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# Evolving technology and consumer expectations about television

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## Television and technical advances

- > Pace of change in broadcast television has been relatively slow until relatively recently
- > Digitalisation has seen the household entertainment staple – the television set – move into the age of higher screen resolution, better rendering, the internet, and apps
- > A number of significant developments in recent years in technical standards for broadcasting, mainly because of the move to digital
- > Introduction (or trialling, or possible introduction) of technologies to enhance consumers' viewing experience – including HD, 3D, and ultra HD
- > Cost of flat screen LCD/LED and plasma television sets dropping, making newer technologies more affordable and more common

## Why the ACMA is interested

- > The ACMA is responsible for technical planning for broadcasting services
- > Advances in technical standards allow for increased opportunities to enhance the viewer experience, e.g., 3D
- > Also interested in understanding viewers' experience with digital television, to help our planning functions and assist with consideration of technical standards:
  - > Receivers (television sets, set top boxes and PVRs) and associated reception equipment (antennas, cabling, connections and signal filters and amplifiers) are important components in determining viewing experience – not just broadcast signal strength
- > Need to be mindful about the existing household television environment when looking at technical standards or developing advice to government

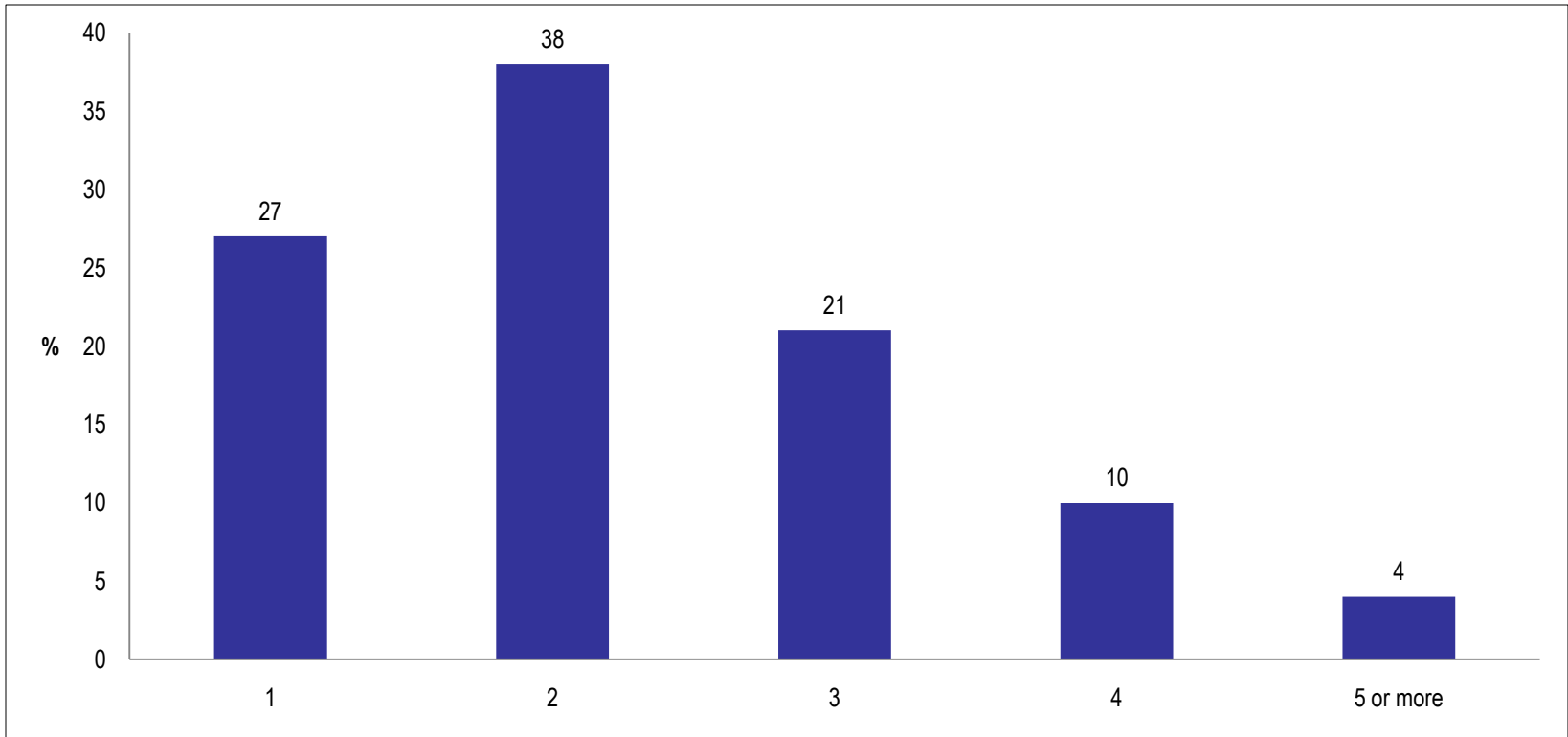
## Expectations about television equipment

- > How have consumers responded to technical advances – the television sets and other reception equipment they have?
  - > How long do Australian consumers expect a television set to last for?
  - > How often do they replace their main set?
  - > Is this changing as the price of television sets drops and new technology arrives?
- > Are Australian households getting the best out of their televisions sets?
  - > How adequate are domestic antenna systems?

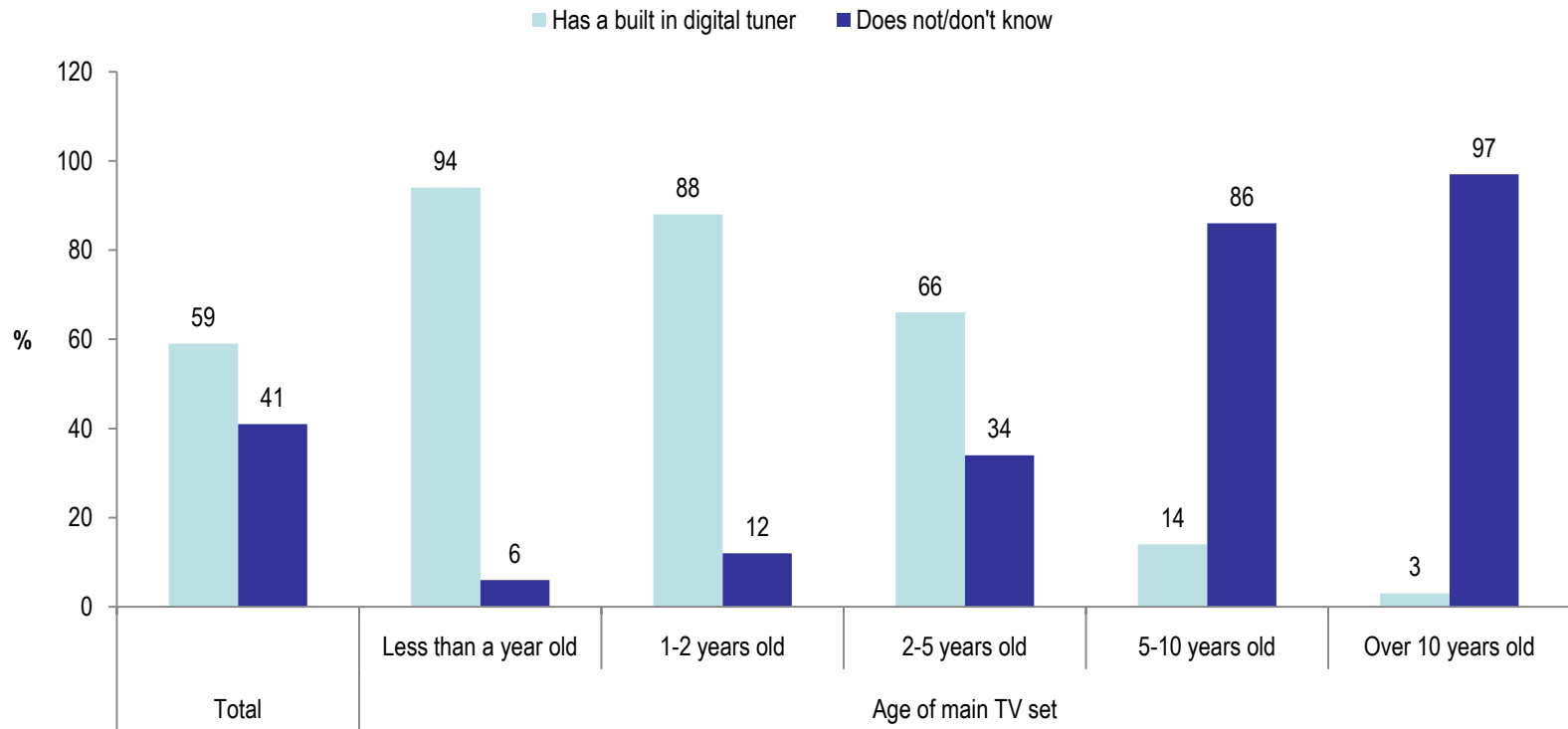
## To find out about household television sets and replacement...

- > Omnibus survey conducted nationally by Newspoll with 1,203 respondents aged 18 years and over
- > Respondents were selected via a random sampling process
- > Interviews were conducted by phone 27-29 May 2011
- > Results were post-weighted to Australian Bureau of Statistics data on age, highest level of schooling completed, sex and area
- > Penrith antenna stock research, involving audits of 302 homes in Penrith, also captured information about receivers and the main television set in each household
- > Research conducted in Bathurst and Orange in 2010 (500 homes) also looked at aspects of television equipment, such as number of sets and the age of the main set

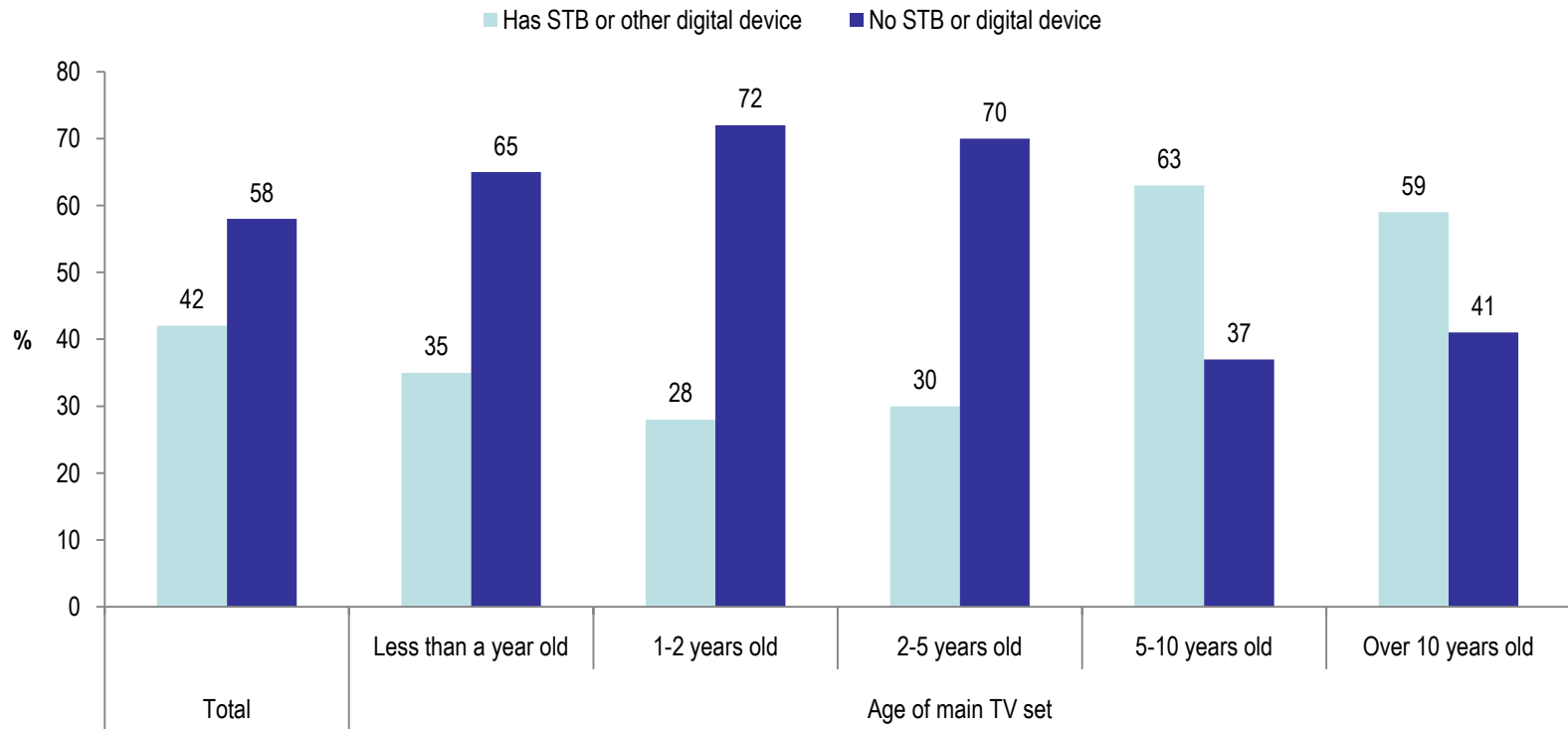
## Number of TV sets in household used in last 6 months (mean 2.2)



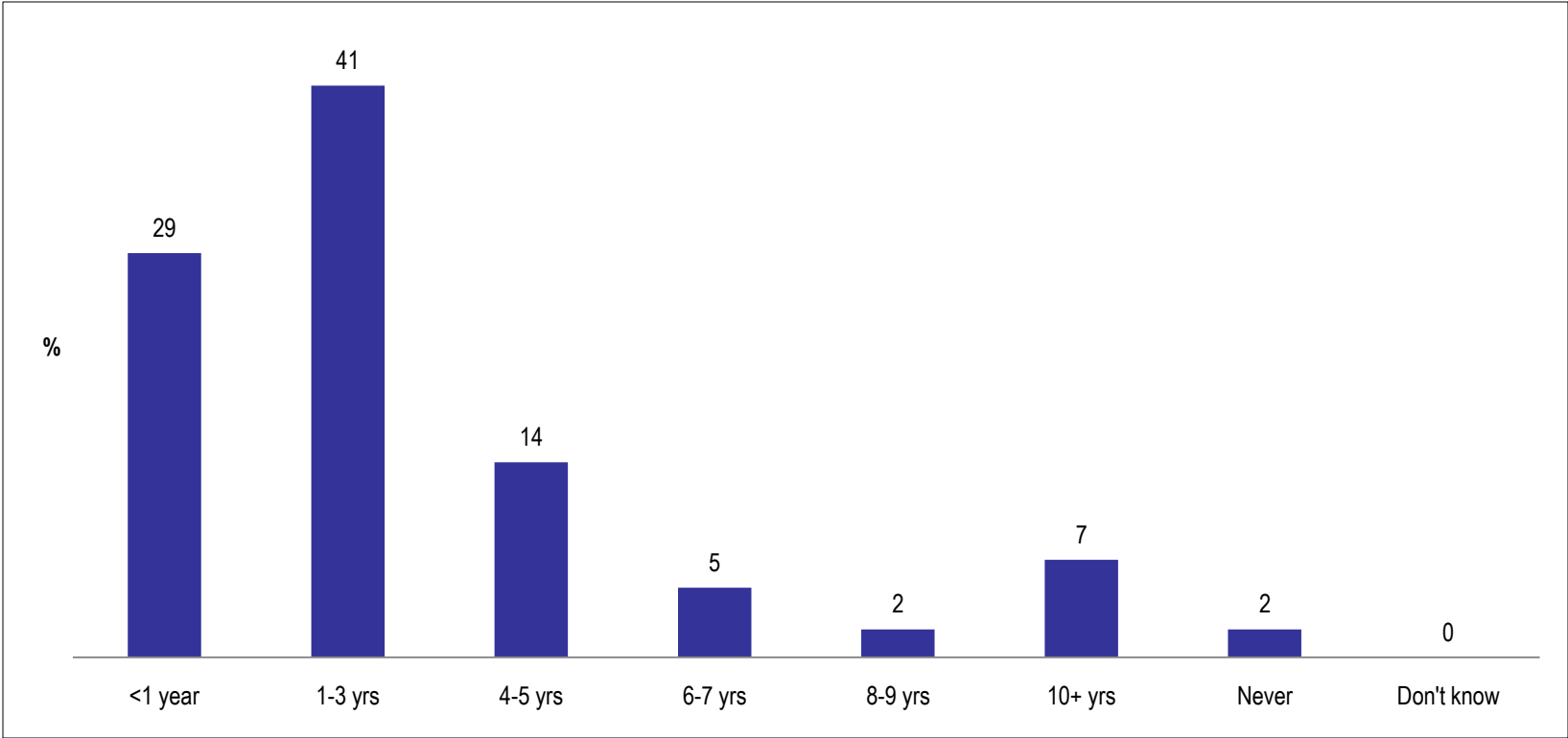
## Penrith – Main TV set has a built in digital tuner, by age of TV set (observed)



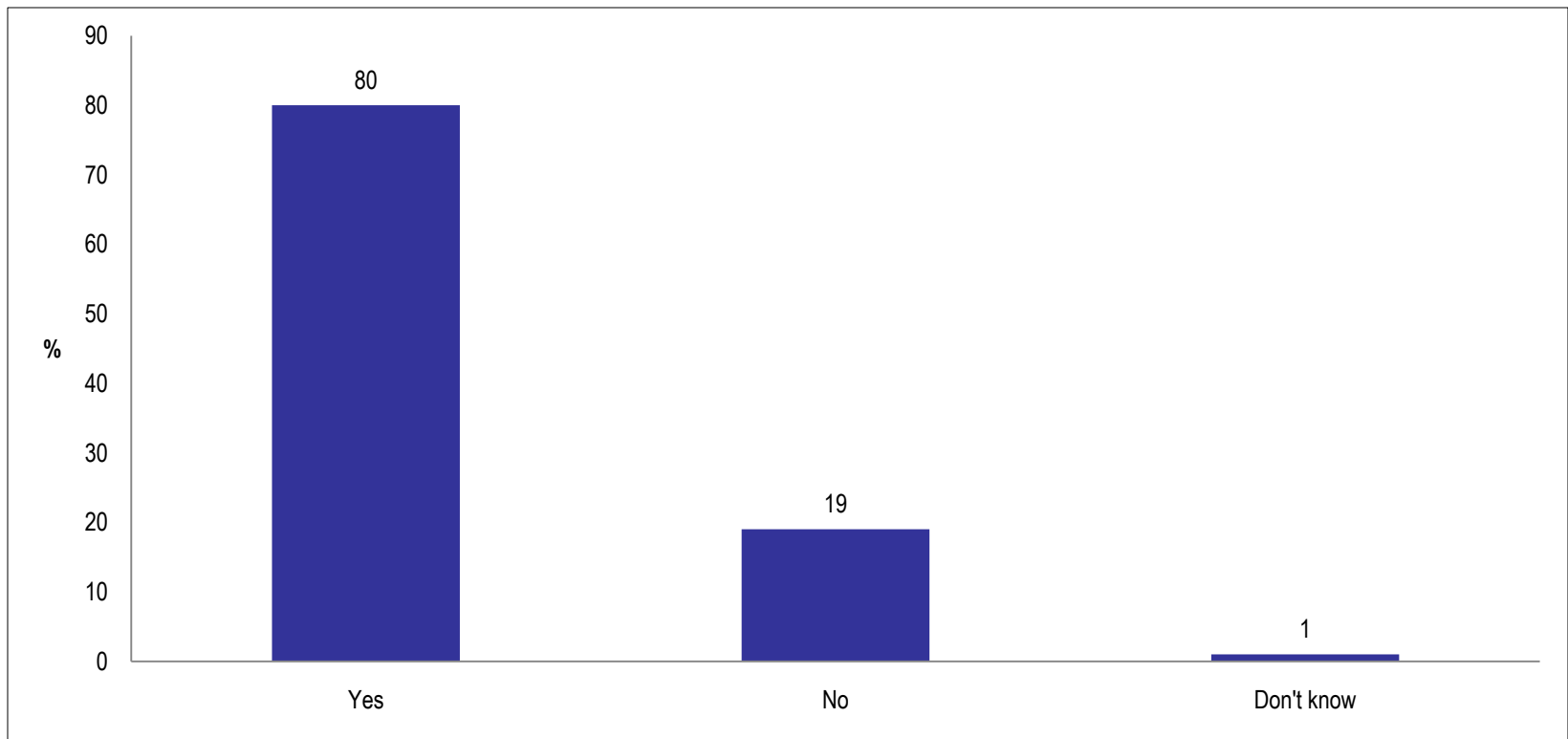
## Penrith – Main TV with a set top box or other digital device attached, by age of main TV set



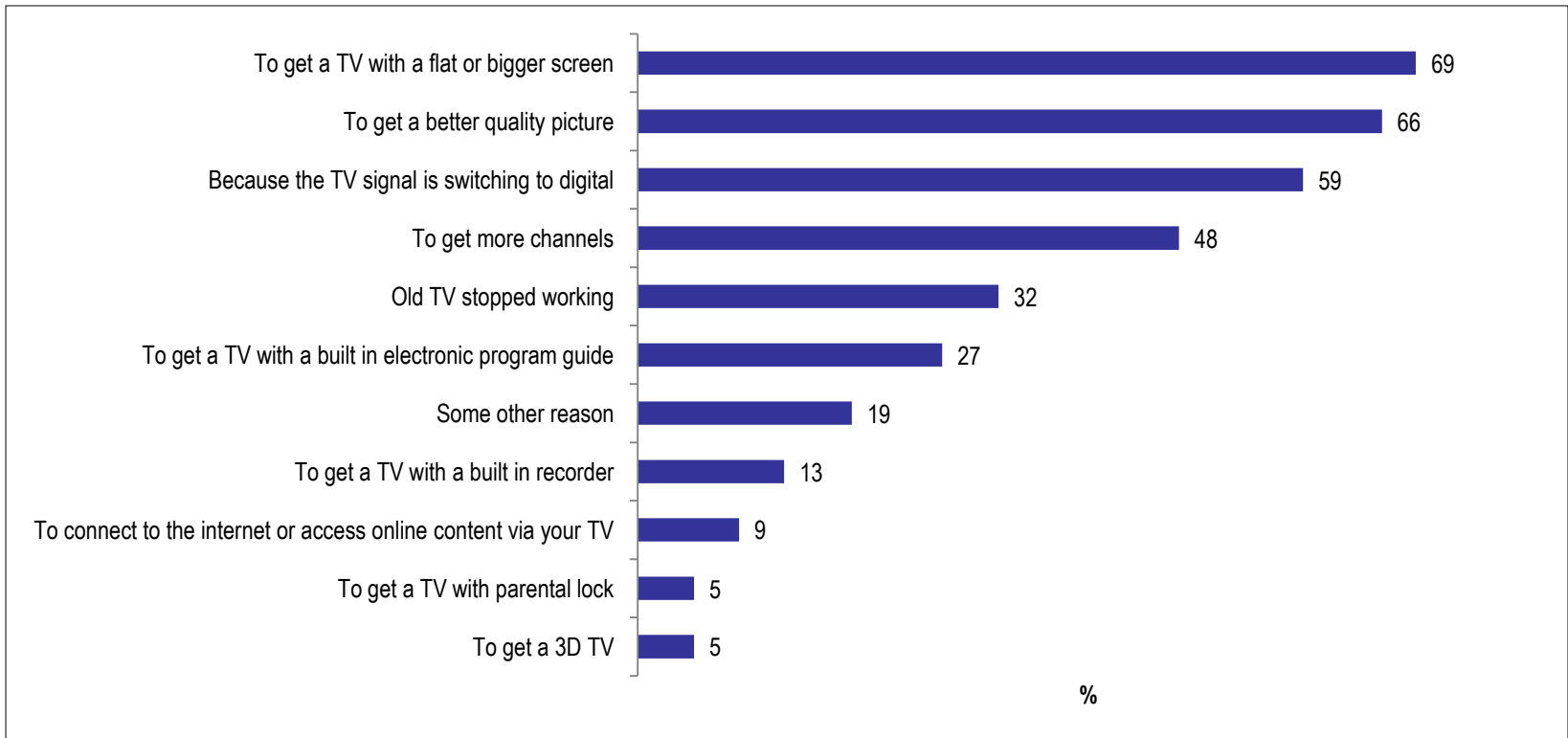
### When was a TV set last purchased? (Mean 3.1 years)



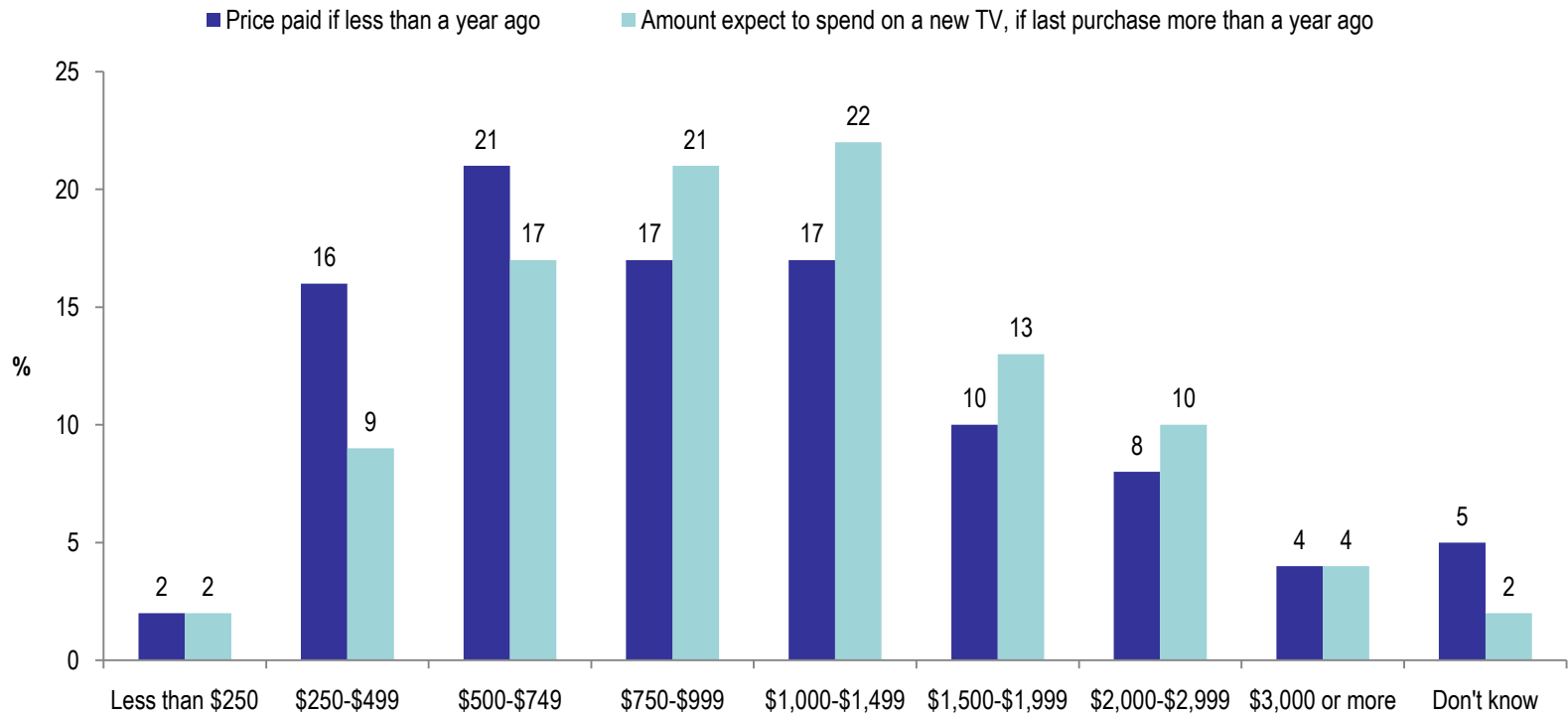
## Was new set purchased to replace an existing TV set, if bought less than a year ago?



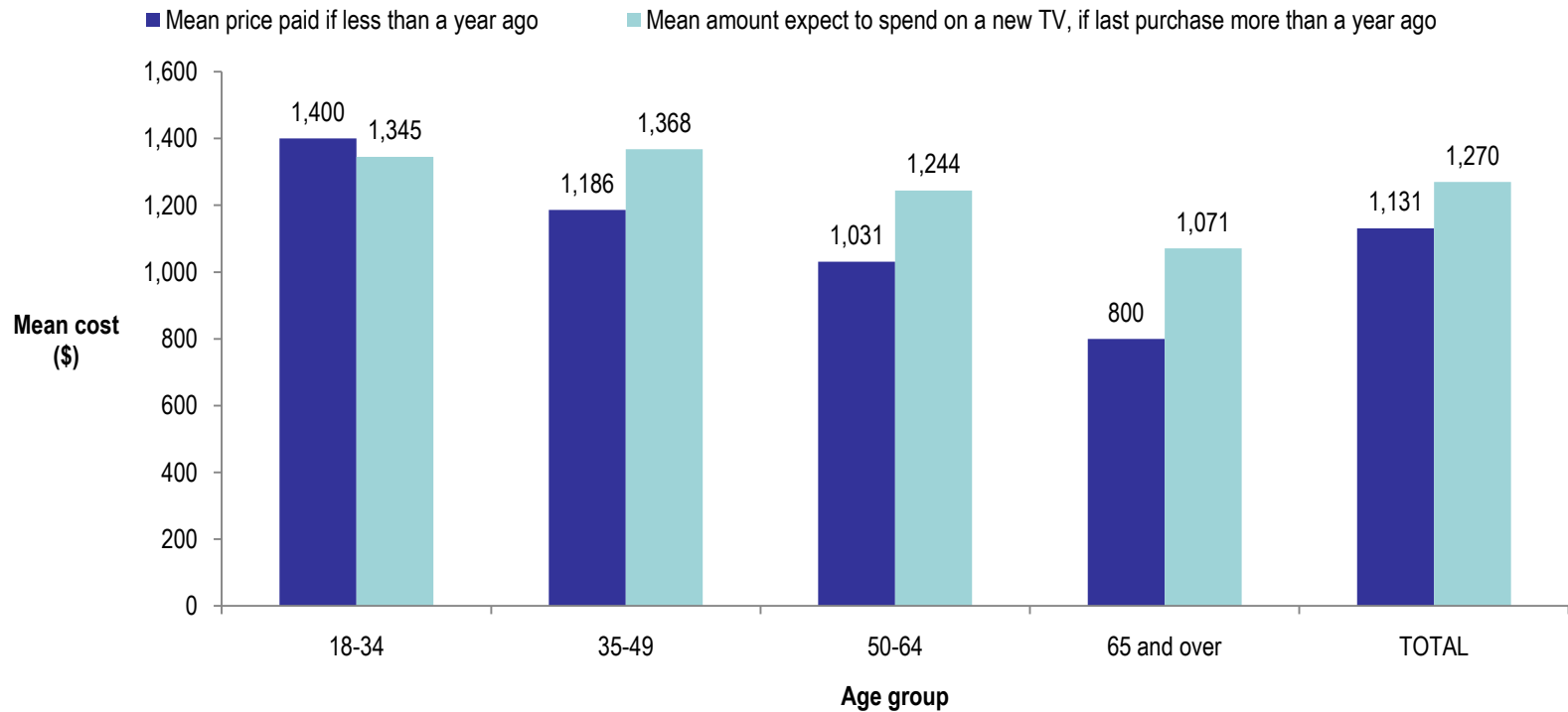
## Main reasons for buying a new TV set, if last purchase less than a year ago



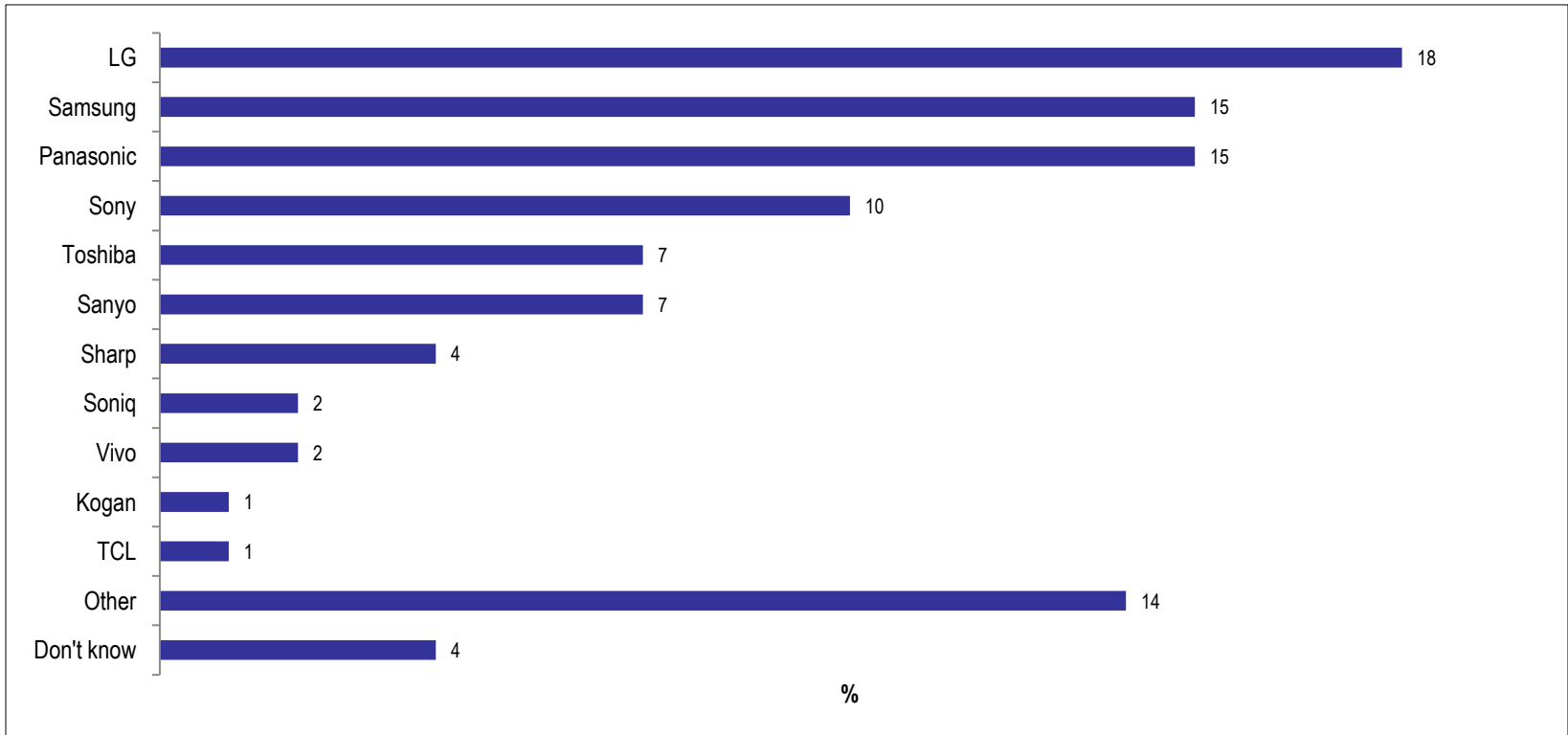
## Cost of new TV set – price paid if purchased in last year, and expected cost, if last purchase more than a year ago



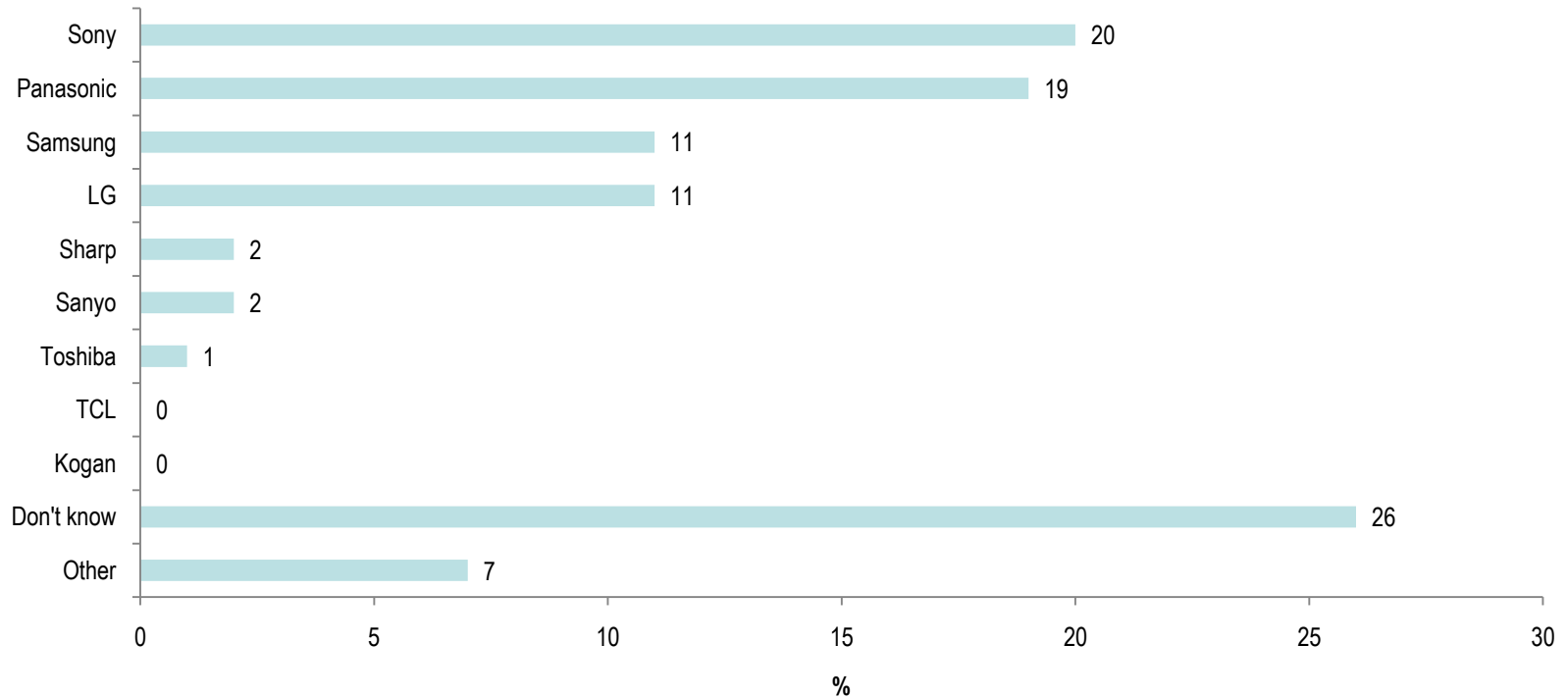
## Mean cost of new TV set if purchased less than a year ago, and mean amount expect to spend, if last purchase more than a year ago, by age group



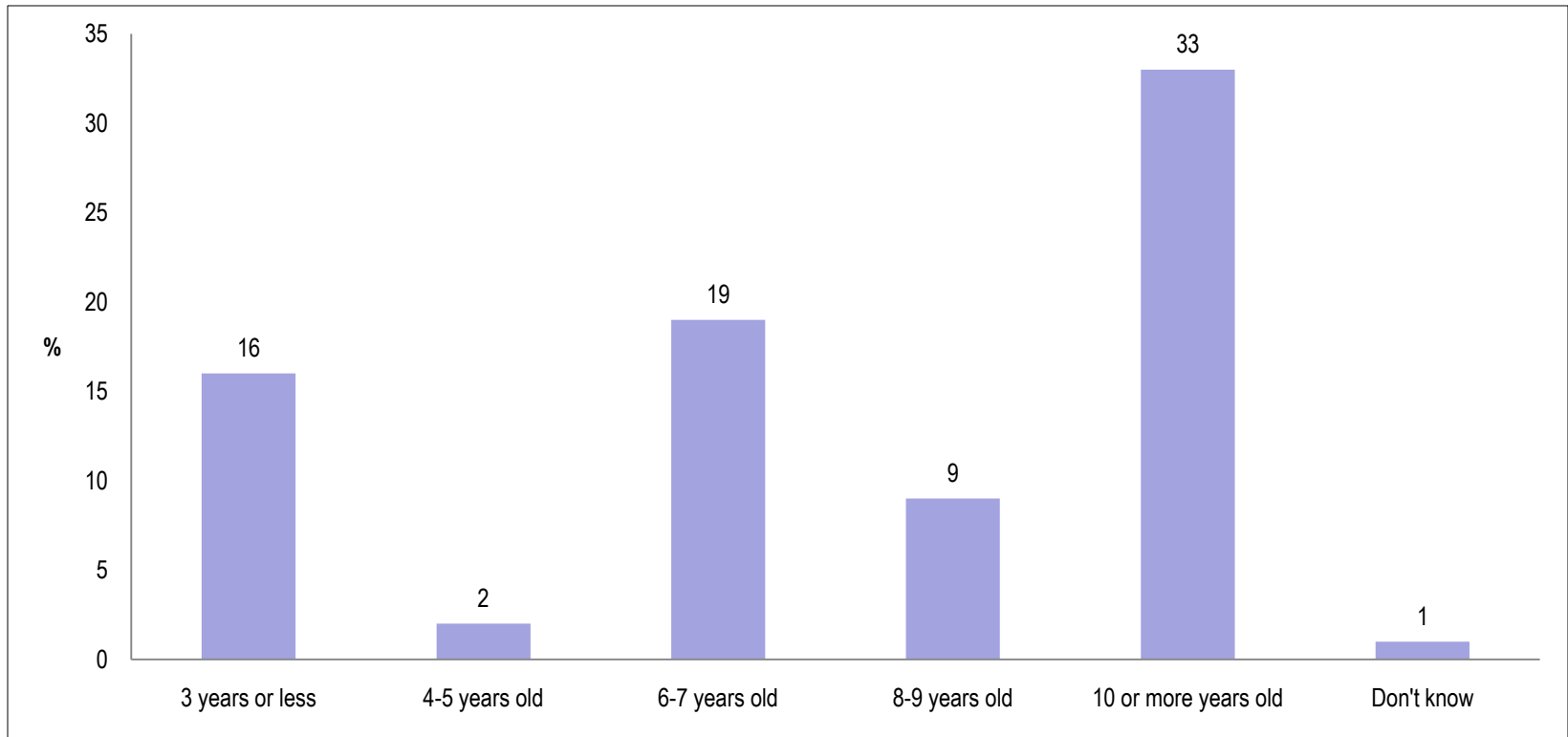
## Brand of TV set purchased, if bought less than a year ago



## Brand of TV set most likely to buy, if last purchase more than a year ago

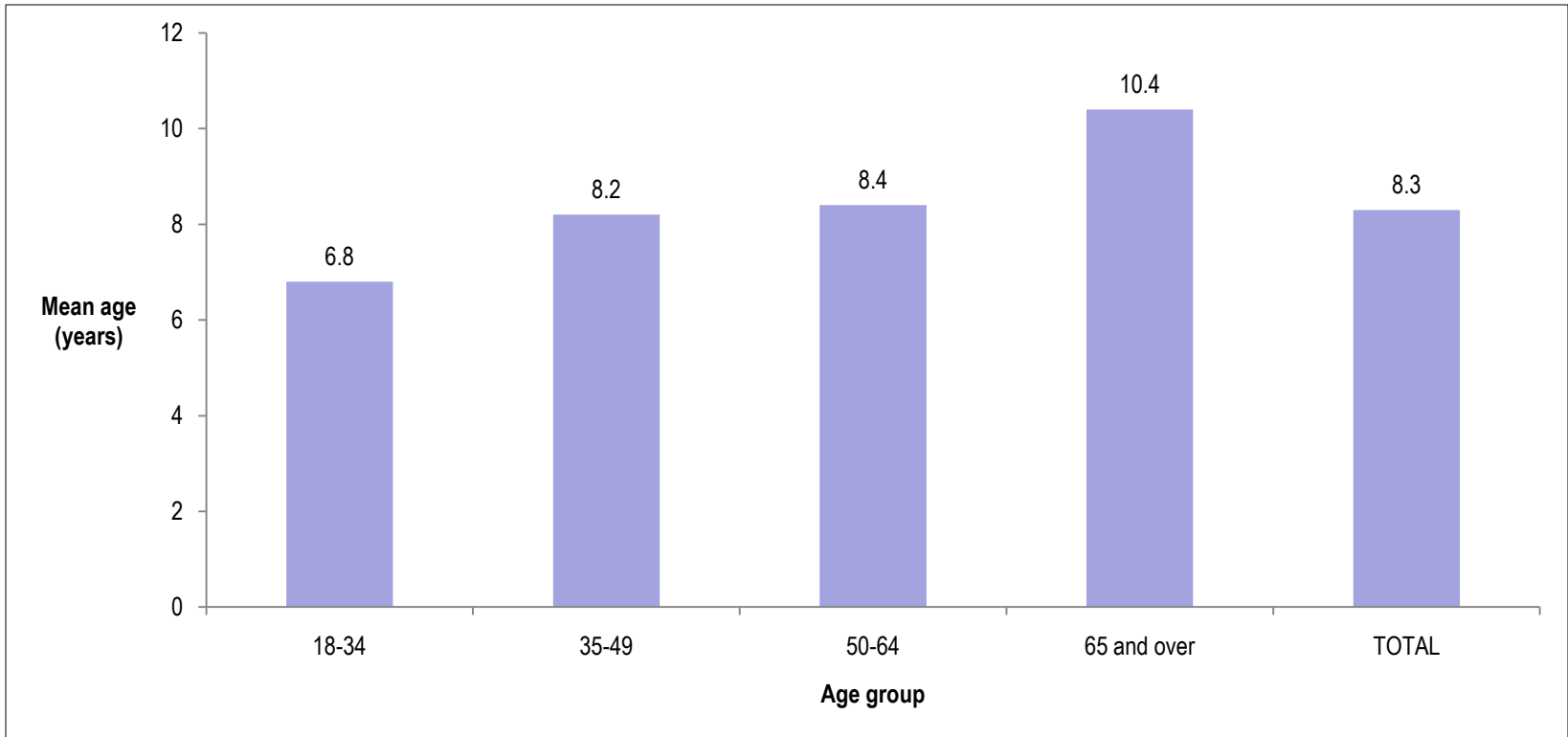


## Age of TV set that was replaced, if last purchase less than a year ago (mean 8.3 years)

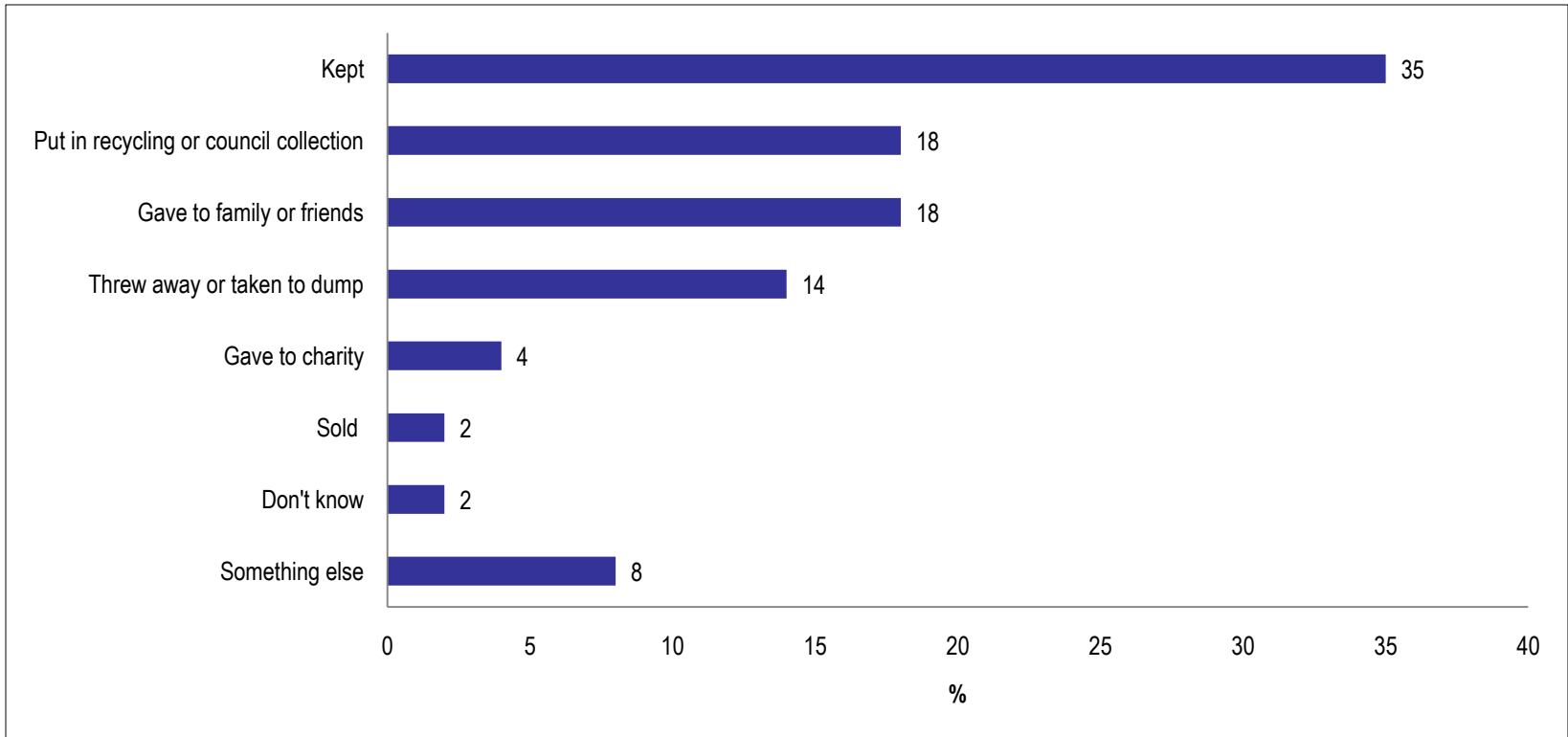


Base: Those who have purchased a new set in last year, to replace an existing set, and were involved in decision (n=213)

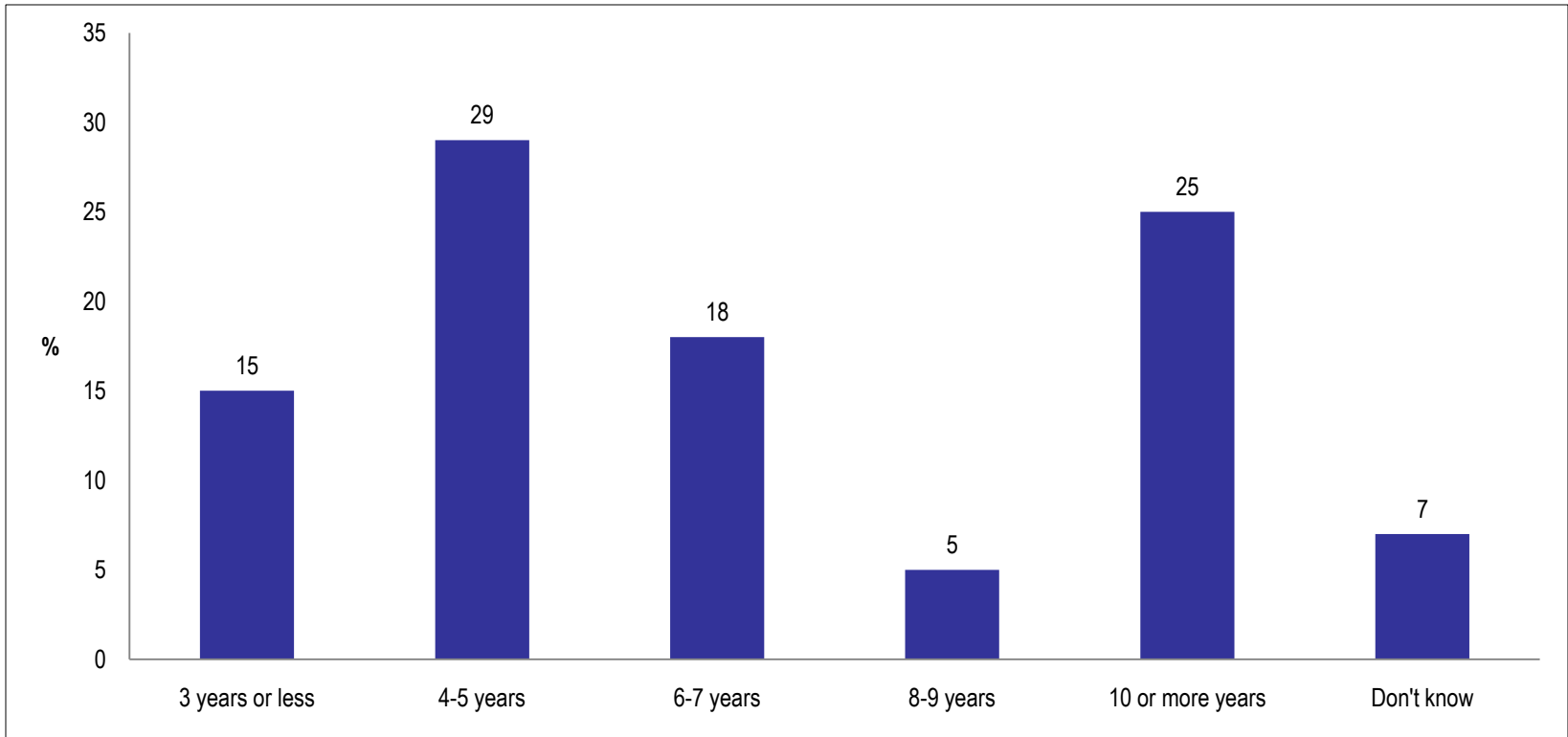
## Mean age of TV set replaced, if new set purchased less than a year ago, by age group



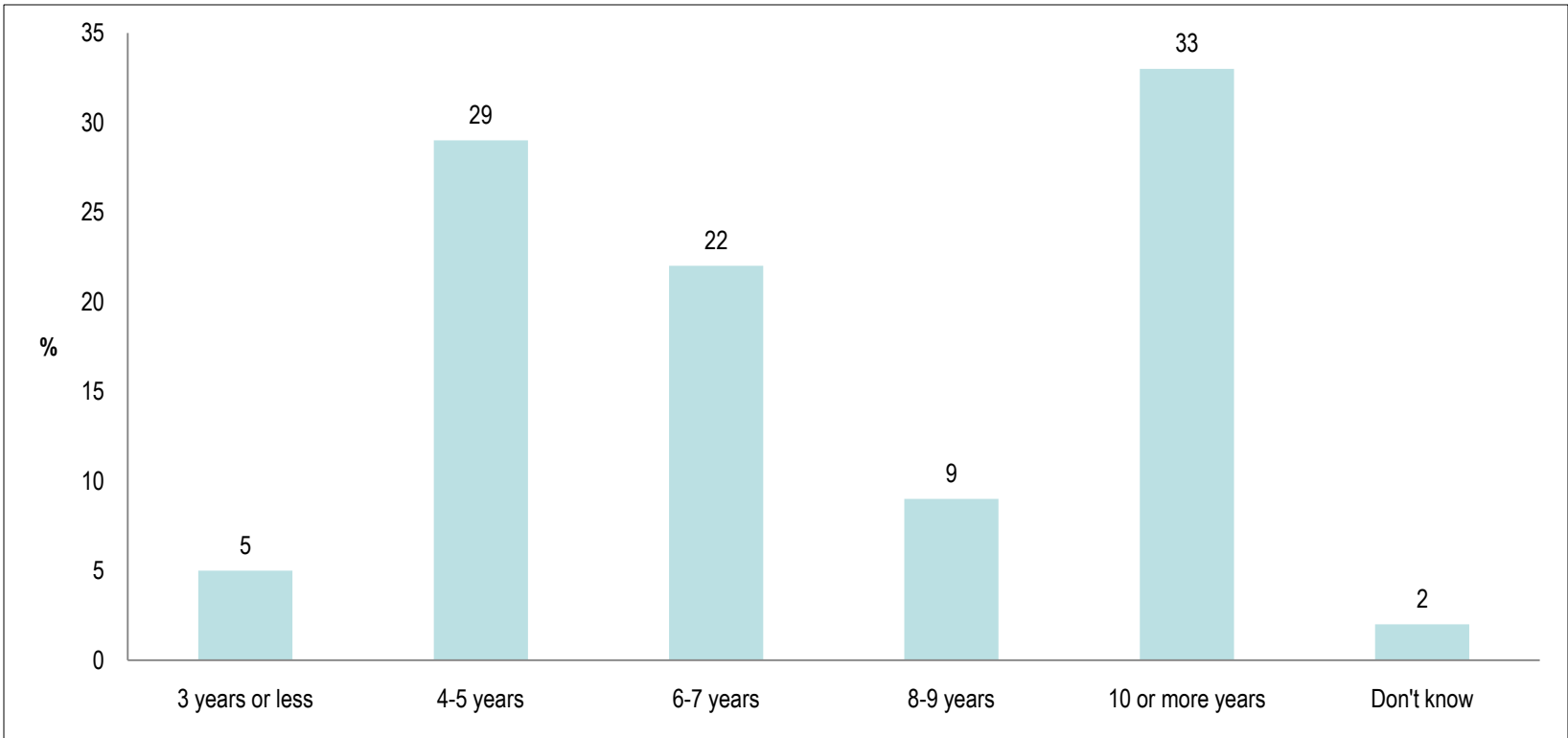
## What was done with the old TV set?



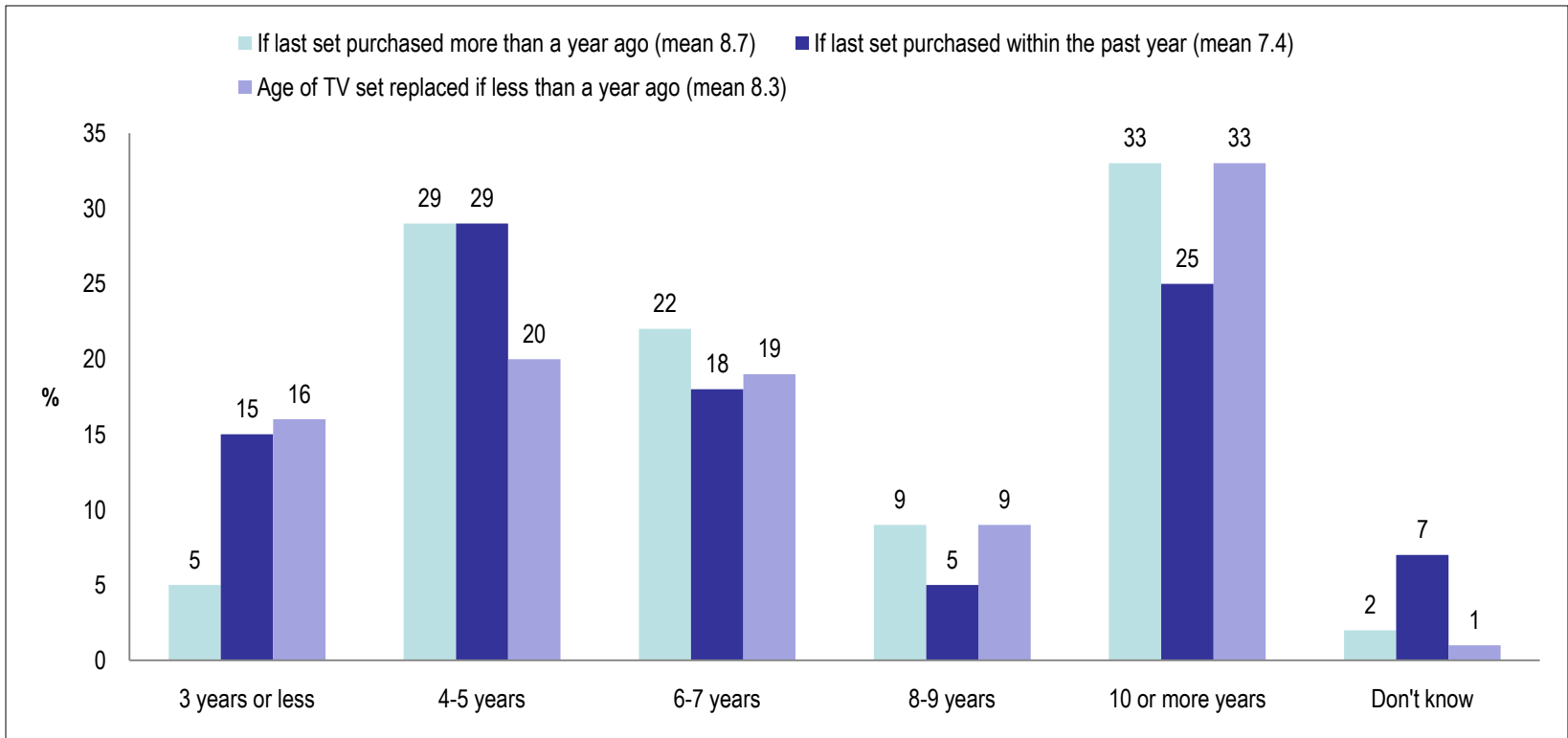
## Length of time before need to replace current TV set if purchased less than a year ago (mean 7.4 years)



## How long a new TV set expected to last for if last purchase more than a year ago (mean 8.7 years)



## How long expect a new TV set to last



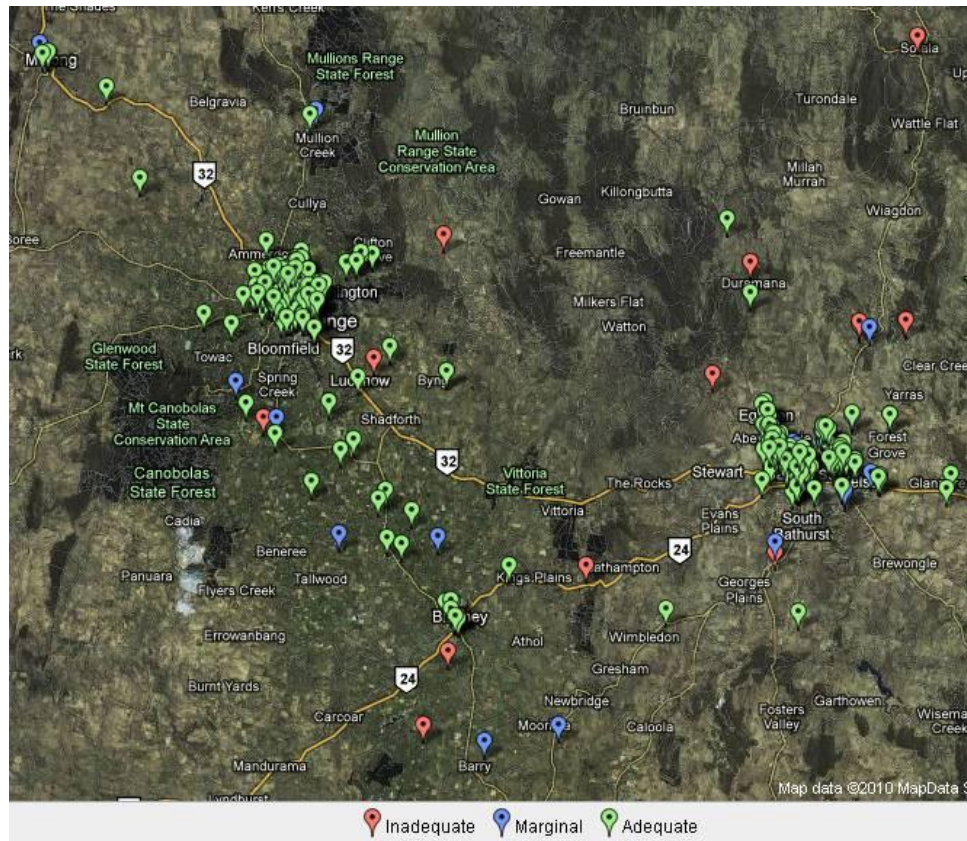
## What does this mean?

- > There are many different models of television sets currently in people's homes, and providing advice specific to a model is difficult
- > Most had bought a new set in the last 3 years, so the technical specifications of many existing sets will be current
- > The majority of purchases were to replace an existing set (80 per cent), but many of these were expected to serve a second life
- > To get a better viewing experience was the main reason people gave for buying a new TV set
- > The switch to digital, and to get more channels were also significant drivers
- > For most, the price paid for a new TV set was lower than what was expected
- > Older age groups were more likely to replace a TV set when it was older (10 or more years old) and pay less for a new one – so the technical specifications of TV equipment in older people's homes is likely to be less current
- > On average, a new TV set was expected to last 7 to 8 years

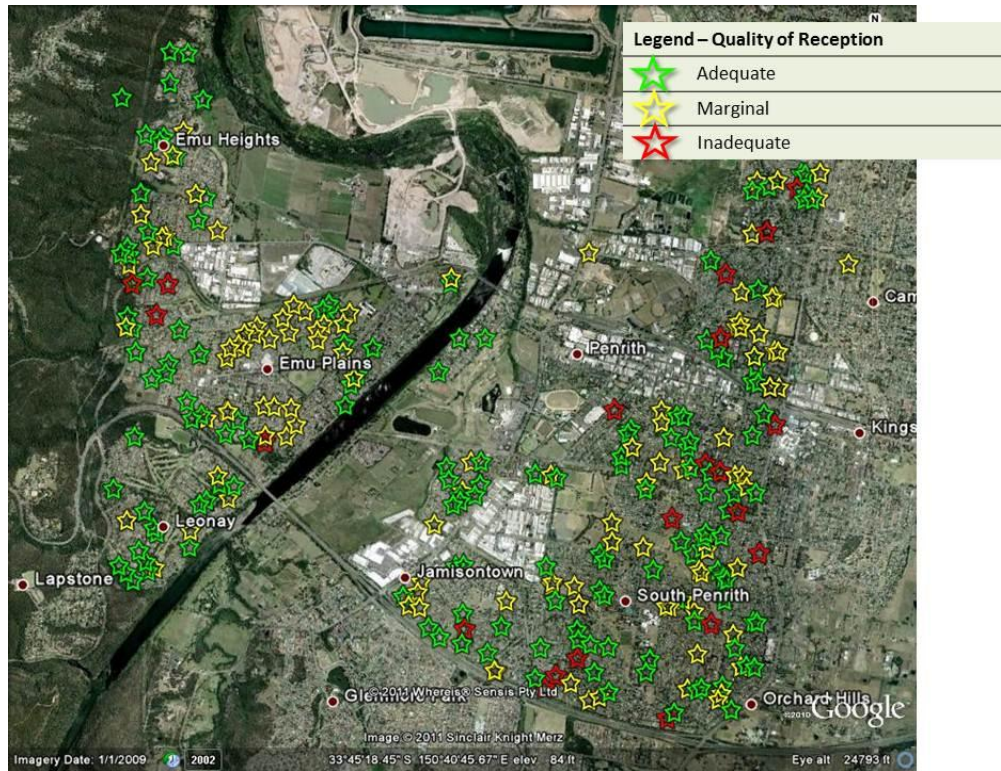
## Domestic antenna systems and reception

- > ACMA has conducted two studies into domestic antenna stock:
  - > Phone interviews and in-house audits of 500 households in Bathurst and Orange in 2010
  - > In-house audits of 302 households in Penrith in 2011
- > First study examined different methodologies for collecting data on antenna stock, in a regional area
- > Second study used the preferred methodology and applied it to a fringe metropolitan area, to understand if there are particular issues in such a location
- > Antenna systems are an important but often neglected part of the reception chain, that ends with the picture displayed on the television screen

## Digital households—adequacy of antennas, Bathurst and Orange, 2010



# Quality of reception—Penrith, 2011



# mySwitch – Penrith coverage

<http://myswitch.digitalready.gov.au/>



## Domestic antenna systems



## Age of antennas

- > In Penrith antennas were typically quite old, with around half being assessed as being over 10 years old
- > In Penrith, 42 per cent had two or more antennas – 11 per cent in Bathurst-Orange
- > In Bathurst and Orange, 46 per cent of antennas were assessed as being less than 5 years old – this could be because this region is switching over to digital sooner than Penrith
- > Generally, reports by respondents underestimated the age of the antenna, and over-estimated its condition

## Antenna direction in Penrith – Sydney and Illawarra services

- > Use of services from adjacent transmission sites was relatively common in Penrith, mainly for historical reasons
- > 95 per cent of households had at least one antenna directed towards Gore Hill/Willoughby/Artarmon, the main Sydney metro transmitters
- > 30 per cent had at least one antenna directed towards Illawarra, the main out of area service
- > 45 per cent of households with an antenna pointed towards Gore Hill/Artarmon with inadequate or marginal reception had the wrong antenna type – generally one that could not receive all digital channels (n=106)
- > For antennas pointed towards Illawarra, the reasons for inadequate or marginal reception were more likely to be because of inadequate gain (no or poor masthead amplifier – 62 per cent) or because the antenna direction was incorrect (17 per cent) (n=24)

## Conclusions about antenna stock and reception

- > Antenna stock research indicated that about 7 per cent of households in Bathurst and Orange, and also in Penrith, had inadequate digital reception
- > Inadequate reception was for many reasons, including the antenna type and condition
  - > also because of built and natural landscape features
  - > in Penrith, patchy coverage was also a factor
- > Those with inadequate or marginal digital reception may need to look at replacing or improving their antenna system – as many were originally installed before digital transmissions started
- > Consumer focus is much more on the TV set, and less on the other components of the reception chain, including antennas, cabling and outlets
- > Information from the antenna stock studies will help the ACMA's engineers with planning, and help inform advice provided to consumers