

Wireless Substitution: Semiannual Estimates from the NHIS ER Program

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<http://www.cdc.gov/nchs/nhis.htm>

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Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2011

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Overview

Preliminary results from the July–December 2011 National Health Interview Survey (NHIS) indicate that the number of American homes with only wireless telephones continues to grow. One-third of American homes (34.0%) had only wireless telephones (also known as cellular telephones, cell phones, or mobile phones) during the second half of 2011—an increase of 2.4 percentage points since the first half of 2011. In addition, nearly one of every six American homes (16.0%) received all or almost all calls on wireless telephones despite also having a landline telephone. This report presents

Early Release Program. *Early Release of Selected Estimates Based on Data From the National Health Interview Survey* is published quarterly and provides estimates for 15 selected measures of health. *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey* is also published quarterly and provides additional estimates regarding health insurance coverage. Other Early Release reports and tabulations on special topics are released as needed.

Methods

For many years, NHIS has asked respondents to provide residential

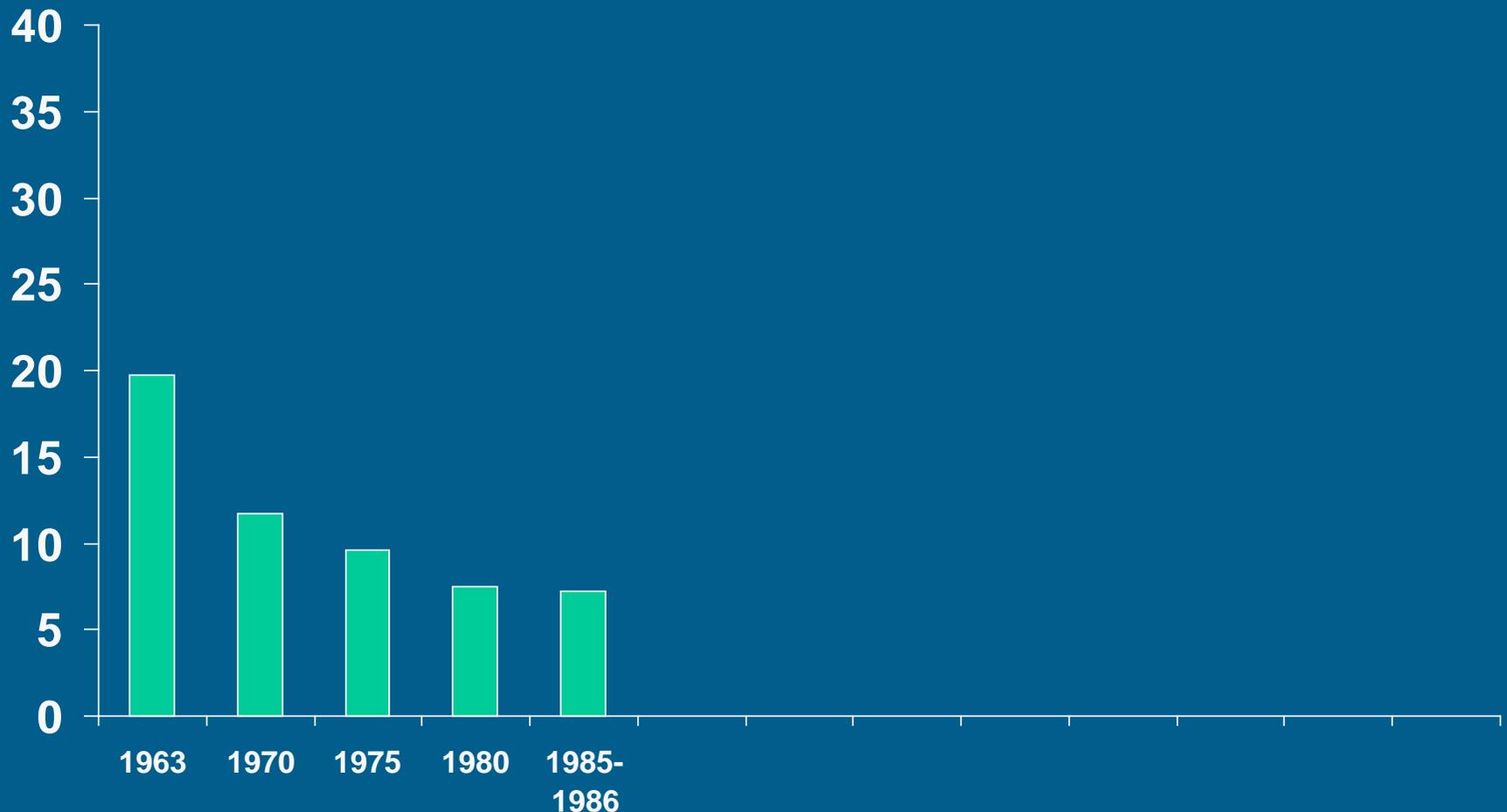
landline telephone service if the survey respondent for each family reported that there was “at least one phone inside your home that is currently working and is not a cell phone.”

An NHIS “family” can be an individual or a group of two or more related persons living together in the same housing unit (a “household”). Thus, a family can consist of only one person, and more than one family can live in a household (including, for example, a household where there are multiple single-person families, as when unrelated roommates are living together).

The survey respondent for each

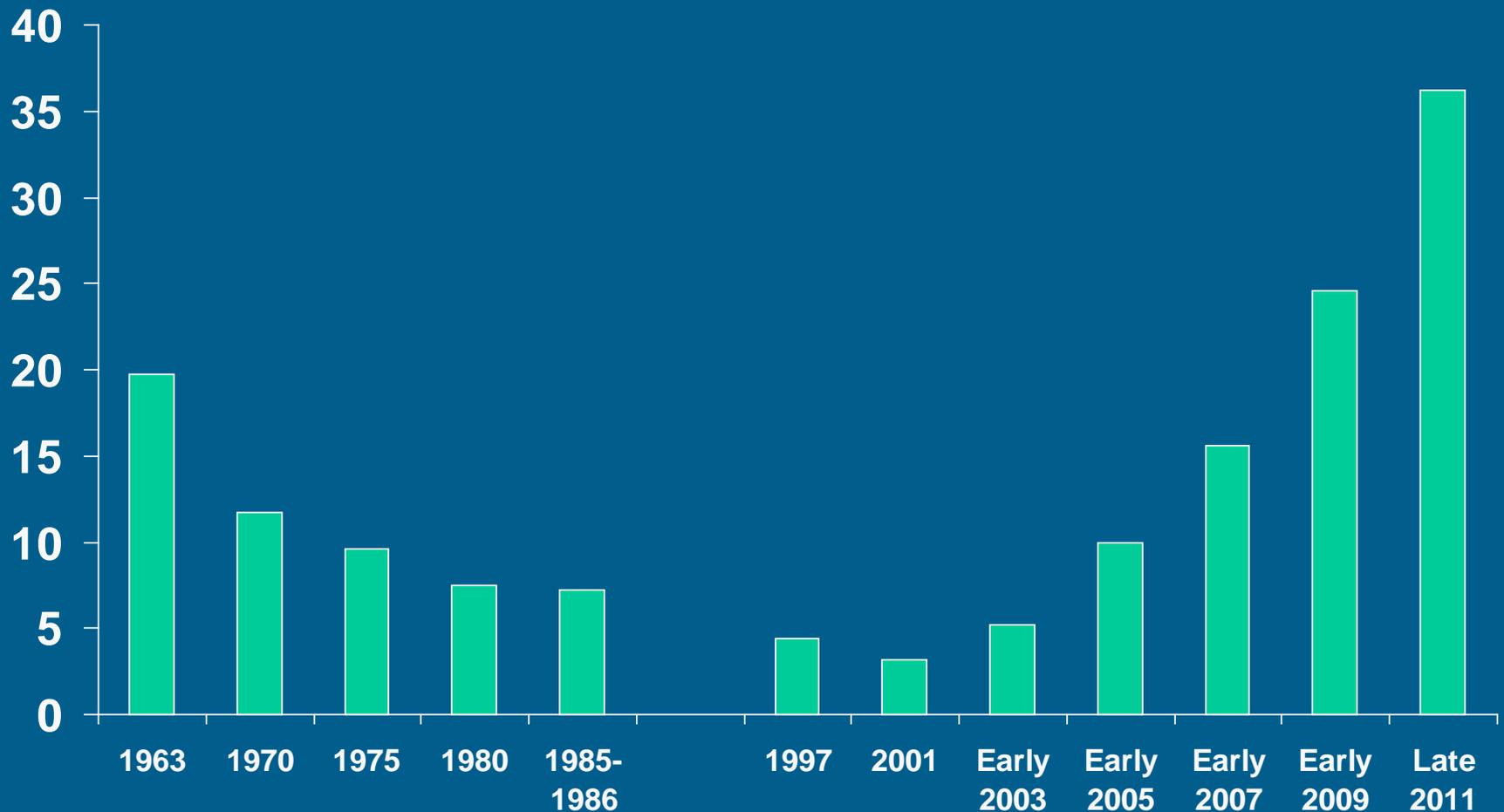
Percentage of U.S. Households Without Landline Telephones

■ Based on National Health Interview Survey data



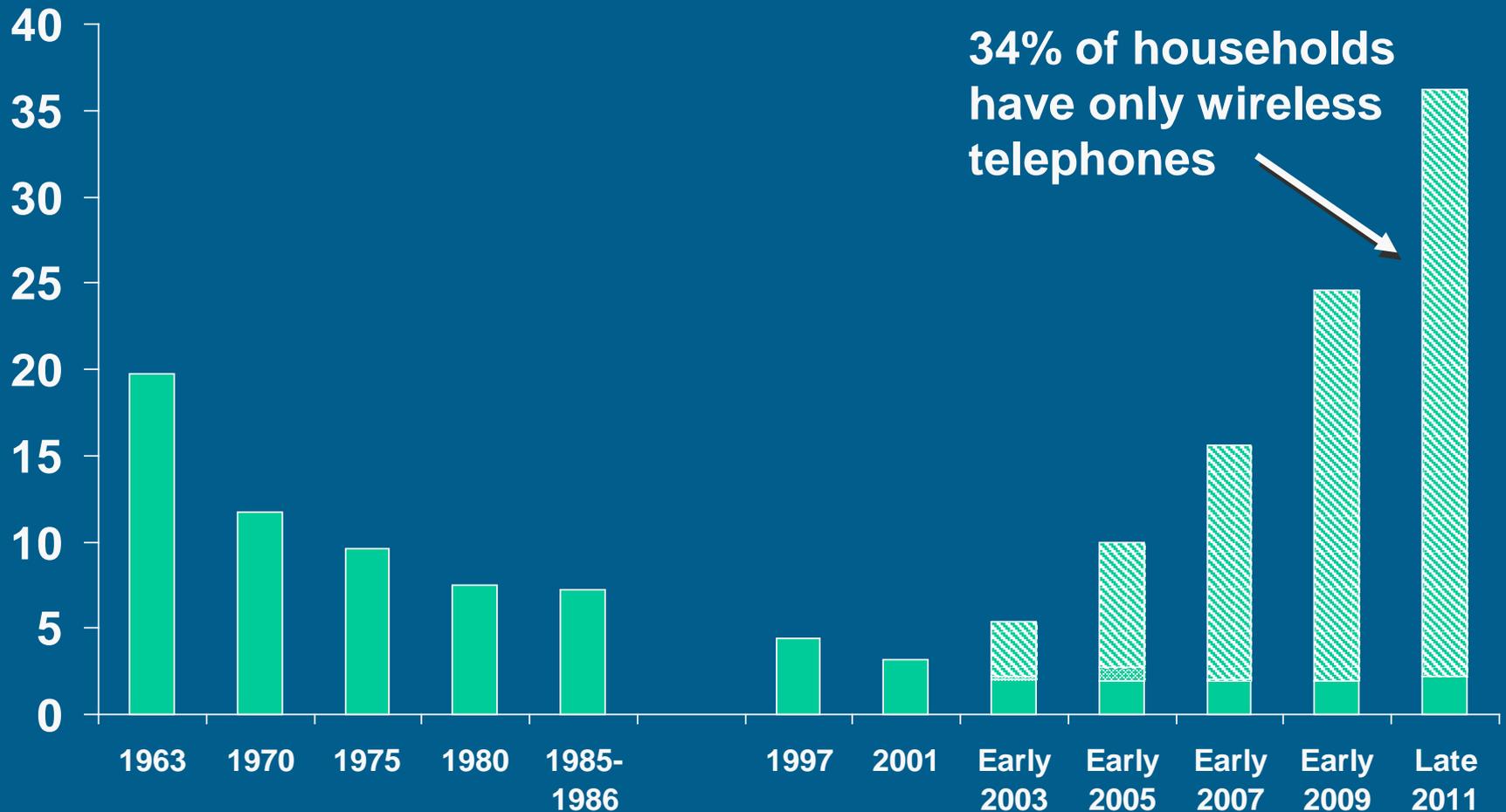
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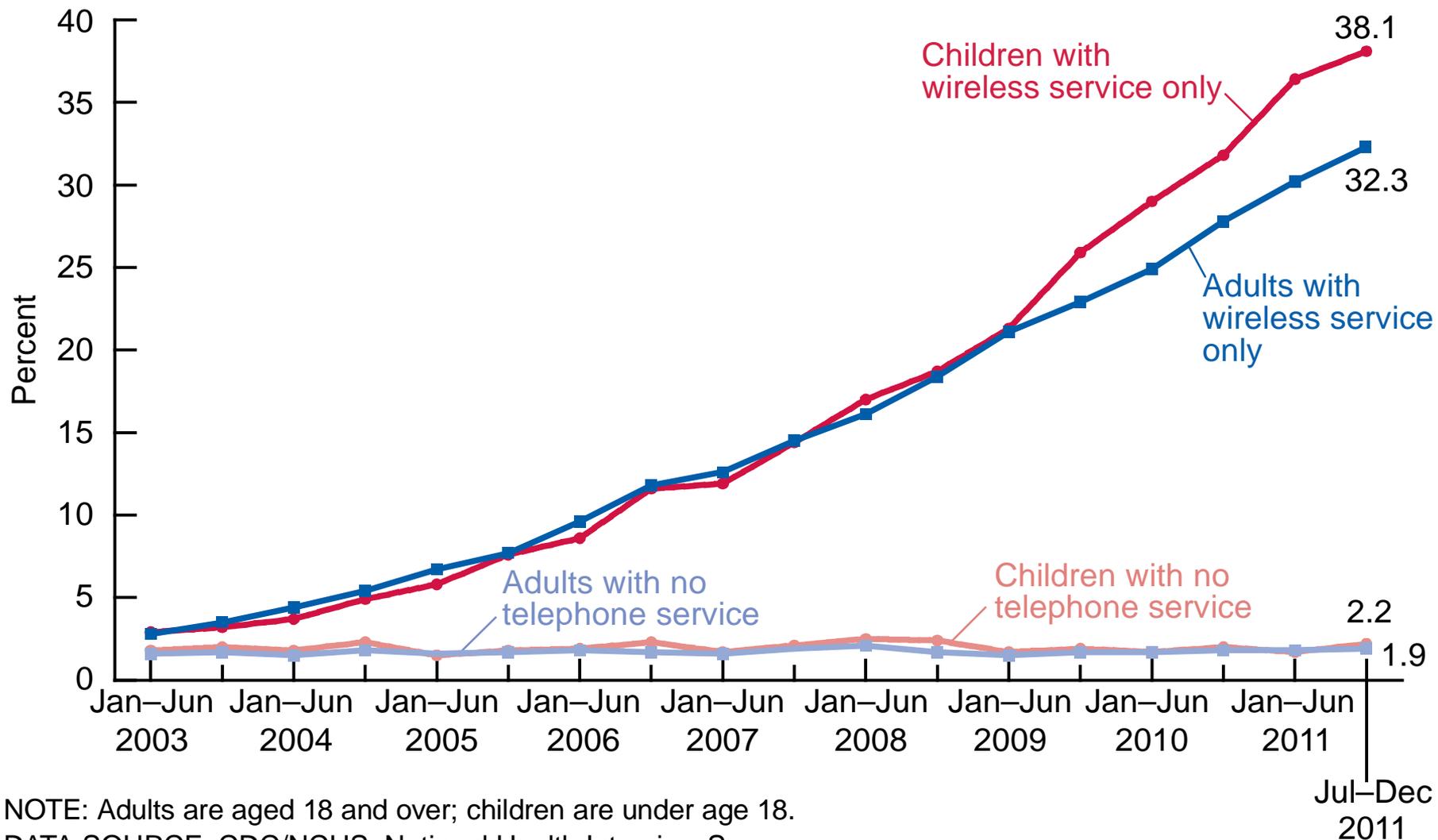


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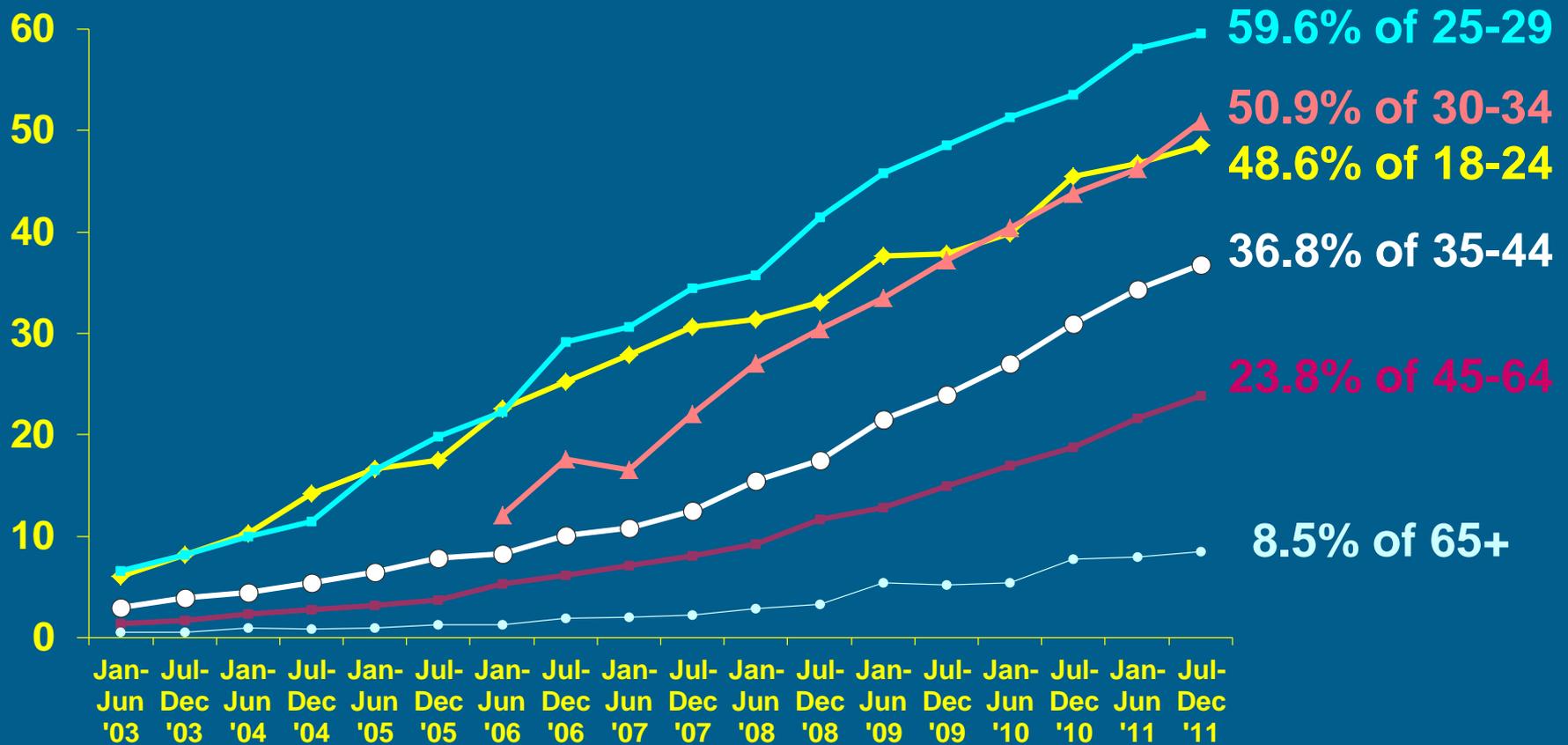


Percentages of adults and children living in households with only wireless telephone service or no telephone service: United States, 2003–2011

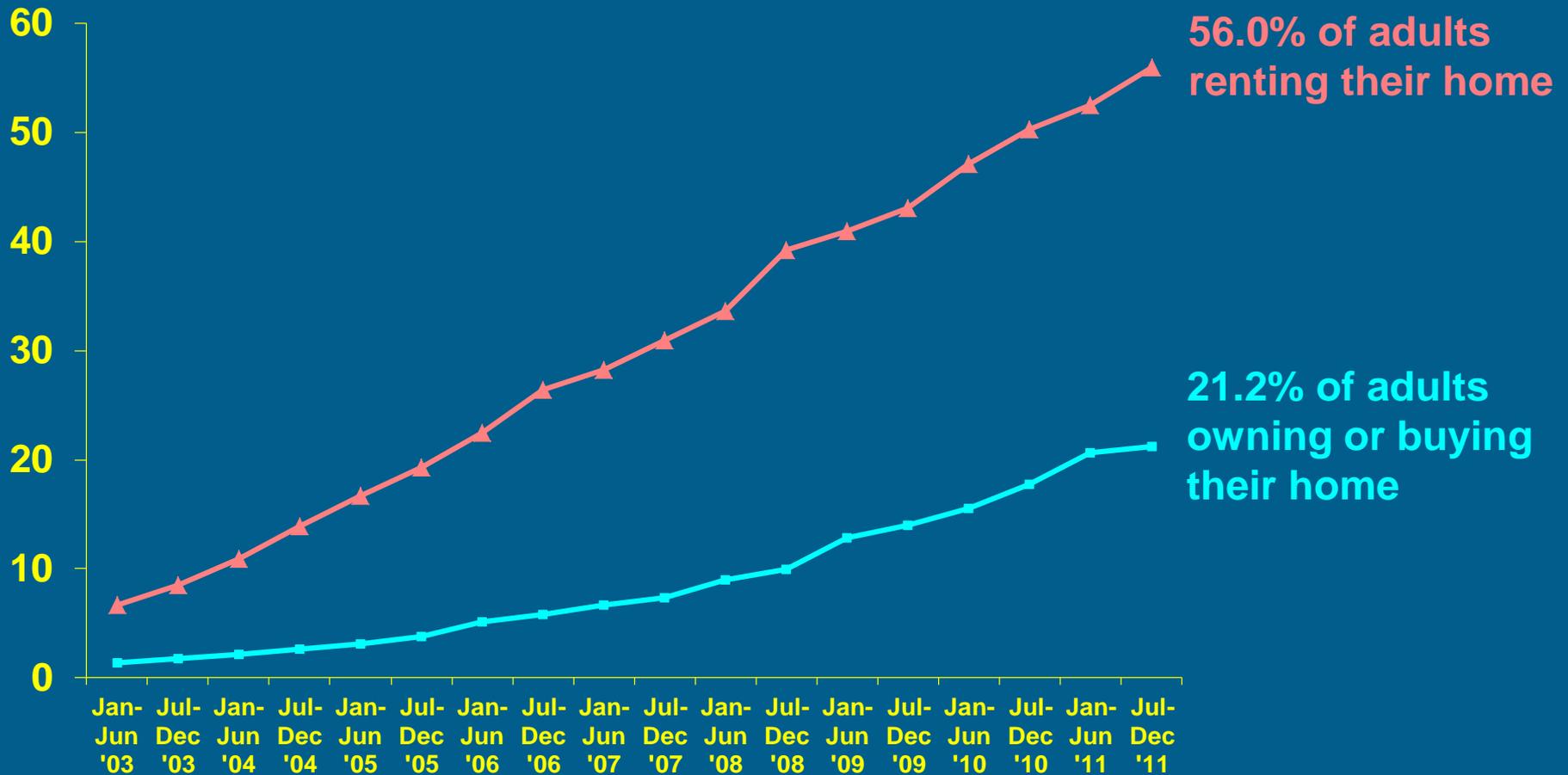


NOTE: Adults are aged 18 and over; children are under age 18.
 DATA SOURCE: CDC/NCHS, National Health Interview Survey.

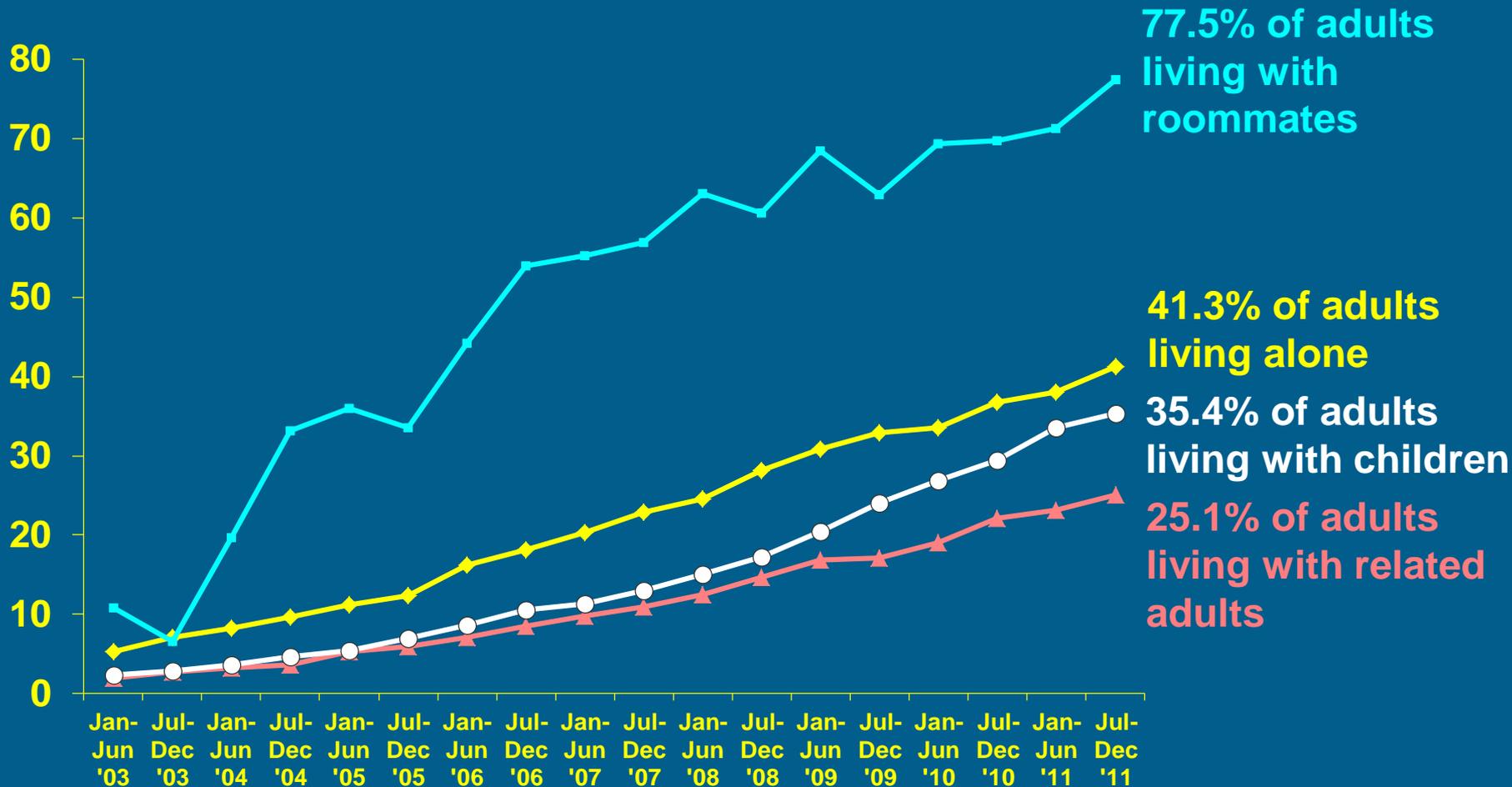
Prevalence of Wireless-Only Adults by Age



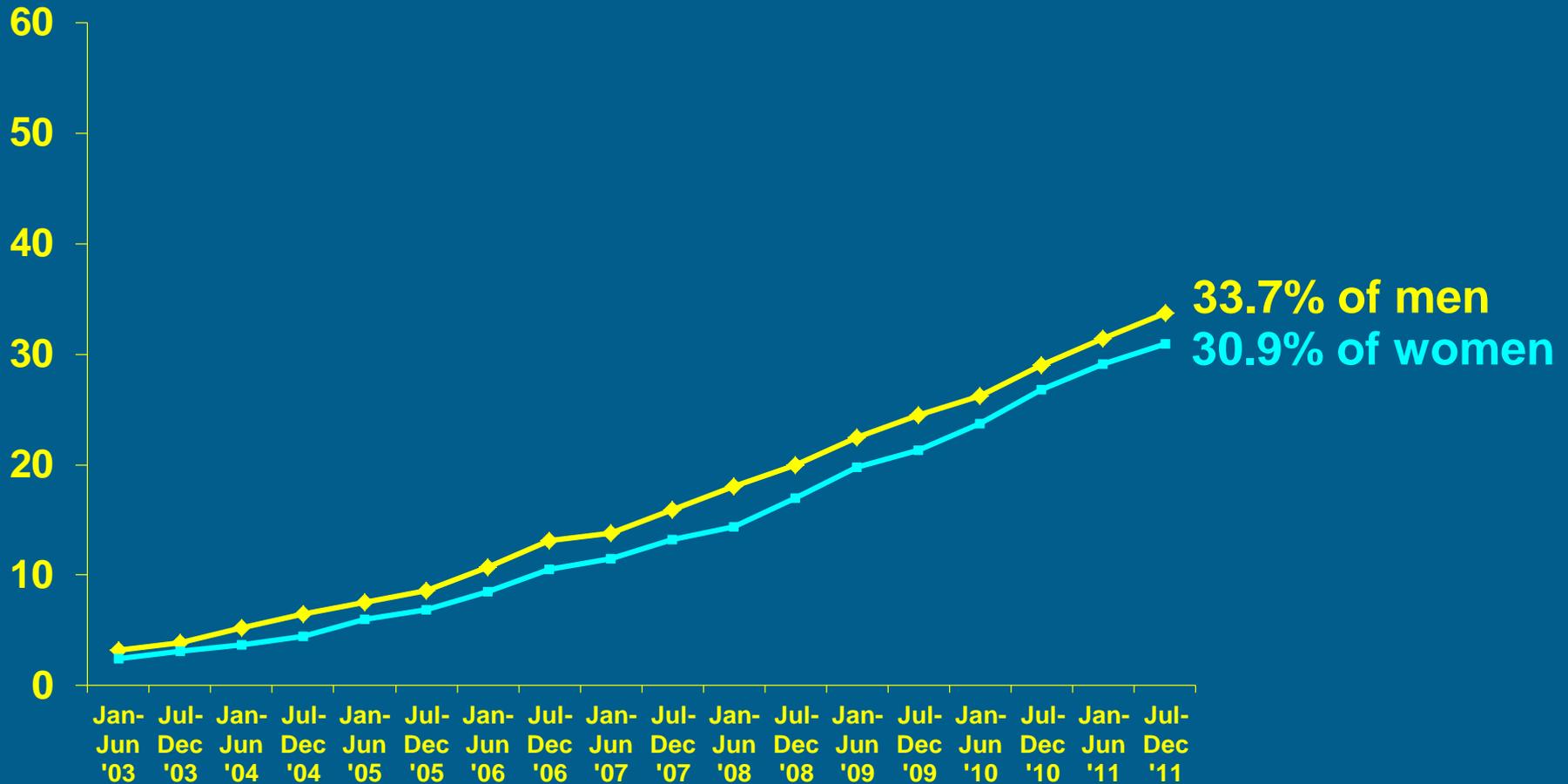
Prevalence of Wireless-Only Adults by Home Ownership Status



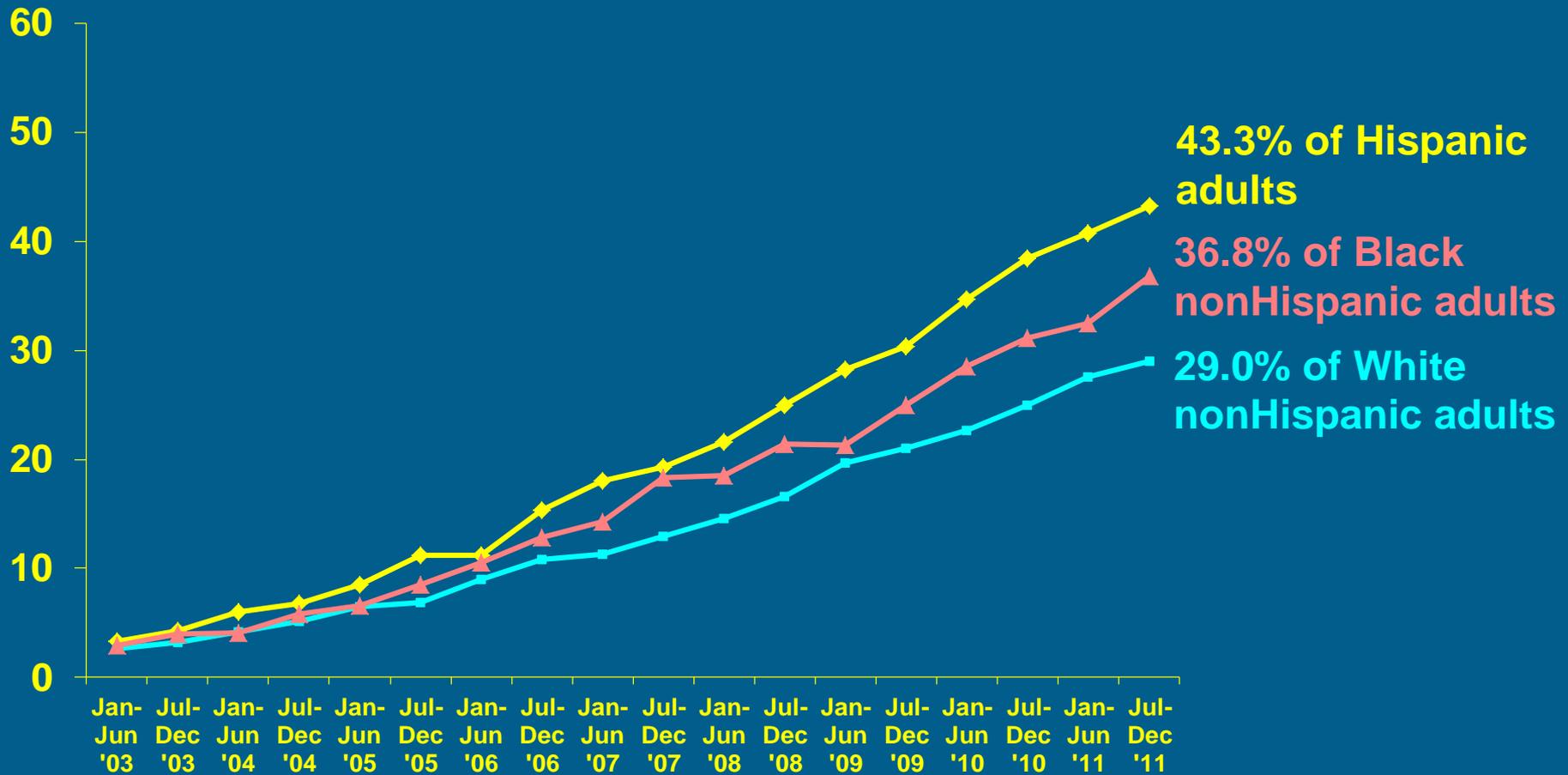
Prevalence of Wireless-Only Adults by Household Structure



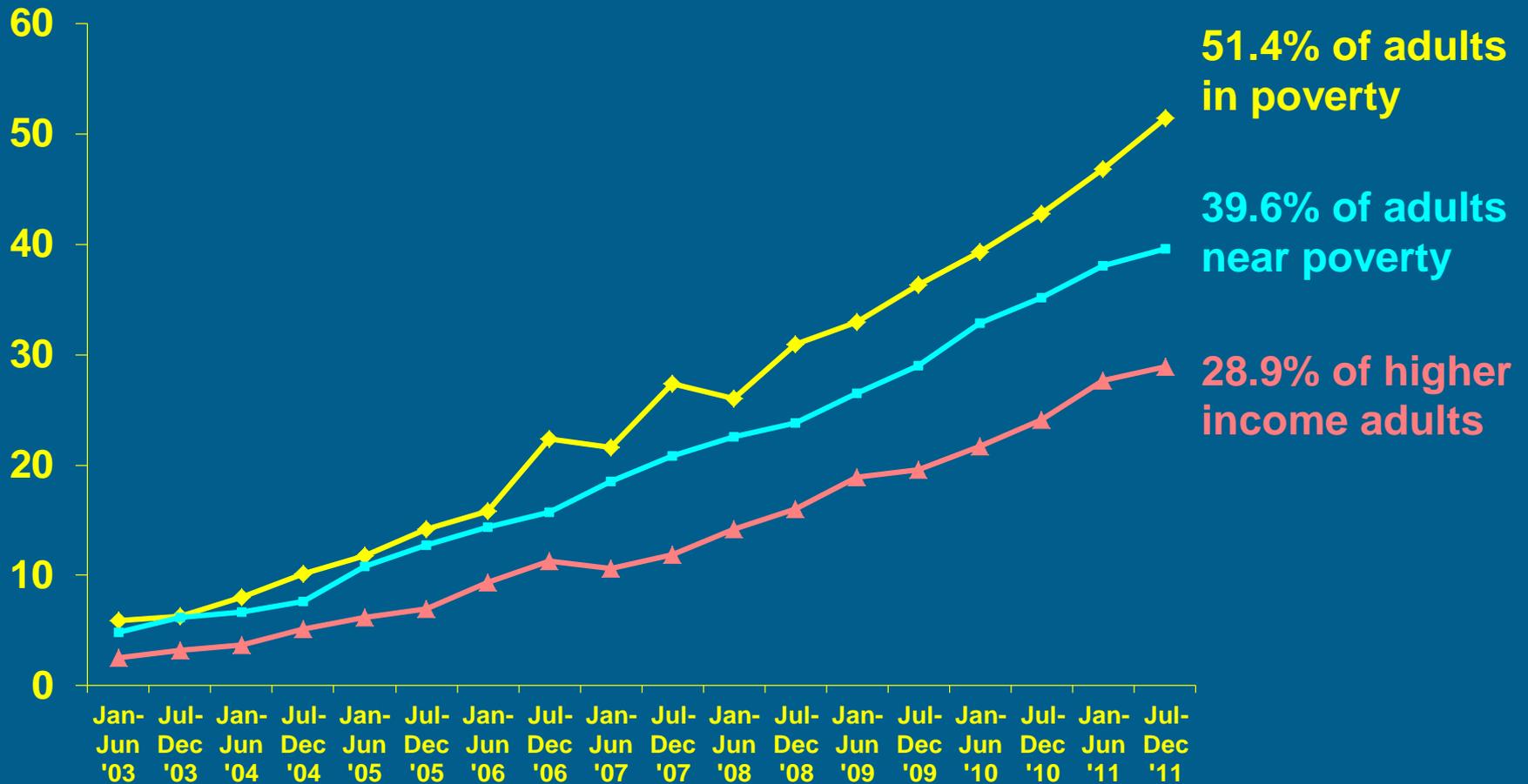
Prevalence of Wireless-Only Adults by Sex



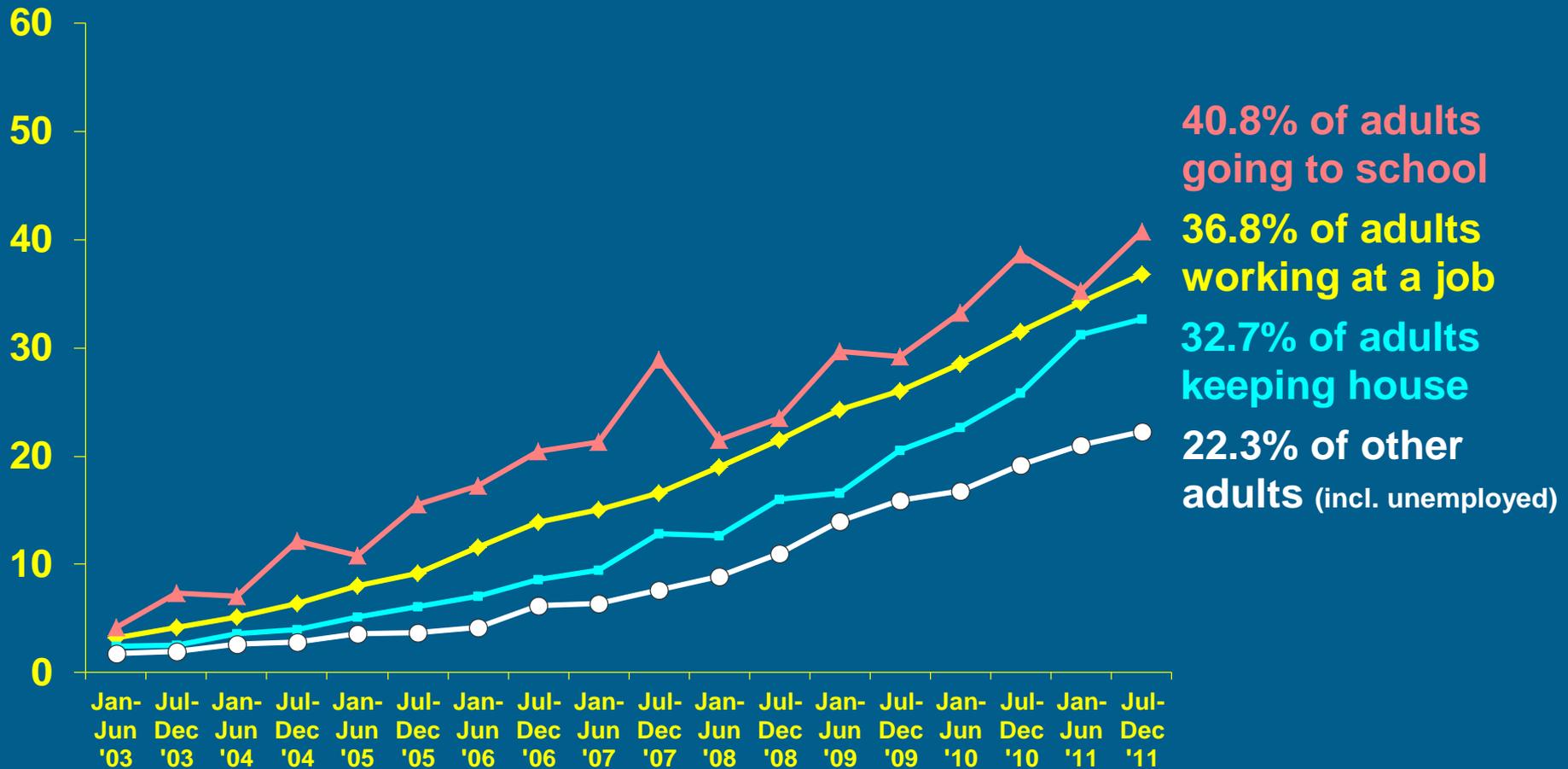
Prevalence of Wireless-Only Adults by Race/Ethnicity



Prevalence of Wireless-Only Adults by Household Poverty Status

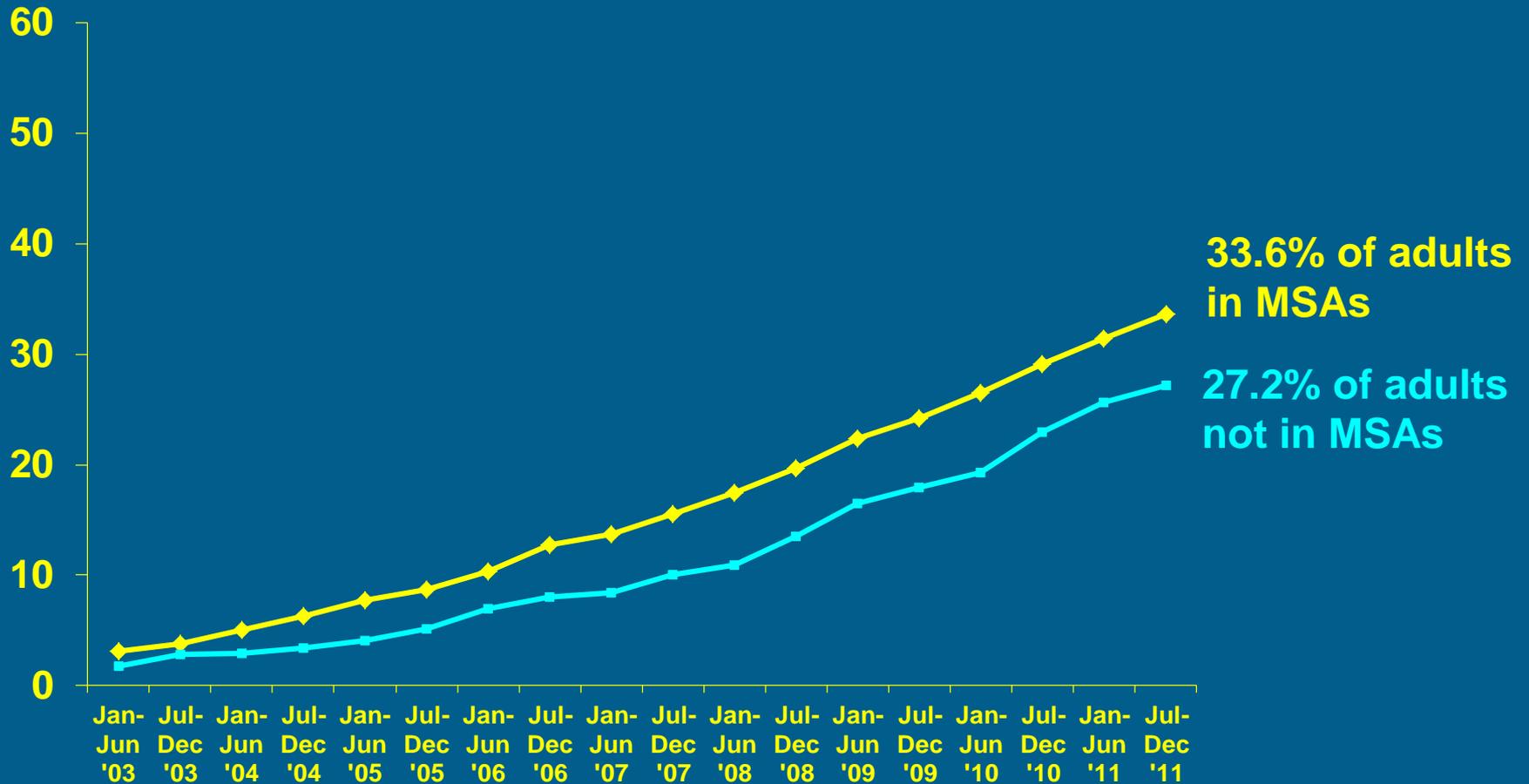


Prevalence of Wireless-Only Adults by Employment Status Last Week

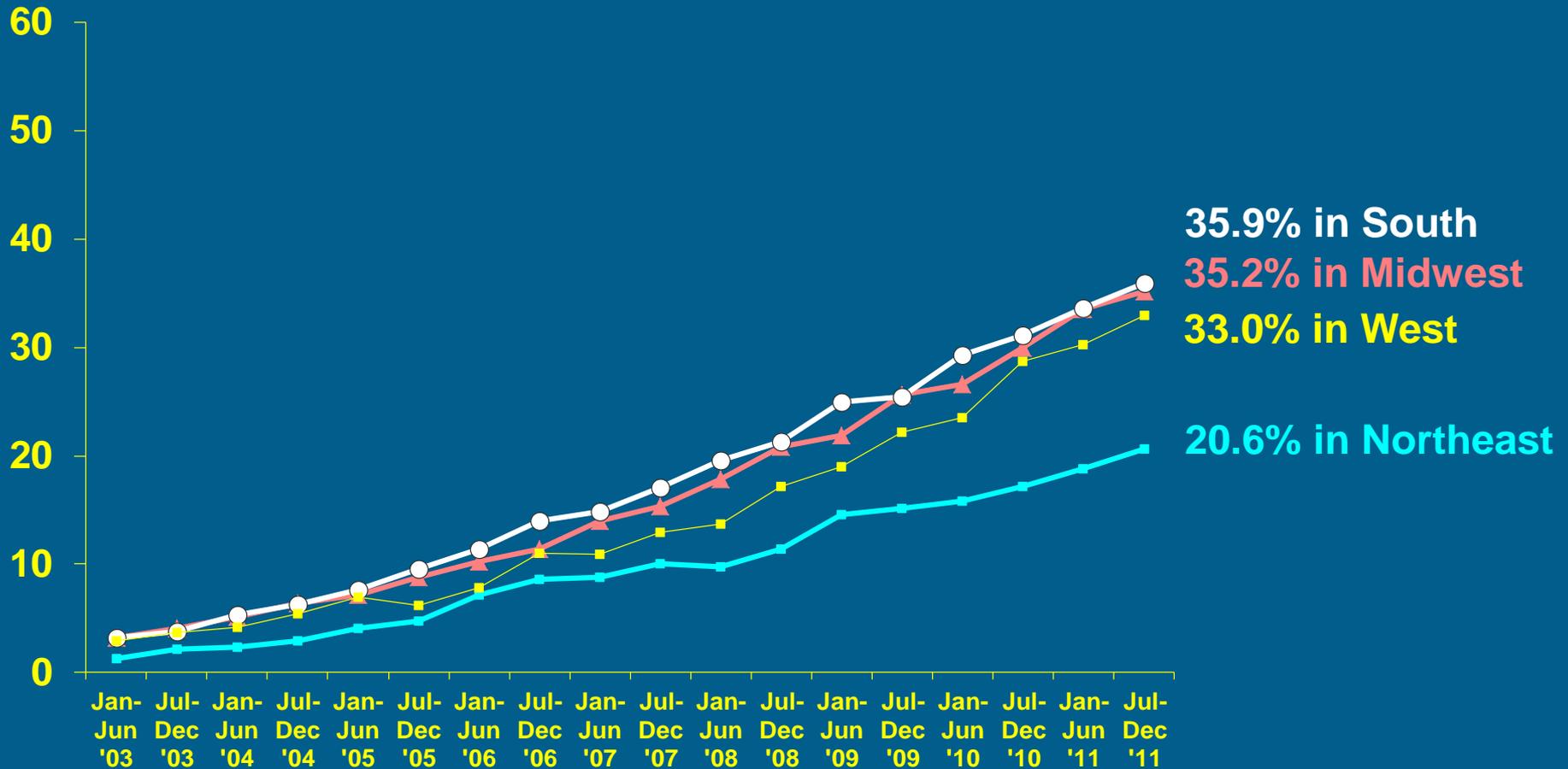


40.8% of adults going to school
 36.8% of adults working at a job
 32.7% of adults keeping house
 22.3% of other adults (incl. unemployed)

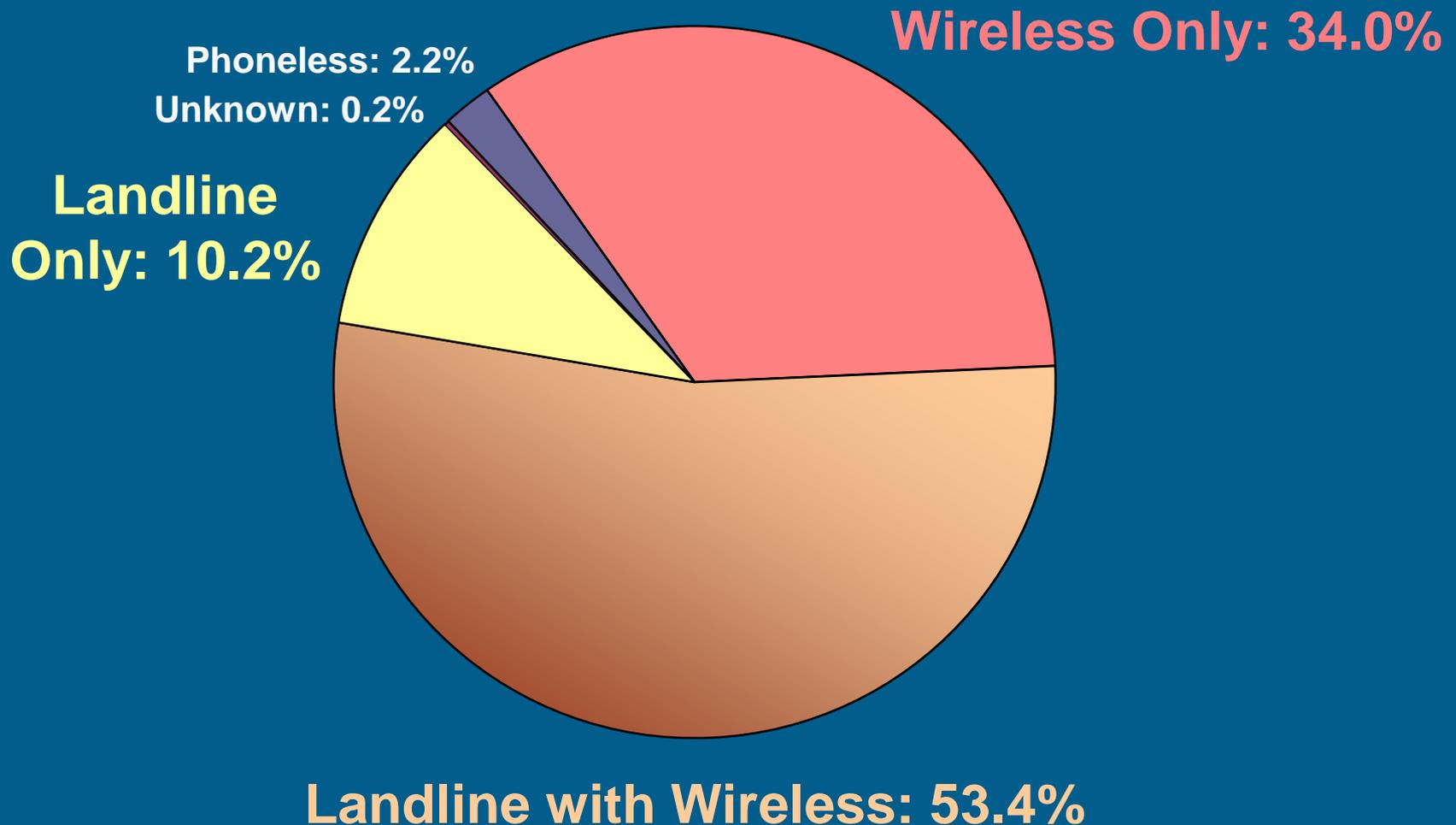
Prevalence of Wireless-Only Adults by Metropolitan Statistical Area Status



Prevalence of Wireless-Only Adults by Geographic Region



Percent Distribution of Households by Telephone Status, July-December 2011



Why did NCHS Begin Studying Whether Households have Wireless Telephones?

- In 2003, random-digit-dial telephone surveys did not call wireless telephones
- As more people gave up their landline telephones and lived only with wireless telephones, more people were excluded from RDD landline surveys
- To understand the impact of this noncoverage and how to correct it, a personal visit survey was needed to monitor the growing size and characteristics of the wireless-only population

National Health Interview Survey

- In-person survey of the civilian noninstitutionalized U.S. population with high annual household-level response rates
- Includes questions on residential telephone numbers to permit recontact of participants
 - 2003: Added questions on working cellular telephones
 - 2007: Added questions on relative frequency of calls received on landlines and cell phones

Coverage Bias

- Two factors determine the degree of coverage bias due to telephone ownership in a telephone survey:
 - The percentage of persons without landline telephones in the population of interest
 - The magnitude of the difference between persons with and without landline telephones for the variable of interest

Health Characteristics Examined

■ Health-related behaviors

- 5+ alcoholic drinks in one day (past year)
- Smoking (current)
- Leisure-time physical activity (regularly)

■ Health status

- Excellent or very good health status
- Serious psychological distress (past 30 days)
- Obesity
- Asthma episode (past year)
- Diabetes (ever diagnosed)

■ Health care service use

- Has a usual place to go for medical care
- Received influenza vaccine (past year)
- Tested for HIV (ever)
- Financial barrier to needed care (past year)
- Uninsured (current)

For these 13 estimates, preliminary weighted data were produced by the NHIS Early Release Program.

Percent of U.S. Adults with Various Health Characteristics, by Phone Status

July – December 2011

	Has a landline telephone 	Wireless-only 	No telephone 
5+ alcoholic drinks in 1 day	17.2	31.5	23.9
Current smoker	15.3	24.4	26.7
Psychological distress	2.8	4.1	4.5
Health excellent / very good	59.9	63.9	57.3

Percent of U.S. Adults with Various Health Characteristics, by Phone Status

July – December 2011

	Has a landline telephone 	Wireless-only 	No telephone 
Uninsured (when interviewed)	15.1	28.7	40.6
Financial barriers to care	5.8	13.0	14.0
Has a usual place for care	88.9	69.8	59.3
Flu vaccination	39.0	73.3	70.6
Ever tested for HIV	31.9	43.5	43.3

American Journal of Public Health, October 2009, pp. 1806-1810

SURVEY RESEARCH METHODS

Reevaluating the Need for Concern Regarding Noncoverage Bias in Landline Surveys

Stephen J. Blumberg, PhD, and Julian V. Luke, BA

In 2006, in this journal, we examined nationally representative survey data from 2004 and early 2005 to determine whether the exclusion of adults without landline telephones biased population-based estimates derived from health-related random-digit-dial telephone surveys.¹ Noncoverage bias is determined both by the magnitude of the difference between persons with and without landline telephones for the variable of interest and by the percentage of persons without landline telephones in the population of interest.² In 2004 and early 2005, only 7.2% of adults did not have landline telephones, and we concluded that “noncoverage is not presently a reason to reject the continued use of general population tele-

Objectives. We used recent data to reexamine whether the exclusion of adults from households with no telephone or only wireless phones may bias estimates derived from health-related telephone surveys.

Methods. We calculated the difference between estimates for the full population of adults and estimates for adults with landline phones; data were from the 2007 National Health Interview Survey.

Results. When data from landline telephone surveys were weighted to match demographic characteristics of the full population, bias was generally less than 2 percentage points (range=0.1–2.4). However, among young adults and low-income adults, we found greater bias (range=1.7–5.9) for estimates of health insurance, smoking, binge drinking, influenza vaccination, and having a usual place for care.

Conclusions. From 2004 to 2007, the potential for noncoverage bias increased. Bias can be reduced through weighting adjustments. Therefore, telephone surveys limited to landline households may still be appropriate for health surveys of all adults and for surveys of subpopulations regarding health status. However, for some behavioral risk factors and health care service use indicators,

Why does NCHS Continue to Monitor Wireless Telephone Use?

- Most major survey research organizations now include wireless telephone numbers when conducting RDD telephone surveys
- Data on household telephone ownership and use are necessary to properly weight these dual-frame telephone surveys

Adding a Cell-Phone Frame

Landline Frame

Wireless Frame



Landline Only

Landline and
Wireless

Wireless Only

Phoneless

Landline Frame

Wireless Frame

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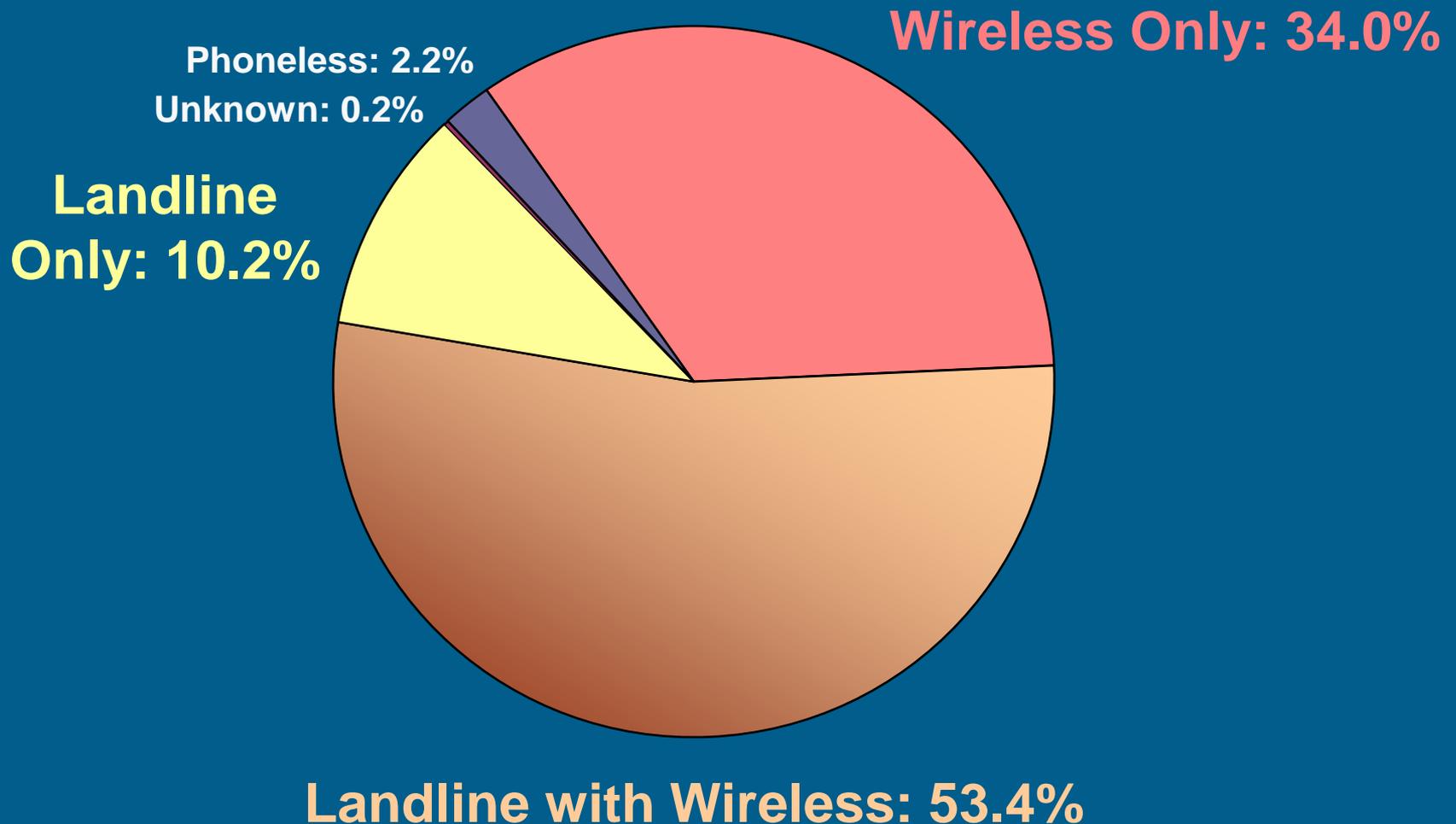
“Of all the calls that your family receives, are ...

(1) All or almost all calls received on cell phones?

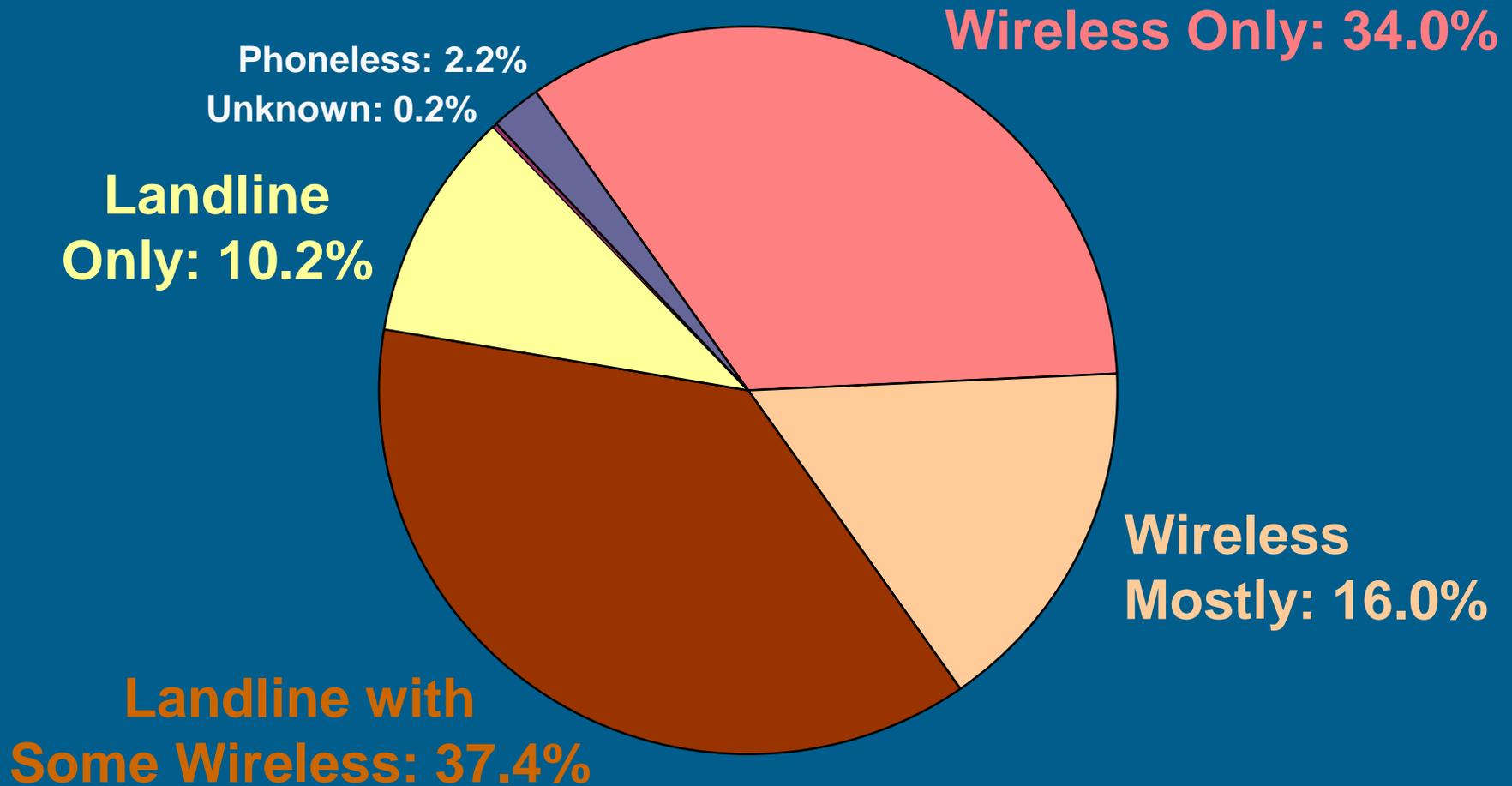
(2) Some received on cell phones and some on regular phones?

(3) Very few or none received on cell phones?”

Percent Distribution of Households by Telephone Status, July-December 2011

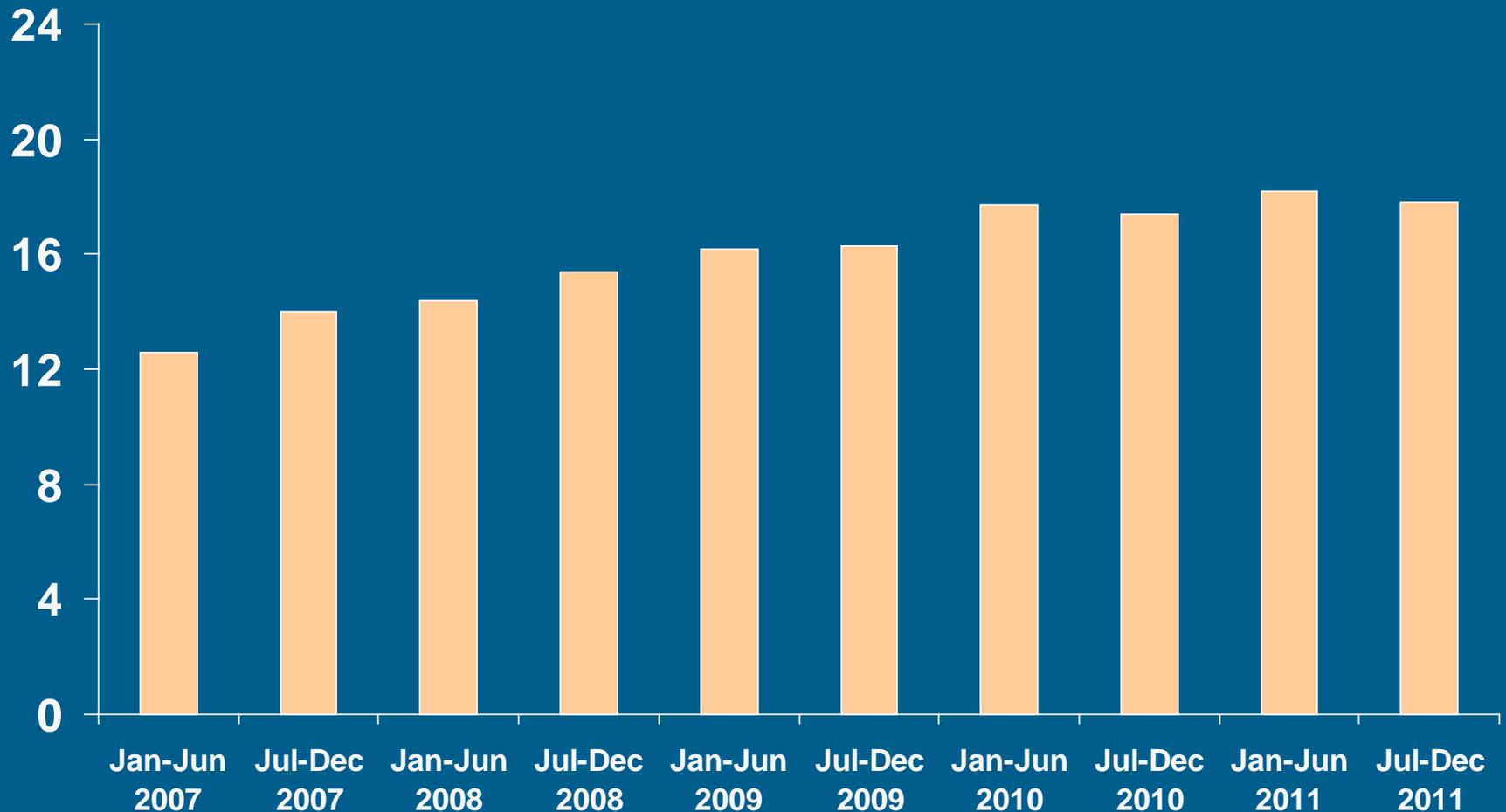


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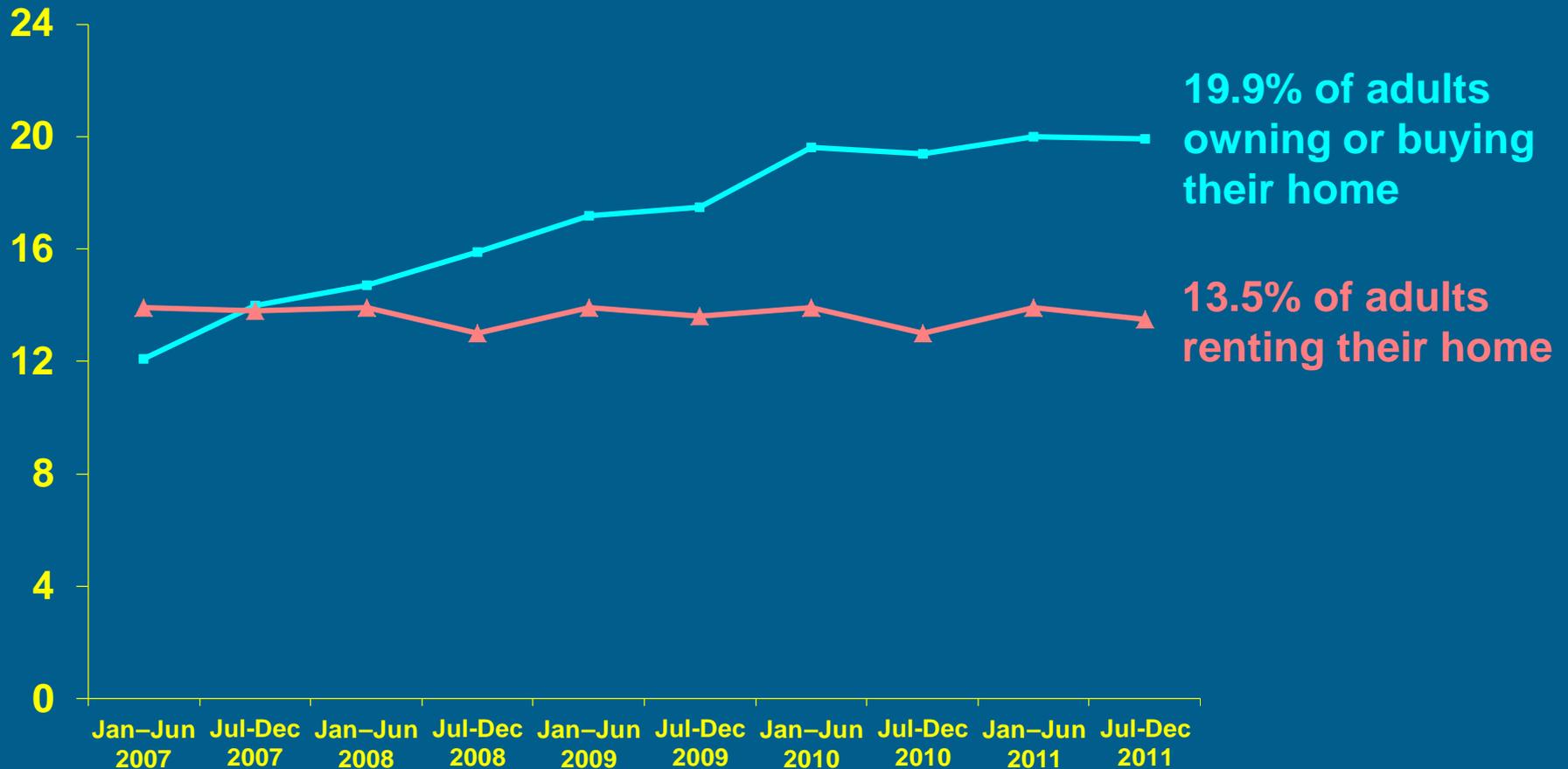


Percentage of Adults Living in Wireless-Mostly Households

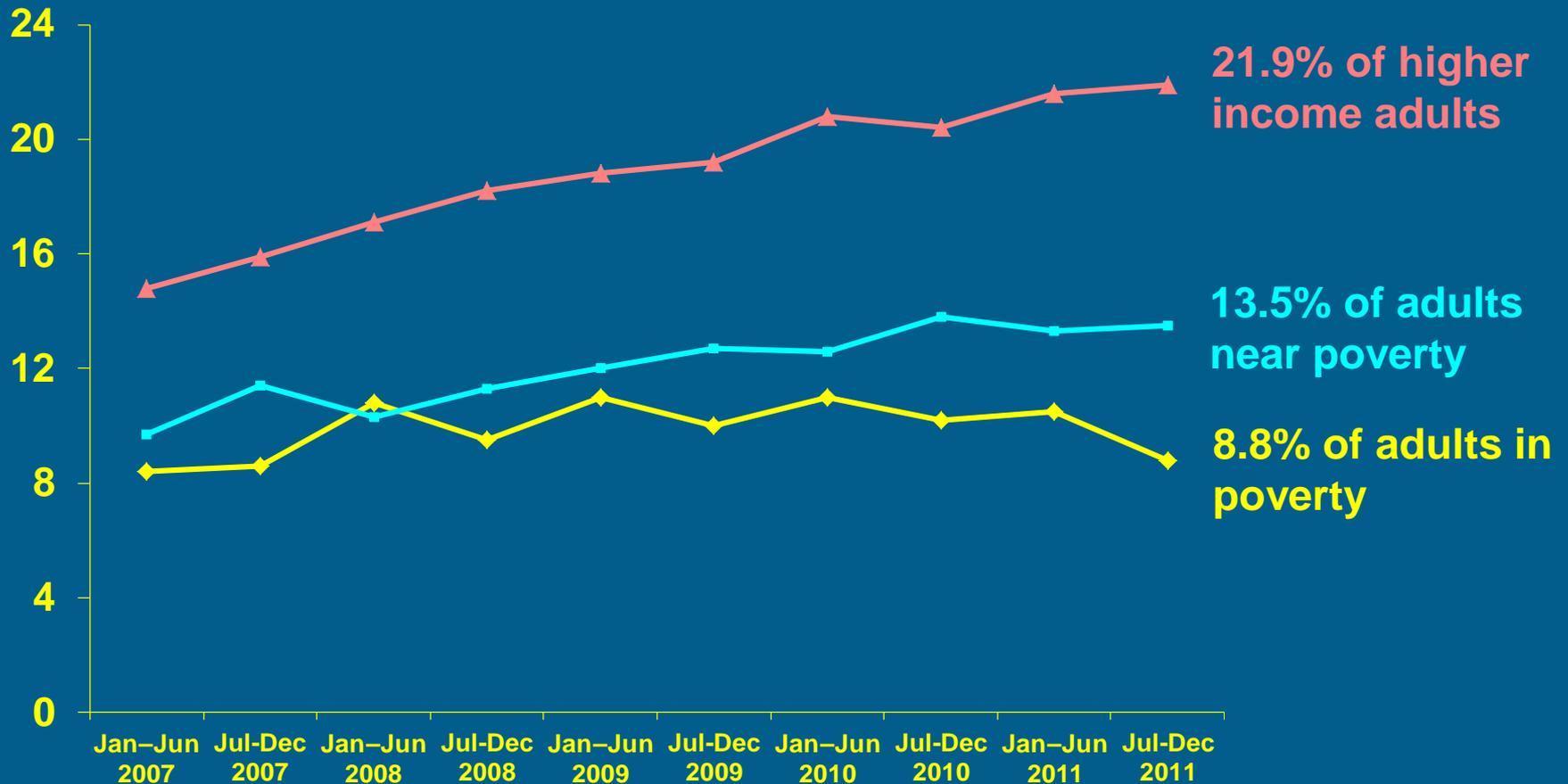
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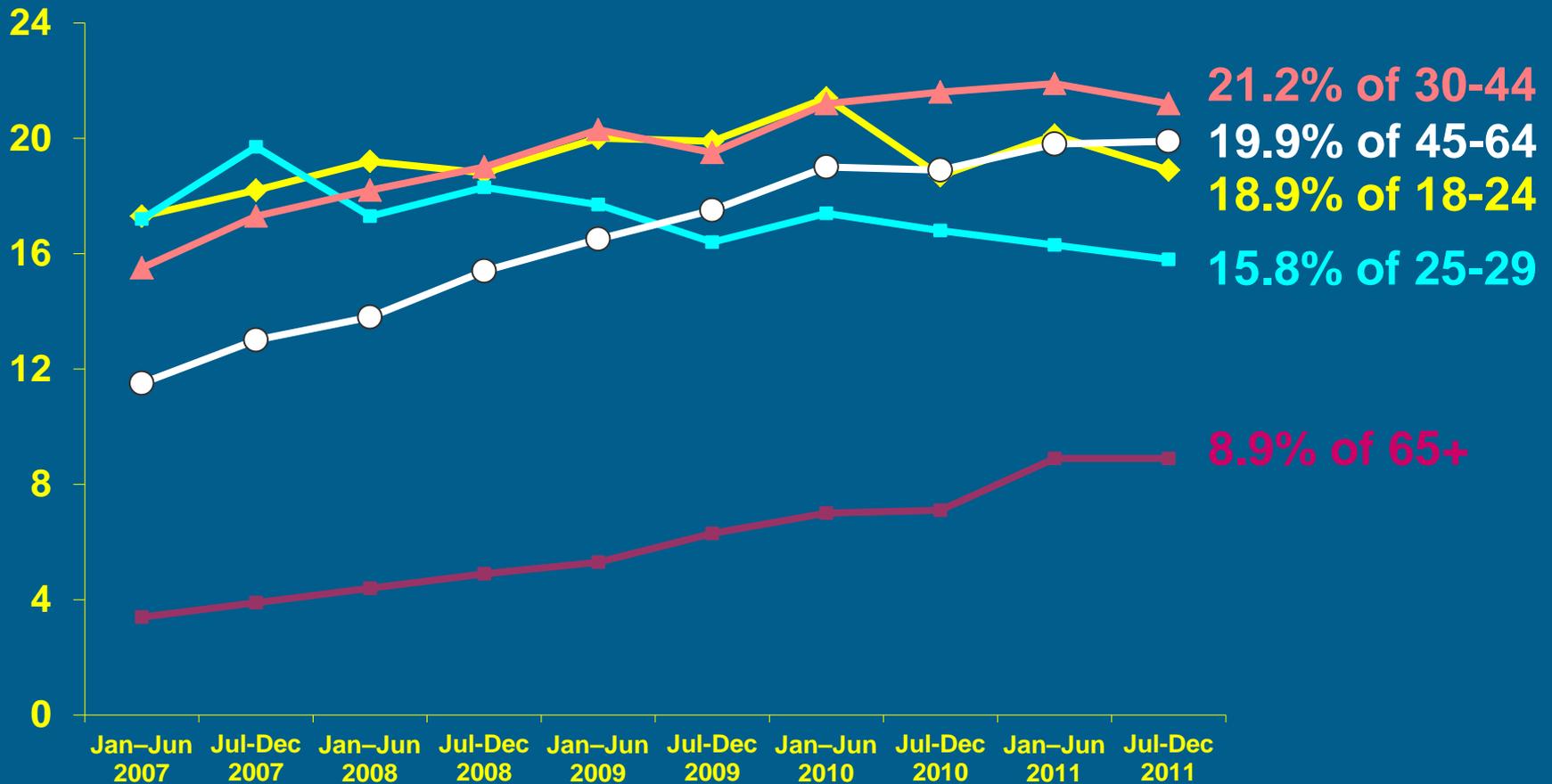
Prevalence of Wireless-Mostly Adults by Home Ownership Status



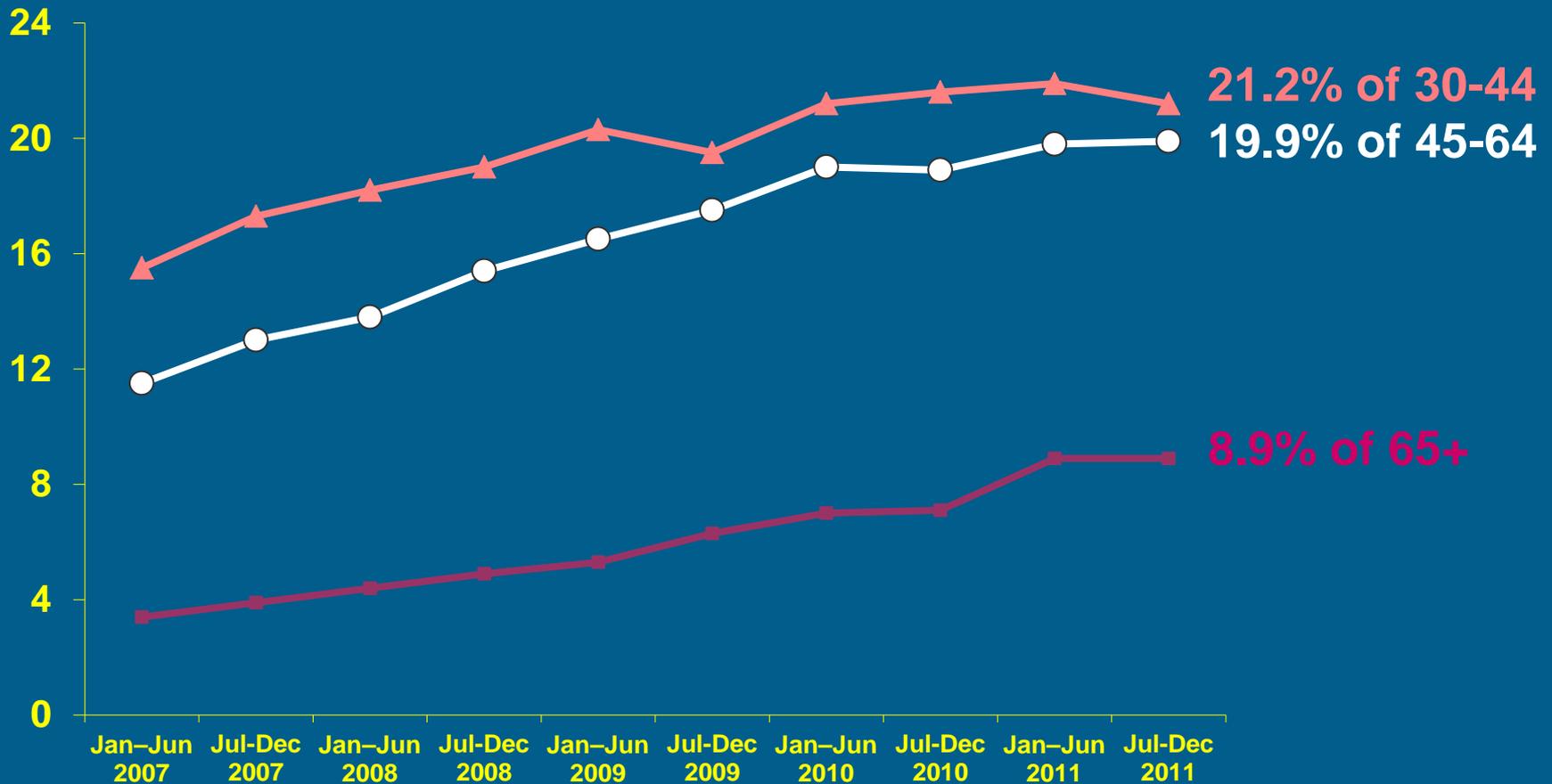
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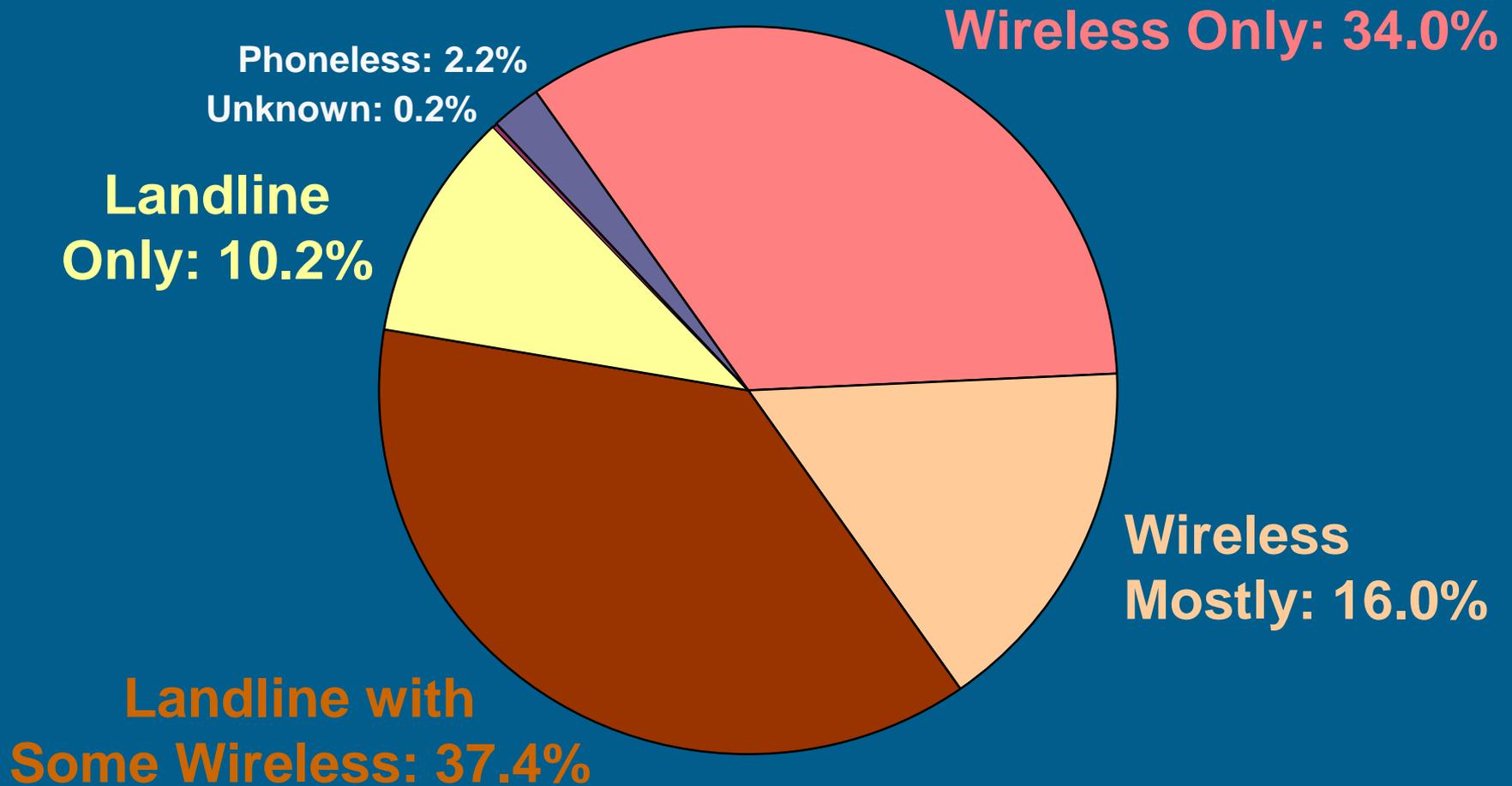
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Prevalence of Wireless-Only Adults by Age

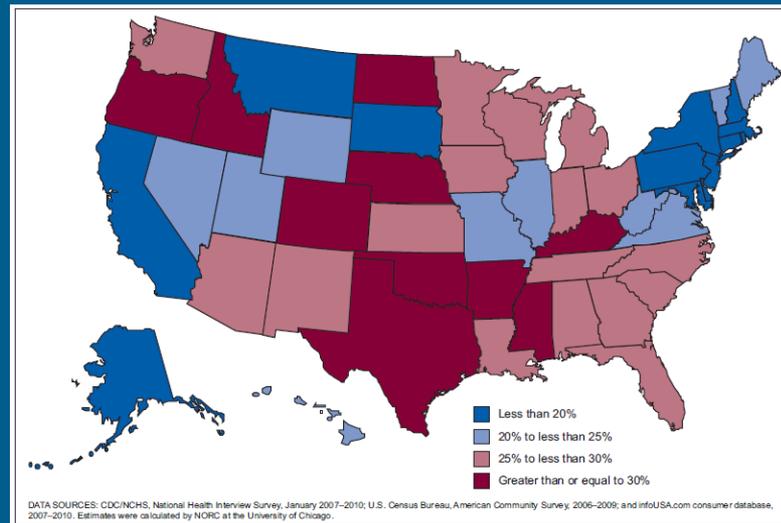


Percent Distribution of Households by Telephone Status, July-December 2011



Forthcoming Reports (Fall 2012)

- Wireless Substitution: State-level Estimates From the NHIS, 2010-2011



Prevalence of
Adults Living in
Wireless-Only
Households,
July 2009 - June 2010

- Wireless Substitution: Early Release of Estimates From the NHIS, January-June 2012

[For More Information...]

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