Computer
Assisted
Telephone
Interviewing
Technical
Reference
Group

*Challenges for Computer Assisted Telephone Interviewing in Australia:
Current and future perspectives*

**Proceedings of the Computer Assisted Telephone Interviewing
Technical Reference Group Forum**

held 24 February 2006

Adelaide, SA

The Computer Assisted Telephone Interviewing Technical Reference Group (CATI TRG) is an advisory sub-committee of the National Public Health Information Working Group (NPHIWG). It provides a focus for the development and promotion of national standards, valid methods and capacity for CATI surveys to improve health surveillance and health outcomes.

The National CATI TRG comprises representation from:

> All state and territory health departments

> The Australian Government Department of Health and Ageing

> The Australian Bureau of Statistics, the Australian Institute of Health and Welfare and the Public Health Information Development Unit

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Abbreviations

AAPOR   American Association for Public Opinion Research

ABS   Australian Bureau of Statistics

ACMA   Australian Communications and Media Authority

ADSL Asymmetric Digital Subscriber Line [high speed Internet access over telephone lines]

AIHW Australian Institute of Health and Welfare

ARCPOH Australian Research Centre for Population Oral Health, The University of Adelaide

BRFSS   Behavioral Risk Factor Surveillance System [US]

CAPI Computer Assisted Personal Interviewing

CATI Computer Assisted Telephone Interviewing

COAG Council of Australian Governments

CONSORT Statement   Consolidated Standards of Reporting Trials Statement

DoHA Australian Government Department of Health and Ageing

EWP   Electronic White Pages

HIC   Health Insurance Commission (now Medicare Australia)

IP   Internet Protocol

IPND Integrated Public Number Database

LSAC Longitudinal Study of Australian Children

MPHS Multi-Purpose Household Survey [ABS]

NDSHS   National Drug Strategy Household Survey

NPHIWG National Public Health Information Working Group

PAL   Primary Approach Letters

PHIDU Public Health Information Development Unit, The University of Adelaide

PROS Population Health and Outcome Studies Unit [SA]

RDD   Random Digit Dialling

TRG   Technical Reference Group

VoIP   Voice over Internet Protocol [Internet telephony]

Web   Short for World Wide Web

WHO World Health Organization

Executive summary

The Computer Assisted Telephone Interviewing Technical Reference Group Forum on the *Challenges for Computer Assisted Telephone Interviewing in Australia: Current and future perspectives,* held in Adelaide on the 24th of February 2006, and reported on in these Proceedings was attended by 40 participants —listed alphabetically on page i (*CATI Forum 2006 Participants).* The Forum was hosted by the Population Research and Outcome Studies Unit in the Strategic Planning and Research Branch of the Strategic Planning and Population Health Division of the South Australian Department of Health, with funding by the Australian Government Department of Health and Ageing, Population Health Division.

Anne Taylor on behalf of the organising committee, opened the CATI Forum, welcomed those present and introduced invited experts Associate Professor Charlotte Steeh, Professor David Steel, and facilitator and rapporteur Professor Vivian Lin. The Forum's aims were to harmonise efforts across jurisdictions and share views, expertise and wisdom among all participants. Alison Daly in her introduction reiterated the focus on networking, collaboration, and methodological issues including harmonisation jurisdictionally and nationally. She asked CATI practitioners to be prepared to give and take, let go of the old and try the new, and to take as their motto '*be prepared'.*

In session one, the key issue was the demise of the Electronic White Pages (EWP) and how to modify the sampling frame. Jurisdictional representatives described their use of Random Digit Dialling (RDD) and list-assisted RDD. Advantages and disadvantages were detailed, and there was discussion on possible responses to the problem of ensuring that the sample frame was similar to that first chosen using EWP. Possible responses included use of other lists, or the development of a current list.

How to sample geographically was discussed as a future problem. Four possible responses were outlined:

1. Stratify on respondent-reported postcode,

2. Adaptive sampling methods to truncate interviews when geographic number is reached (and allow incorporation of people with mobile-only telephones),

3. Geocode houses (for household surveys), and

4. Lobby again for the release of postcode/geographic identification of telephone numbers/prefixes.

A key issue was the next generation list, especially when sending out primary approach letters (PALs) is required. The value of PALs was discussed, as they were thought to increase response by about 10%, possibly through differentiating health surveys from telemarketing. In the interim, PALs can be addressed 'to the householder' (rather than to a named person); in the longer term, there is a need to develop a list (name, address and telephone number) from a wide range of sources.

The phenomenal growth of the US National Do Not Call Registry was reported as not affecting response rates, but whether it increased response bias is unknown. There was support for an Australian Do Not Call Register as long as research was exempted (as proposed in the Australian Government Dept of Communications, Information Technology and the Arts discussion paper).

Session Two began with a look ahead at the potential impact of changing telecommunications. The situation in most developed countries where mobile telephones are becoming the primary means of communication, and differences, such as in who pays for the call, between the US and Australia were outlined. A 2003 Qld survey found that 6% of 18-29 year olds had a mobile telephone *only* (no fixed line) and SA data suggests a slow rise in mobile-phone-only households, however a large change could happen quickly as in Europe where there was a dramatic increase in recent years. This trend may require a move from household-based to person-based sampling. Mobile telephone advantages, such as the ability to retain respondents in longitudinal surveys when they move; and disadvantages such as the less defined sample, were discussed. The difficulty of combining mobile phone with fixed line surveys was raised, and it was reported that the US had not resolved this issue either.

Available lists discussed for use as sample frames included: the electoral roll, Medicare Australia, the (increasingly out-of-date) EWP, and the creation of lists by scanning Telstra White Pages. The issue of Internet telephony was discussed, and with estimates that 70% of the world's voice traffic will be VoIP by 2007, it was agreed that a watching brief was needed. Differences in how respondents preferred to be contacted and optimal methods of collecting information were noted. Both high and low response rates for Internet Web surveys were related. The willingness of most respondents to be contacted again or to have their data linked was reported.

Panel methods, differences, advantages and disadvantages were raised together with issues of representativeness and the suggested flagging of panels composed of sampled (as opposed to volunteer) members. Differences between telephone and Internet panels were identified, both in the mode of contact, and the method of response.

Session three commenced with discussion on 'next generation' methodologies. Discussion began with multi-mode and mixed mode methods and resultant interest in measurement error, as multi-modes eliminate much non-response and coverage error. Different modes, and differences between modes (e.g. scalar questions being easier to compare visually than by telephone) were highlighted, together with the issue of whether data obtained from mixed modes should be combined into one data-set. In the US, low response rate has driven the use of mixed mode; in Australia this driver is absent, and the basis for deciding *when* to use mixed mode and *how* modes should be mixed, was queried. Lack of gold standards for questions, and little information on which mode is best were raised as issues. The better quality training and supervision of telephone interviewers (thought to result in reduced measurement error), and the importance of the quality of interviewers were acknowledged.

Mixed mode was considered to hold more promise as the 'next generation' than Internet or Web surveys, and it was suggested that the current effort should be in researching the differences of the various modes and mixes. Consistency was the big issue in obtaining a good quality, rich dataset on Australian health across states. A best practice manual that includes response rate definition to standardise reporting was suggested for development, as was an overall coverage and response rate measure, and attention to weights.

Incentives, or 'tokens of appreciation', which were used more and more in the US, their usefulness (e.g. to retain panel members), and their potential negatives were discussed.

It was suggested that they should only be considered if the response rate was very low (and not as a part of normal practice).

In the closing session, Forum members' made concluding observations. Charlotte Steeh observed that Australian surveys were following current best practice, but that it was good to discuss the issues, many of which had not been resolved elsewhere.

> **Best practice in a period of change** should include monitoring changing telecommunications, lobbying for a Do-Not-Call list in Australia; working on the standardisation of response rates, and developing a list to replace the EWP sample list.

From a national perspective there were opportunities for a strong lobby to advocate at all levels, and the Commonwealth could offer national leadership to support State efforts. The *Blueprint for nation-wide surveillance of chronic diseases and associated determinants*[1] provides another opportunity. ABS should monitor Internet usage. Jurisdictional members reported that as a result of the Forum there were activities they would pursue in future, such as investigating the linked data set in WA, and pursuing the inclusion of mobile-phone-only households in monitoring with ABS. NSW will examine a mixed mode module, discuss the sample frame in relation to testing telephone number prefixes, and look at using administrative data sets. SA was keen to collaborate on the areas for research identified. Andrew Stanley as chair of the CATI-TRG identified the need to gather more substantive evidence and to argue for better use of HIC data. PHIDU would work on the separation of selection, contact and response as an important issue in the medium to longer term.

In closing, Vivian suggested that the CATI-TRG should look at:

1. Research to move the agenda forward;
2. Different approaches to be tried now and in the medium and longer term; and
3. Whether 'CATI-TRG' remains an appropriate name.

Other concluding issues for the CATI-TRG to explore were whether there should be a central repository location to store information on new banks of numbers when discovered; forming a larger group to lobby the ACMA again on a telephone number and address list for public good research; and surveying respondents on whether they would support such a move. Anne Taylor closed the day by thanking participants in the CATI Forum, the organising committee and Vivian as facilitator, Charlotte and other invited experts for attending, and the Australian Government for funding.

These Proceedings are organised by sessions. Boxes summarise the information discussed on issues of concern. Those who took part are listed as *CATI Forum 2006 Participants* on page ii, and *Abbreviations* are on page iii. *Attachment 1* contains the Forum program. *Attachment 2* provides biographical information on Associate Professor Charlotte Steeh, who travelled from the US to attend. *Attachment 3* is a *Summary* prepared for the National Public Health Information Working Group in March 2006.

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[1] See http://tinyurl.com/jgtu3.

Opening session

Anne Taylor on behalf of the organising committee, opened the CATI Forum, welcomed those present, and introduced invited experts Associate Professor Charlotte Steeh, Professor David Steel, and facilitator and rapporteur Professor Vivian Lin. Charlotte works as a consultant on survey methodology for the US Centers for Disease Control and Prevention; and until recently was the Director of the Survey Research Laboratory in the Andrew Young School of Policy Studies, and Associate Research Professor in the Department of Public Administration and Urban Studies, Georgia State University (1997-2005). David is the Director of the Centre for Statistical and Survey Methodology, at the University of Wollongong, and is one of Australia's leading researchers on survey methods, statistical design and analysis for survey, census and aggregate data. Vivian is the Head of the Department of Public Health Practice, in the School of Public Health at La Trobe University, and has had a long-standing involvement with the CATI TRG since its inception in 1999 when she was the first Executive Officer of the National Public Health Partnership.

The 2006 CATI Forum's aims were to:

- harmonise efforts across jurisdictions, and
- share views and wisdom among all participants.

Vivian Lin as facilitator related how she had set an exam question for students: 'What is CATI?' And the prize answer was: 'A very special pet'.

> Question: What is CATI?
>
> Answer: A very special pet

Alison Daly in her introduction to the CATI Forum reiterated the twin focuses of the day: networking and collaboration, and methodological issues including harmonisation jurisdictionally and nationally. Present and future practitioners of CATI should be prepared to give and take, to let go of the old and to try new methods; and to make changes in methods, for example, in how to weight data.

> **Motto: Be prepared!**
>
> Be prepared to take up challenges to evolve best practice for the future.
>
> Be prepared to identify changes that are needed in the CATI field.
>
> Be prepared to identify changes needed now, in the medium-term (that should be prepared for now), and in the long-term (that require forward planning to start now).

Session one

Today's key issue is the demise of the Electronic White Pages (EWP). Although EWP are no longer active or current, some CATI systems still use the last edition. Others use Random Digit Dialling (RDD) and use the EWP to identify active groups (banks) of telephone numbers, and addresses to mail out Primary Approach Letters (PALs). The issue today was how to modify the sampling frame now that EWP are no longer active. The disadvantages of RDD were nominated as another issue.

> **Key issue:** How to modify the sampling frame now that Electronic White Pages are no longer active?

Charlotte Steeh described the situation in the US where many randomly dialled numbers are non-working or business numbers and have to be weeded out. There is predictive dialling so interviewers can hang up if there's no answer—but these other numbers go into the base, making the response rate lower. The US sampling frame is all fixed lines, making it a large fuzzy frame that includes many transferred and non-working numbers.

Margo Eyeson-Annan (NSW) advocated for list-assisted-RDD. NSW used lists derived from EWP. RDD can be 'washed' to remove business numbers and blocks of non-working numbers to make it more efficient. Some advantages of list-assisted RDD are:

- list-assisted RDD includes unlisted numbers[2] (biggest advantage),
- the design effect of RDD is better than EWP, and
- list-assisted RDD costs less than RDD.

The EWP sample is of people who *have chosen* to be listed in the Telstra White Pages—they are different to those who chose *not* to be listed. It is estimated that approximately 20% of the population is not listed in the EWP.

Are privacy issues raised by surveys accessing unlisted telephone numbers? NSW had experienced a slightly lower response rate from unlisted numbers, perhaps 1 to 2% less, however, when interviewers introduced the survey as a chance to participate in a population health survey, offered to send a PAL, and gave the 1800 survey information number, most people with unlisted numbers agreed to participate. Once they realised that the interviewer did not know their name, and that a computer had generated their number, they were often happy enough to provide their name and address so that an interviewer could return to them if necessary.

Loretta Vaughan (Victoria) said that they also used RDD. People answering the silent numbers called were told that the survey had gone through an ethics process, offered a PAL that could be sent out, and advised of the 1800 survey information number.

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[2] Unlisted numbers include silent numbers, transferred numbers, and numbers that have not yet been listed.

Despite this there was a slight drop-off in response - more do not complete the survey. Four years ago it was estimated that 12% of the Victorian and 18% of the Melbourne population had unlisted numbers, and that they mostly belonged to females, aged 18-35 years, in lower socioeconomic groups—the type of people who are really wanted in the survey.

Charlotte thought that using list-assisted RDD was a good way to cut down the expense of surveys as it excluded known non-working numbers, faxes, exchanges etc; however, it still needs a list. In the US they have used telephone directories as the list.

Summary of advantages and disadvantages of Random Digit Dialling (RDD)

RDD: Advantages

- RDD generates both listed and unlisted numbers and the response from those with unlisted numbers is good although slightly lower than from those with listed numbers (e.g. an estimated 1-2% lower [NSW]; slight drop-off in completion rates [Vic]).

- Design effect of RDD is better than EWP (people who are listed in the White Pages) as there are differences in people who have chosen *not* to be listed (e.g. an estimated 12% of Victorian, 18% of Melbourne population with silent numbers were mostly female, aged 18-35 years, and in lower socioeconomic groups).

- List-assisted RDD can overcome disadvantages of RDD, as business numbers and non-working prefixes can be 'washed' out of the sample to improve efficiency.

- List-assisted RDD costs less than RDD.

RDD: Disadvantages

- RDD generates non-working, business, and unlisted numbers which all lower the response rate.

- List-assisted RDD requires matching with EWP to generate prefixes, to 'wash' out non-residential numbers, and to match sampled numbers to addresses in order to send out primary approach letters.

- Although list-assisted RDD is a good way to cut down survey expense by excluding invalid numbers, it still needs a valid list (e.g. EWP).

Another issue now, without EWP, is how to ensure that the sample frame is similar to that first chosen using EWP.

David Steel suggested possible responses:

1. Look at using other lists, and

2. Develop a current list. There are potentially 100 million numbers. How can banks of numbers be best tested? For instance, numbers can be tested to see if they have been allocated without calls going through. A sample from an unallocated bank of numbers can be tested systematically to see if any

numbers work. If some do work it is probable that the whole bank is of working numbers (i.e. derive 'working status' from probability).

There needs to be some experimentation to optimise the process and determine the most cost-effective ways to find new banks of 'live' numbers, for instance, to sub-sample thousands rather than hundreds, to improve coverage and not waste resources.

> **Issue: How to ensure that the sample frame is similar** to that first chosen using EWP, now that EWP is no longer active?
>
> **Possible responses**
>
> Use other lists
>
> Develop a current list
>
> Experimentation is required to optimise a cost-effective process of finding new banks of 'live' numbers.

Alison Daly (WA) raised the need to sample geographically as more of a problem and others agreed that it is a major challenge. With telephone number portability[3] allocating cannot be relied on to get geographic coverage. Most current listed numbers have a tie to geography but this may break down in the future. The question is how to cope with geography in the future?

NSW used a rule of thumb: if more than 50% of a prefix was found to be in an area, all were allocated to that area. Survey respondents can be asked for their postcode and stratified on that basis. NSW captures postcode, local government area, and suburb. Should a number be re-allocated back to a strata if the postcode/suburb does not match the geography of the sample area? Although there is a way to re-allocate, in practice, at the moment, this is not done.

Michael Phillips asked whether adaptive sampling methods had been considered. For instance, geographical information could be collected early and a truncated interview be given if the survey already had sufficient respondents in that area. Adaptive sampling allows the collection of more rural and/or remote respondents.

NSW has used strata sampling—and has managed to make sure of getting the same number in each geographic strata. Michael observed that this was only possible because there were lists—but if mobile telephones were to be included then adaptive sampling would be needed. NSW preference was to geocode houses—because as a *household* survey, the *household location* is of interest.

Another reason to consider adaptive sampling at the beginning of the interview is because costs related to interviewer time are the most expensive.

Charlotte queried whether telephone lines were stratified by number at exchanges? David responded that market researchers in Australia were currently lobbying for a tabulation of numbers by exchange.

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[3] Number portability allows customers to transfer their telephone numbers from one telephone operator or exchange (including fixed line, mobile, IP-based or other) to another.

Sanjeet Johal (DoHA) asked how to tackle the problem of density, for example, high density blocks versus low density blocks, urban versus rural/remote populations? Density should be adjusted for in the sample frame—but Charlotte remarked that no one adjusted and weighted for density.

In the US the frame was usually adjusted by area code plus the number of listed telephone numbers. A private business master list of US area codes and prefixes was started by Bell Labs. Telcordia maintain the list and sell it to RDD sampling companies which have added copyrighted data on the demographic characteristics of areas.[4]

Mark Cooper-Stanbury (AIHW) explained that the CATI-TRG had previously lobbied the Australian Telecommunications Association to release the postcode/ prefix/ number of listed numbers (as America does) but that they had refused. In the US an association of market research organisations is lobbying for the same thing. Perhaps the CATI-TRG could join with them, Charlotte suggested, or lobby again on its own behalf?

There was pessimism about lobbying again in Australia; some felt that the Australian Government was not interested. Mark observed that EWP was a valid list of all prefixes and the number of numbers in them, and was a reasonable basis for RDD now. However, Anne Taylor (SA) reminded the Forum of the need to look to the future as the list will be significantly out of date in two years and two years is not far away.

Issue: How to sample geographically in the future (anticipating a breakdown in the geographic relationship of telephone prefixes, and with increasing telephone numbers portability)

Possible responses

Ask respondents for their postcode and stratified on reported postcode

Adaptive sampling methods used to truncate interviews when geographic number is reached (and allow incorporation of people with mobile-only telephones)

Geocode houses (for household surveys)

Lobby again for the release of postcode/geographic identification of telephone numbers/prefixes

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David Steel suggested getting lists of prefixes from numbers recorded in any normal government information systems to see if the prefixes were new—for example, get numbers from emergency services, health departments, and government generally. A union of several lists may be good even if any one list is not good quality. The new bank of numbers could be put into a live sampling frame when one working number in that bank was found.

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[4] Telephone numbers are constructed as: area code + prefix + remainder 4 digits. Telcordia/ commercial list numbers are provided as area code + prefix with the last numbers randomly assigned.

Ethical concerns were raised and dismissed, as it was hard to see that there were any ethical issues regarding *prefixes only* and trawling for prefixes only (i.e. rather than full telephone numbers, or names and addresses). This was considered to be a good idea, especially in the new environment of electronic medical records (for instance it was reported that when doing case control studies, NSW participants frequently assumed that government knew everything about them).

WA noted that there would be much work to do to get a sample frame with reasonable geographic indicators that is cost effective and won't decimate response rates. Although WA has other administrative data sets, they have not been identified, sourced or examined as to how they might improve the sample frame.

The list becomes more of an issue whenever sending out PALs is required, because then one source is needed for name, address and telephone number. The SA experience was that the longer the EWP was used, the more PALs were 'returned to sender'. What is the next generation list?

NSW addresses PALs 'to the householder' at the address, rather than to named persons - an easy move that can be done as the EWP gets older - and before it becomes necessary to abandon sending letters with RDD. Most of the returned letters are from units, because they lack a unit number (i.e. incomplete address) and Australia Post refuses to deliver letters if the address is incomplete.

David Firman (Qld Treasury) expressed misgivings about letters addressed 'to the householder' and thought that addressing letters 'to the householder' was a quick route to the bin. However, NSW believed that as the NSW PAL was a letter from the Chief Health Officer —and given that people were used to letters from her regarding vaccinations etc. —it was a better strategy than having to explain to potential respondents who rang in that *they* were the person wanted for the survey (rather than a named person who no longer lived at that address); however, it was a trade-off.

Key issue: What is the next generation list (now that EWP no longer active and becoming increasingly out of date).

Possible responses

Interim - address primary approach letters (PALs) 'to the householder' rather than to a named person at the household address.

Longer term—develop a list from a wide range of sources.

Edouard Tursan d'Espaignet (Hunter New England, NSW) reported on the WANTSA survey in 2000 when many PALs were sent to Post Office boxes and around 50% were 'returned to sender', but the survey still got a 77% response rate. Margo suggested that PALs increased the response rate by about 10%.

In the US most organisations could only send letters to about 40% of the sample (for some organisations this could be up to 80%) and were probably sending letters to those who were going to cooperate anyway. Disadvantages of RDD were that there was more resistance to, and many more refusals from cold calling. Charlotte gave an example of one survey that had experienced a large and noticeable break in the time

series when it went from cold calling in person for face-to-face interviews, to cold calling by telephone. It was much easier to refuse on the phone.

Anne reiterated that all the literature stated that RDD got lower response rates, was less efficient, and more costly. The weaknesses and strengths are known, but what's the next generation?

NSW raised the cost and precision of RDD versus EWP, and the design effect. The non-response bias was queried, and it was noted that any choice is a trade-off. WA queried the assumption that EWP did not include unlisted numbers, because Telstra does re-assign previously listed numbers to unlisted numbers. SA reported that when EWP first became illegal they were worried, but had since found that numbers were re-assigned, and that their response rate and representation was as good as before. However, more letters are returned as time goes on.

Why is it that sending out PALs before a survey achieves a 10% increase in the response rate? It was posited that as the biggest problem overall was competing with telemarketing, it may be that PALs differentiate health surveys from market research, to the benefit of health surveys.

Value of primary approach letters

Primary approach letters (PALs) increase the response rate by about 10%, possibly because they help to differentiate health surveys from telemarketing and market research, to the benefit of health surveys.

One source is needed for name, address and telephone number to send out PALs cost effectively. EWP will become increasingly out-of-date and ineffective. Addressing PALs 'to the householder' may minimise 'returns to sender'.

The Australian Government Dept of Communications, Information Technology and the Arts put out a discussion paper (October 2005) on the *Introduction of a Do Not Call Register* and a possible Australian model[5].

The US National Do Not Call Registry has grown phenomenally since its inception. 'Public good' surveyors have instructed interviewers on what to say in surveys as research calls are explicitly exempted from the register. Some papers discussing its impact have suggested that it may improve response rates, and while it hasn't had that effect yet, neither have response rates dropped. The latest information was that there were 88 million telephone numbers on the US Do Not Call Registry[6] and that it had not affected response rates. As to the question of why not, no one had any answers.

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[5] Available at http://tinyurl.com/q6bwm (accessed 2 April 2006). Legislation to establish a national Do Not Call Register has since been introduced, with govt bodies exempt (see http://tinyurl.com/dyeh4 accessed 16 June 2006).

[6] The US National Do Not Call Registry (see www.ftc.gov/donotcall) opened two years ago. The 100 millionth number was reached in August 2005 (see http://tinyurl.com/qojq2 accessed 2 April 2006).

NSW suggested that using the householder's name when sending out PALs and/or when people answer the phone, as telemarketers do, has become alienating because of telemarketing, and potential respondents are now more likely to hang up.

Vivian asked where was the research? Is the issue in this changing environment, in not getting the lists? Or not getting the right lists?

In the US the issue now is whether the Do Not Call Registry increases response bias. WA noted that lower response rates did not affect large groups but did affect subgroup estimates, and SA noted that in health it was more important to have high response rates.

The US Do-Not-Call Registry may have a positive effect, but it is too early to know the real effect. Charlotte supported moves to get one going here in Australia—as long as research is exempted. Andrew Stanley (SA) reported that there was a paper out in the public domain proposing exemptions, including survey research, politicians, etc.

Do Not Call Lists

US - National Do Not Call Registry has grown phenomenally and has not affected response rates. **Issue is whether the Do Not Call Registry increases response bias.**

Australia - Australian Government Dept of Communications, Information Technology and the Arts has put out a discussion paper on the *Introduction of a Do Not Call Register.* It was suggested that it be supported as long as research is exempted, as has been proposed.

Andrew reported that Telstra was taking the decline in the number of people with fixed lines seriously, and expected their number to continue to decline. They also expect an increase in Internet telephony. What is the likely effect of mobiles and Internet telephony?

Session two

Vivian initiated session two with the remark that changing telecommunications means that there is a need to look ahead, and cited her own household as an example– with one fixed line, four mobiles, and talking to each other on Skype (Internet telephony).

In relation to mobile telephones and sampling—in the US there is no list assisted and no list to sample; so there's no geographical certitude about the sample, and no way to eliminate non-working numbers, therefore, it is back to a systematic sample. Refusal rates are astronomically higher with mobiles. People who answer want to know (a) if you know it's a mobile you've rung, and (b) how you got the number. Charlotte reported on a twenty minute interview (pushing the limit) on mobile telephones. The survey was repeated as a telephone survey with RDD as they wanted to know the differences. Resulting recommendations were that fixed line surveys need to be short, and they need to be even shorter for mobiles.

There are some advantages of mobiles: the interviewer does not have to go through the process of selecting a respondent from a household as the mobile is usually personal; however interviewers do need to find out who the user is. In the US they have found that there was more shared use than expected, especially of young people under 18 years old. For adult surveys interviewers would need to screen out children.

Mobiles probably do need to be included in telephone surveys, as they are becoming the primary means of communication in most developed countries. Only the US and a few other countries now still have more fixed line than mobile telephones. Charlotte thought that in future people will use one handheld instrument that does everything including Internet. In the interim, mobiles should be included in telephone surveys. More generally, there's a need for interim plans to be made, as the future is not predictable, and we need therefore to get into the mode of changing.

Maurie Low (ABS) described how the ABS started surveys with an in-person interview, and then moved to telephone—including mobile—interviews once they had achieved the sample.

David Steel referred to an October 2003 State Supplementary Survey for Queensland[7] as the most recent information on telephone coverage. It showed that 6% of 18-29 year olds, had a mobile telephone *only* and no fixed line. He suggested that the ABS role is to provide data on phone ownership and the characteristics of phone owners. Another issue is whether our surveys can generate information on the level of fixed line usage—and whether it is declining. In particular, recent data are needed on the percentage of the population with mobiles, and on the characteristics of mobile-only households — to see if there are differences to households with fixed lines.

SA routinely collects information on telephone usage and there has been a slow increase in mobile-only households. In European countries this has increased

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[7] ABS. Household Telephone Connections, Queensland, Oct 2003. (Cat. no. 8159.3) Brisbane: ABS, 2004. http://tinyurl.com/rksg6 accessed 17 April 2006. Information on fixed line telephone connections of households and individuals and access to mobile phones, with the focus on whether households and individuals can be contacted by telephone (telephone coverage).

dramatically over last 3-4 years. This trend may require a move away from household-based to person-based sampling. Mark related his young son's experience, with only 5% in his class who were without a mobile. Most had no expectation to use fixed line phones. Fearnley Szuster (PHIDU) related how he could only contact the 20 lads he coaches for rowing on mobiles. Both they and their parents were rarely contactable on fixed lines. They also 'text' him frequently rather than ringing.

Others related that so far mobile-only households had not been a huge proportion. Another experience was of a survey that used fixed line phones to get parental permission to contact young people on their mobile phones. This could be a possible way to reach younger people for surveys.

Caroline Arthur (ABS) detailed her experience with an employment program running a mobile phone trial that had found it effective to fund mobiles for long-term unemployed people so that employers could contact them. The use of prepaids meant that mobiles were not as expensive as participants had thought. Even if they couldn't afford to ring out, people could still ring them.

SA reported that their surveys accepted a mobile phone contact number if the selected respondent gave it as their preferred contact method. SA also survey listed mobile phones that have been selected from the Telstra White Pages as part of the normal selection process; and weighted by the probability of selection based on the number of numbers listed.

A survey of Indigenous young people recruited non-randomly had managed to interview young people who didn't have any telephone, by using the recruiters' mobiles (many respondents were interviewed on the same mobile).

Problems were perceived, and there were misgivings, about cold calling people on mobile phones, but it was acknowledged as a good way of reaching targeted individuals if they are on a list already.

Another advantage of mobiles was that respondents are not lost even if they move or change houses, so for longitudinal or panel surveys mobiles provide an advantage.

Karen Dempsey (NT) related the NT's experience with remote, Indigenous people. Basically people in remote areas do not have mobile coverage, and for Indigenous people in remote areas, English is usually a second or third language. The WA experience of remote communities was that most did have access to a fixed line and could speak English. However, it was considered that in general, Indigenous people do not like to be surveyed, and don't want to talk about private things. Responses from Indigenous people were very much shorter and more succinct than those from non-Indigenous people.

Charlotte addressed mobile phone costs. In the US the called party pays the cost of the call and this is a major deterrent to surveying. A mobile phone (only) survey would also be too biased to stand alone, as there would be too many upper middle class people reached in the middle of the day.

The issue then is combining mobile phone with fixed line surveys. The US has not made progress in this area. It is difficult to combine the two in multi-frame samples.

Advantages of mobile telephones

Do not need to select respondent as mobile is personal (not household).

Becoming the primary means of communication in most developed countries, and a growing number of younger people form mobile-only households with no fixed line.

Respondents are not lost if they move, providing continuity for longitudinal or panel surveys.

Disadvantages of mobiles

The need to find out who the user is—in the US there is much shared use among those aged under 18 years—interviewers would need to screen out children for adult surveys. The geographic location of the sample is less defined compared to the existing geographic structure of fixed-line numbers

Need to know

Are there differences in characteristics of mobile-only households? —ABS and other surveys could provide this information.

Unpredictable future means need to get used to (a) planning ahead and (b) changing.

Issue: combining mobile phone with fixed line surveys

Difficult to combine in multi-frame samples.

Vicki Graham (University of WA) agreed that the situation was one of moving from household to personal surveying. The electoral roll can be used as a sample frame. It contains approximately 88% of citizens; however it does not include permanent residents.

David Steel identified three issues related to mobile telephones:

1. The sampling frame.
2. The contact method.
3. Participant options for responding.

Andrew Stanley (CATI-TRG) suggested that the HIC[8] list is the best list in terms of a sample frame. However, HIC insist on sending the approach letter out, and insist on signed consent. It may be possible to press the HIC on that. Only a few people are not on the HIC list. David Steel suggested that volunteer-in methods returned about 25% of possible respondents.

Charlotte related that in Finland survey researchers draw a sample from the Finnish population register[9], and match the persons selected to get phone numbers, then

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[8] Health Insurance Commission – now Medicare Australia.

[9] In Finland, Denmark, and the Nordic countries everyone in the population is allocated a number from birth.

interview—and it doesn't matter whether they are interviewed over a fixed line or a mobile phone (over 50% of interviews are done on mobiles). She thought that they did not offer incentives.

Adrian Serraglio (Vic) told of a trial on the HIC database in which the response was around 10%. However the HIC list was agreed to be the best list, with the electoral roll possibly the next best list, after the old EWP that has become out of date.

NSW stressed that none of the alternatives was acceptable—apart from the idea of trawling through each State's own data collections—especially to find new prefixes. Patrick McElduff (Hunter New England) suggested that scanning the Telstra White Pages may be realistic if only numbers are wanted. Margo pointed out that these lists cannot be given to, or shared with, each other, so they are not as cost effective as they used to be.

Available lists that could be used as sample frames:

Electoral roll—includes most citizens (estimated 88%) but does not include permanent residents.

Medicare Australia—best coverage, least control (HIC insisting on signed consent and on sending out PALs themselves), experience suggests response is low (around 10% has been experienced).

Electronic White Pages—but increasingly out of date.

Scanning the Telstra White Pages to get numbers and/or selecting a common surname to sample from (e.g. Smith).

While mobile-only households were so far only thought to be around 6% in Australia, they were not yet of serious concern, but there was a need for surveys (such as those by ABS and SA) to provide information on this aspect, including information on geographic pockets where there were higher proportions of mobile-only households— so that a watching brief can be maintained.

The message from the US was that low response rate was more of an issue than mobile-phone-only usage. However, it should be noted that the last US election was not predicted correctly because surveyors missed the mobile-phone-only population.

Michael Phillips (WA) suggested that the level of fixed line coverage would probably hold while that was the method needed for ADSL Internet access, but when Internet access becomes independent it will be a big issue. The drop in numbers of fixed-lines to date may mean that households are getting rid of their second fixed-line that had previously been used for Internet access.

Andrew Stanley (CATI-TRG) posited that a large drop could happen much more quickly, especially with the introduction of multi-function devices, combined with other characteristics. There could be a cohort among the young, that is mobile-phone-only, moving frequently, and who may never ever get a fixed-line. Other technology may eliminate the need for a fixed-line. There was, however, some evidence that once young people started having families they tended to get fixed lines.

Maurie (ABS) pointed out that mobile phone costs change dramatically all the time and may mean that mobiles could become cheaper than fixed lines. He noted that ABS had always struggled to achieve reasonable response rates among 19 to 24 year olds. This had always been a problem; the issue is bigger than mobiles.

Issues related to mobile telephones

Dwindling fixed line and increasing mobile telephone coverage, including advent of mobile-only households. But some evidence that young mobile-only users take up fixed lines as part of settling down to raise a family.

A watching brief is needed to monitor changes in coverage, especially of mobile-only households. Current watchers include ABS surveys and the SA door-to-door health survey.

Changing technology may eliminate the need for fixed-line telephones in the future.

Dramatic changes in costs may mean that mobiles are cheaper (and hence more attractive) than fixed lines.

The issue of achieving reasonable response rates among young respondents (19 to 24 year olds) is bigger than mobiles but the increasing mobile-only young population is a part of it.

Other issues related to mobile telephones are:

1. The sampling frame.
2. The contact method.
3. Participant options for responding.

There is also the issue of Internet telephony or VoIP (Voice over Internet Protocol[10]). The wider issue is changing computer technology in the medium to long term. Internet telephony is primarily a way to save money on long distance calls. There are also wireless, and satellite (to Internet with VOIP to computer) connections. Vodafone and other telephone service providers are reportedly plugging wireless cards into computers. Customers do not have a telephone number as they have a Skype[11] address instead.[12] It is conceivable that in the future, interviewers could have potential respondents on a contact list and dial on computer if they are on-line; or ring on a fixed-line if they are not on-line. Vivian related that 70% of the world's voice traffic was expected to be VoIP by 2007, and asked how fast people were moving to wireless

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[10] Also called IP telephony, Internet telephony, and digital phone: the routing of voice conversations over the Internet or any other IP-based network. See http://tinyurl.com/e34wx accessed 14 March 2006.

[11] Wikipedia describes Skype as a free VOIP solution or network, 'founded by Niklas Zennström and Janus Friis, the creators of Kazaa'. See http://tinyurl.com/7gzbm accessed 14 March 2006.

[12] An Australian Skype user can call a fixed line telephone number; but cannot yet be called on their own fixed line (although the latter is available in other countries).

telephony?[13] One proposition is that it is not worth worrying about, but does need a watching brief. Who is watching, and how do you watch?

SA reported that they already asked questions about people's use of mobiles, Internet usage, and unlisted phones in their door-to-door survey, and will include questions on wireless telephony in future. In the US, the National Health Survey collects information on mobiles etc., but Charlotte was not sure they were covering all the issues. ABS in its face-to-face interviews gathers information on respondents' contact preferences. They believed that their method of sampling was still appropriate.

Justin Lokhorst (ABS, SA) mentioned that the 2003 State Supplementary Survey for Queensland[14] had previously collected information on telephone coverage. The ABS 2004-05 national survey on *Household Use of Information Technology* included information on both broadband and dialup access to the Internet.[15]

There is a lag between emerging technology and the technology that is asked about in the Multi-Purpose Household Survey (MPHS), for example. However, user funded surveys (like the Queensland State Supplementary) could be run again if there was demand. The MPHS adds up 12 months of data before results are released and may not be as responsive as users would like. A valid question is why ABS does not publish the results on a monthly rolling basis. The Census also contains some relevant questions.

Issue of Internet telephony

Wireless access means that fixed lines are no longer necessary—70% of world voice traffic is expected to be VoIP by 2007.

Some software (e.g. Skype) uses a computer address (rather than a telephone number) as the contact point.

The major advantage is saving money on long distance calls.

Wider issues are changes in computer technology over time, and the lag between emerging technology and questions about it in surveys by 'watchers'.

Watchers need to include questions about wireless telephony in the future.

David Firman (Qld Treasury) noted that there were differences between how respondents preferred to be contacted and the optimal way to collect information; and differences between what respondents *say* is the best way to contact them, and what is

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[13] Wireless telephony is defined as 'telephone services based on signaling over radio frequencies rather than over fixed wires [and] includes mobile wireless and wireless local loop, as well as microwave, satellite and spread spectrum radio based telephony.' See http://tinyurl.com/meezt accessed 16 April 2006.

[14] See footnote 8 for details.

[15] ABS. Household Use of Information Technology, Australia, 2004-05. (Cat. no 8146.0) Canberra: ABS, 2005. http://tinyurl.com/hzvo7 accessed 17 April 2006. Results from the Multi-Purpose Household Survey conducted as a supplement to the monthly Labour Force Survey from August 2004 to June 2005 on access to computers and the Internet by people 18 years and over. First conducted in 1996, 2005-06 is now in the field.

actually the best way to contact them. Anne commented that mixed mode appeared to be a normal method used by many in the US; Charlotte added that it was an area that was currently being researched.

Vivian asked Forum members to pick up on the experience of internet surveys. ABS will be doing an e-Census (by email) this year, and they expect a high response rate from this method. ABS has done large tests of e- and paper-forms and it was presumed that the analysis was positive. Reasons for undertaking these tests included community pressure from people wanting to respond to the Census in this way.

In answer to a question on how they caught people who did not respond to the Census, ABS reported that they used a number of techniques. For instance, Collectors Districts are mapped and households are door knocked (although no lists of name or telephone numbers are retained). Household surveys are drawn from the Census, and selected households first receive an approach letter, and are then door-knocked, from which interviewers get telephone numbers to use in the survey.

WA suggested making an attempt to ask for name and address information from the Census. However, it was stated categorically that ABS will never give out that information. It is not even possible to pass that information between different areas within ABS. As the Census is only collected every five years the information would quickly get out of date. ABS itself has run into problems with data linking between Censuses.

ABS has the advantage that it can enforce a high response rate but that also means that they have to protect confidentiality; it is a double edged sword. Edouard pointed out that health surveys were in the same situation. The question was how do we do this? ABS is needed on board because they are the prime agency. Maurie stated that ABS takes its leadership role seriously, and if, at the end of the day, we have one consistent sampling frame, it works for all of us. The ABS Health Survey gets the highest response rate of any ABS survey run—which shows the interest that people have in health. About 96% of respondents say that it is ok to ring them back at the end of the survey. Could we have a data linkage question at the end of ABS Surveys to test how many respondents would agree?

Alison commented that accessing data sets from researchers using data linkage in WA was like trying to get into Fort Knox. Approximately 80% of respondents gave permission to link their information to administrative data sets, and give their date of birth, name, and other necessary information to make it possible.

Data linking

ABS has had difficulty linking Census data because of the 5 year time lag between Censuses. Legislation prohibits the use of ABS data for external (non-ABS) data linking.

Around 96% of ABS survey respondents agree that ABS may ring them at the end of a survey. Could ABS test a data linkage question at the end of their surveys?

In WA around 80% of respondents have given permission to link their data to administrative data sets, and provided additional personal information to enable data linking.

Vivian asked Forum members to comment on building a cohort for a panel[16], for example, as a different approach to one off surveys. The ABS Population Survey makes its first contact in a face-to-face interview, and offers respondents the option of the next seven contacts by telephone. This spreads the cost, and it also separates sampling from responding.

David Steel commented that a panel was a good method to use for characteristics that change over a short time; however, for characteristics that don't change quickly, there is not much gain.

Margo commented that NSW was considering methods for an environmental survey, using broad brush prefixes, and geocoding households, using approach letters or door-knocking to geographically select and enlist respondents.

Charlotte asked whether probability sampling was going out of the window. This is a subject of great discussion in the US and an issue to be thought of here.

Maurie told of a survey on a Bondi beach health issue that had collected name and address information from people on the beach and then rang them later about their health.

Panels

One method is to enlist respondents and do an initial interview face-to-face, with subsequent interviews by telephone (method used by ABS in the Monthly Population Survey). **Advantages:** Spreads the cost; separates sampling from responding.

Telephone panels and Internet panels have differences in mode of contact and response method.

There are also differences in panels composed of sampled and volunteer members. There is a proposal that these types should be flagged.

Sequential empanelling can also be used, and has strengths in relation to standard error of movement.

Can stratify and sample within the panel sample.

Panels are used a lot in the US. Recruitment of panels is an issue— these are the samples that marketing research uses—and they receive incentives. The panels are self selecting but there are claims that they have or use some kind of weighting.

Fearnley asked whether comments quickly generated, for example, when what the Prime Minister said one day is reported on the day after, are based on panels. Margo responded that this was not necessarily the case, as many people could be rung overnight quickly, and such comments were based on small samples.

In relation to the use of Internet panels, it was reported that AC Nielson did parallel Internet and telephone polls and both their predictions were more on target than other

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[16] Ipsos defines a panel as 'a representative sample of individuals or professionals regularly surveyed on identical variables' (see http://tinyurl.com/nncng accessed 8 May 2006).

methods. Fearnley reported that he is part of the Colmar Brunton Internet panel, and was rewarded by going in a draw for a prize (but never wins anything).

Michael Phillips saw a distinction between telephone panels and Internet panels—both in the mode of contact, and the method of response. It was not necessary to link the response method to the manner in which people were recruited. One of the biggest problems of panels is representativeness, but they do have promise. An evolving panel with sequential recruitment and drop off, which could be adapted could be investigated.

David Steel noted that some panel members have been recruited through a reasonable probability sample (for example, using left over CATI sample). Others are composed of volunteers. The suggestion is that these types should be flagged and then it would be possible to draw, for instance, only from the probability sampled types. There are draft standards that propose that the two types—sampled and volunteers—should be flagged.

Alison reported that Fearnley had prepared a nice sequential empanelling approach and if they were flagged as suggested above, a viable sample could be derived. Fearnley raised the most important source of error when trying to measure change, the standard error of movement. The design process therefore, has to look at error on change—two strengths of sequential empanelling. There is also the issue of educating respondents and bringing them to the average over time (for example, the Labour Force survey is too frequent at monthly). Three monthly interviewing, for example, would capture changes on seasons. Quarterly estimates can still be made based on three monthly interviews. Attrition is also an issue—early people may only do one or two interviews. The strength is that measures on the drop outs have been captured. If the sample is large it is possible to stratify and sample within the panel, for instance, interviews can ask smokers (only) about intention to quit.

Panels: disadvantages and issues: Panels are not appropriate for characteristics that change in a short time period.

Representativeness of panels is an issue.

Recruitment is an issue in the US and most use incentives to retain members.

Tendency over time for respondents to become 'educated' and move towards the mean—relates to frequency of interviewing (e.g. monthly too frequent; quarterly can capture seasonal differences).

Attrition—some panel members drop out early. Advantage is that there are measures on these members who drop out early.

Future of panels: Evolving panels with sequential recruitment and drop off could be investigated. NSW is considering using panel method for an environmental survey. Panels could be flagged according to recruitment method (i.e. sampling or volunteering).

Related issue: Is probability sampling going out of the window?

Vivian reported that COAG had issued a communiqué on *Better Health For All Australians*[17], that includes addressing risk factors and which could form part of the background or foreground work for the CATI TRG or Forum.

Mark (AIHW) suggested that panels were not the only solution because of the size of the panel you would need to get estimates, for example, on asthma. Prevalence could not be predicted unless the panel was constantly refreshed. Panels are not the right method for some of the issues. Alison reported that WA had a potentially huge number of around 80% of previous respondents who don't mind being contacted again, that have been acquired since 2002, even from small samples.

David Firman suggested that cross sectional surveys were better. Enormous panels would be needed to measure a longitudinal change of 1% in quit smoking rates. It was suggested that for that purpose you would have a panel of smokers, David agreed but said that then it was research, not a survey.

David Steel commented on the Labour Force Survey method, which had split panel decisions. It would be possible to set up a panel with over-lapping membership with moving averages cumulating independently. Using a panel there would be an initial extra expense of door knocking, that could be borne because the cost would then come down as it was spread over less costly telephone interviews, like the design of the Labour Force Survey.

SA commented that the Labour Force Survey going on at the same time affected the response rate for the SA health surveys. Edouard added that it works both ways. When WANTSA was in the field ABS said that it was affecting their response rate. He added that some Hunter Valley surveys are done as a panel survey on the internet—'monitoring your health over the long term'.

Vivian summed up this session as covering a range of technical issues, rethinking the ways sampling is done, and how to think about sampling which also raises questions about the purpose of surveys. Is it time to take a fresh approach and look at new ways for State health surveys? A fresh approach may lead to mixed methods: when and how?

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[17] Available at http://tinyurl.com/eac3q accessed 14 April 2006.

Session three

Vivian opened the session by asking where the discussion leads to in relation to the next generation of CATI. Is the next generation 'CATI Plus' or is it different?

Charlotte reminded members that multi-mode and mixed modes have always been used, in both the contact phase and in the response phase. There are options for response mode or sequential nature—follow-up or longitudinal (e.g. initial interview face-to-face and subsequent interviews by fixed line or mobile telephone). If mixing modes, should they be combined into one dataset? This is where the issues are.

It is clear that multi-modes eliminate a great deal of non-response and coverage error. There is current interest in what should be done with measurement error, now that there are so many different modes: email, text, message, fax, face-to-face, fixed line telephone, mobile telephone, etc. Some modes are auditory; the locus of control changes; there are time-type differences; and many cognitive differences.

Multi-mode studies have shown that interviewer-administered and self-administered was the biggest source of difference. In Charlotte's latest work on multi-mode—telephone-mail-personal interview—she had found improved quality of response. However it was not possible to compare changed questions especially scalar type questions. The big issue is how to provide the same stimulus? Positives include cost, response rate, and privacy. A 2001 article suggested [that when] respondents can choose between all modes that leads to administration error and the overarching problem of measurement error.

NEXT GENERATION

Mixed mode? When, why, how should mixed modes be used? Many factors and issues to consider, e.g. the many different modes: email, text, message, fax, face-to-face, fixed line or mobile telephone, etc.

Mixing modes - in the contact phase and/or in the response phase.

Concurrently—where respondents choose the mode.

Sequentially - follow-up or longitudinal, e.g. initial interview face-to-face and subsequent interviews by fixed line or mobile telephone.

Differences between modes: some are auditory; locus of control changes with different modes; there are time-type differences and many cognitive differences; and attitudes to mode vary (e.g. mobile phone is a private device).

Issue: Should data obtained from mixed modes be combined into one dataset?

Multi-mode studies show (1) differences between method of administration (e.g. largest source of difference was personal interview vs. self-complete); (2) improved quality of response (however not possible to compare changed questions especially scalar type questions); (3) differences in the type of people who respond by different modes (e.g. postal vs. telephone); but suggest that (4) respondent choice leads to administration error and the overarching problem of measurement error.

SA said that they knew there was about a 3% difference between face-to-face and telephone interviews in relation to smoking, BMI, and other measures. This was attributed to more 'socially desirable' responses in telephone interviews.

Vivian asked what was the basis for deciding when to use mixed mode and how they should be mixed? Anne (SA) talked of the US experience, where the low response rate is driving the use of mixed mode. Charlotte spoke of her experience doing a follow-up telephone interview for a mail survey on telephone use. She had thought that the follow-up would bring in the people who couldn't be contacted but it brought in the previous refusals, and 150 more participated from contact by this second mode after their initial non-response. There were differences in people who responded by mail, and those who were brought in through the telephone follow-up. An incentive (a pre-paid telephone card) was also included on the last ditch effort of the paper survey. Joy Eshpeter (DoHA) asked whether Charlotte's findings could be an artefact of the survey—the fact that it was a survey about telephones that was answered on paper.

Margo commented on the manner in which Australian surveys will be split into modes, for example, the National Drug Strategy Household Survey (NDSHS). Mark clarified that the survey now only had two modes: self complete and telephone interview. The NDSHS was initially divided into two modes in order to test CATI as a method for collecting information on illicit drug use. In 2004 the sample was enlarged because they had had some odd inter-mode response effects. Once again the sample was enlarged but they still observed some strange effects. Jenny Taylor (Research and Marketing Group, DoHA) added that there was also a reduced response rate and they needed to increase the sample size to look at State differences. Mark concluded that they know there are some mode effects but don't know which is 'right', so the more they use maybe the closer they will get to the truth.

Fearnley suggested that for some types of questions there is a mode that surveyors and/or respondents feel is more appropriate. For example, with the Dental Survey, contentious topics were put into a mail-out questionnaire, while the CATI component was kept lean and as short as possible.

A recent article by Voogt and Saris[18] described a survey that had started with a sample of 1,000 from the electoral roll, found telephone numbers for them, and interviewed 70% with a 70% response rate (about 500 in total). They were then able to follow-up the remainder (by letters and door-knocking, etc.) and got the response rate up to 90% through these efforts. The authors concluded that amixed mode design is an efficient way of fighting bias in survey research.

Judy Stewart (ARCPOH) related the experience of a telephone survey followed-up with a mail survey with a few questions that were in both. The same question received different answers in the telephone and in the mail surveys. For some questions (especially those using the Lickert scale) those making paper responses were more likely to put 'some' than those responding on the telephone. Caution would be needed if the two sets were combined. A possible explanation of the

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[18] Voogt RJJ, Saris WE. Mixed mode designs: Finding the balance between nonresponse bias and mode effects. Journal of Official Statistics 2005; 21(3):367-387.

difference is that it could be priming: because respondents had already been interviewed by telephone. Maurie (ABS) suggested that it could be related to the visual effect as it was easier to compare scale visually than on the telephone.

Edouard reported on a paper that had looked at scalar questions and modes. The telephone was more 'Yes/No'. A feature of CATI is that it is possible to send email out to respondents when interviewing so that they would be able to look at the scale as they are being interviewed. Much of Hunter New England Population Health's CATI work is cross-sectional using such interventions.

Judy thought that with mail questionnaires respondents had a whole set of 'some'-'never' scales in front of them, and can pre-empt. It was suggested that this depends on complexity. Alison pointed out that there was also response bias. Some respondents answer on the middle—and we just don't know why. Charlotte suggested that the speed of telephone interviews could also restrict the number of things that respondents can think about.

Edouard noted that as there was no gold standard, no information or knowledge on which mode is best, only the differences can be assessed. Margo (NSW) considered that this was the role of validation studies versus ongoing surveillance. If the same error over time is made, that is probably acceptable, but when there are differing errors made, for example, changes in socially desirable answers over time, or the error changes in different ways over time, that is not.

Mixed modes

Positives include cost, response rate, and privacy. Mixed modes counter non-response and non-coverage errors. Some mode differences may be tolerable with acceptable reduction in coverage error.

Negatives include the added complexity of administering and increase in administration error; and creating more measurement error.

Issue of mode effects and the ability to fit the mode to the nature of the question as well as to types of respondents. For some question types there may be a mode that respondents feel is more appropriate, e.g. a mail-out questionnaire used for contentious topics while a CATI component is used for non-contentious topics. Scalar questions are easier to compare visually than on the telephone (a CATI feature makes it possible to email the scale to respondents while they are being interviewed). The telephone is more 'Yes/No', and the speed of telephone interviews may restrict the number of things that respondents can think about.

Issue: for some questions there is no gold standard and little information on which mode is best, only the differences can be assessed currently.

Fearnley described a paper by Paul Biemer[19] comparing face-to-face with telephone interviews, which found that face-to-face surveys had greater total bias (largely due to

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[19] Biemer PP. Nonresponse bias and measurement bias in a comparison of face to face and telephone interviewing. Journal of Official Statistics 2001; 17(2):295-320.

their higher measurement bias) than telephone interviews. This was explained as a mode effect linked with the better training and supervision of telephone interviewers.

Vicki Graham (Survey Research Centre, University of WA) agreed that the training and supervision of interviewers definitely had an impact on responses; if interviewers are trained to give the same prompts or explanations it can positively improve the quality of response. NSW reported that their in-house interviewers were part of a bigger process and therefore more informed, trained to clarify and give broad information on why the survey is being done—but without spending too much time on explanations. Vicki added that their interviewers will take concerns and interpretations back to the Health Department and as a result of this, problems have been picked up. The Department also feeds back to interviewers, which is why the relationship is important. Overall, it builds a strong team with high motivation. Carolyn Dunn (DoHA) raised the issue of incentives for interviewing staff. Interviewers should have incentive to do the best survey (rather than, for instance, having to do a minimum number per hour).

ABS noted that asking the question as it is worded is the key thing, and reported an economic survey done by CATI with 'subtle supervision', such as sitting in with interviewers, and measuring whether questions were asked as they were worded. Without this sort of effort, all the other effort is wasted.

Charlotte thought that if definition or clarification was asked for, then it should be in the questionnaire—rather than only supplied to some respondents. 'Behaviour coding'[20] identifies poor questions more than poor interviewers. If the interviewer does not ask the question as it is written, that is a clear sign that there is something wrong with the question, and that it is time to re-write it. Margo (NSW) disagreed, and raised the concept of expand/clarify 'if asked' only. Some information is included in the questionnaire, while other information is there for a response 'if asked'. There are always some people who need that bit of extra information; and the 'if asked' material is designed for them. An example is use of interchangeable terms such as 'incontinence' or 'urine leak'; 'diarrhoea' or 'loose stools'. They have no desire to insult the majority by using very simple language as standard.

Alison (WA) also highlighted how critical interviewers are—it is not only the mode but also who is asking it that is important, and the interviewer is key to the process.

On the importance of interviewers…

The better quality training and supervision of telephone interviewers was thought to result in reduced measurement error (Biemer).

Quality of interviewers was acknowledged as critical to high quality response in surveys.

Authority of interviewer is also important to response.

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[20] Behaviour coding is used to analyse interviewer/respondent interactions and identifies deviations from the norm, such as long pauses, questions of clarification, repetition, interviewer difficulties, etc.

Maurie (ABS) said that that was why ABS used face-to-face surveying for 45 minute interviews in the Social Survey - because they believed that it is the only way to get the quality they want.

Charlotte reported that the Behavioral Risk Factor Surveillance System (BRFSS) in the US is experimenting with using a mail survey off a postal list—as a way to overcome difficulties with telephone surveying. At the Second International Conference on Telephone Survey Methodology[21] there was an article on three modes: telephone, Web, mail. Web and mail more-or-less coincided, while telephone was very different in that it had more positive responses. It was concluded that that was because telephone respondents could not see the scale. More than one mode would have to be studied to find out if this was the case.

It was pointed out that both mail and Web also had no direct contact. It could be that the telephone mode was more positive because respondents thought that that was what the interviewer wanted to hear (and gave 'socially desirable' responses).

David Steel suggested that maybe some mode differences were tolerable because a reduction in coverage error was acceptable.

The question is how to combine or add up the modes.

Maurie (ABS) said that for a telephone interview 20 minutes is the maximum, 10 minutes is okay, less is best. The ABS Monthly Population Survey follow-up is about 10-20 minutes for CATI; up to 45 minutes for CAPI. Margo commented that interviewers haven't built up any rapport in less than 10 minutes.

David Firman suggested that both the mode and the administration effect depend on the questions. He related a recent natural experiment, in which all year 12 school leavers had been surveyed using a mixed mode approach. They were sent a paper questionnaire, and could also respond by Web; and were followed up by telephone. There was no unique code for respondents. The incentive was a chance to win an Ipod. Several responded several times. David had the job to match the responses to respondents, and found that it could be done.

A very low take-up of a Web option was reported—it was found that only 10% responded by Web. Of the remainder, half responded by mail; half in CATI follow-up. However, in the focus group for the survey the majority had said that they would prefer to do follow-up by Web.

Anne (SA) described a Web survey with open-ended responses that had received many responses with four-letter words—showing that respondents were not taking it seriously at all. Alison (WA) asked whether it was an issue of authority, and whether the need to answer increases with authority.

Michael reported that some specific Web surveys for school children have worked well provided that schools were tooled up with computers and didn't have virus infections.

Judy (ARCPOH) reported a 95% response rate to an email survey. Carol Soloff (LSAC) described how they had mailed out a questionnaire one year after two thirds

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[21] TSM II held in Miami in January 2006.

of respondents in the dress rehearsal said 'yes' to an on-line survey— but only 10% actually did it on line. They also sent an email with a link to an on-line survey—the response improved about 10%. In total they received 7:1 hard copy to on-line completed responses.

David Firman suggested that Web was the easy way to ignorability. Easiest thing to ignore is an email, next easiest is a piece of paper; hardest is the foot in the door. Others supported the importance of authority in relation to Web or internet surveys. For email it depends on where the survey is sent—to people at work versus at home. Lora (SA) pointed out that it also depended on whether people had broadband. Cost was raised as another issue.

NEXT GENERATION

Internet/Web and Email

Web modes were considered disappointing so far with some exceptions (e.g. tooled up schools, Internet-savvy professionals).

Both very high take-up (over 95%) of Web options and very low take-up (around 10% - despite majority of respondents claiming Web as their preference) were reported. Use of (reminder) email to send a link to an on-line Web survey was found to improve low response somewhat.

Response may depend on where Web surveys are sent—to people at work versus at home—if the latter, broadband may make a difference but cost is an issue.

Importance of authority in relation to Web or internet surveys was reiterated.

Both Web and mail surveys are easier to ignore than face-to-face interviews.

In summary maybe Internet is not the next generation on from CATI. Alison (WA) thought that it sounded like mixed mode was the next thing.

Joy (DoHA) volunteered as a good mail-out—a Food Frequency Questionnaire. Anne (SA) suggested recruiting on CATI and then mailing it out. Margo advocated that it was better to pay for a proper nutrition survey.

It was thought that sometimes mixed mode was useful, at other times it was not. A higher administration cost for mixed mode can mean increased cost for no great gain.

Vivian asked whether there was a need for methodological consistency. Michael noted that surveys still had to choose between modes. What is needed is a pool of pilot studies—across jurisdictions—to pilot the different modes and explore the differences. Maurie (ABS) agreed. Pilot studies should explore various options, e.g. being CATI-based for most modules, but where there is a scale, fire off a Web-based visual.

Patrick McElduff (Hunter New England) cautioned not to over-estimate peoples' computer savvy. If there are *any* problems, people say 'bugger it'. Therefore, keep it as simple as possible.

Charlotte agreed that mode options should be explored, but reiterated that there has to be a reason for the mode (e.g. to choose mixed mode, or the second mode). Having a supplemental survey of mobile numbers screened for mobile-only should lead to reduced coverage error.

Where do we go with the next generation? Will different States be doing different things? Margo reported that this was happening already. Most States were also doing non-CATI as well as CATI surveys. Mixed mode is the least done. But there has to be a benefit to introduce mixed mode. Anne (SA) suggested that mixed mode might be the next generation but the current effort should be on research.

NEXT GENERATION

Internet/Web or Mixed Modes?

In summary: Internet/Web is probably not (yet) the next generation on from CATI. Mixed mode was considered more promising. However, sometimes mixed mode will be useful, and at other times not; need to be clear about the benefit to guard against paying higher administration costs for mixed mode without any real gains.

Current effort should be on research: A pool of pilot studies is needed to explore the differences of the various modes and mixes.

Is it time to for the CATI-TRG to morph into a more general entity, for example, into a 'Population Health Surveillance Group' or a 'Health Survey TRG' that employs or encompasses different types of methods?

Maurie (ABS) thought that the ideal was to obtain a good quality, rich dataset on Australian health: it should be a coupling of all. Consistency is therefore the big issue. This group can share pilot testing—with different members doing different things in different places, with the aim being to achieve good quality and consistency across states.

Mark (AIHW) suggested a best practice manual that includes response rate definition. With the EWP frame shrinking there is a need to think about what the denominator and coverage are, and how they are best described. Anne (SA) agreed that there should be a standard response rate in Australia.

David Steel suggested that there was a need to keep looking at weights as they will drift up as coverage decreases. There is a need for an overall coverage and response rate measure. For instance, if the sample is 100% and coverage is 200, the effective response rate is 50%. The measure is the proportion of people reached, over the proportion that should have been reached.

Mark argued that there was a need to be honest about what the coverage is. There should be a very long, very precise description available. This would raise the level of awareness. Anne (SA) agreed that there should be standardised reporting that can be compared instead of being hidden.

Michael Phillips concurred with the need for common reporting of common components (such as definition of response rate). He referred to the CONSORT

Statement[22]—a framework of key items that should be reported for clinical trials (e.g. how randomisation was calculated, protocols for different arms of the study etc.) so that all researchers report common elements, to enable meta-analysis and eliminate dodgy techniques.

Edouard agreed with the need for transparency. For example, the *Medical Journal of Australia* will not publish any information from a clinical trial unless the trial has been registered beforehand. There are also the WHO Guidelines for cross-country studies. And there are strict guidelines for sample selection, and on how to analyse data to achieve consistency.

Charlotte described the beneficial effect that the American Association for Public Opinion Research[23] (AAPOR) has had in the US. AAPOR specifies which formula people can use, and although the response rate formulas were only created in 1998 everyone uses them now, and they have significantly improved the quality of reporting on response rate, cooperation rate, etc.

Margo reported that there was quite a lot of work on consistency between States that had already been done, including recent work on data pooling. There were issues regarding the level of technical detail– not everyone wanted the same level of detail. She stated that the way that response rate was managed was similar in all States.

The ideal: A good quality, rich dataset on Australian health.

Issue: need for methodological consistency across collections. Although there has been a lot of work already done on consistency between the States (including recent work on data pooling) issues remain regarding the level of technical detail that is reported.

Possible responses

A best practice manual that includes high precision definitions of response rate, denominator and coverage.

One standard response rate in Australia.

Attention to weights and an overall coverage and response rate measure that measures the proportion of people reached, over the proportion that should have been reached.

A standard for common reporting of common methodological components, guided by something similar to the CONSORT Statement for reporting clinical trials.

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[22] The CONSORT (Consolidated Standards of Reporting Trials) statement (1996, revised 2001), is a set of reporting recommendations for randomised controlled trials (see www.consort-statement.org.). Endorsed by the World Association of Medical Editors, the International Committee of Medical Journal Editors, and the Council of Science Editors, studies suggest it has played a part in improving the quality of reporting of trials (see Altman DG. Endorsement of the CONSORT statement by high impact medical journals: survey of instructions for authors. British Medical Journal 2005; 330(7499):1056-1057).

[23] The American Association for Public Opinion Research (AAPOR) – see www.aapor.org .

Anne Taylor (SA) raised the issue of incentives. Patrick (Hunter New England) asked whether they were ethical. Andrew Stanley suggested that incentives were most often used in small scale surveys with hard to reach groups, such as homeless youth. Government departments using incentives were more likely to attract criticism. Margo related an experience of about ten years ago, with respondents sending back 'incentives' saying that they shouldn't be wasting government money.

Charlotte said that incentives were being used more and more in the US, and were frequently used with panels to retain membership. Certain administrative modes also attracted them more, for instance, if respondents had to pay to participate (e.g. for mobile phone calls). Most incentives were small and more of a 'token of appreciation': things like a pen, or stamps, etc. Differential incentives may be used with hard to interview groups.

Andrew Stanley reported that in Australia, where ethics committees *have* agreed to their use, the incentives have been very small. A substantive payment to be on a panel for eight months would be hard for an ethics committee to agree to. Michael Phillips raised lottery type incentives, for which there might be issues with State requirements for lotteries to be licensed, and on the ages of people allowed to participate, for instance.

Anne Taylor described a pilot for a cohort study that used a $20 incentive to get people in to give blood, but found that it had no effect on response. Commenting on Anne's experience, David Firman suggested that incentives probably had to be pretty high in value to make a difference to response.

Margo (NSW) thought that it could be insulting to offer too small an amount, and gave an example where respondents had said they 'would have been happier with a biscuit'. David Firman asked whether, if you bought someone's time were you buying their answers. Michael Phillips suggested that incentives devalued the moral reward of voluntarily donating your time to participate in a survey for the public good, although he thought they could still be used in pilots. Maurie (ABS) suggested that they should only be considered if the response rate was very low. There was the potential for incentives to spiral as surveys would be competing with each other.

Andrew Stanley commented that this was a negative effect of telemarketing, and that it would be strategically bad to go down the incentives track as the very important differentiation of public good research would be lost. In the matter of incentives he suggested that we should head towards Finland rather than the USA.

Charlotte noted that there were very big differences between pre-paid versus post-paid incentives, and that pre-paid were more effective. Incentives do work if you need them. In the US they are called 'tokens of appreciation' rather than 'incentives'.

Anne Ellershaw (ARCPOH) described the incentives included in the current dental survey, which includes a dental examination. Participants get a Colgate pack that included an electric toothbrush, which she commented was a bit like sponsorship. Judy Stewart (ARCPOH) related how in a recent survey a movie pass was sent to some but not to others, however, in follow-up interviews they found that it made no difference.

Caroline Arthur (ABS) said that ABS focus groups were usually paid $50 for two hours, and others did similar, but that this was because being in a focus group was more like work.

Use of 'incentives' or 'tokens of appreciation'

Issues: Are they ethical? Are surveys buying answers when they buy respondent time?

In Australia, most often used in small scale surveys with hard to reach groups (e.g. homeless youth); government departments using them are likely to attract criticism; there are issues with lottery-types (State licensing, participant age); substantial payments (e.g. for panels) are unlikely to be approved by ethics committees.

In the US, used more and more to counter low response rates; frequently used to retain panel membership; used more in some administration modes (e.g. pay-for-call mobiles); usually small, called 'tokens of appreciation'.

Incentives may need to be high in value to make a difference to response (Australian experience shows no difference in response for small value incentives, e.g. a movie pass).

Differences between pre-paid versus post-paid incentives — pre-paid have been found to be more effective.

Negatives: It can be insulting to offer too small an amount. There is the danger of devaluing the moral reward of doing a survey for the public good; and losing differentiation with telemarketing, which is important to the response rate. There is also potential for incentives to spiral as surveys compete with each other.

Positives: Incentives do work when a survey needs them.

Vivian summarised the issues canvassed in this session on mixed modes –it was important to have clarity and to ensure that modes fit the purpose, how to deal with possible sources of error, how they were linked to the quality of administration, and how they could be used to encourage people to participate.

Closing session

Vivian commenced the final session by asking for Forum members' closing observations. Charlotte responded that she was happy to have had the opportunity to participate and felt that Australian surveys were following best practice. It was good to have the Forum to bring people together to discuss the issues, many of which are not resolved in developed countries. It is an exciting period of change, with many new things happening. Don't get discouraged!

In response to Vivian's asking for any 'must do's or 'don't do's, Charlotte suggested that best practice in a period of change included monitoring changing telecommunications, especially with the proliferation of mobile telephones and telecommunication devices. She suggested lobbying for a Do-Not-Call list in Australia; and working on the standardisation of response rates (as AAPOR has done in the US) as it is then possible to refer to a formula rather than describing response rate calculations in detail. Her last point was the need for a list to replace the EWP sample list.

Mark Cooper-Stanbury commented that from a national perspective (i.e. from the perspective of Australian Government stakeholders such as DoHA, ABS, etc.), there were challenges in getting them 'onto the same page', but there was also opportunity as together they would be a strong lobby to go to higher levels and to advocate at all levels with national committees. The Australian Government can potentially offer national leadership to support State efforts because it does not do much surveillance in its own right (with exceptions e.g. tobacco tracking). The *Blueprint for nation-wide surveillance of chronic diseases and associated determinants*[24] provides another opportunity, but there's a need to think out what it means at the sharp end of surveillance, how to agree on priorities and so on. Separating out the methods used to select the sample, from those used to contact respondents, and then for the response equates to 27 different combinations of methods. Surveillance *is* working: need to be positive. Surveillance is getting good quality information to the people who can use it. Lastly, ABS should monitor Internet usage.

Karen Dempsey responded that today had been beneficial as the NT was just starting to look at population surveillance. The NT had two big differences to other jurisdictions: (1) a large Indigenous population, and (2) a very mobile population. These need to be considered in choosing a sample method, for instance, RDD versus EWP—with the 2004 EWP for the NT already about 60% out of date.

Alison Daly (WA) said that she would investigate the linked data set in WA, and that WA would have to use RDD but only if they could get a geographic data set.

David Firman (Qld) said that he found the RDD variation positive. In relation to mixed mode there would need to be some work around reliability and validity if mobile-phone-only homes were to be monitored, and he would talk to ABS about this and suggested that other States should do the same.

Margo Eyeson-Annan (NSW) said that there were many reasons to choose CATI including cost, coverage of a large state etc. Regarding mixed mode (such as Internet

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[24] See http://tinyurl.com/jgtu3.

with CATI) NSW will purchase the Sawtooth[25] mixed mode module, and look at the technology, for example, it could enable some interviewers to work from home, especially other language interviewers. NSW would also hold discussions with David Steel about the sample frame (in relation to testing telephone number prefixes), and look at using administrative data sets. NSW has been geocoding some addresses.

Anne Taylor (SA) was disappointed at the lack of achievement in tackling the list, for example, in relation to looking for the next generation. The answers were not there today—but there were lots of areas for research identified, and SA was in a unique position to collaborate, which they do well.

Andrew Stanley as chair of the CATI-TRG spoke of the need to gather more substantive evidence; to use the momentum of the COAG interest in chronic disease to argue better use of HIC data, which would need good evidence to argue hard as it would be a major policy shift. He thought that getting list data from ABS or the Integrated Public Number Database (IPND) was not possible, and that HIC was the best option to pursue.

Fearnley Szuster (PHIDU) said that the separation of selection, contact and response was clearer now and something that he would think about and work on. In the medium to longer term it will be a more important issue. A range of projects and research are needed. He referred to Don Dilman in 2000 who stated that the Web adds another arrow to our quiver, but all methods are valid. Edward Deming's 13 sources of error (published in 1944[26]) lent support to the need to examine different approaches.

Michael Phillips (WA) in relation to collaborative research repeated a Confucian saying: When is the best time to plant a tree? Fifty years ago. He suggested that the CATI-TRG could play a part in getting new banks of telephone numbers.

> Confucian saying:
>
> When is the best time to plant a tree?
>
> Fifty years ago.

Carol Soloff (LSAC) said maybe it was time to go back to the Communications Authority to ask for a list of prefixes. IPND should give one-point access to telephone number and address. Charlotte reiterated that finding a list, even for the RDD sample, was really important or surveys would be very basic and inefficient.

Vivian suggested that the CATI-TRG could look at:

1. Research to move the agenda forward;

2. Different approaches to be tried now or soon using the time framework: now, medium term, longer term, and to think about the work program in these terms;

3. Whether 'CATI-TRG' remains an appropriate name.

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[25] Sawtooth Technologies at www.sawtooth.com.

[26] Deming WE. On errors in surveys. *American Sociological Review* 1944; 9(4):359-369.

Other concluding issues:

- should there be a central repository location to store information when people discover new banks of numbers, such as a sampling company or 'sample shops'?

- is it time to lobby the ACMA again, and to get more people involved in lobbying them?

- does this group or an augmented group (population health, education, etc.) need to be lobbying for legislative change to allow public good research to go ahead? Or should it consider paying someone to set up a company to get a list of prefixes—seen as more likely than the former? It would need address and telephone number. Perhaps consider using a professional lobbyist or campaigner.

- perhaps respondents could be surveyed to see if they support such a move.

These issues should go onto the CATI TRG agenda to be further explored. But remember that such a move needs a constituency.

In closing the day's proceedings, Anne Taylor thanked all participants in the CATI Forum, and especially the organising committee, Selena for her administration, Su for notes, Vivian for being a marvellous facilitator, Charlotte for coming over and sharing, members including other invited experts for attending, and DoHA and the Commonwealth for funding.

Attachment 1 Program

<div align="center">

Challenges for Computer Assisted Telephone Interviewing in Australia: *Current & Future Perspectives*

Computer Assisted Telephone Interviewing Technical Reference Group Forum to be held 24 February 2006 at the Majestic Roof Gardens Hotel Adelaide

PROGRAM

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Introduction (Convenor—Vivian Lin)
9:00am—9:30am

A short introduction about the current 'state of play' of CATI surveys in Australia.

Address:

- impetus for the organisation of this day;
- introduce invited persons and outline their area of expertise;
- other participants introduce themselves;
- discuss format/how convenor is to facilitate the day;
- outline what the day is expected to achieve.

Session 1   **Current/evolving challenges for Computer Assisted TelephoneInterviewing**
9:30am—12:30pm

The aim of this session is to discuss recent changes in the field of CATI data collections and issues related to maintaining data quality and established collection practices. Current, evolving and telecommunications issues will form the basis for discussion.

Current issues include: Sampling issues (access to samples, generating samples, using outdated telephone directories as sampling frames), scope and coverage issues, representativeness of samples, alternatives to EWP/DtMS for sample selection or matching.

Evolving issues include: trend towards mobile phones, response rates, respondent burden, other?

Use of panels: Methods, pros/cons, Is there a future for this method?

Morning Tea
10:45am—11:15am

Session 1	**Current/evolving challenges for Computer Assisted TelephoneInterviewing (continued)**
	11.15am—12:30pm

Telecommunication issues include: Overview on efforts in relation to access to IPND:

- *Is it worth pursuing, are we really getting anywhere?*

Key questions to consider:

- What is the lifespan for CATI?

- Under what circumstances would we be forced to use other data collection methods?

- What are fundamental aspects of CATI that could be consistently measured for assuring ongoing viability and data quality?

- How do we maintain the quality of data collected

- Other?

Lunch
12:30pm—1:30pm

Session 2	**Complementary Data Collection Methods for Computer Assisted Telephone Interviewing**
	1:30pm—3:15pm

The aim of this session is to discuss alternatives to CATI for data collection, together with complementary and supplementary data collection methods (and mixed modes).

Potential for other existing mediums includes: mobile phones, internet & e-mail.

Multi-frame, mixed mode designs: current practices, viability, potential for further use.

Issues related to individual vs household selection: selection practices, weighting.

Key questions to consider:

- What is the practicality of actually moving to other modes of collections?

- What are the risks involved, how do we quantify them, who is prepared to take them?

- What are costs involved, are jurisdictions prepared and set up to start going in any new directions?

- What are lead up times/events etc? Are there any new/recent experiences that may be shared?

- How can we best learn from experiences (of other organisations) in any other alternative methods for data collection?

- What can we be doing now to facilitate any transitions to new ways of collecting data?

- When should talk change into action!?

- Other?

Afternoon Tea
3:15pm—3:45pm

Session 3   Summing up
3:45pm—4:30pm

The aim of this final session is to summarise and share key 'take-home' messages from the day.

Lessons learnt, 'new ways' of doing business (40 mins)

- International perspectives?

- Other perspectives?

- Overview and summary by convenor. (20 mins)

Close / thanks / acknowledgements

Attachment 2 Biographical information

Charlotte Steeh

Andrew Young School of Public Policy, Georgia State University
Associate Research Professor, Public Administration and Urban Studies
Ph.D., University of Michigan

Specialties:

Survey Methodology
Racial Attitudes
Urban Inequality

Charlotte Steeh joined the Andrew Young School after serving six years as the director of the Detroit Area Study, a practicum in survey research methods sponsored by the University of Michigan's sociology department. Her current research, funded by the National Science Foundation, seeks to determine how the increasing use of cellular telephones is affecting the validity of data from telephone surveys. Charlotte's other work focuses on changes in racial attitudes among both white and black adults since 1942 as they are revealed in interviews conducted by the National Opinion Research Center, the University of Michigan's Survey Research Center, Gallup, and media polls such as the New York Times/CBS and ABC/Washington Post polls. She is a co-author of *Racial Attitudes in America: Trends and Interpretations*. Charlotte also has published articles that track trends in the willingness of adults to participate in surveys from the 1950s through the 1990s.

Steeh, Charlotte, Nicole Kirgis, Brian Cannon, and Jeff DeWitt. 2001. "Are They Really As Bad As They Seem: Nonresponse Rates at the End of the Twentieth Century." *Journal of Official Statistics* 17: 227-47.

Steeh, Charlotte. "Surveys Using Cellular Telephone: A Feasibility Study." Paper presented at the Annual Meeting of the American Association for Public Opinion Research, May 15—18, 2003 in Nashville, Tennessee.

Steeh, Charlotte. "Surveying by Cell Phone: Initial Findings." Panel Presentation at the Annual Meeting of the American Association for Public Opinion Research, May 15—18, 2003 in Nashville, Tennessee.

Steeh, Charlotte. "Surveying by Cell Phone: Initial Findings." Presentation at the 2003 Cell Phone Summit , February 13 - 14, 2003 in New York City.

Steeh, Charlotte. "Curse or Cure: How Wireless Communication May Affect Telephone Surveys." Invited presentation at the 19th Annual Behavioral Risk Factor Surveillance System (BRFSS) Conference, Centers for Disease Control, Atlanta, Georgia, March 12, 2002.

Steeh, Charlotte. "Technological Challenges to Telephone Surveys." Invited presentation at the 18th Annual Behavioral Risk Factor Surveillance System (BRFSS) Conference, Centers for Disease Control, Atlanta, Georgia, March 14, 2001.

Steeh, Charlotte and Gary Henry. "Survey Topic and Refusal Rates: Evidence of a Relationship." Presentation at the Annual Meeting of the American Association for Public Opinion Research, May 13-16, 1999 in St. Petersburg, Florida.

Attachment 3 Summary of the CATI Forum

Summary of the CATI Forum prepared for the National Public Health Information Working Group, March 2006

Major issues arising at the CATI Forum:

Key issue now: Sample frame—other possible sources include: electoral roll, Medicare Australia list, government administrative databases, list-assisted Random Digit Dialling, lobbying (again) for access to existing telecommunications authority lists. These are discussed under **Possible responses** below.

Longer term issues:

- Sampling base changing from household to personal with impact of new and emerging telecommunication devices and methods.
- Methodological concerns arising from need to combine samples based on different coverage.
- Lack of a 'gold standard' means can only assess differences and don't know which mode is 'best' or preferable for different types of questions.
- Lack of information on mixed modes needs research, pilot studies, reliability and validity testing, etc.—is this a role for CATI-TRG?
- Is it time to change the 'CATI TRG' into a 'Population health survey TRG' with expertise in a range of different modes and methods?

Invited expert recommendations:

- Monitor proliferation of mobile telephones and other telecommunication devices;
- Lobby for a 'Do-Not-Call' register (with 'public-good' research exempted);
- Work on standardisation of response rate so formula can be referred to rather than rates described in detail.

Summary

The twin focuses of the CATI Forum were:

- networking and collaboration, and
- methodological issues including harmonisation jurisdictionally and nationally.

Motto: Be prepared! Be prepared to take up challenges to evolve best practice, to maintain best practice into the future, and identify changes needed now, in the medium term (that should be prepared for now), and long-term forward planning for changes for CATI in the survey field.

Key issue now:

How to modify the sampling frame now that Electronic White Pages (EWP) are no longer active?

Possible responses:

1. List-assisted Random Digit Dialling (RDD). Negatives: results in many non-working, business, and unlisted numbers which lower the response rate. Positive: do get unlisted numbers and their response is good, business numbers and non-working prefixes can be 'washed' out of the sample to improve efficiency. However list-assisted RDD has required matching with EWP to generate prefixes and to match sampled numbers back in order to send out primary approach letters.

2. Access to other lists for the sample:

    a. Electoral roll—need to match to telephone numbers.

    b. Medicare Australia (previously Health Insurance Commission).

    c. Government administrative databases to find working banks of telephone prefixes.

3. A central repository or location to store information (e.g. when new banks of telephone numbers are discovered). Could be a sampling company or 'sample shop', holding information on prefixes, or address and telephone number plus geography (national, state, local level). Need to maintain sampling frame and access lists to emerging types of telecommunications devices –mobile telephones, VoIP (Voice over Internet Protocol), Email; as well as fixed line telephone services.

4. Lobby (together with other sectors, e.g. education) the Australian Communications and Media Authority (ACMA) again for access to the Integrated Public Number Database (IPND) to allow 'public-good' research to go ahead. Issue needs a constituency - survey our populations to see if they support such a move?

Sampling basis moving from household to personal

5. Separation of: **selection** of respondent, mode of **contact**, and mode of **response,** has many permutations and implications.

6. **Changes in, and emerging telecommunications**

    a. Mobile telephones. Negatives: costly, no list therefore no list assisted selection, no geography, some shared use, high refusal rate, biased population. Positives: out number fixed lines, represent particular populations (job sector, youth, business people), enable individual sampling, over time - good for longitudinal studies and panels.

    b. Internet telephony.

    c. Email, Internet surveys - Web so far disappointing as survey medium.

    d. Tracking percentage changes of fixed lines relative to VoIP and mobile telephones—can they be tracked? Do we expect rapid change?

Proposition that it's not worth worrying about now, but needs a watching brief for the future.

Mixed modes

7. **Mixed modes—when, why, how?** Many factors and issues to consider:
   a. Mixing modes - in the contact phase and/or in the response phase.
   b. Concurrently—where respondents choose the mode.
   c. Sequential - follow-up or longitudinal. Initial interview face-to-face and subsequent interviews by fixed line or mobile telephone.
   d. Combine into one data-set including follow-ups?
   e. Counter or eliminate non-response and coverage error.
   f. But what's happening to measurement error?
   g. Locus of control changes with different modes.
   h. Attitudes to mode vary (mobile phone is a private device).
   i. Only small differences in estimates over average (as currently speculated).
   j. Differences between method of administration (personal interview vs. self-complete).
   k. Ability to misuse privacy and confidentiality.
   l. Administration problems.
   m. Ability to fit mode to nature of question versus types of respondents?
8. Lack of 'gold standards' means can only assess differences, likely that different modes are 'best' or preferable for different types of questions (e.g. scalar questions). Lack information on mixed mode - needs research, pilots, reliability and validity testing. **TRG could move a research agenda forward** with different approaches: to be tried now, soon, and over the long term as part of the CATI TRG work program.

Ambit and life expectancy of CATI? Is CATI dead? Long live CATI!

9. Fresh approaches likely for the next generation of CATI—CATI Plus or something different?
   a. Face-to-face initiation with telephone follow-up (e.g. panel surveys).
   b. Respondents' willingness to be linked or followed in time (e.g. Census).
   c. Cross sectional versus panel/longitudinal purposes of surveys.
   d. Supplementary use of fixed lines and mobile telephones.
   e. Incentives.
10. Should CATI-TRG morph into a 'Population Health Surveillance Group' or 'Health Survey TRG' and include mixed mode methods?

Other issues identified:

11. How to sample geographically? Is postcode/suburb reporting a solution? Geocoding versus mobile phone list?

12. Competing with telemarketing - potential positive impact of a 'Do-Not-Call' register that exempts researchers. Positive value of primary approach letter before interviewing respondents. Differentiating 'public-good' research from telemarketing.

13. Quality of interviewer and interviewing practice - positive effect on response.

14. Influence of authority of questioner on respondents.

15. 'Consistency' across collections as goal - move to a standard for methodological reporting (e.g. response rate).