. Chapter 4 contains explanatory notes, and the appendixes contain the survey questionnaire and additional tables.

2 Main results

Awareness of swine flu vaccine

The survey asked respondents about their awareness of the pandemic H1N1 flu vaccine. The survey also used terms such as 'swine flu vaccine' or 'Panvax'. Nearly all adult Australians (97.2%) had heard of the swine flu vaccine (Figure 2.1). The survey was carried out over a 7-week period, and the survey showed very little variation in the awareness of the vaccine throughout the survey period.



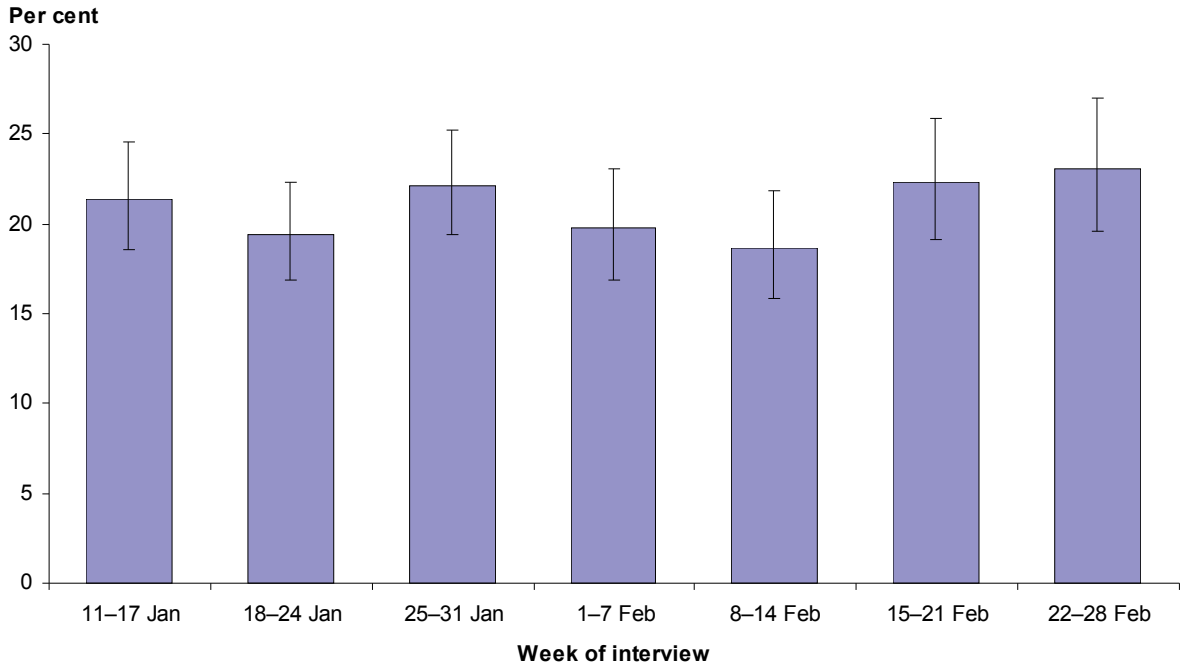
Note: The figures are based on respondent-level data only.

Figure 2.1: Awareness of swine flu vaccination, adults aged 18 years and over, by survey week, January–February 2010

Vaccination uptake

Vaccination uptake among adults

The PVS asked about the vaccination status of the respondent from the selected sampled dwelling as well as the vaccination status of all the people in the sampled dwelling. Based on the responses, the survey estimated an adult vaccination rate of 21.0%, with some non-significant variability in the reported vaccination uptake during the survey period (Figure 2.2).



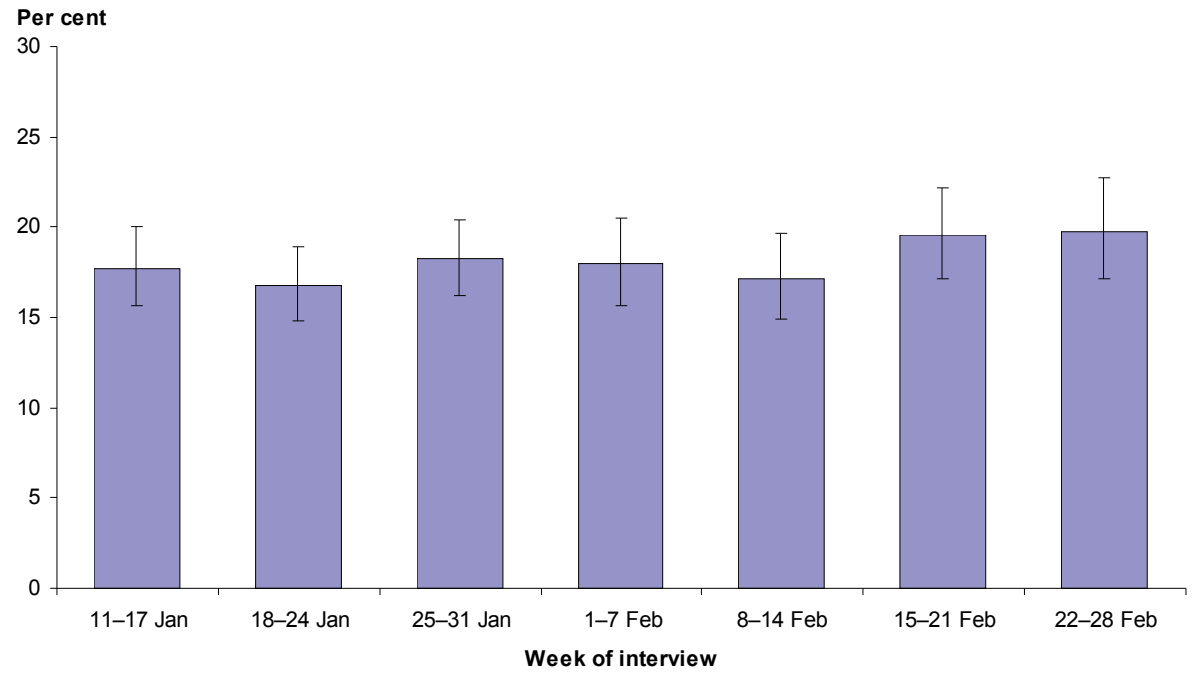
Note: The figures are based on respondent-level data only.

Figure 2.2: Swine flu vaccination uptake, adults aged 18 years and over, by survey week, January–February 2010

Vaccination uptake among the whole population

By survey week

When the vaccination status of all household members was collected from the respondent, the survey showed a slightly lower vaccination uptake at the population level (18.1%) than the estimate from adult respondents only (21.0%). The trend in the vaccination uptake rates during the survey showed a slightly upward trend in the later stages of the survey, although these results were not statistically significantly higher (Figure 2.3).

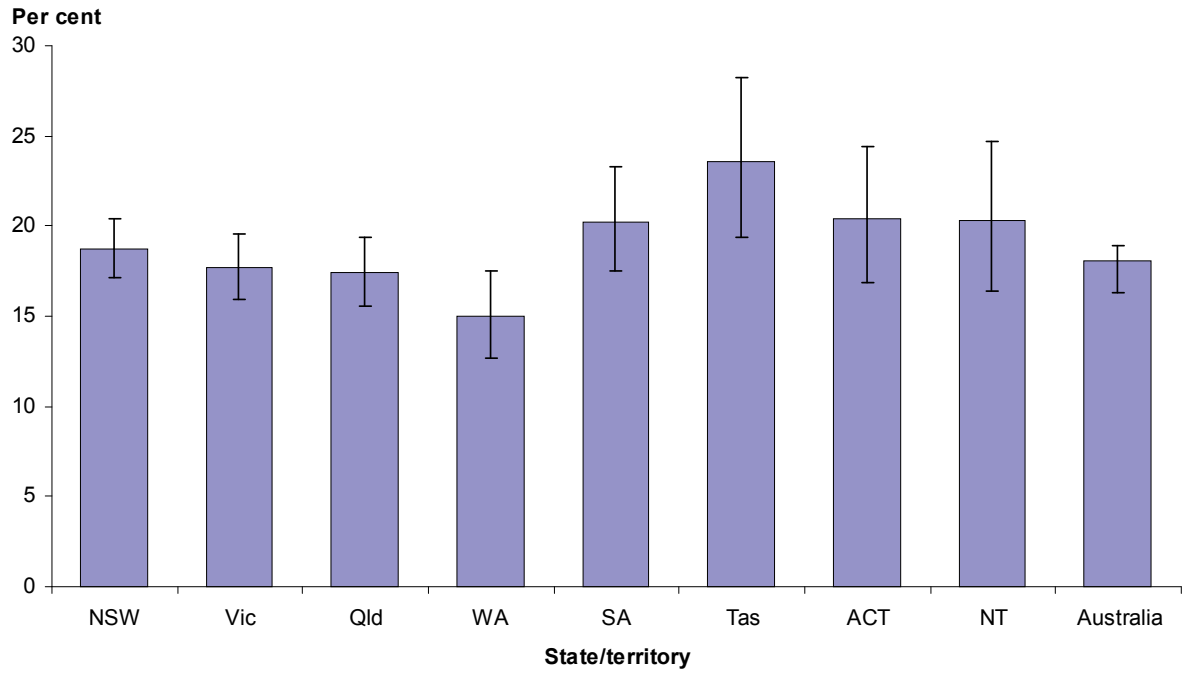


Note: The figures are based on all enumerated household members.

Figure 2.3: Swine flu vaccination uptake, whole population, by survey week, January–February 2010

By state and territory

When the population vaccination uptake was analysed for each state and territory, the survey showed that there was some variation in vaccine uptake, with Tasmania having the highest uptake rate (23.5%) and Western Australia the lowest (15.0%). In Figure 2.4 jurisdictional and national vaccination uptake rates (for the whole population) and the 95% confidence intervals are shown. The survey showed that, except for Tasmania, vaccination uptake in jurisdictions did not significantly differ from the national estimate. The 2009 Adult Vaccination Survey also showed a similar pattern, where Tasmanian adults had one of the highest uptakes (25.3%) and Western Australia the lowest (13.9%) (AIHW 2010).



Note: The figures are based on all enumerated household members.

Figure 2.4: Swine flu vaccination uptake, whole population, by state and territory, January–February 2010

By age and sex

When population vaccination uptake by age and sex was analysed, the survey showed that there was considerable variation, with around 45% of people in the 65 years and over age group being vaccinated compared with around 6% in the 4 years and under group. As noted above, the vaccine was approved for use in young children (aged 6 months to 9 years) in December 2009, and this delayed approval may still have had an effect on uptake in early 2010.

For the 15–19 years age group and all older age groups, females had higher vaccination rates than males.

Additional tables of results by age and sex are in Appendix 2.

Table 2.1: Swine flu vaccination uptake, whole population, by age and sex, January–February 2010 (per cent)

Age group	Males	Females	Total
4 years and under	6.0	5.7	5.9
5–9 years	5.4	5.2	5.3
10–14 years	10.6	7.7	9.1
15–19 years	8.2	11.7	9.8
20–24 years	10.2	16.6	13.3
25–34 years	9.8	16.6	13.2
35–44 years	12.8	15.5	14.2
45–54 years	13.9	18.9	16.4
55–64 years	20.6	27.2	23.9
65 years and over	44.1	45.3	44.8
Total	**16.1**	**20.3**	**18.2**

Note: The figures are based on enumerated household members. Due to missing age among 192 enumerated individuals, the estimates for total coverage presented here are slightly higher than estimates presented elsewhere in this report for all enumerated household members.

Sociodemographic variations in vaccination uptake

The survey collected much more information about the respondent than about other enumerated household members. Based on these respondent-level data, vaccination uptake can be estimated for various sociodemographic groups, but the sample sizes for some at-risk groups are relatively small. The unweighted numbers are shown in the table, so any interpretation should be made with care. For example, the number (n = 110) beside 'Indigenous' means that the population estimate of vaccination uptake among Indigenous Australians is based on only 110 sampled individuals.

Higher uptakes of swine flu vaccination were reported by:

- older Australians
- females
- persons with a medical or other risk factor
- non-smokers
- people coming into regular contact with infants under 12 months of age.

Table 2.2: Swine flu vaccination uptake, by selected sociodemographic characteristics, January–February 2010 (per cent)

		95% confidence interval	
Characteristic	**Estimate**	**Lower bound**	**Upper bound**
All adults	**21.0**	**19.8**	**22.2**
Age			
18–64 years (n = 4,933)	16.0	14.8	17.2
65 years and older (n = 1,280)	44.8	41.7	48.0
Sex			
Male (n = 2,231)	18.7	16.9	20.5
Female (n = 3,982)	23.2	21.7	24.7
Region			
Metropolitan (n = 4,075)	21.1	19.7	22.6
Non-metropolitan (n = 2,138)	20.7	18.9	22.8
Any medical risk factor			
Yes (n = 1,441)	34.7	31.9	37.7
No/don't know (n = 4,772)	17.4	16.2	18.7
Smoking status			
Smokes daily/weekly/less often than weekly (n = 1,042)	13.9	11.7	16.6
Does not smoke at all (n = 5,164)	22.4	21.1	23.8
Carers, health care providers or babysitters			
Yes (n = 832)	29.5	26.0	33.3
No (n = 5,375)	19.9	18.7	21.1
Regular contact with infants under 12 months of age[(a)]			
Yes (n = 234)	35.1	27.9	43.1
No (n = 464)	26.7	22.2	31.6
Self-reported body mass index			
30 or more (obese) (n = 1,230)	23.1	20.5	26.0
Less than 30 (n = 4,591)	20.3	19.0	21.7
Pregnancy status since September 2009 (females only)			
Pregnant (n = 149)	19.0	13.1	26.7
Not pregnant (n = 3,833)	23.4	21.9	24.9
Indigenous status			
Indigenous (n = 110)	19.5	12.6	28.9
Non-Indigenous (n = 6,091)	21.0	19.9	22.2

(a) These results are for the subset of 'Carers, health care providers or babysitters' that did not work in an aged care facility or nursing home.

Note: The figures are based on respondent-level data only.

3 Intention and attitude towards vaccination

Intention to get vaccinated

The survey asked those respondents who were not already vaccinated if they were likely to get vaccinated for swine flu before the winter season. Only about 29% of these adults aged 18 years and over reported that they would definitely or probably get vaccinated against the swine flu before the winter. More than 6 in 10 said that they would definitely or probably not get vaccinated for swine flu. Some 7.1% were not sure what they would do.

Table 3.1: Intention to get vaccinated, adults aged 18 years and over, January–February 2010 (per cent)

Intention to get vaccination	Males	Females	All persons
Definitely yes	11.5	13.6	12.5
Lower bound	9.8	12.3	11.4
Upper bound	13.3	15.1	13.7
Probably yes	15.6	16.9	16.3
Lower bound	13.8	15.4	15.0
Upper bound	17.7	18.5	17.6
Probably no	28.7	26.4	27.6
Lower bound	26.3	24.6	26.0
Upper bound	31.3	28.3	29.2
Definitely no	37.8	35.4	36.6
Lower bound	35.1	33.5	34.9
Upper bound	40.5	37.4	38.3
Don't know/can't say	6.4	7.7	7.1
Lower bound	5.1	6.7	6.2
Upper bound	8.0	8.9	8.0
Total	**100.0**	**100.0**	**100.0**

Note: The figures are based on respondent-level data only.

Motivation for vaccination intention

The survey asked those respondents who already had their swine flu vaccination, or were intending to get vaccinated before the winter season, the reasons why they were, or were intending to get, vaccinated. This was an open-ended question for respondents, although interviewers had a fixed set of responses against which to record the answer (see questions H4 and H5 in the questionnaire).

The survey showed that 43.6% of adults aged 18 years and over either had the vaccination already (20.9%) or were likely to get vaccinated before the winter season (22.7%). When these respondents were asked to give the single most important reason why they were, or would get, vaccinated, the survey showed that seriousness of swine flu was the most cited reason, followed by their doctor advising them to get vaccinated, and employment-related reasons. The free availability of vaccine was cited by 2.4% of respondents. There were some gender differences, with proportionately more males considering swine flu to be serious (28.8% of males compared with 21.2% of females), while more females reported they were in an at-risk group (12.2% of females compared with 9.3%of males).

When the reason for vaccination was analysed by age group, the survey showed a different pattern. Among the 18–64 years age group, the most cited reason for getting vaccinated was seriousness of the swine flu (26.6%), whereas among the older group doctor's advice (37.8%) was the most reported reason.

Table 3.2: Main reason to get vaccinated, by sex and by age, adults aged 18 years and over, January–February 2010 (per cent)

	Sex		Age group		
Reason	**Males**	**Females**	**18–64 years**	**65 years or over**	**All persons**
Swine flu is serious; I don't want to get swine flu	28.8	21.2	26.6	19.1	24.7
My doctor advised me to	16.6	16.9	9.5	37.8	16.8
Work environment; work with the public; large workplace; employer offered	10.6	16.3	17.8	1.6	13.7
I'm in a 'at risk'/'vulnerable'/'priority' group	9.3	12.2	8.5	17.6	10.9
To protect myself if a second, more serious, wave of swine flu came to Australia	12.0	9.2	11.4	7.6	10.4
Knowing that if I was vaccinated it would help protect friends and family	6.4	11.7	11.0	4.2	9.2
Travelling; travelling overseas	3.4	2.5	3.7	0.8	2.9
The government/media campaign advised me to	3.5	2.1	2.2	4.3	2.7
It's free	3.3	1.7	3.0	0.8	2.4
Vaccines are important	2.6	1.5	1.8	2.8	2.0
Pregnant or planning a pregnancy	0.3	2.4	1.9	0.0	1.4
Other reasons	3.4	2.3	2.5	3.5	2.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: The figures are based on respondent-level data only.

Barriers preventing people from getting vaccinated

The survey showed that more than half of all adults (56.4%) had not been vaccinated and were not intending to get vaccinated against swine flu before the 2010 winter flu season. When these respondents were asked to give a single reason why they did not or will not get vaccinated, the results (Table 3.3) showed that the most cited reason was that swine flu was not a serious risk for their own health (26.7%), followed by perceived problems with the swine flu vaccine (15.7%). However, proportionately more women than men (20.6% and 11.2% respectively) reported perceived problems with the vaccine (including adverse events or side effects), while men were more likely than women to report that swine flu was not a serious risk for their health (30.4% and 23.5% respectively).

The reason for non-vaccination by age showed that the most cited reason for non-vaccination among those aged 18–64 years was that swine flu was not a serious risk for their health (27.4%), whereas respondents in the older age category cited this reason (19.3%) and problems with the swine flu vaccine (21.6%) as the main reasons not to get vaccinated.

Table 3.3: Main reason not to get vaccinated, by sex and by age, adults aged 18 years and over, January–February 2010 (per cent)

	Sex		Age group		
Reason for not getting vaccinated	**Males**	**Females**	**18–64 years**	**65 years or over**	**All persons**
Don't get sick; I'm healthy; swine flu isn't serious; unlikely to get swine flu	30.4	22.5	27.4	19.3	26.7
Problems with swine flu vaccine side effects (swine flu vaccine was rushed and unsafe; multi-dose vials are unsafe; potential side effects; fear of adverse event from vaccine)	11.2	20.6	15.1	21.6	15.7
A swine flu vaccine is unnecessary; the threat has passed in Australia	13.7	9.2	11.8	9.7	11.6
Not a priority for me; don't have time; too busy	12.8	8.8	11.0	10.3	10.9
I avoid all vaccines; vaccines don't work and are dangerous	6.1	9.7	7.7	8.7	7.8
I'm not at risk; swine flu is only serious for those with pre-existing health conditions	7.7	6.6	7.5	4.3	7.2
I don't like injections/vaccinations	3.3	5.1	3.9	6.4	4.1
I didn't think about it; forgot to ask	2.6	3.0	3.0	0.9	2.8
I've already had, or have been exposed to, swine flu	2.5	3.1	3.0	0.2	2.8
Other reasons	9.7	11.3	9.7	18.6	10.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: The figures are based on respondent-level data only.

4 Explanatory notes

Introduction

With the advent of the swine flu (H1N1) pandemic, the Australian Institute of Health and Welfare (AIHW) conducted a survey on behalf of the Department of Health and Ageing to assess how many Australians had, or were intending to have, the H1N1 vaccine. The research also collected information on community attitudes towards vaccinating against swine flu.

The objectives of the PVS were to assess:

- the proportion of the Australian population that had the H1N1 vaccine (that is, coverage)
- the proportion of specific target populations that had the H1N1 vaccine
- the motivating factors in accessing the vaccine
- the barriers preventing people from accessing the vaccine.

Scope

The survey was a national survey to provide cross-sectional data on reliable estimates of H1N1 vaccination uptake. Since one of the objectives of the survey was to assess the vaccination uptake among all Australians, when we made contact with an adult in a dwelling, apart from asking the vaccination status of the respondent, we also asked the vaccination status of all the people living in that dwelling. Using this approach, the survey enabled estimates of the vaccination status of Australian children and adolescents to be made.

The in-scope respondent population for the PVS was the residential population of Australia aged 18 years or over. The following people were excluded from the survey:

- people with no fixed address
- people with no fixed-line telephone
- people incapable of undertaking the interview due to a health condition, temporary incapacity or language difficulties.

Where there was more than one in-scope person in the household, the person who answered the call was asked to complete the survey. In this report, that person is referred to as the respondent (who also provided the vaccination status of other members of his or her household—the enumerated sample).

Respondents

The survey interviewed 6,226 respondents (Table 4.1). The distribution of achieved interviews shows that at least 300 interviews were obtained in each state and territory (the design specified at least 300 completed interviews in each jurisdiction) (Table 4.2).

Table 4.1: Sample distribution, by state and territory and sex

State/territory	Males	Females	Persons	Per cent of total sample size
NSW	579	1,031	1,610	25.9
Vic	442	859	1,301	20.9
Qld	411	679	1,090	17.5
WA	245	456	701	11.3
SA	218	395	613	9.8
Tas	113	193	306	4.9
ACT	119	183	302	4.9
NT	113	190	303	4.9
Total	**2,240**	**3,986**	**6,226**	**100.0**

Table 4.2: Completed interviews, by state and territory and survey week

	Interview week							
State/territory	11–17 Jan	18–24 Jan	25–31 Jan	1–7 Feb	8–14 Feb	15–21 Feb	22–28 Feb	Total
NSW	268	268	268	205	194	201	206	1,610
Vic	216	216	217	208	156	174	114	1,301
Qld	182	185	194	121	138	141	129	1,090
WA	118	117	127	72	116	87	64	701
SA	100	100	96	81	79	75	82	613
Tas	51	49	55	31	42	43	35	306
ACT	51	52	34	59	37	54	15	302
NT	50	54	48	36	34	40	41	303
Total	**1,036**	**1,041**	**1,039**	**813**	**796**	**815**	**686**	**6,226**

Sample design

The sample for this survey was drawn using RDD methods. RDD methods are generally considered methodologically superior to the electronic White Pages (EWP). The principal advantage of RDD methods is that they overcome the biases inherent in EWP listings. These include:

- non-coverage of households with unlisted numbers (that is, silent numbers, which can be up to 20–25% in some metropolitan areas) and new listings or households in growth areas
- the age of the EWP listing

- the over-representation of groups such as middle-aged and older households and retirees amongst EWP-listed households.

Type of RDD methodology used

The sampling frame used for the PVS survey was the 'known blocks' method of RDD. This involved the following steps.

- randomly selecting records from the July 2004 release of the EWP to be used as 'seed' numbers for random number generation (all selections from the EWP are, by definition, from known blocks)
- retaining the eight-digit exchange prefix of the listed number (for example 02628946) and randomly generating the last two digits, to create a new randomly generated 10-digit telephone number
- 'washing' the resultant numbers against the latest electronic business listings to remove known business numbers.

Weekly sample generation

The sample was released in seven weekly batches. Each batch of sample was exhausted by the end of each week and subsequently retired. A fresh sample was loaded each week on Monday morning. The following table shows the actual number of sample records generated each week.

Table 4.3: Weekly sample generation, by state and territory

State/territory	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
NSW	1,646	1,645	1,645	1,224	1,222	1,226	1,217
VIC	1,224	1,222	1,221	920	916	917	914
QLD	962	962	962	723	721	724	718
WA	762	760	760	567	564	565	561
SA	491	491	490	369	365	368	368
TAS	213	212	213	162	161	162	161
ACT	472	348	349	550	253	252	242
NT	404	401	400	298	286	234	213
Total	**6,174**	**6,041**	**6,040**	**4,813**	**4,488**	**4,448**	**4,394**

To balance the sample across the two months of the survey period, the number of sample records drawn each week in January was higher than that drawn in February as fieldwork started in week 2 of January but was open for all 4 weeks in February.

Call procedures

The following call procedures were employed:

- a minimum of five calls to establish contact with and interview in-scope sample members, with additional calls placed as required, in an attempt to obtain an interview with in-scope sample members
- controlling the spread of call attempts such that, subject to other outcomes being achieved, contact attempts were spread over weekdays from late afternoon to early evening (4 pm to 6 pm), weekdays from mid- to late evening (after 6 pm to 8.30 pm) and weekends (10 am to 5 pm). No calls were attempted outside these times, except by firm appointment.

Pilot testing

A small pilot test, comprising 36 interviews, was conducted on 7 January 2010 for one interviewing shift. The pilot data were not incorporated into the main study as the main study had a strict weekly sample usage restriction.

Call results and response analysis

Call results

A total of 93,052 calls were placed to the 27,276 sample records. On average, an interview was achieved every 14.9 calls.

The most common call outcomes were 'number disconnected' (39.8%), followed by 'not a residential number' (9.7%) and no answer (9.3%) (Table 4.4).

The call outcome analysis shows that:

- just over half of all sample records (54%) were out of scope (disconnected, fax or modem numbers, non-residential numbers)
- no contact could be established at 1 in 9 selections (12%)
- contact was established with a confirmed household at about 3 in 10 selections (31%)
- an interview was achieved for just under a quarter of sample records (23%).

Overall, the proportion of households not contacted and out-of-scope households attempted for the PVS is consistent with other surveys conducted by the Social Research Centre using an RDD sample frame and similar call procedures.

Table 4.4: Summary of final call attempts by call outcome

Call outcome	Number	Per cent
Total sampled telephone numbers	**27,267**	**100.0**
Out of scope and non-contacted households	*18,854*	*69.1*
Number disconnected	10,658	39.1
Not a residential number	2,604	9.6
No answer	2,482	9.1
Fax machine/modem	1,437	5.3
Answering machine	725	2.7
Language difficulty—no follow-up	428	1.6
Too old/frail/ill health	204	0.7
Engaged	174	0.6
Ineligible	142	0.5
Contacted households	*8,413*	*30.9*
Completed interviews	6,226	22.8
Refusal	2,054	7.5
Terminated midway	111	0.4
Refused to give age	13	0.0
Appointment made but interview not completed	9	0.0

Note: Appointments are all from the final week of interviewing.

Response rate

The AIHW specified the response rate to be calculated as the number of households providing completed, usable responses divided by the number of contacted households, expressed as a percentage. This is the method used in other related AIHW surveys (AIHW forthcoming). Using this formula, the household-level response rate for the survey was 74%.

It is possible that some of the households not contacted (no answer, answering machine and engaged) could have been eligible for the survey. These households have been excluded from the denominator in the response rate specification above—if all these households were included in the calculation then the response rate would reduce to 53%.

Data quality, weighting and survey outputs

Data quality

Overall, based on interviewer feedback and supervisor and researcher observations, the questionnaire is considered to have worked well. On the whole, few problems were reported in questionnaire administration.

From the respondents' perspective, the most negative aspect of the survey was reported to be the questions about risk factors. Having been questioned about swine flu, when respondents then reported their health conditions, interviewers felt that the respondents were 'made aware' that they were more at risk of contracting swine flu. The interviewers were briefed

that, if respondents indicated that this was a concern, interviewers should advise respondents to see their doctor.

Data processing

The contractor provided a clean unit record file to AIHW to enable analysis by individual respondent and by household members.

Overall, minimal errors were found at the data processing stage. The following errors were identified:

- four cases reported 11 phone lines and one reported 13 lines. Given the next highest number of phone lines was four, it has been assumed that these were interviewer error and they have been recoded to 1 and 3 respectively.
- 14 children were coded as being 0 years old and did not have months entered due to a programming error. The relevant cases retained a value of '0' years of age instead of being allocated an error code or the mean age in months.

Weighting

The responses were weighted to adjust for unequal probability of selection at the dwelling level. Further, expansion factors were introduced to make the estimated population size (both the population 18 years and over and the total population) match the post-stratification benchmark cells at stratum level (age by gender by region (capital city/rest of state) by state). The following steps were taken:

- pre-weights were calculated as the inverse of the number of phone lines in the home (refusals and those who claimed to have no phone lines were assumed to have one phone line) and, for respondent weights, were multiplied by the number of people in the home
- weighting by this pre-weight, a crosstab was computed for age groups (under 18, 18–64, 65 and over) by gender by region by state
- the Australian Bureau of Statistics estimated resident population (ERP) for June 2009 was used to obtain population benchmarks for age groups by gender at state and territory level. A proportion of the population in 'capital city' versus 'rest of the state' region was obtained for each of these groups from the 2006 census, and this was used to further divide the groups.
- expansion factors for the pre-weights were calculated to adjust the figures in the crosstab to the population figures on an N/n basis
- a descriptive command was then used to check that the sum of the weights added up to the population totals, and weighted frequencies for age and sex were calculated to make sure the proportions for these variables were correct.

The PVS was a random survey at the dwelling level but, once a dwelling was selected, the respondent was not selected at random. An opportunistic sampling method was used to select the respondent once a dwelling has been selected. This was done for two reasons. First, the whole survey was divided into seven weekly surveys where the field work duration was so short that we had to select any adult willing to respond from a selected dwelling. Second, we were also interested in the vaccination status of all the members of the selected dwelling, not only the respondent. This method gave rise to two types of sample records: one at a respondent level, and one at the household member level. The data file contains two weights,

one for the respondents and one for the household members. The sum of respondent weights adds to the ERP aged 18 years and over, whereas the sum of household member weights adds up to all Australians as at June 2009.

Reliability of estimates

Sampling error

The prevalence estimate obtained from a sample will differ from the prevalence rate obtained from counting the whole population. The error in this estimate is known as sampling error. This error occurs because observations are only made on the sample. Sampling error can be formally defined as the uncertainty associated with an estimate that is based on data gathered from a sample of the population rather than the full population. If other things remain the same, sampling error can be minimised by selecting a larger proportion of the population in the sample.

Non-sampling error

Non-sampling errors can be attributed to many sources. These include respondents understanding question differently, respondents not providing correct information, interviewers recording incorrectly, definitional problems, processing errors and estimation of missing data. Even data collected from a census will suffer from non-sampling errors if the instrument is poorly designed, a lot of items are missing, the quality of processing or coding is poor, the response rate is low, the coverage is inadequate, and respondents do not provide correct information. To minimise non-sampling error, we piloted the survey instrument to assess whether respondents understood the concepts and questions, and whether they were able to provide correct answers. We also made sure that all the interviewers were properly trained and knew the subject matter well.

Limitations of the data

As with much survey data, the major limitation is that the estimates are based on self-reporting of vaccination. Intentional deception, poor memory or misunderstanding the question can all contribute to inaccuracies in the data. Further, although the sample size was reasonable at the national level, any estimates at the subpopulation level that are based on a small sample size will be unstable. Since the survey used RDD methods to contact the respondents and the CATI method to collect the information, dwellings without a fixed-line telephone were excluded from the survey. This generally has the effect of under-enumerating households comprising primarily young adults, particularly in urban areas. However, we have no measure to assess whether this under-enumeration biases the overall results.

The response rate can also contribute to inaccuracies if there was a non-response bias, meaning that those respondents who did not respond had a different vaccination uptake rate from those who responded. The vaccination status at the dwelling level was obtained by the responses from one adult in the dwelling, and this high level of reliance on the respondent may introduce bias in the results.

Appendix 1: CATI survey instrument

2010 Pandemic Vaccination Survey

Modules
Introduction and Screening
H: Pandemic (H1N1) influenza/ Swine Flu
D: Risk Factors and General and Health
E: Demographics

Call outcome codes (SMS screen)

1. No answer
2. Answering machine
3. Fax machine / modem
4. Engaged
5. Appointment
6. Stopped interview
7. LOTE – No follow-up
8. Named person not known (only apply if calling back to keep an appointment and phone answerer denies knowledge of named person)
9. Telstra message / Disconnected
10. Not a residential number
11. Over quota
12. Frail aged / deaf / disabled/poor health
13. Claims to have done survey
14. Away for duration
15. Other out of scope
16. Terminated during screening / midway (HIDDEN CODE)

***INTRODUCTION**

S1 Good morning/afternoon/evening. My name is (….). I'm calling on behalf of the Australian Institute of Health and Welfare from The Social Research Centre. We're conducting an important public health study about H1N1 pandemic flu (also known as swine flu) and some related health issues with people aged 18 and over. May I please speak to someone in the household aged over 18?

IF NEW RESPONDENT, REPEAT INTRODUCTION

If you are willing to help me I will need less than 5 minutes of your time. Any answers given are completely confidential and protected by the AIHW Act and Privacy Act. Please be assured that you cannot be personally identified by participating in this study.

IF NECESSARY: This is a public health study, not a sales call)

1. Continue
2. Hard appointment (RECORD NAME AND ARRANGE CALL BACK BEFORE NEXT MONDAY)
3. Household refusal (GOTO R1)
4. Respondent refusal (GOTO R1)
5. No one in household 18 or over (GO TO TERM2)
6. Queried how number was obtained (GOTO TELNUM)
7. Requests further information (GOTO INFO)

INFO If you would like more information, you can contact the Australian Institute of Health and Welfare Infoline on <1800 007 673>. There is also information about the survey available on the Australian Institute of Health and Welfare's website. I can give you those links if you like. www.aihw.gov.au.

TENNUM Your telephone number has been automatically generated by computer as it is important to give everyone a chance to participate in this important study not just those people who have their phone number in the White Pages.

S2 Before we begin the survey, to make sure we are interviewing a random sample of the population I need to ask a couple of questions.

AGE1 Would you mind telling me your age please?

1. AGE (SPECIFY_____) (RANGE 18 TO 100)
2. UNDER 18 (GO TO TERM2)
101. OVER 100 YEARS OLD
102. RELUCTANT TO ANSWER
103. REFUSED

IF AGE1 IS 102 OR 103 ASK:

AGE2 Would you mind telling me which of the following age groups you fall in to?

READ OUT

1. 18 TO 24
2. 25 TO 34
3. 35 TO 44
4. 45 TO 54
5. 55 TO 64
6. 65 TO 74
7. 75 TO 84
8. 85 AND OVER
9. (DO NOT READ) REFUSED (GO TO TERM1)
10. (DO NOT READ) UNDER 18 (GO TO TERM2)

S3 This call may be monitored for training and quality purposes. Is that OK?

1. MONITOR
2. DO NOT MONITOR

S4 And which State or Territory are you in?

1. NSW
2. VICTORIA
3. QUEENSLAND
4. SOUTH AUSTRALIA
5. WESTERN AUSTRALIA
6. TASMANIA
7. ACT
8. NORTHERN TERRITORY
9. REFUSED (GOTO TERM3)

S5 And could you please tell me your postcode?

1. POSTCODE (Specify____) (RANGE LOCKED TO RESPONSE FROM S4)
2. DON'T KNOW POSTCODE (Specify Suburb/Town____)
3. REFUSED

SEX RECORD SEX OF RESPONDENT

1. MALE
2. FEMALE

SECTION H: PANDEMIC (H1N1) SWINE FLU

PREH1 I'm going to ask some questions around a particular influenza virus that appeared last year called pandemic H1N1 influenza virus, sometimes called swine flu.

IF NECESSARY: It is a new strain of flu that spreads easily from person to person, and experience in other countries shows that this is not just a winter flu – it could come back during spring and summer.

*ASK ALL

H1 In Australia, it is possible to have a vaccination against swine flu. Before today had you heard of a pandemic H1N1 flu vaccine, swine flu vaccine or Panvax?

INTERVIEWER NOTE: IF "NO" PROBE TO CLARIFY.

1. YES
2. NO, HAS NOT HEARD OF VACCINE OR PANVAX
3. NO, HAS NOT HEARD OF SWINE FLU
98. (DON'T KNOW / CAN'T SAY)
99. (REFUSED)

PREH2 IF HEARD OF A PANDEMIC H1N1 2009 FLU VACCINE, SWINE FLU VACCINE OR PANVAX (CODE 1 ON H1) CONTINUE OTHERWISE GO TO PREH3.

H2 From now on, for the sake of simplicity, I will call this "the swine flu vaccine".

Have you had the swine flu vaccine?

1. YES
2. NO (GOTO PREH3)
98. DON'T KNOW / CAN'T SAY (GOTO PREH3)

PROGRAMMER NOTE: SUPPRESS CODE 6 UNTIL FEBRUARY 1.

H2a And which month did you have the swine flu vaccine?

1. SEPTEMBER 2009
2. OCTOBER 2009
3. NOVEMBER 2009
4. DECEMBER 2009
5. JANUARY 2010
6. FEBRUARY 2010
7. 2009 BUT DON'T KNOW MONTH (AVOID)
8. 2010 BUT DON'T KNOW MONTH (AVOID)
9. AUGUST 2009 OR BEFORE
98. DON'T KNOW / CAN'T SAY
99. REFUSED

PRE H2b IF H2a CODE 9 (VACCINATED IN AUGUST 2009 OR EARLIER) CONTINUE OTHERWISE GOTO PREH3.

H2b And were you vaccinated as part of a clinical trial?

1. YES
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

PREH3 IF HAVEN'T HAD THE SWINE FLU VACCINE OR HAVEN'T HEARD OF SWINE FLU OR SWINE FLU VACCINE (CODE 2 OR 98 AT H2, OR CODE 2, 3, 98, OR 99 AT H1) CONTINUE OTHERWISE GOTO PREH4.:

PROGRAMMER NOTE: SUPPRESS FIRST LINE OF TEXT AT H3 IF CODE 1 AT H1.

H3 From now on, for the sake of simplicity, I will call this "the swine flu vaccine".

Before the winter season do you intend to get the swine flu vaccine?

IF "YES" "is that yes, definitely or probably"
IF "NO" "is that no, probably not or definitely not"

1. YES, DEFINITELY
2. YES, PROBABLY
3. NO, PROBABLY NOT
4. NO, DEFINITELY NOT
98. (DON'T KNOW / CAN'T SAY)
99. (REFUSED)

PREH4 IF HAD OR INTEND TO HAVE THE SWINE FLU VACCINE (CODE 1 AT H2, OR 1 OR 2 AT H3) CONTINUE OTHERWISE GO TO H5.

H4 What is the main reason you <(H2=1)/did/> <(H3=1 OR 2) /intend to/> get vaccinated?

1. IT'S FREE
2. I'M IN A 'AT RISK'/' VULNERABLE'/ 'PRIORITY' GROUP
3. MY DOCTOR ADVISED ME TO
4. THE GOVERNMENT /MEDIA CAMPAIGN ADVISED ME TO
5. SWINE FLU IS SERIOUS I DON'T WANT TO GET SWINE FLU
6. VACCINES ARE IMPORTANT
7. TO PROTECT MYSELF IF A SECOND, MORE SERIOUS, WAVE OF SWINE FLU CAME TO AUSTRALIA/ OVER SUMMER
8. KNOWING THAT IF I WAS VACCINATED IT WOULD HELP PROTECT FRIENDS AND FAMILY
9. KNOWING THAT IF I WAS VACCINATED IT WOULD HELP PROTECT THOSE WITH PRE-EXISTING HEALTH CONDITIONS
10. WORK ENVIRONMENT / WORK WITH THE PUBLIC / LARGE WORKPLACE / EMPLOYER OFFERED OR RECOMMENDED VACCINATION
11. PREGNANT OR PLANNING A PREGNANCY

96 NO REASON
97 OTHER (SPECIFY____)
98. (DON'T KNOW / CAN'T SAY / CAN'T RECALL)
99. (REFUSED)

PREH5 IF HAD OR INTEND TO HAVE THE SWINE FLU VACCINE (CODE 1 AT H2, OR 1 OR 2 AT H3) GO TO H6 OTHERWISE CONTINUE.

H5 What is the main reason you <(IF H3=4)/ will not/ ><(IF H3=3, 98, 99) / probably won't/get the swine flu vaccine?

PERCEIVED VACCINE SAFETY AND EFFICACY

1. PROBLEMS WITH SWINE FLU VACCINE SIDE EFFECTS (SWINE FLU VACCINE WAS RUSHED AND UNSAFE/ MULTI-DOSE VIALS ARE UNSAFE/ POTENTIAL SIDE EFFECTS/ FEAR OF ADVERSE EVENT FROM VACCINE)
2. I AVOID ALL VACCINES/ VACCINES DON'T WORK AND ARE DANGEROUS
3. BEING VACCINATED WON'T PROTECT ME AGAINST POSSIBLE MUTATIONS OF THE VIRUS IN THE FUTURE
4. I DON'T LIKE INJECTIONS/ VACCINATIONS
5. PREGNANT OR PLANNING A PREGNANCY

PERCEPTIONS OF SERIOUSNESS

6. A SWINE FLU VACCINE IS UNNECESSARY/ THE THREAT HAS PASSED IN AUSTRALIA/ SWINE FLU HAPPENS IN WINTER, WINTER IS OVER
7. I'VE ALREADY HAD, OR HAVE BEEN EXPOSED TO, SWINE FLU
8. DON'T GET SICK/ I'M HEALTHY/ SWINE FLU ISN'T SERIOUS/ UNLIKELY TO GET SWINE FLU
9. I'M NOT AT RISK/SWINE FLU IS ONLY SERIOUS FOR THOSE WITH PRE-EXISTING HEALTH CONDITIONS OR IF YOU ARE PREGNANT
10. NOT A PRIORITY FOR ME/DON'T HAVE TIME/ TOO BUSY

AWARENESS/ACCESS AND AFFORDABILITY

11. I DIDN'T REALISE IT WAS AVAILABLE TO ME
12. I DIDN'T KNOW HOW TO GET IT
13. I DON'T LIKE GOING TO THE DOCTOR
14. I COULDN'T AFFORD DOCTOR'S CONSULTATION
15. MY DOCTOR DIDN'T OFFER IT TO ME
16. I DIDN'T THINK ABOUT IT/ FORGOT TO ASK
17. I DON'T WANT TO SPEND THE MONEY

OTHER

18. SWINE FLU VIRUS VACCINE WILL BE INCORPORATED INTO 2010 SEASONAL FLU VACCINE, WHICH I WILL/MAY RECEIVE
19. I'M ALLERGIC TO VACCINATIONS
20. I WAS ADVISED AGAINST IT FOR MEDICAL REASONS/ DOCTOR ADVISED NOT NECESSARY
21. OTHER (SPECIFY_____)

*ASK ALL

H6 The next questions are about other people who usually live in your household.

H6a Apart from you, how many OTHER people usually live in your household?

1. NUMBER GIVEN (SPECIFY_____) (RANGE 1 TO 15)
2. ONLY PERSON IN HOUSEHOLD (GO TO D1)
98. DON'T KNOW / CAN'T SAY (GO TO D1)
99. REFUSED (GO TO D1)

PROGRAMMER NOTE: LOOP H6b TO H6d FOR ALL MEMBERS OF THE HOUSEHOLD BASED ON H6a. USE SCRIPT 'ii' FOR ALL SUBSEQUENT LOOPS.

H6bi Starting with the youngest person in the household, what is their age?
H6bii And the next youngest person, what is their age?

1. AGE IN YEARS (SPECIFY_____) (RANGE 1TO 100)
2. AGE IN MONTHS (SPECIFY_____) (RANGE 0 TO 11)
101. OVER 100 YEARS OLD
98. DON'T KNOW / CAN'T SAY
103. REFUSED

H6c Are they male or female?

1. MALE
2. FEMALE
99. REFUSED

H6d And have they had the swine flu vaccine?

1. YES
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

SECTION D: RISK FACTORS AND GENERAL HEALTH

*ASK ALL

D1 I've now got a couple of questions about selected health issues that may or may not apply to YOU. If there's anything you don't want to answer just let me know.

Do you now smoke cigarettes?

IF NECESSARY: By cigarettes we mean factory-made or roll-your-own cigarettes

READ OUT

1. Daily
2. At least weekly
3. Less often than weekly, or
4. Not at all
98. Don't know / Can't say
99. Refused

D2 Do you have asthma that required regular medical treatment or preventative medication in the last 12 months?

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

D2a. Do you have chronic heart disease, (eg coronary heart disease, angina or atherosclerosis)?

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

D2b. Have you ever had a heart attack or stroke?

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

D2c. Are you currently on medication that may affect your immune system, (eg cortisone tablets; having cancer treatment, having an organ transplant or other conditions such as HIV infection that affect the immune system)?

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

D2d. Do you have chronic lung disease (eg chronic bronchitis, emphysema, cystic fibrosis, chronic pulmonary disease or bronchiectasis)?

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

D2e. Do you have a chronic illness that required regular medical follow-up or hospitalisation in the last 12 months (eg. diabetes, kidney disease, inherited blood disorder, metabolic diseases or cancer)?

INTERVIEWER NOTE: MEDICAL FOLLOW-UP INCLUDES NORMAL DOCTORS APPOINTMENTS TO MANAGE THE ILLNESS.

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

D2f. Do you have a condition of the nervous system which affects your respiratory function, (eg multiple sclerosis, spinal cord injury, seizure disorder, or motor neurone disorder)?

1. YES (GO TO D3)
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

*ASK ALL

D3 Are you a health care provider, do you work at a nursing home or other residential aged care facility, or are you a child care worker or babysitter?

1. YES, HEALTH CARE PROVIDER/WORKER
2. YES, WORK AT NURSING HOME / AGED CARE FACILITY (GO TO D5)
3. YES, CHILD CARE WORKER / BABYSITTER
4. NO (GO TO D5)
98. DON'T KNOW / CAN'T SAY (GO TO D5)
99. REFUSED (GO TO D5)

D4 And do you care for or come in contact with infants under 12 months of age regularly?

1. YES
2. NO
98. DON'T KNOW/CAN'T SAY
99. REFUSED

* ASK ALL

D5 Would you please tell me your approximate height (without shoes)?

IF RESPONDENT SAYS A NUMBER WHICH FALLS BETWEEN RESPONSE CODES, ROUND DOWN TO THE LOWER HEIGHT RESPONSE

1. Less than 143cm (4'8")
2. 143cm (4'8")
3. 145cm (4'9")
4. 148cm (4'10")
5. 150cm (4'11")
6. 153cm (5'0")
7. 155cm (5'1")
8. 158cm (5'2")
9. 160cm (5'3")
10. 163cm (5'4")
11. 165cm (5'5")
12. 168cm (5'6")
13. 170cm (5'7")
14. 173cm (5'8")
15. 175cm (5'9")
16. 178cm (5'10")
17. 180cm (5'11")
18. 183cm (6'0")
19. 185cm (6'1")
20. 188cm (6'2")
21. 190cm (6'3")
22. 193cm (6'4")
23. More than 193cm (6'4")
98. Don't know/can't say
99. Refused

D6 Would you please tell me your approximate weight?

IF RESPONDENT SAYS A NUMBER WHICH FALLS BETWEEN RESPONSE CODES, ROUND UP TO THE HIGHER WEIGHT RESPONSE

1. LESS THAN 40KG (6ST 4LB) (88LB)
2. 40–44KG (6ST 4LB – 6ST 13LB) (88LB – 97LB)
3. 45–49KG (7ST 0LB – 7ST 10LB) (98LB – 108LB)
4. 50–54KG (7ST 11LB – 8ST 7LB) (109LB – 119LB)
5. 55–59KG (8ST 8LB – 9ST 4LB) (120LB – 130LB)
6. 60–64KG (9ST 5LB – 10ST 1LB) (131LB – 141LB)
7. 65–69KG (10ST 2LB – 10ST 12LB) (142LB – 152LB)
8. 70–74KG (10ST 13LB – 11ST 9LB) (153LB – 163LB)
9. 75–79KG (11ST 10LB – 12ST 6LB) (164LB – 174LB)
10. 80–84KG (12ST 7LB – 13ST 3LB) (175LB – 185LB)
11. 85–89KG (13ST 4LB – 14ST 0LB) (186LB – 196LB)
12. 90–94KG (14ST 1LB – 14ST 11LB) (197LB – 207LB)
13. 95–99KG (14ST 12LB – 15ST 8LB) (208LB – 218LB)
14. 100–104KG (15ST 9B – 16ST 5LB) (219LB – 229LB)
15. 105–109KG (16ST 6LB – 17ST 2LB) (230LB – 240LB)
16. 110–114KG (17ST 3LB – 17ST 13LB) (241LB – 251LB)
17. 115–119KG (18ST 0LB – 18ST 10LB) (252LB – 262LB)
18. 120–124KG (18ST 11LB – 19ST 7LB) (263LB – 273LB)
19. 125–129KG (19ST 8LB – 20ST 4LB) (274LB – 284LB)
20. 130–134KG (20ST 5LB – 21ST 1LB) (285LB – 295LB)
21. 135–139KG (21ST 2LB – 21ST 12LB) (296LB – 306LB)
22. 140–144KG (21ST 13LB – 22ST 9LB) (307LB – 317LB)
23. 145–149KG (22ST 10LB – 23ST 6LB) (318LB – 328LB)
24. 150–154KG (23ST 7LB – 24ST 3LB) (329LB – 339LB)
25. 155–159KG (24ST 4LB – 25ST 0LB) (340LB – 350LB)
26. 160–164KG (25ST 1LB – 25ST 12LB) (351LB – 362LB)
27. 165–169KG (25ST 13LB – 26ST 9LB) (363LB – 373LB)
28. 170–174KG (26ST 10LB – 27ST 6LB) (374LB – 384LB)
29. 175–179KG (27ST 7LB – 28ST 3LB) (385LB – 395LB)
30. 180–184KG (28ST 4LB – 29ST 0LB) (396LB – 406LB)
31. 185–189KG (29ST 1LB – 29ST 11LB) (407LB – 417LB)
32. 190–194KG (29ST 12LB – 30ST 8LB) (418LB – 428LB)
33. 195–199KG (30ST 9LB – 31ST 5LB) (429LB – 439LB)
34. 200–204KG (31ST 6LB – 32ST 2LB) (440LB – 450LB)
35. 205–209KG (32ST 3LB – 32ST 13LB) (451LB – 461LB)
36. 210–214KG (33ST 0LB – 33ST 10LB) (462LB – 472LB)
37. 215–219KG (33ST 11LB – 34ST 7LB) (473LB – 483LB)
38. 220KG OR MORE (34ST 8LB) (484LB))
98. DON'T KNOW/CAN'T SAY
99. REFUSED

PRED7 IF DON'T KNOW/CAN'T SAY/ REFUSED HEIGHT AND/OR WEIGHT (CODE 98 OR 99 AT D5; AND/OR CODE 98 OR 99 AT D6) CONTINUE OTHERWISE GO TO PRED8.

D7 How would you describe your build?

1. Underweight
2. Normal range
3. Overweight
98. (DO NOT READ) DON'T KNOW/CAN'T SAY
99. (DO NOT READ) REFUSED

PRED8a IF RESPONDENT IS FEMALE AGED 18–54 YEARS (CODE 2 AT SEX AND CODES 1 TO 4 AT AGE2 OR 18 TO 54 AT AGE1) CONTINUE OTHERWISE GO TO E1.

D8a Are you currently pregnant?

1. YES (GO TO E1)
2. NO
98. DON'T KNOW/CAN'T SAY
99. REFUSED

D8 At any time since September last year have you been pregnant?

1. YES
2. NO
98. DON'T KNOW/CAN'T SAY
99. REFUSED

SECTION E: DEMOGRAPHICS

*ASK ALL

E1 And just two final questions to help us analyse the results.

Are you of Aboriginal or Torres Strait Islander origin?

1. YES
2. NO
98. DON'T KNOW / CAN'T SAY
99. REFUSED

E2 And, how many fixed telephone lines does this household have for personal use?

IF MORE THAN 'ONE' CLARIFY: Don't count mobile numbers or numbers ONLY used for the internet or fax or business purposes).

1. NUMBER GIVEN (SPECIFY_____) (RANGE 1 TO 15)
2. NONE
98. DON'T KNOW / CAN'T SAY (AVOID)
99. REFUSED (AVOID)

R1 REFUSAL SCRIPT

IF HOUSEHOLD REFUSAL (CODE 2 AT S1) ASK REFUSAL SCRIPT

R2 OK, that's fine, no problem, but could you just tell me the main reason you do not want to participate, because that's important information for us?

IF RESPONDENT HANGS UP BEFORE THIS QUESTION BUT YOU KNOW THE REASON WHY THEY REFUSED PLEASE RECORD BELOW:

1. HUNG UP/ NO COMMENT
2. TOO BUSY/NO TIME/NOT NOW
3. HARD REFUSAL – CATEGORICALLY DO NOT CALL BACK
4. NOT INTERESTED
5. TOO PERSONAL / INTRUSIVE
6 SUBJECT MATTER
7 CONFIDENTIALITY / PRIVACY CONCERNS
8 DON'T TRUST SURVEYS / GOVERNMENT
9 NEVER DO SURVEYS
10 5 MINUTES TOO LONG
11 GET TOO MANY CALLS FOR SURVEYS / TELEMARKETING
12. OTHER

END That's the end of survey. Thanks very much for your time. Just in case you missed it my name is (…) and this survey was conducted on behalf of the Australian Institute of Health and Welfare. Thank you for your help.

Interviewer Declaration
I certify that this is a true, accurate and complete interview, conducted in accordance with the briefing instructions, the IQCA standards and the MRSA Code of Professional Behaviour (ICC/Esomar). I will not disclose to any other person the content of this questionnaire or any other information relating to the project.

Interviewer name: Interviewer I.D:
Signed: Date

ALLTERM

TERM1 Thanks anyway, but for this survey we need to need to know your age in order to continue.

TERM2 Thanks anyway, but for this survey we need to speak to people aged 18 years and over.

TERM3 Thanks anyway, but for this survey we need to need to know the State or Territory you live in to continue.

Appendix 2: Additional tables

Table A2.1: Swine flu vaccination uptake, whole population, by state and territory, sex and age, January–February 2010 (per cent)

	Sex		Age group			
State	**Males**	**Females**	**Less than 18 years**	**18–64 years**	**65 years or over**	**Total**
NSW	16.7	20.7	7.4	16.8	45.8	18.7
Lower bound	14.9	18.8	5.5	15.0	41.1	17.1
Upper bound	18.7	22.6	9.8	18.7	50.5	20.4
Vic	15.1	20.3	6.5	16.0	44.3	17.7
Lower bound	13.1	18.3	4.6	14.1	38.7	15.9
Upper bound	17.3	22.6	9.0	18.1	50.1	19.6
Qld	14.9	19.9	6.2	16.2	45.2	17.4
Lower bound	13.0	17.6	4.2	14.2	39.3	15.6
Upper bound	17.1	22.4	9.1	18.5	51.2	19.4
WA	14.6	15.4	9.2	14.3	30.1	15.0
Lower bound	12.0	12.9	6.1	11.8	23.7	12.7
Upper bound	17.5	18.3	13.7	17.2	37.4	17.6
SA	18.5	21.9	6.0	17.1	52.9	20.2
Lower bound	15.4	18.7	3.5	14.3	45.0	17.5
Upper bound	22.0	25.5	10.1	20.4	60.7	23.3
Tas	20.1	26.9	9.7	19.9	58.7	23.5
Lower bound	15.8	21.9	5.0	15.7	47.7	19.4
Upper bound	25.2	32.6	18.0	24.9	68.8	28.3
ACT	17.4	23.3	11.4	19.6	44.8	20.4
Lower bound	13.6	19.0	6.9	15.8	33.3	16.8
Upper bound	22.0	28.2	18.4	24.0	56.9	24.4
NT	18.6	22.1	9.2	23.6	37.4	20.3
Lower bound	14.2	17.7	5.5	19.0	24.9	16.4
Upper bound	23.9	27.3	15.1	28.9	51.9	24.7
Australia	**16.0**	**20.2**	**7.1**	**16.4**	**44.8**	**18.1**
Lower bound	**15.0**	**19.2**	**6.1**	**15.5**	**42.2**	**17.2**
Upper bound	**17.0**	**21.2**	**8.3**	**17.4**	**47.4**	**19.0**

Note: The figures are based on all enumerated household members.

Table A2.2: Population estimates of swine flu vaccination uptake, by state and territory, sex and age, January–February 2010

	Sex		Age group			
State	Male	Female	Less than 18 years	18–64 years	65 years or over	Total
NSW	577,100	726,000	116,900	736,400	449,800	1,303,000
Lower bound	513,000	659,000	82,200	652,500	388,300	1,189,800
Upper bound	642,000	793,000	151,700	820,300	511,200	1,416,200
Vic	400,400	547,700	78,200	546,600	323,300	948,100
Lower bound	343,100	489,500	51,000	474,200	268,900	851,100
Upper bound	457,800	605,900	105,500	619,100	377,700	1,045,100
Qld	323,700	432,000	65,800	443,900	246,200	755,700
Lower bound	279,700	380,300	39,400	383,300	202,900	675,200
Upper bound	367,800	483,700	92,100	504,400	289,500	836,200
WA	161,900	167,300	48,500	200,800	80,000	329,200
Lower bound	131,100	137,900	27,900	162,400	58,600	276,200
Upper bound	192,800	196,700	69,100	239,100	101,500	382,100
SA	146,200	177,400	21,100	171,300	131,300	323,500
Lower bound	120,000	150,400	9,900	139,800	103,800	278,900
Upper bound	172,300	204,400	32,300	202,800	158,800	368,200
Tas	48,700	67,300	11,400	59,500	45,200	115,900
Lower bound	37,300	53,200	3,800	45,000	32,500	94,000
Upper bound	60,200	81,300	19,000	74,000	57,900	137,800
ACT	29,500	40,500	8,800	45,200	15,900	69,900
Lower bound	22,500	32,500	4,400	35,600	10,500	57,300
Upper bound	36,500	48,400	13,300	54,900	21,400	82,500
NT	21,500	23,500	5,800	34,800	4,500	44,900
Lower bound	15,700	18,100	2,800	26,900	2,400	35,400
Upper bound	27,300	28,900	8,800	42,600	6,500	54,400
Australia	**1,708,700**	**2,181,300**	**356,200**	**2,238,100**	**1,295,700**	**3,889,900**
Lower bound	**1,602,600**	**2,070,000**	**298,900**	**2,101,200**	**1,195,700**	**3,705,100**
Upper bound	**1,814,800**	**2,292,600**	**413,400**	**2,375,100**	**1,395,700**	**4,074,700**

Note: The figures are based on all enumerated household members.

Table A2.3: Swine flu vaccination uptake, whole population, by age, January–February 2010

Age group	Estimate	95% confidence interval		Vaccinated population
		Lower bound	Upper bound	
	(per cent)			(number)
4 years or less	5.9	4.2	8.1	65,700
5–9	5.3	4.1	6.8	72,800
10–14	9.1	7.5	11.0	128,100
15–19	9.8	8.2	11.7	151,600
20–24	13.3	11.2	15.6	180,900
25–34	13.2	11.6	15.0	291,500
35–44	14.2	12.8	15.7	456,300
45–54	16.4	14.9	18.0	537,600
55–64	23.9	22.0	25.8	689,900
65 years and over	44.8	42.6	47.0	1,295,700
Total	**18.2**	**17.6**	**18.8**	**3,869,500**

Note: The figures are based on enumerated household members. Due to missing age among 192 enumerated individuals, the estimates for total coverage presented here are slightly higher than estimates presented elsewhere in this report for all enumerated household members.

Table A2.4: Population estimates of vaccination uptake, by selected sociodemographic characteristics, January–February 2010

		95% confidence interval	
Characteristic	**Estimate**	**Lower bound**	**Upper bound**
All adults	**3,517,200**	**3,322,400**	**3,712,000**
Age			
18–64 years (n = 4,933)	2,216,200	2,047,000	2,385,400
65 years and older (1,280)	1,301,000	1,185,900	1,416,100
Sex			
Male (n = 2,231)	1,543,000	1,387,300	1,698,600
Female (n = 3,982)	1,974,300	1,840,700	2,107,800
Region			
Metropolitan (n = 4,075)	2,253,200	2,091,600	2,414,900
Non-metropolitan (n = 2,138)	1,264,000	1,139,500	1,388,500
Any medical risk factor			
Yes (n = 1,441)	1,192,700	1,077,000	1,308,500
No/don't know (n = 4,772)	2,324,500	2,156,100	2,492,900
Smoking status			
Does not smoke at all (n = 5,164)	3,119,400	2,934,100	3,304,600
Smokes daily/weekly/less often than weekly (n = 1,042)	1,192,700	1,077,000	1,308,500
Carers, health-care providers or babysitters			
Yes (n = 832)	568,000	484,700	651,200
No (n = 5,375)	2,949,300	2,766,700	3,131,800
Regular contact with infants under 12 months of age			
Yes (n = 234)	185,700	136,700	234,600
No (n = 464)	285,900	231,900	339,900
Self-reported body mass index			
Less than 30 (n = 4,591)	2,531,400	2,361,400	2,701,400
30 or more (n = 1,230)	784,100	684,100	884,100
Pregnancy status since September last year			
Pregnant (n = 149)	68,000	41,600	94,300
Not pregnant (n = 3,833)	1,906,400	1,780,100	2,032,600
Indigenous status			
Yes (n = 110)	57,300	32,400	82,200
No (n = 6,091)	3,452,900	3,259,500	3,646,400

Note: The figures are based on respondent-level data only.

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