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INSTITUTE**

**DEPARTMENT
OF
SCIENCE AND
TECHNOLOGY**

BURDEN OF SELECTED RISK FACTORS TO NON COMMUNICABLE DISEASES (NCDs) AMONG FILIPINO ADULTS



PRESENTATION OUTLINE



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Burden of Noncommunicable Diseases (NCDs)

Global

Western Pacific Region

Philippines



Overview of the 2013 8th National Nutrition Survey (NNS)



Burden of selected risk factors of NCDs based on results of the 8th NNS

Obesity (Body Mass Index, Waist Circumference and Waist-Hip Ratio)

Hypertension

High fasting blood glucose

Dyslipidemia

Smoking Status

Alcohol Consumption Status

Physical Inactivity



Philippine baseline data for the WHO Global NCD Targets of 2025

GLOBAL BURDEN of NCDs



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**more than
36 million people**

are killed each year by
NCDs



29 million deaths

or nearly **80%** of NCD deaths
occur in low- and middle-income
countries.



**More than nine
million of all
deaths**

is considered "premature" deaths
that occur before the age of 60;
90% of these deaths occurred in
low- and middle-income countries.



BURDEN of NCDs in the WESTERN PACIFIC REGION (WPRO)



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Japan
Australia
Singapore
New Zealand
Brunei
Darussalam
Cook Islands
Malaysia
Tonga
China
Viet Nam
Solomon Islands

Philippines

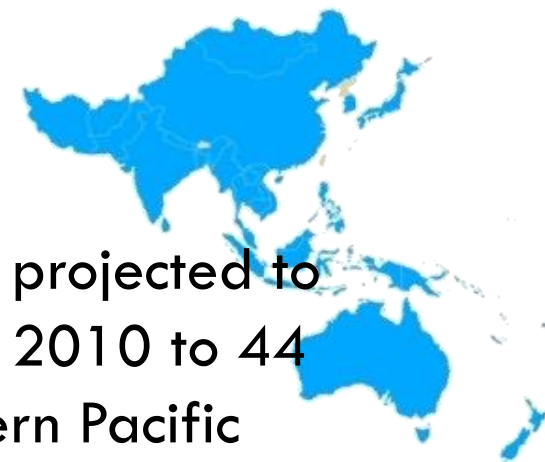
Micronesia,
the Federated States of
Vanuatu
Samoa
Palau
Niue
Kiribati
Papua New Guinea
Lao People's
Democratic Republic, the
Mongolia
Fiji
Cambodia
Tuvalu
Marshall Islands, the
Nauru



NCDs are the leading causes of death and disability in the **Western Pacific Region**, responsible for **80%** of all deaths.



Globally, NCD deaths are projected to increase from 36 million in 2010 to 44 million 2020. In the Western Pacific Region, the projected increase is from **10.2 million to 12.3 million.**



Noncommunicable diseases in the Western Pacific Region: A Profile
WHO, Western Pacific Region, 2012

BURDEN of NCDs in the PHILIPPINES



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**More than half
(67%)**

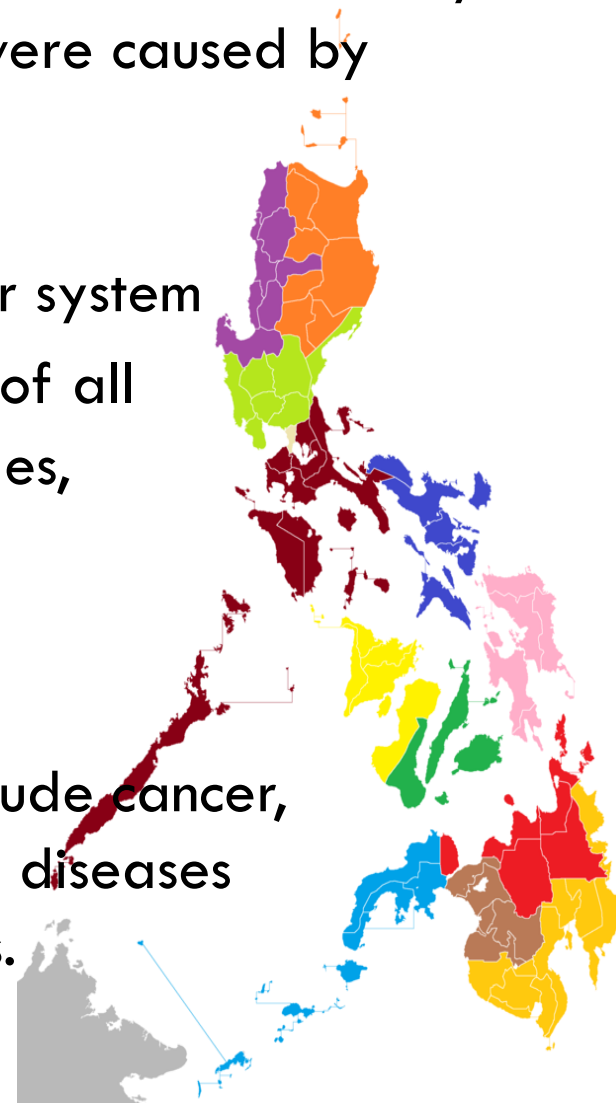
of total deaths in the country
in 2012 were caused by
NCDs.



Diseases of the heart and vascular system
made up **one-third (33.0%)** of all
deaths (WHO-NCD Country Profiles,
2014)



Other NCDs in the top list include cancer,
chronic obstructive pulmonary diseases
(COPD) and diabetes mellitus.



An Overview of the 8th NATIONAL NUTRITION SURVEY (NNS), 2013

LEGAL BASIS

EO 128 Section 22

The FNRI is mandated to undertake **research that defines the citizenry's nutritional status**, with reference in particular to malnutrition, **its causes and effects**, and identify **alternative solutions** for them;

EO 352

The **national nutrition survey** is a designated **statistical activity** that will generate critical data for decision-making of the government and the private sector





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HISTORICAL BACKGROUND

National Nutrition Survey		Survey Period
<div>44.9M</div> <div>↓</div> <div>97.7M</div>	1 st NNS	1978
	2 nd NNS	1982
	3 rd NNS	1987
	4 th NNS	1993
	5 th NNS	1998
	6 th NNS	2003
	7 th NNS	2008
	8 th NNS	2013

2,800 HH
17,667 persons

45,047 HH
172,323 persons

GENERAL OBJECTIVE



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- ❖ To determine and evaluate the food intake, nutrition and health status of Filipinos and update official statistics on food, nutrition and health situation in the country



NNS SAMPLING DESIGN

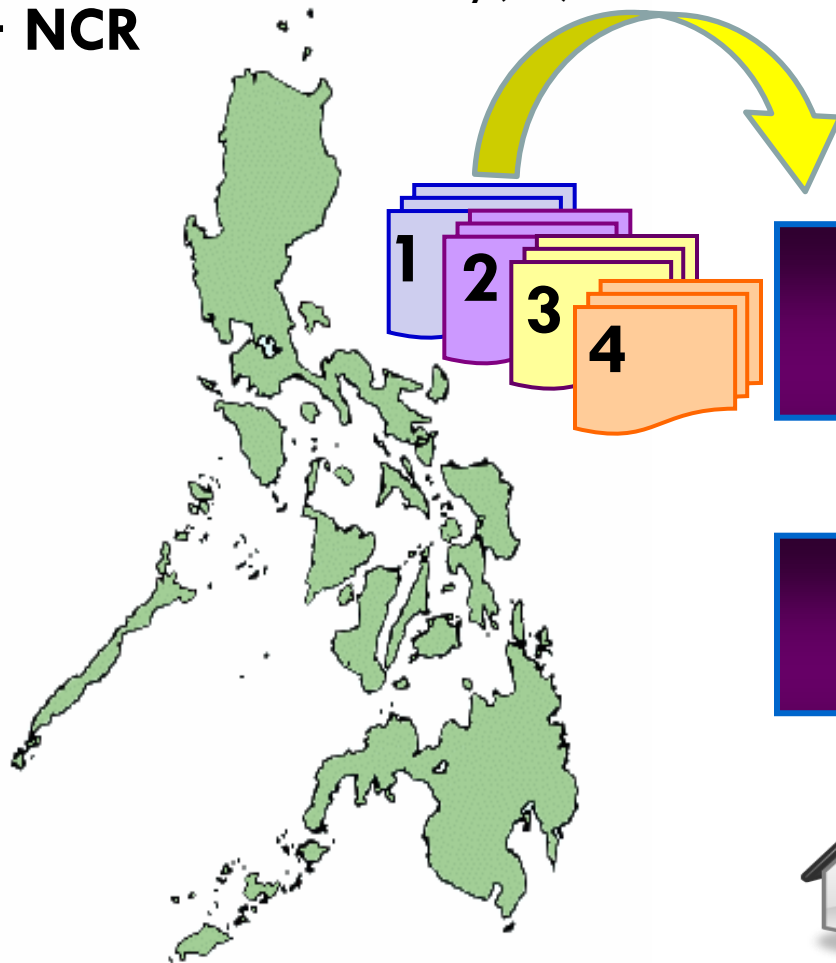


**17 Regions/
80 Provinces
+ NCR**

4 replicates from the
NSO Master Sample
which utilized 100% of
the 2009 Labor Force
Survey (LFS) Households

**National Statistics Office
(NSO) Master Sample
(PSA)**

**Multi-Stage Stratified
Sampling Design**



1st Stage – Primary Sampling Unit
One barangay or contiguous
barangays with at least 500 HHs

2nd Stage – Enumeration Area
Contiguous area in a barangay
with 150-200 HHs



3rd Stage – Households

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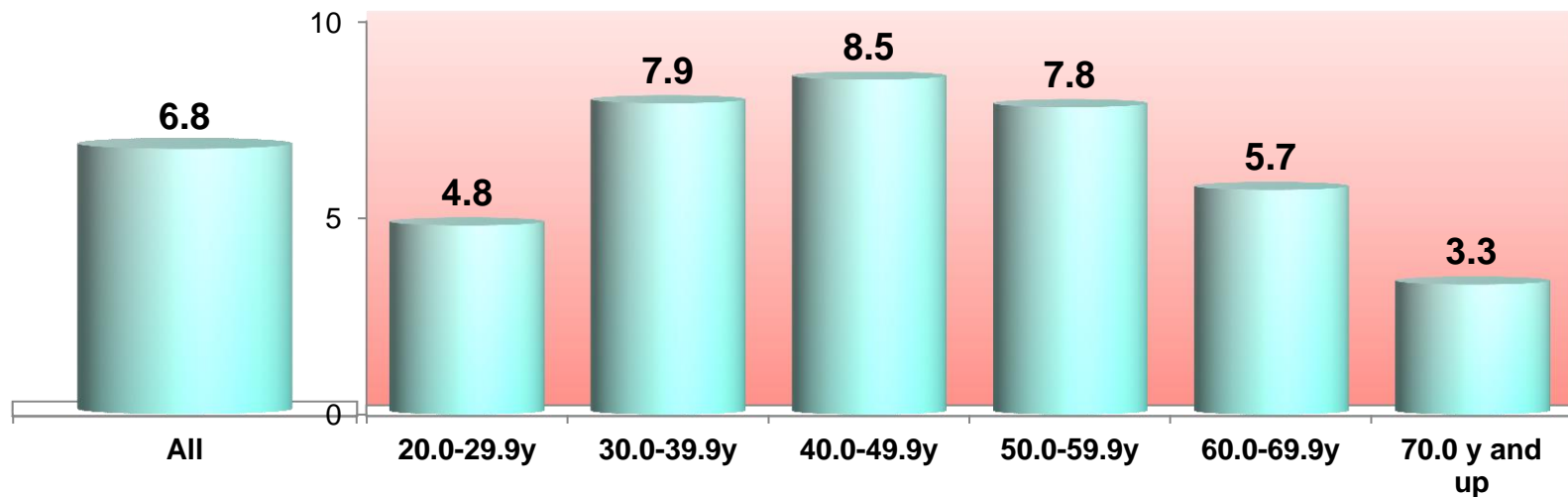
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RISK FACTORS of NCDs based on results of the 2013 National Nutrition Survey

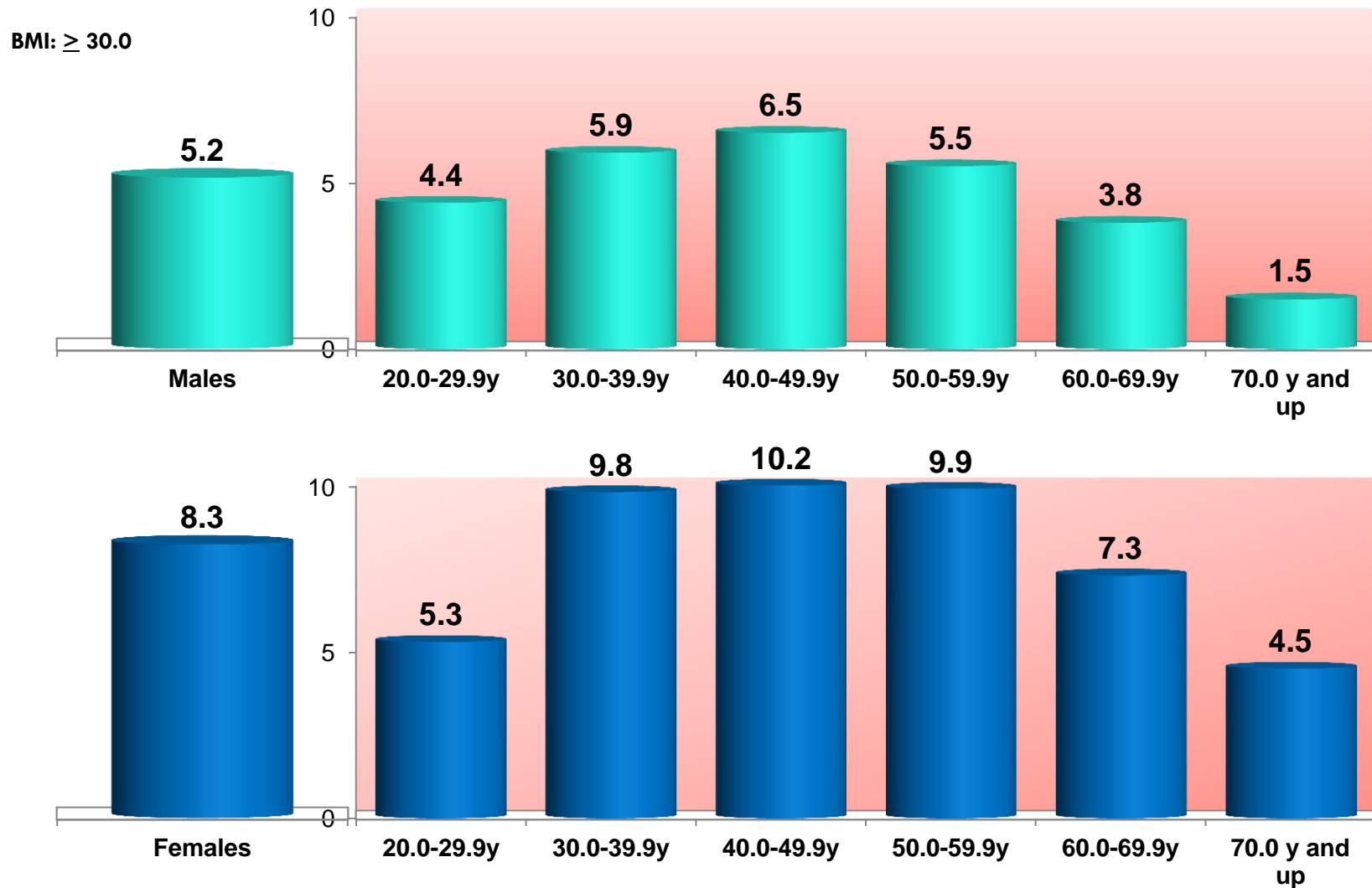


Prevalence of obesity among adults 20 years and over by age group using WHO BMI Classification: Philippines, 2013

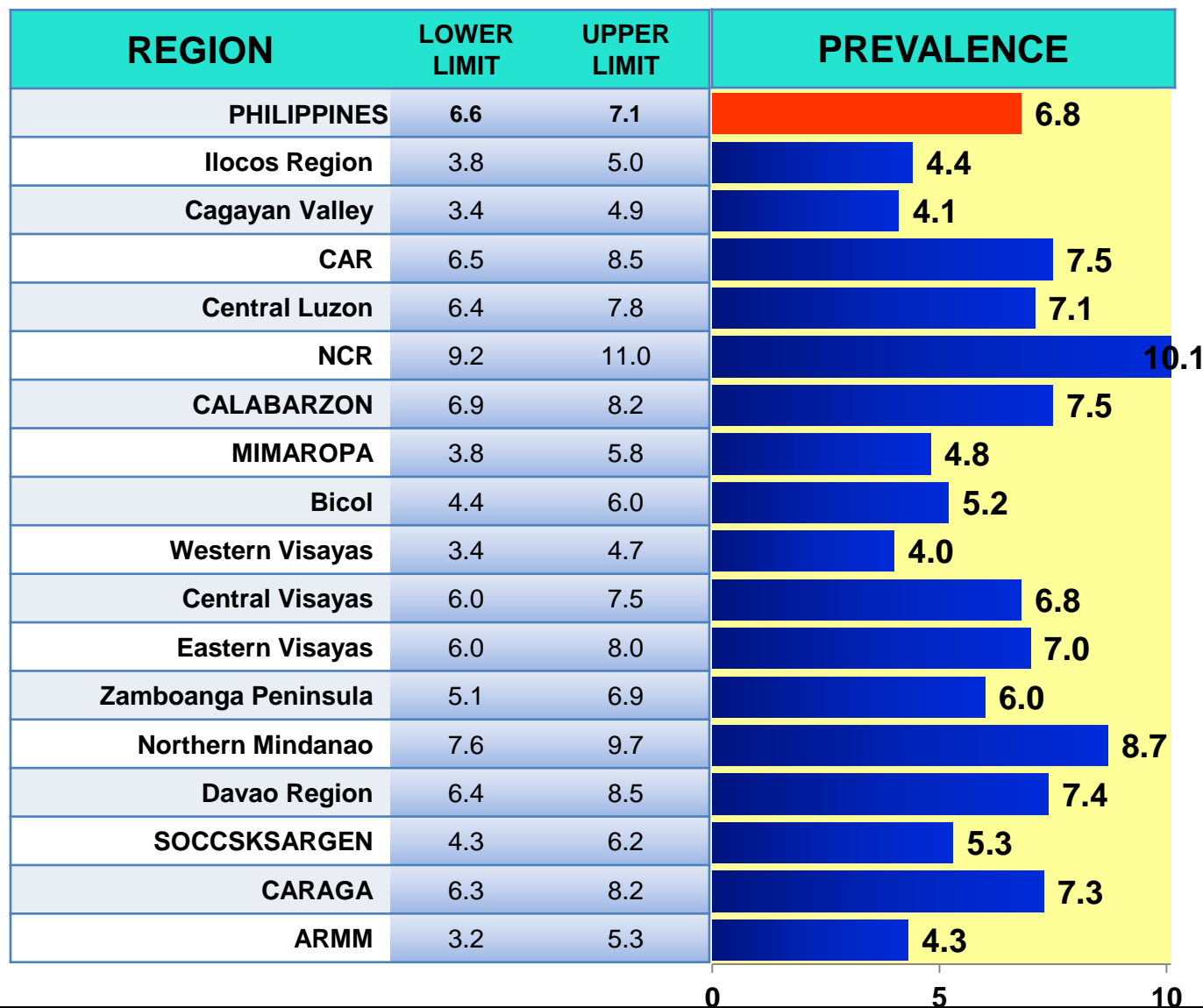
BMI: ≥ 30.0



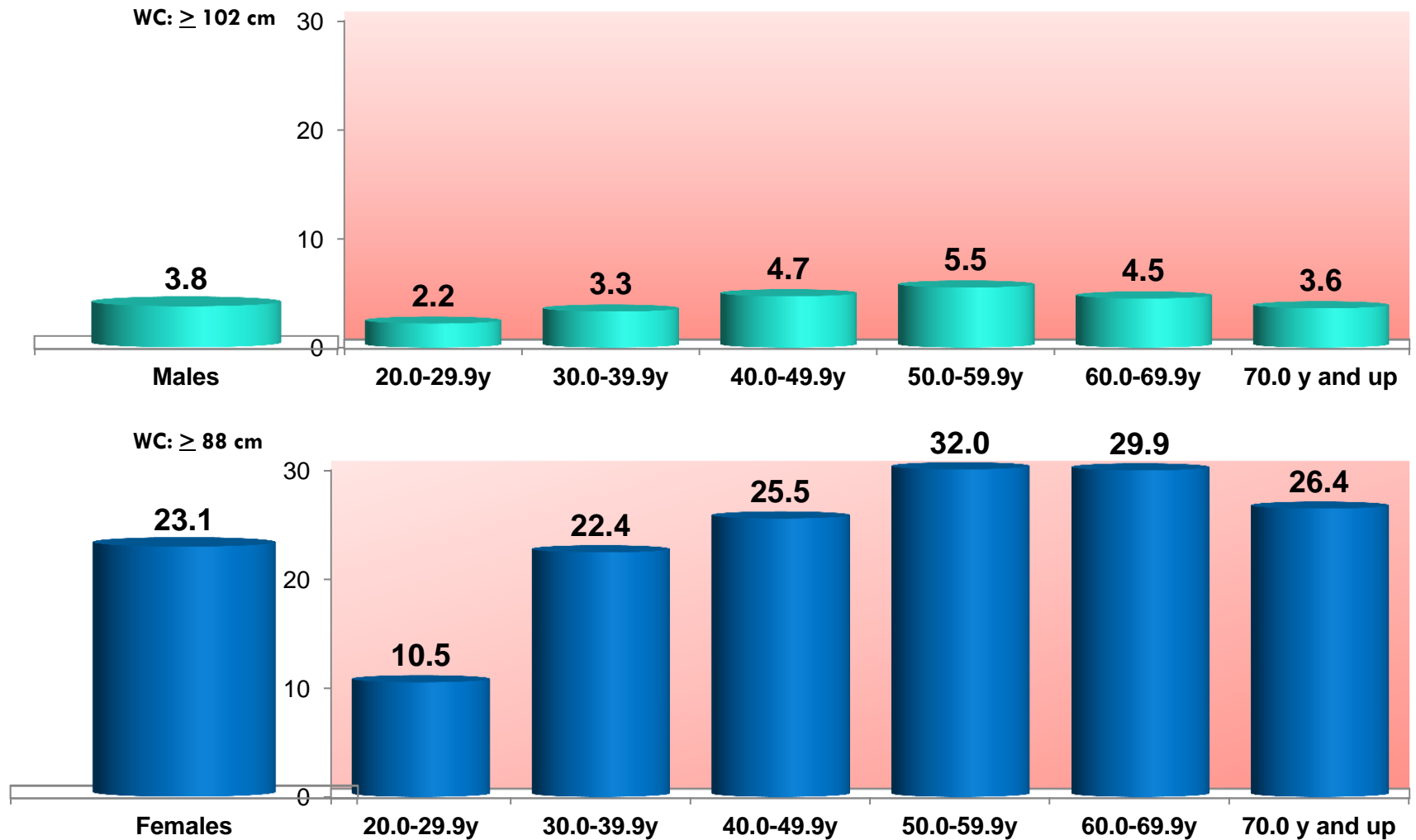
Prevalence of obesity among adults 20 years and over by age group and sex using WHO BMI Classification: Philippines, 2013



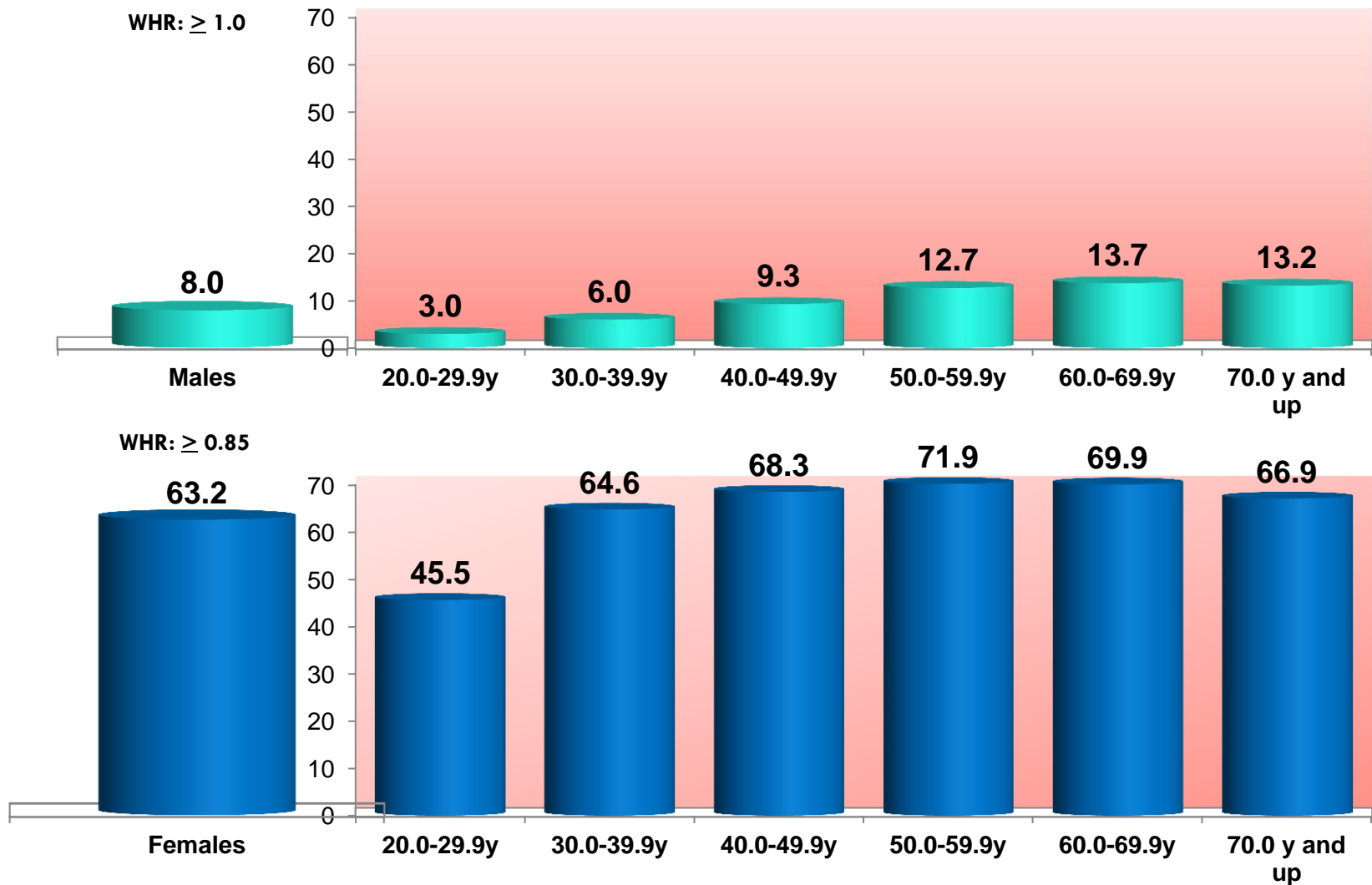
Prevalence and 95% CI of obesity among adults 20 years and over by region, Philippines: 2013



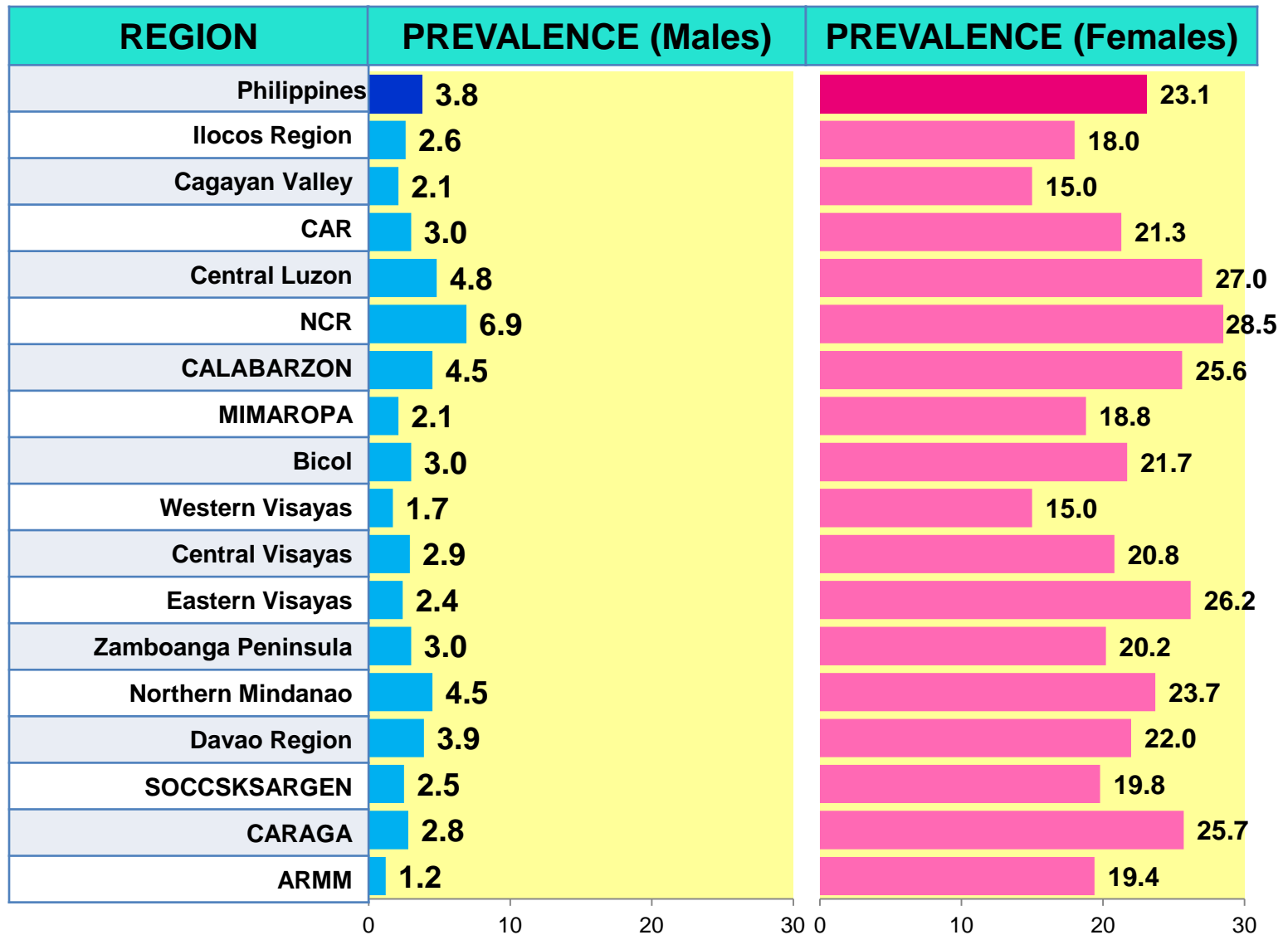
Prevalence of android obesity based on high WC among adults 20 years and over by sex and age group: Philippines, 2013



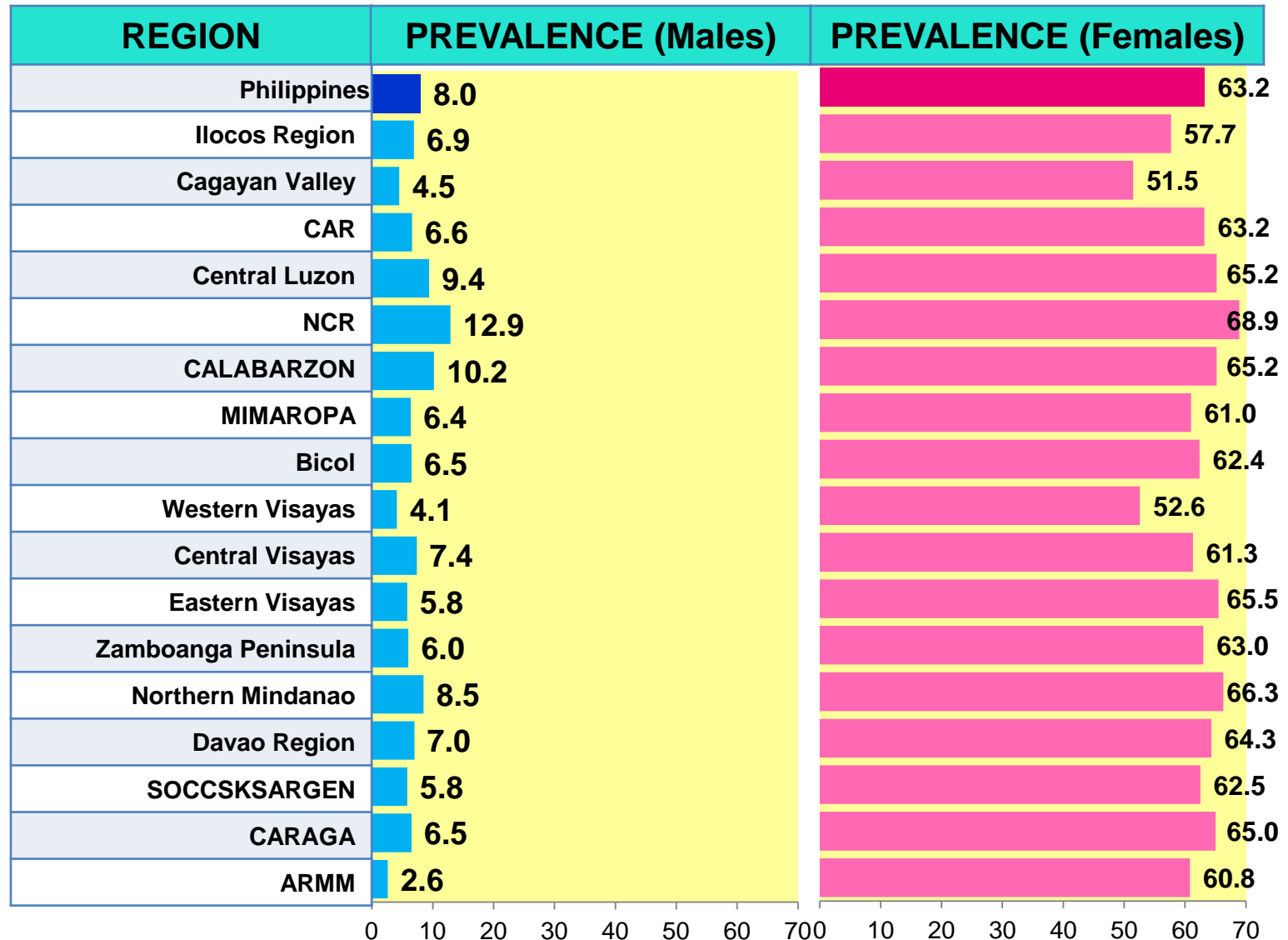
Prevalence of android obesity based on high WHR among adults 20 years and over by sex and age group: Philippines, 2013



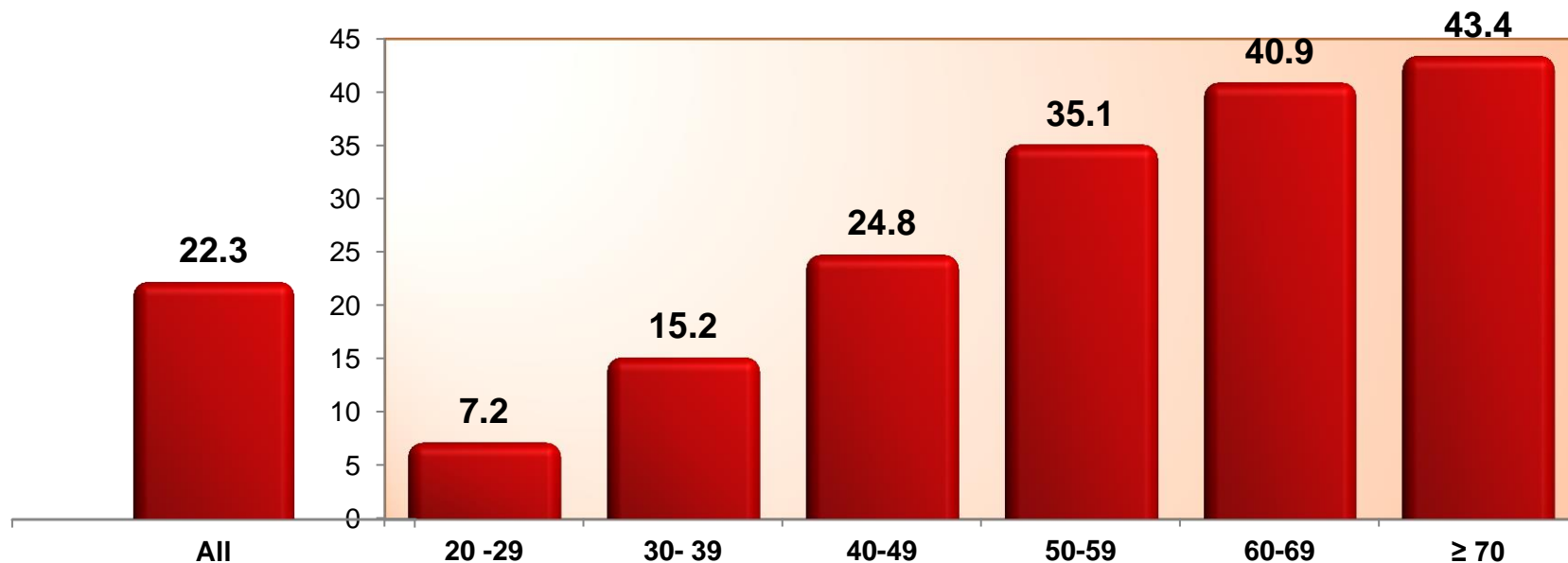
Prevalence of android obesity among adults 20 years and over based on high WC by region: Philippines, 2013



Prevalence of android obesity among adults 20 years and over based on high WHR by region: Philippines, 2013



Prevalence of hypertension* among adults 20 years and over based on a single blood pressure measurement visit by age: Philippines, 2013



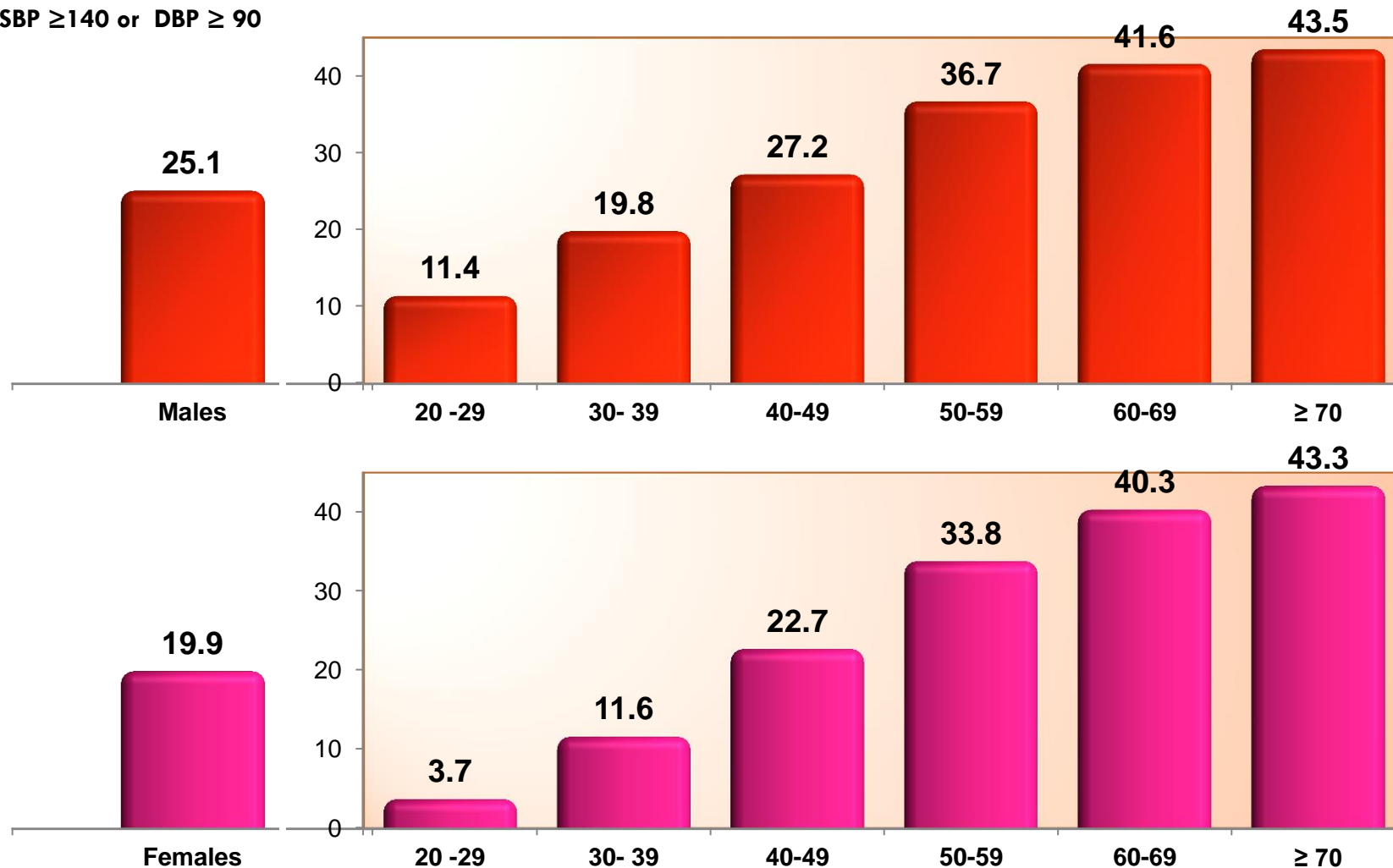
*SBP ≥ 140 or DBP ≥ 90

JNC VII



Prevalence of hypertension* among adults 20 years and over based on a single blood pressure measurement visit, by sex and age group: Philippines, 2013

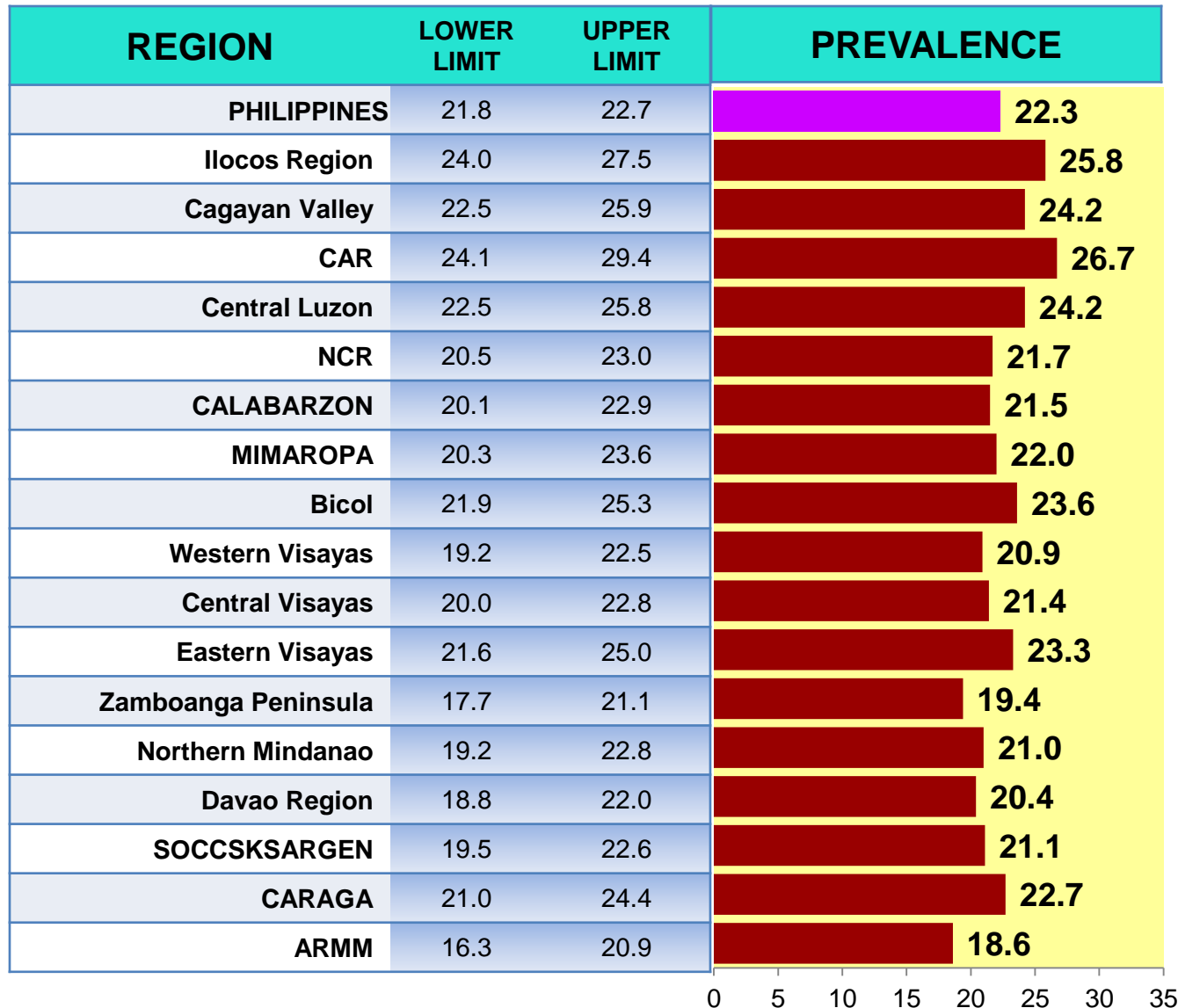
*SBP ≥ 140 or DBP ≥ 90



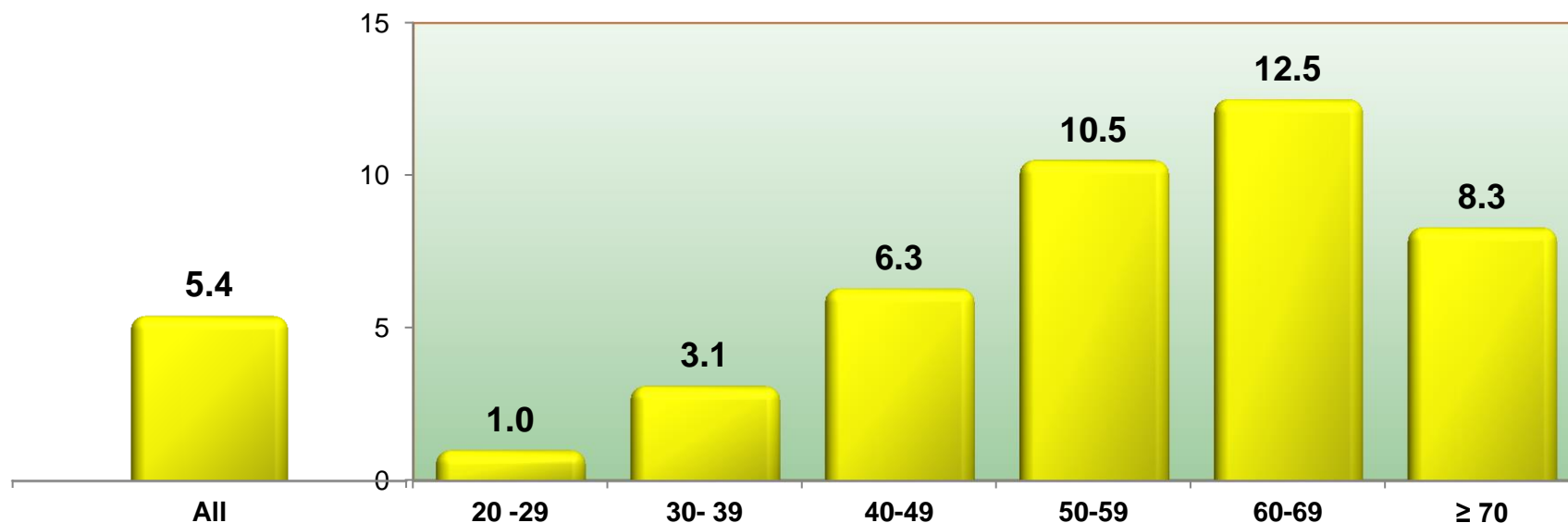
Modified JNC VIII (2013)



Prevalence and 95% CI of hypertension among adults 20 years and over by region, Philippines: 2013



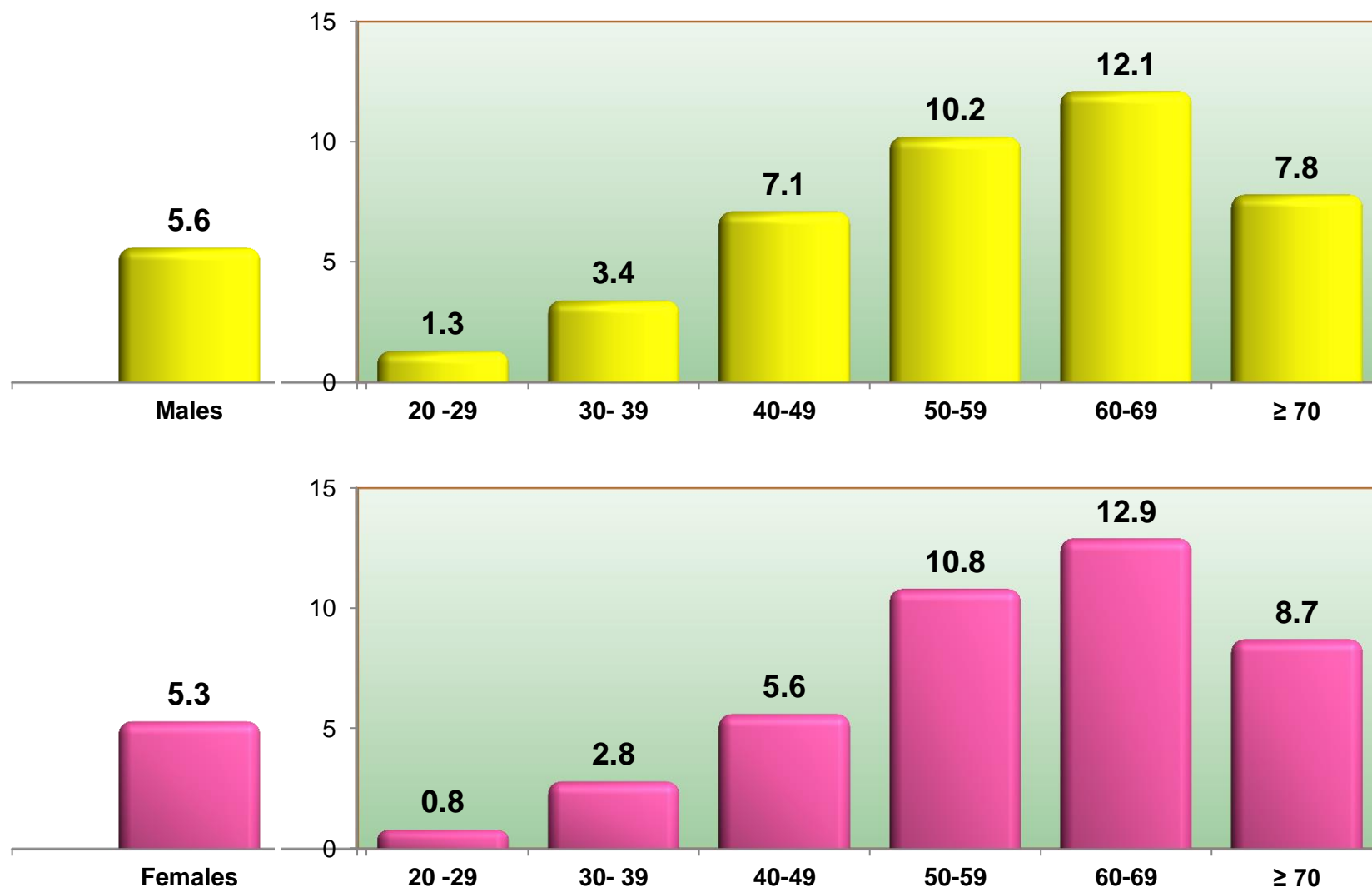
Prevalence of diabetes* among adults 20 years and over by age: Philippines, 2013



* WHO and CPG criteria of high FBG ≥ 126 mg/dL



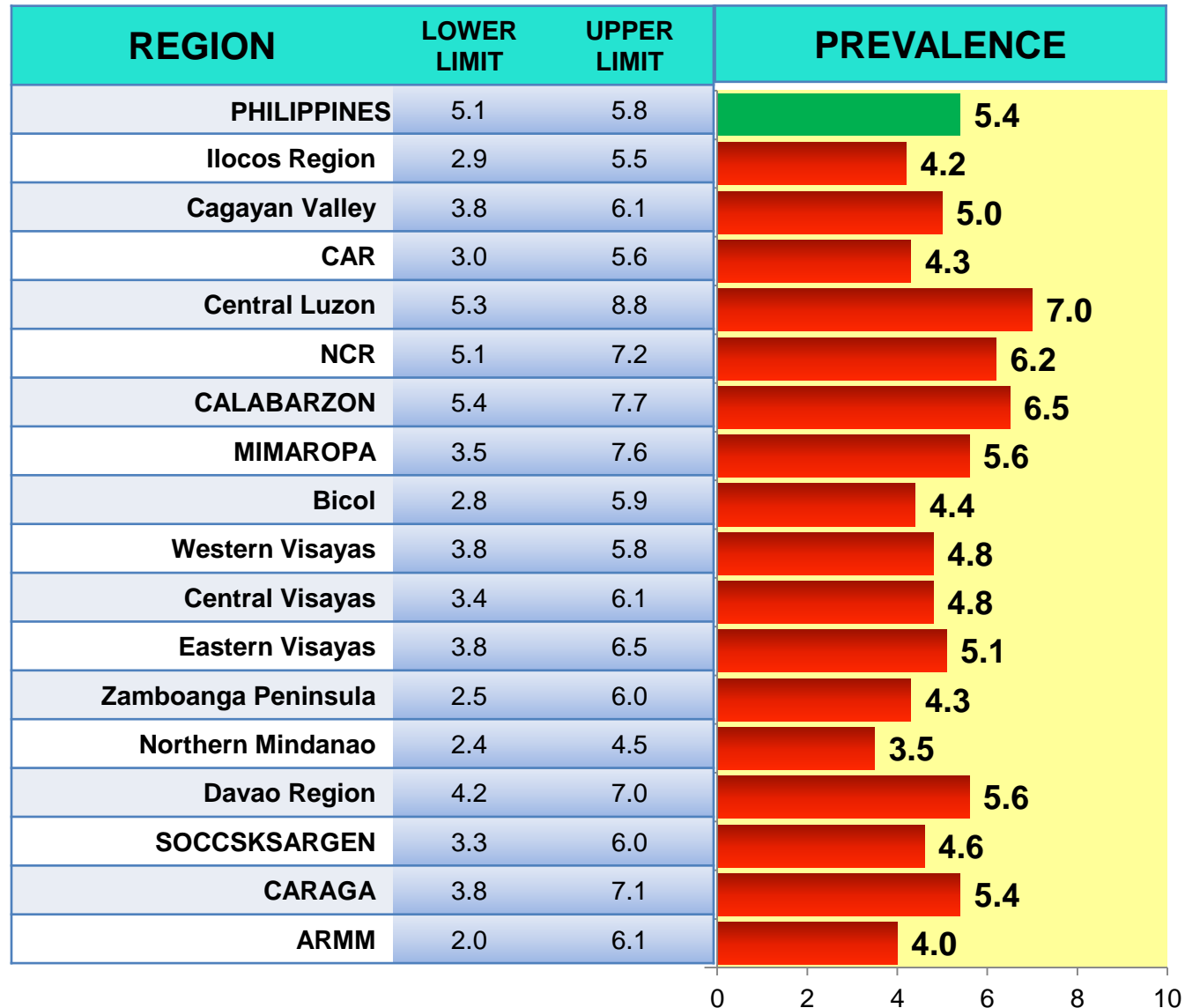
Prevalence of diabetes* among adults 20 years and over by age and sex: Philippines, 2013



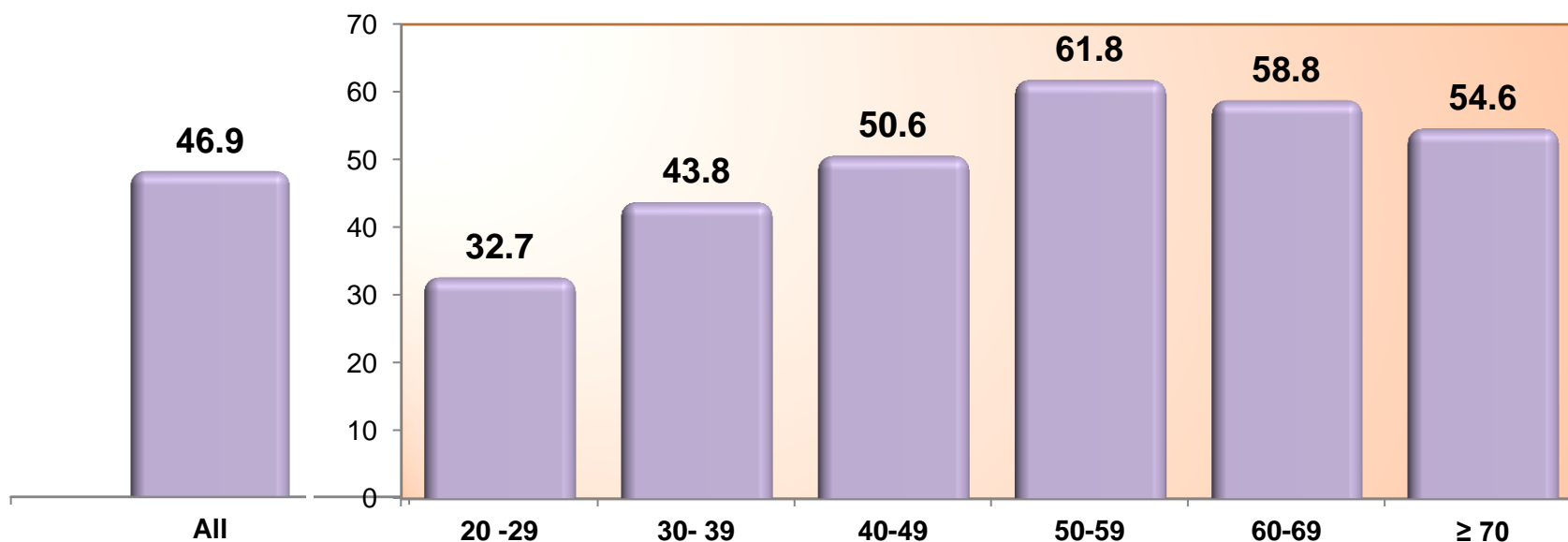
* WHO and CPG criteria of high FBG ≥ 126 mg/dL



Prevalence and 95% CI of diabetes among adults 20 years and over by region: Philippines, 2013



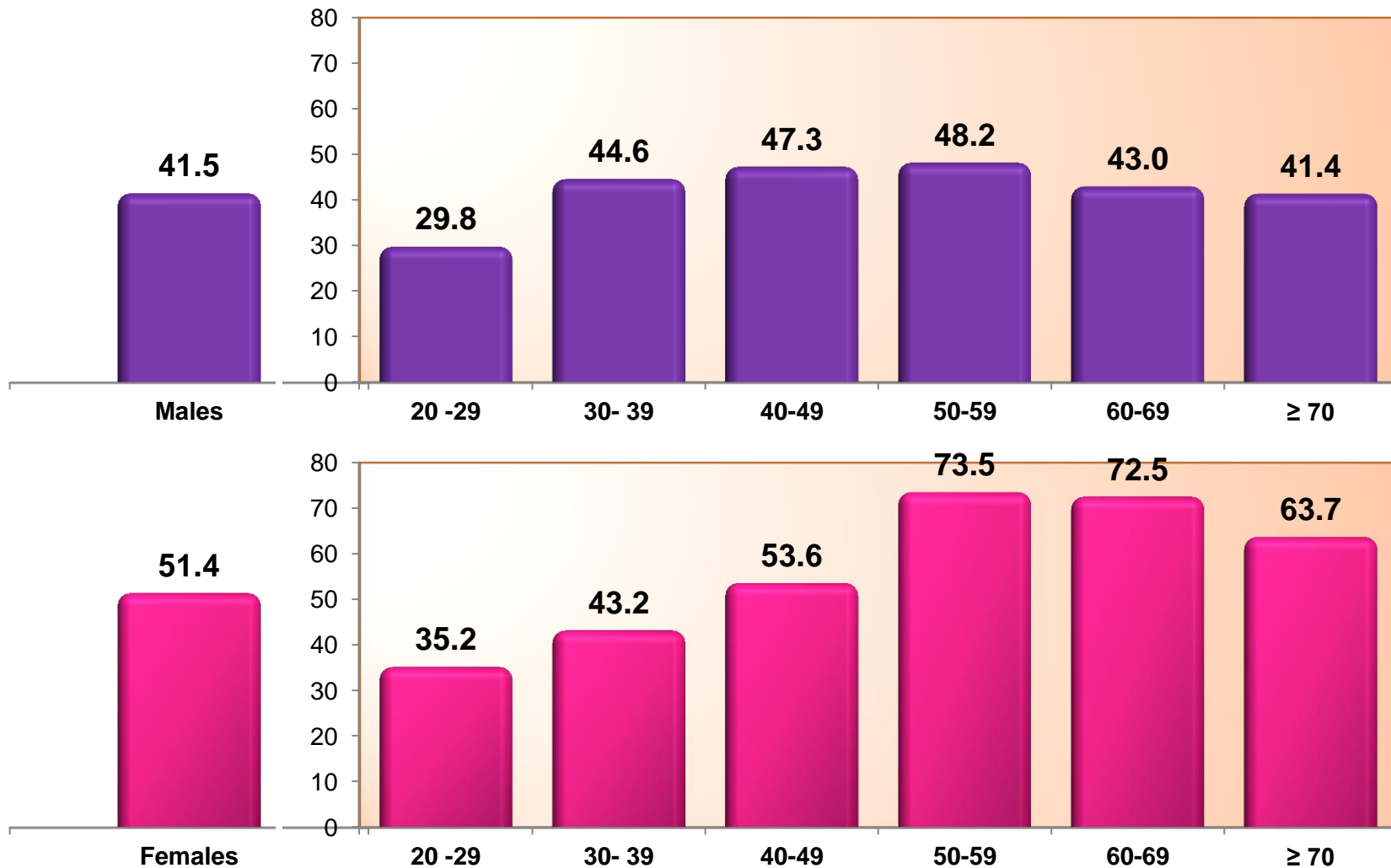
Prevalence of borderline to high total cholesterol level* among adults 20 years and over by age: Philippines, 2013



*Adult Treatment Panel (ATP) III Cut-off, 2001: Borderline: 200-239 mg/dL; High \geq 240 mg/dL



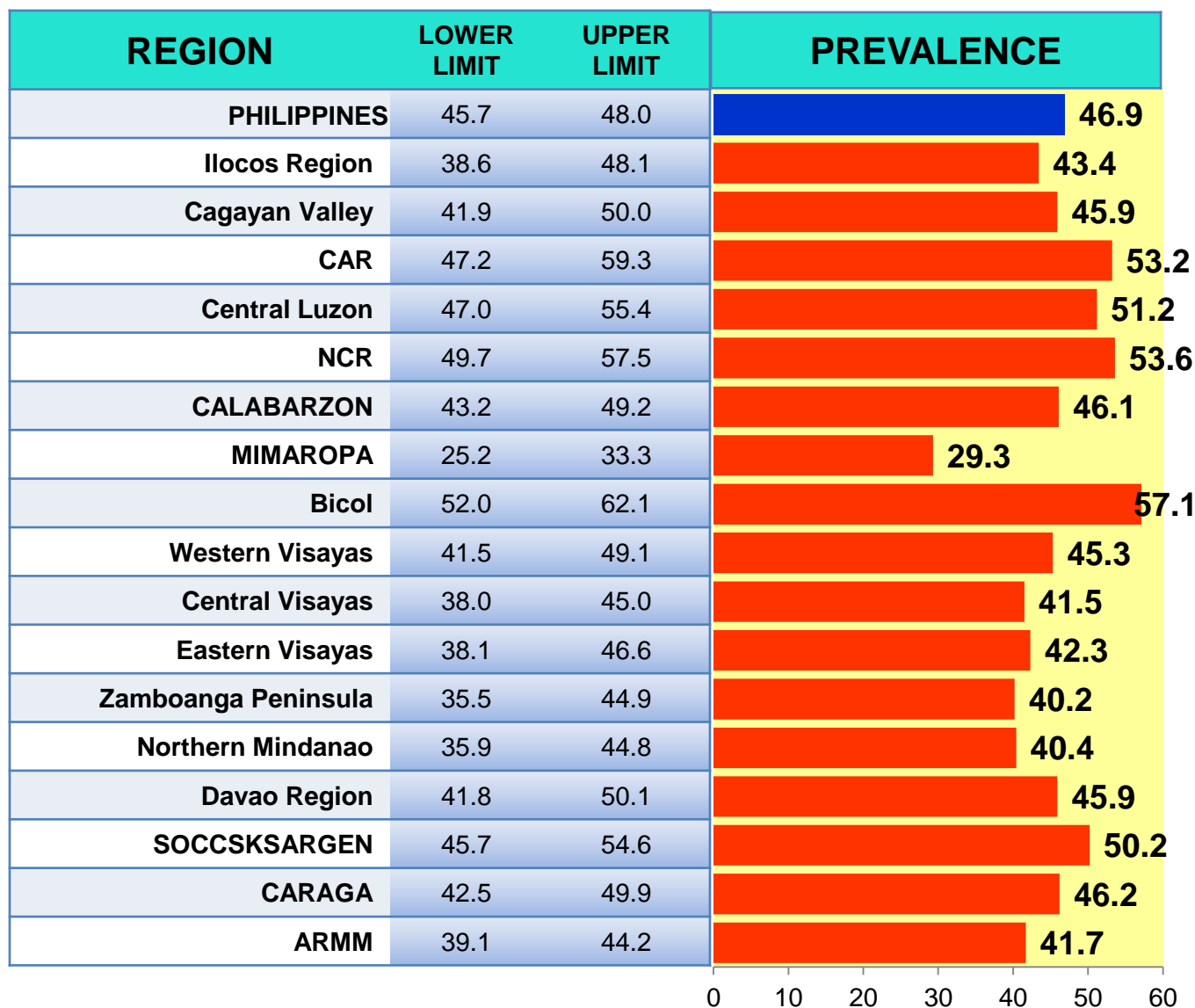
Prevalence of borderline to high total cholesterol level* among adults 20 years and over by sex and age group: Philippines, 2013



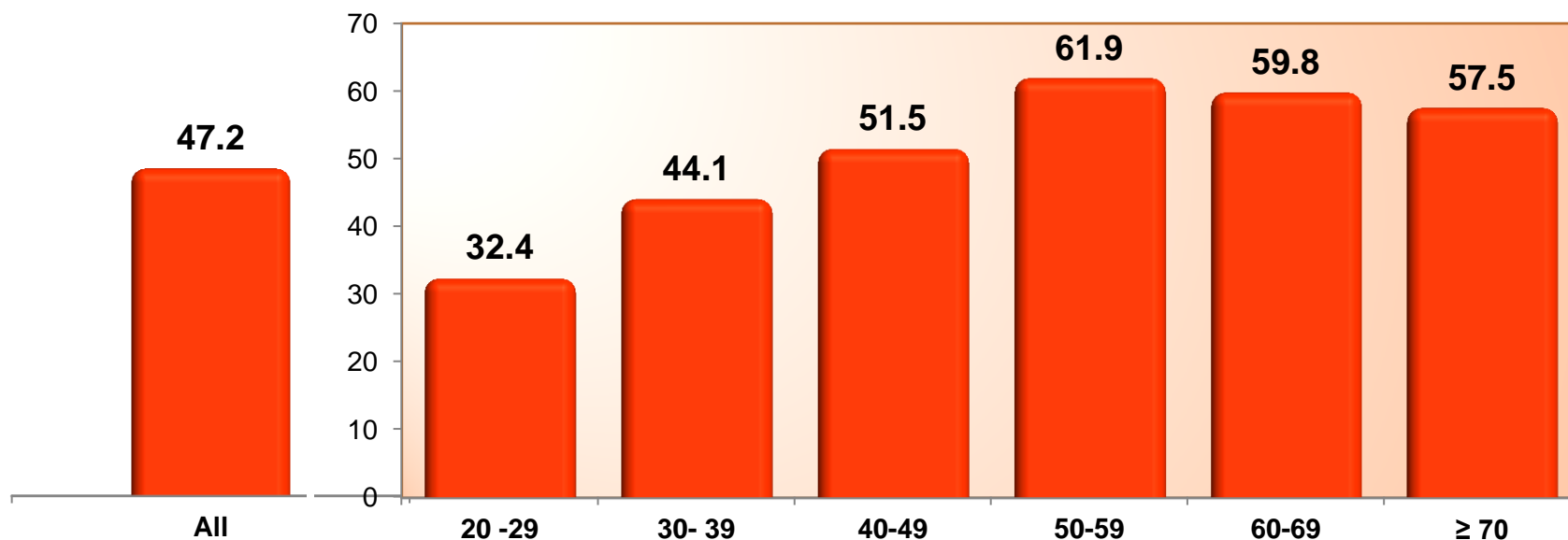
*Adult Treatment Panel (ATP) III Cut-off, 2001: Borderline: 200-239 mg/dL; High \geq 240 mg/dL



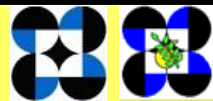
Prevalence and 95% CI of borderline to high total cholesterol level among adults 20 years and over by region, Philippines: 2013



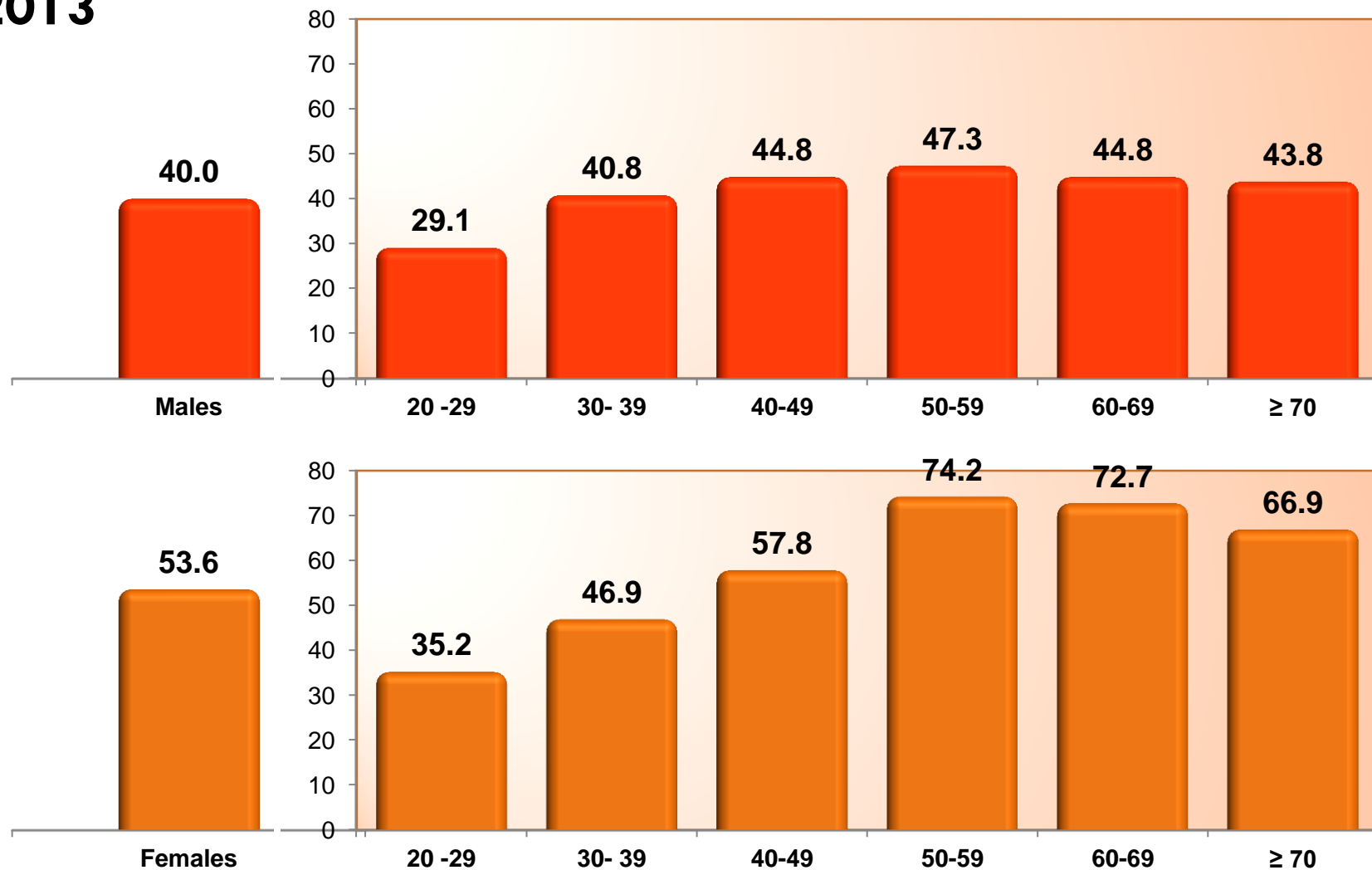
Prevalence of borderline to high LDL cholesterol level* among adults 20 years and over by age: Philippines, 2013



*Adult Treatment Panel (ATP) III Cut-off, 2001: Borderline: 130-159 mg/dL; High ≥ 160 mg/dL



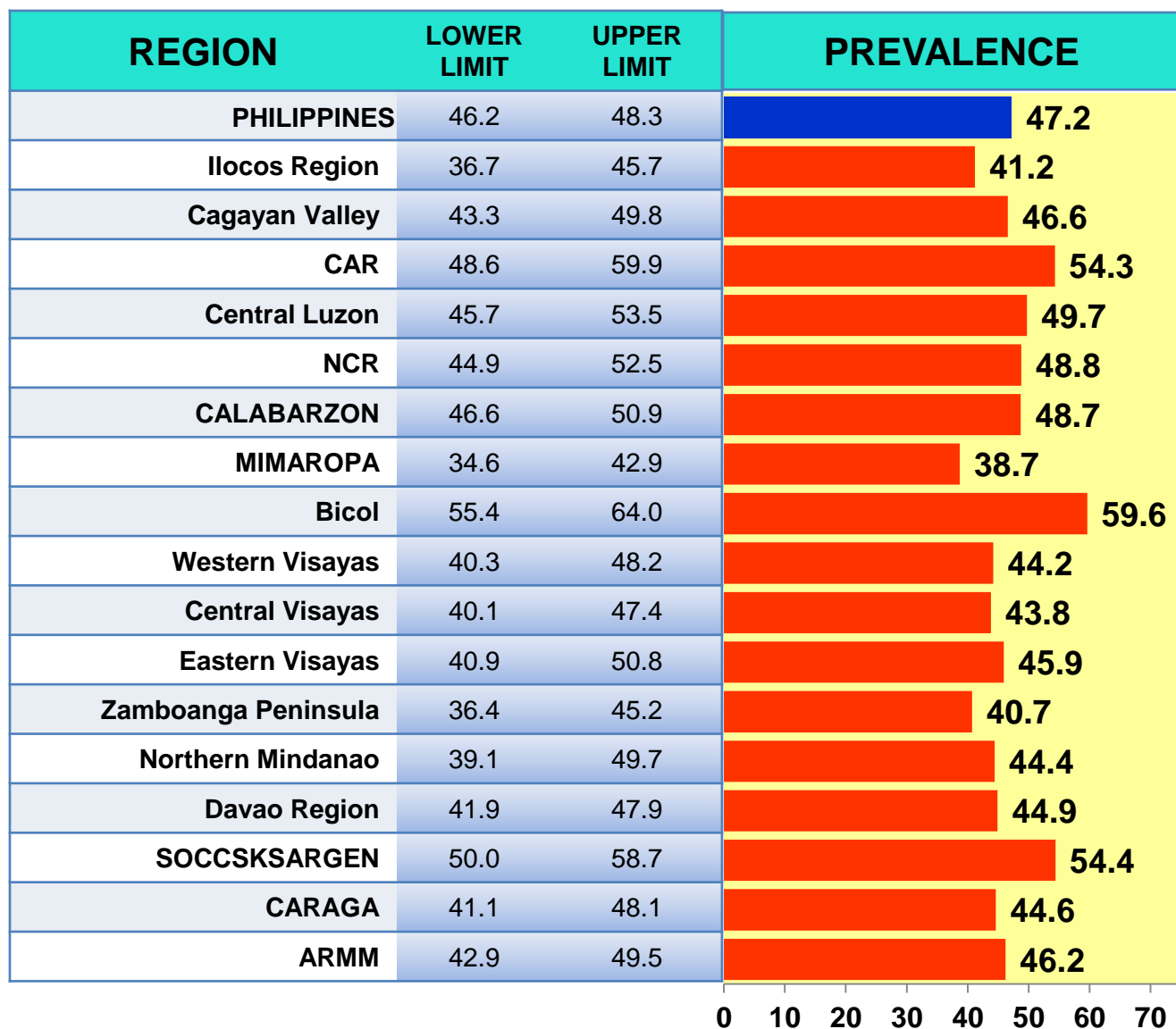
Prevalence of borderline to high LDL cholesterol level* among adults 20 years and over by sex and age group: Philippines, 2013



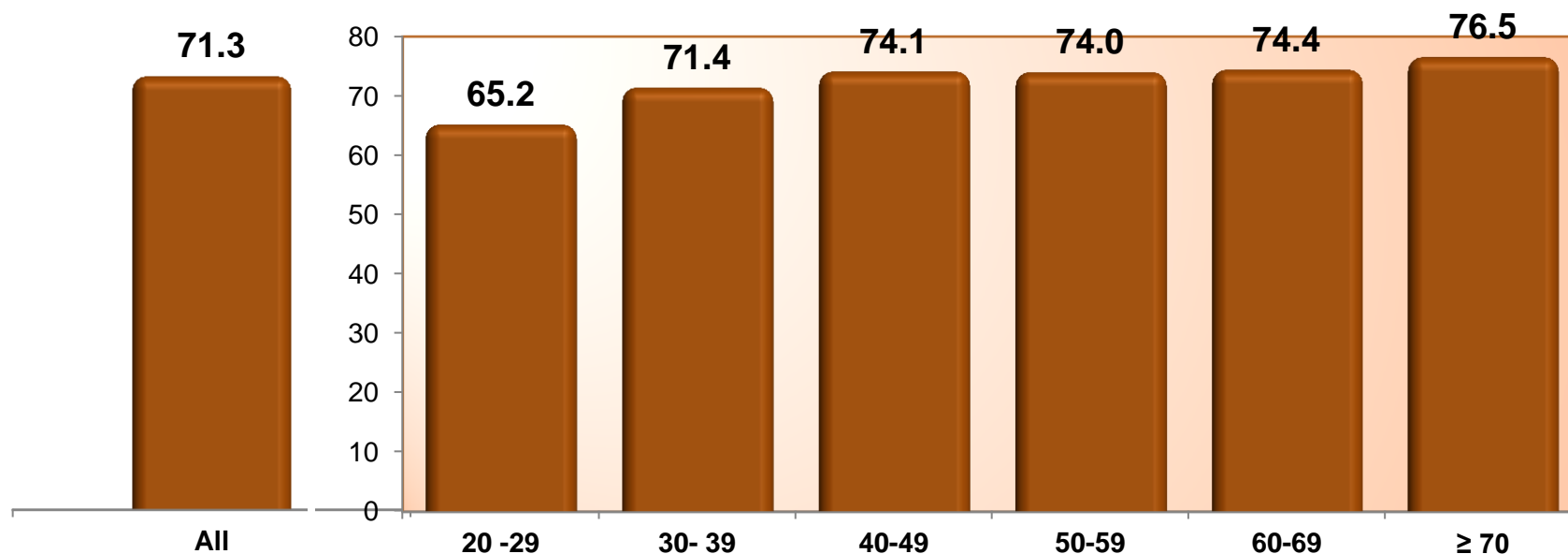
*Adult Treatment Panel (ATP) III Cut-off, 2001: Borderline: 130-159 mg/dL; High \geq 160 mg/dL



Prevalence and 95% CI of borderline to high LDL cholesterol level among adults 20 years and over by region, Philippines: 2013



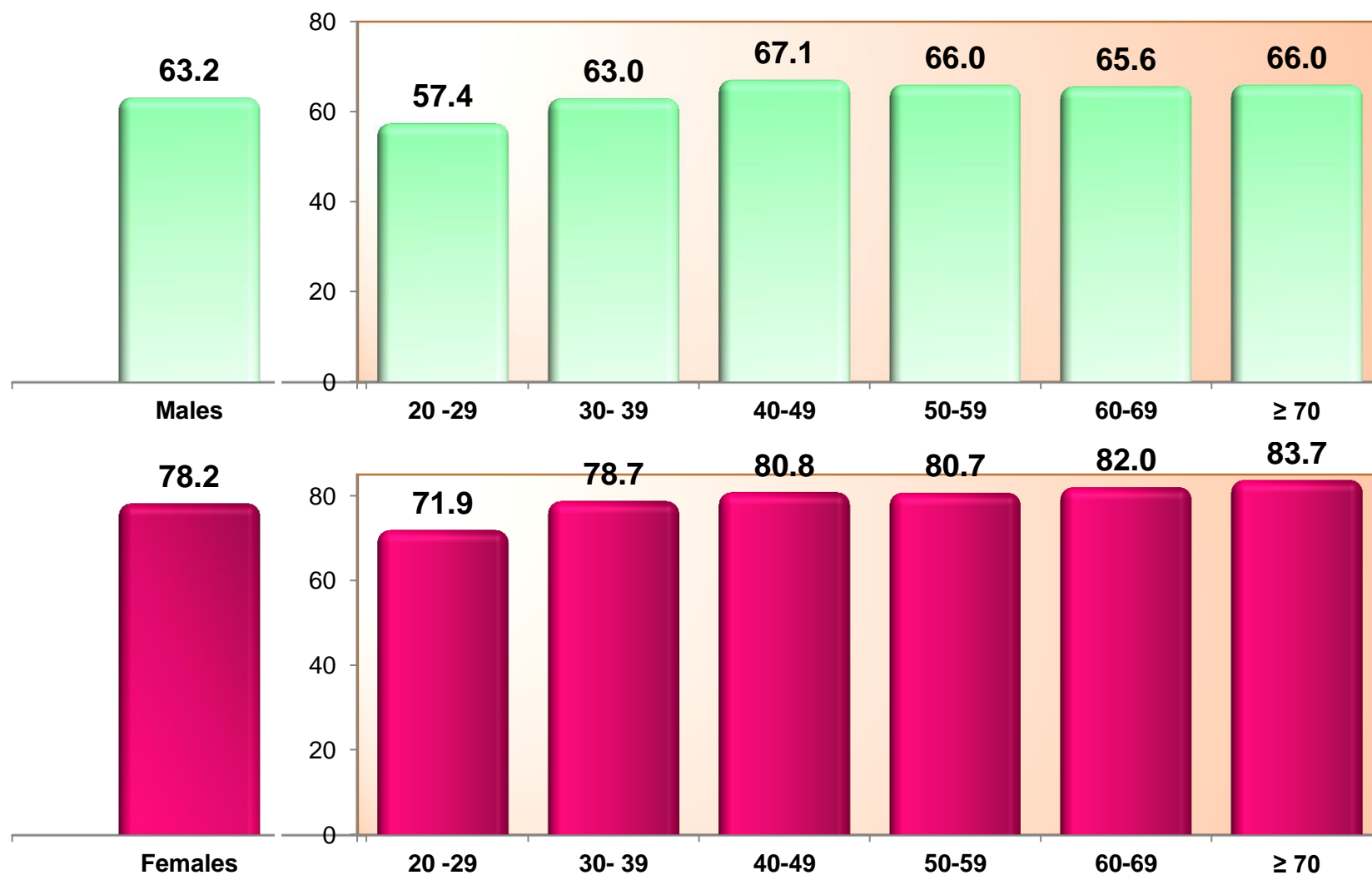
Prevalence of low HDL cholesterol level* among adults 20 years and over by age: Philippines, 2013



*Adult Treatment Panel (ATP) III Cut-off, 2001: Males: Low < 40 mg/dL; Females: Low <50 mg/dL



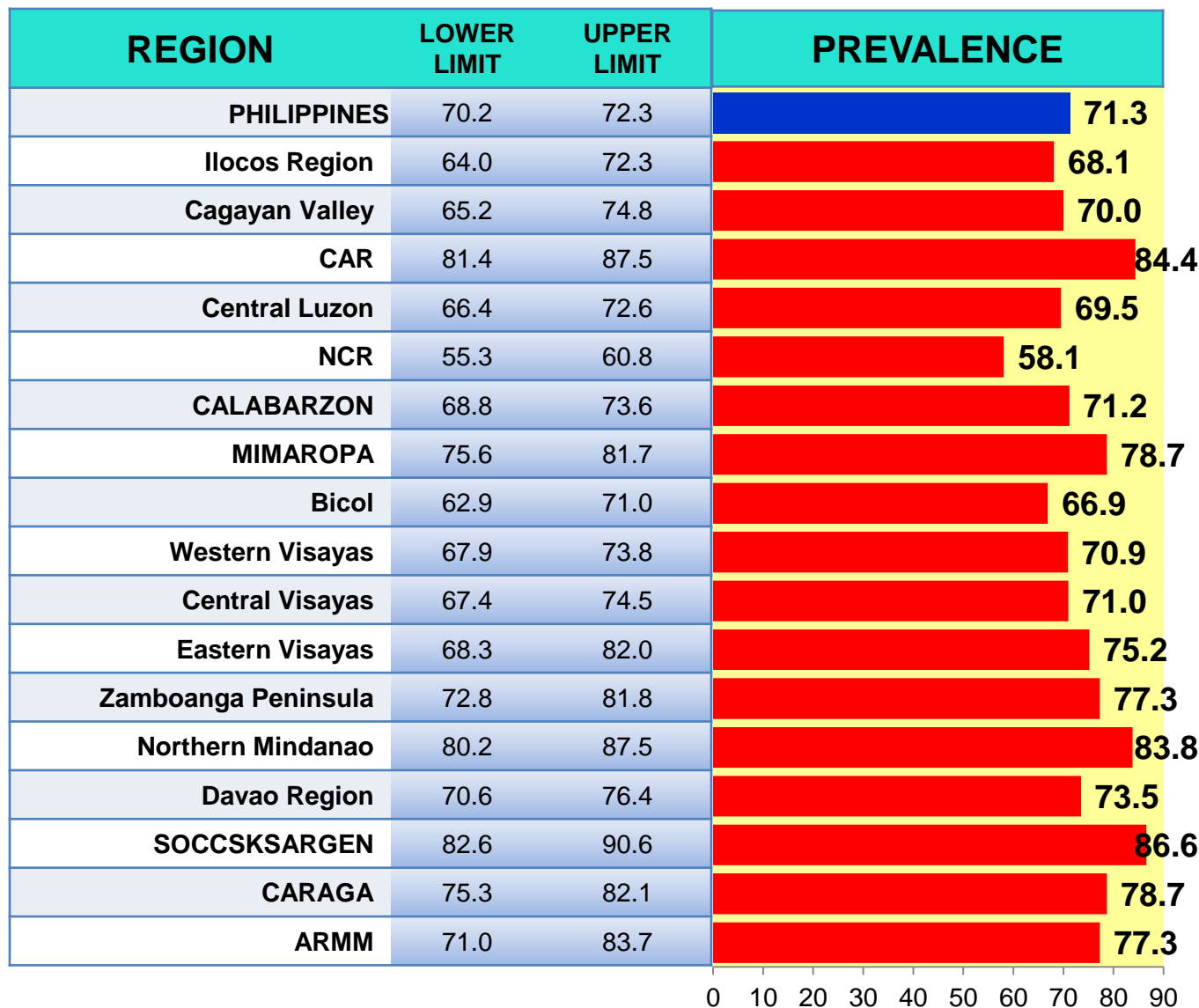
Prevalence of low HDL cholesterol level* among adults 20 years and over by sex and age group: Philippines, 2013



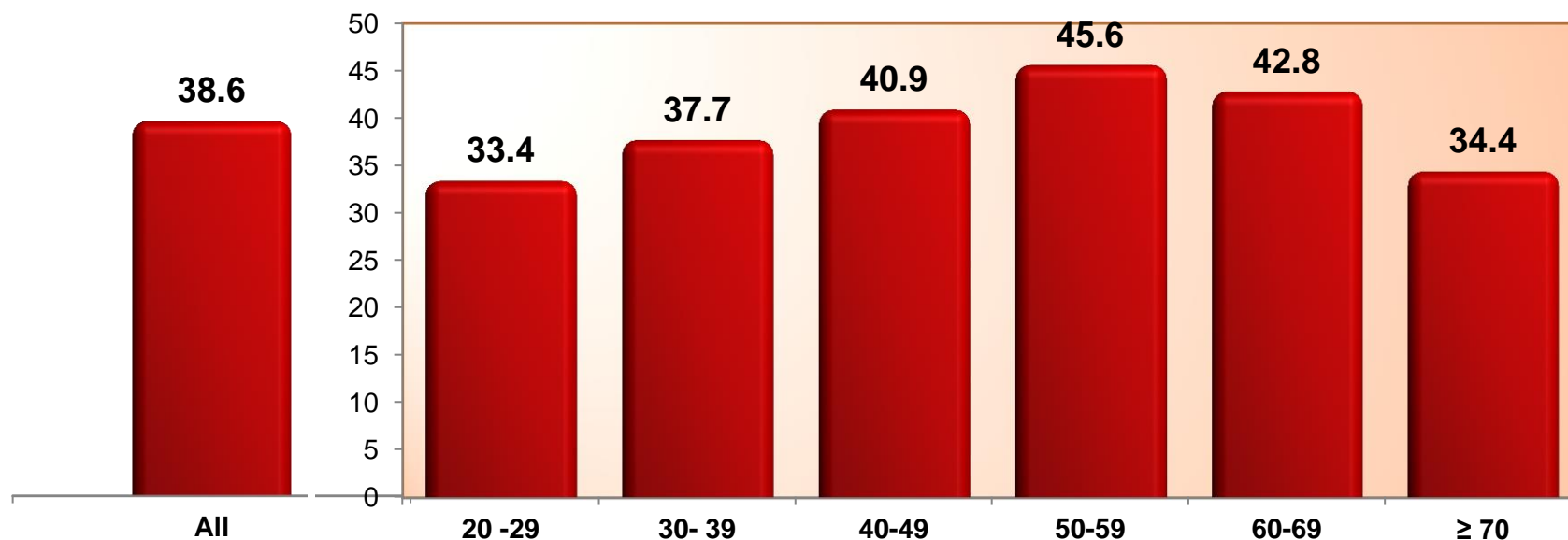
*Adult Treatment Panel (ATP) III Cut-off, 2001: Males: Low < 40 mg/dL; Females: Low < 50 mg/dL



Prevalence and 95% CI of low HDL level among adults 20 years and over by region, Philippines: 2013



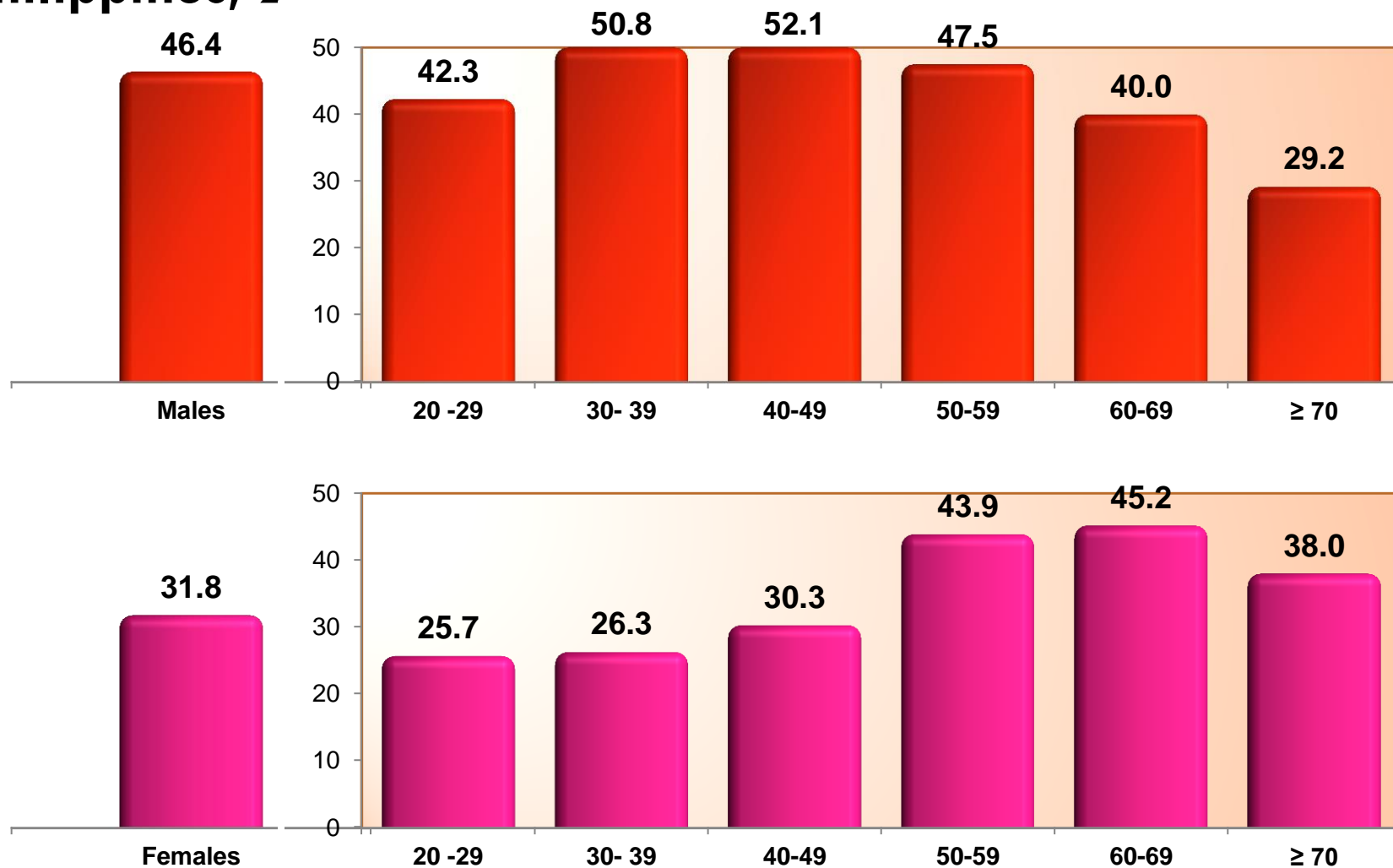
Prevalence of borderline to very high triglyceride level* among adults 20 years and over by age: Philippines, 2013



*Adult Treatment Panel (ATP) III Cut-off, 2001: Borderline High: 150-199 mg/dL ;High: 200-399 mg/dL; Very High \geq 400 mg/dL



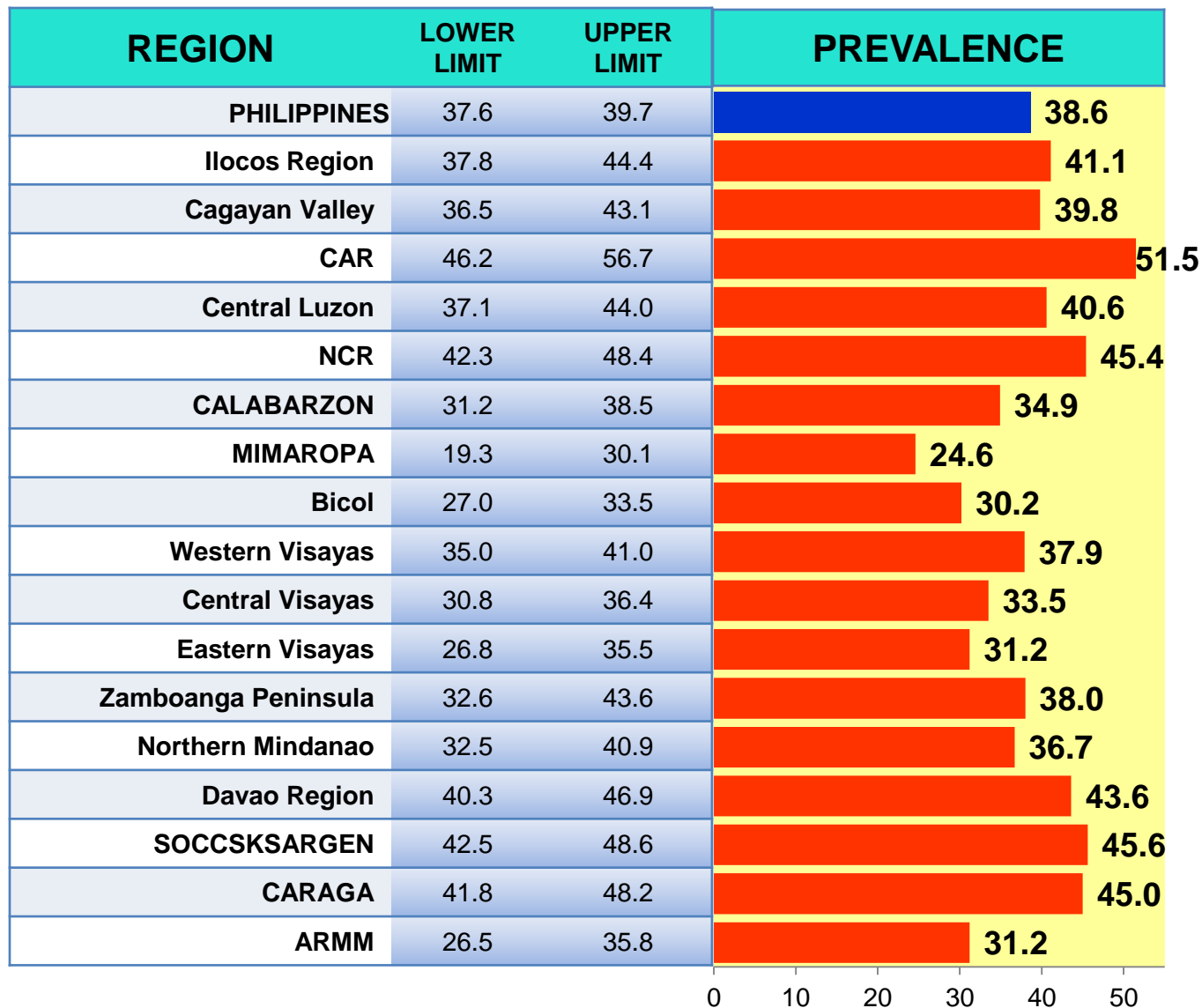
Prevalence of borderline to very high triglyceride level* among adults 20 years and over by sex and age group: Philippines, 2013



*Adult Treatment Panel (ATP) III Cut-off, 2001: Borderline High: 150-199 mg/dL ;High: 200-399 mg/dL; Very High \geq 400 mg/dL



Prevalence and 95% CI of borderline to very high triglyceride level among adults 20 years and over by region, Philippines: 2013



CURRENT SMOKERS

- those who smoked during the survey either on a “daily” (at least one cigarette a day) or on a regular/occasional basis; those who do not smoke daily but who smoke at least weekly or those who smoke less often than weekly.

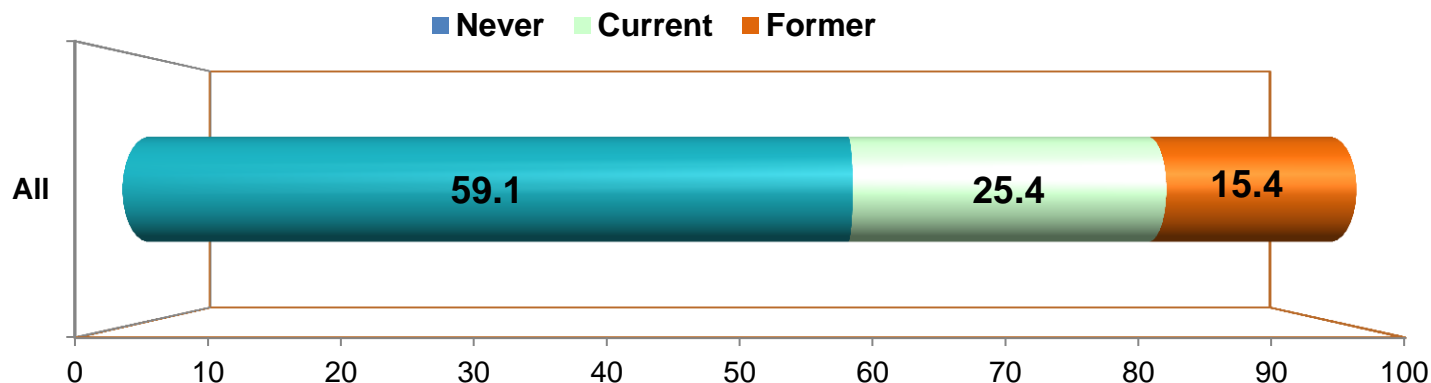
FORMER SMOKERS

- those who have ever smoked in the past year prior to survey whether on a daily basis or an aggregate lifetime consumption of at least 100 cigarettes but not daily, and are no longer smoking at the time of the survey

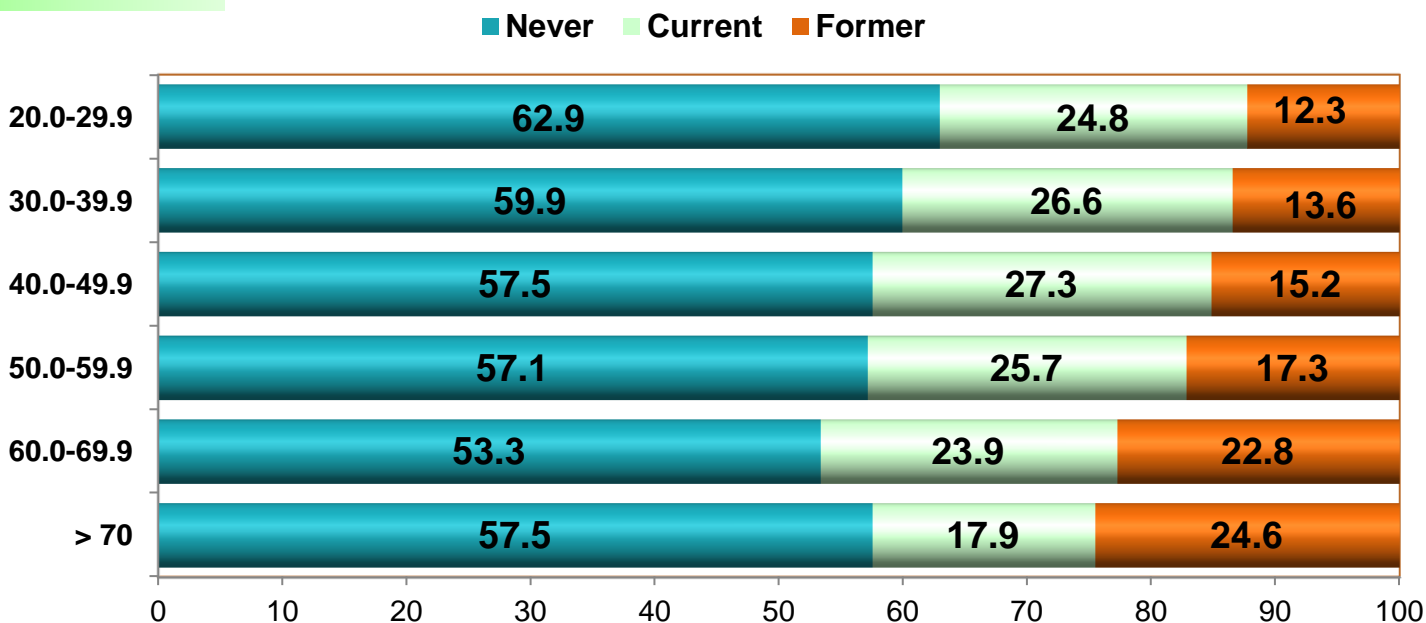
NEVER SMOKERS

- those individuals who have never smoked at all

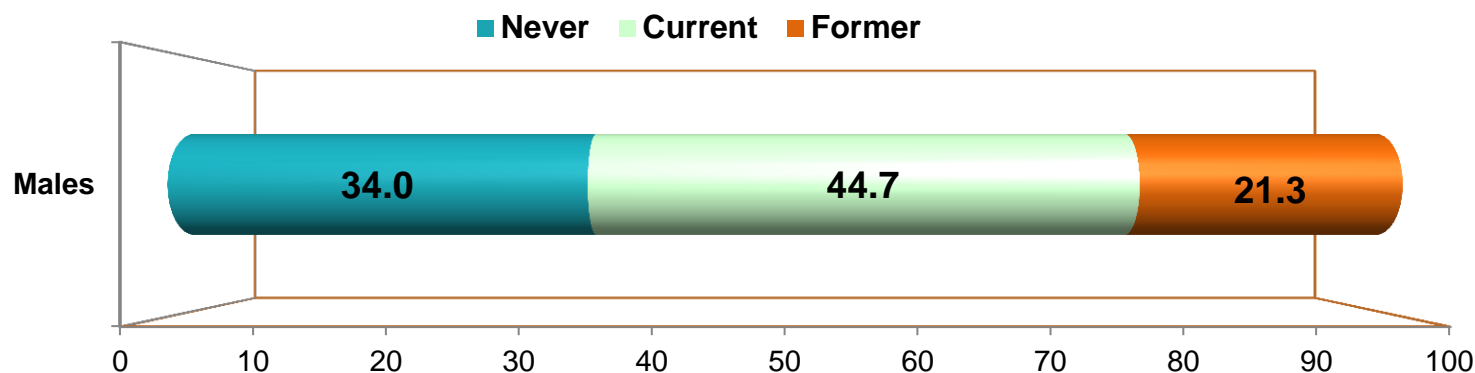
Distribution of adults 20 years old and over by smoking status and age group: Philippines, 2013



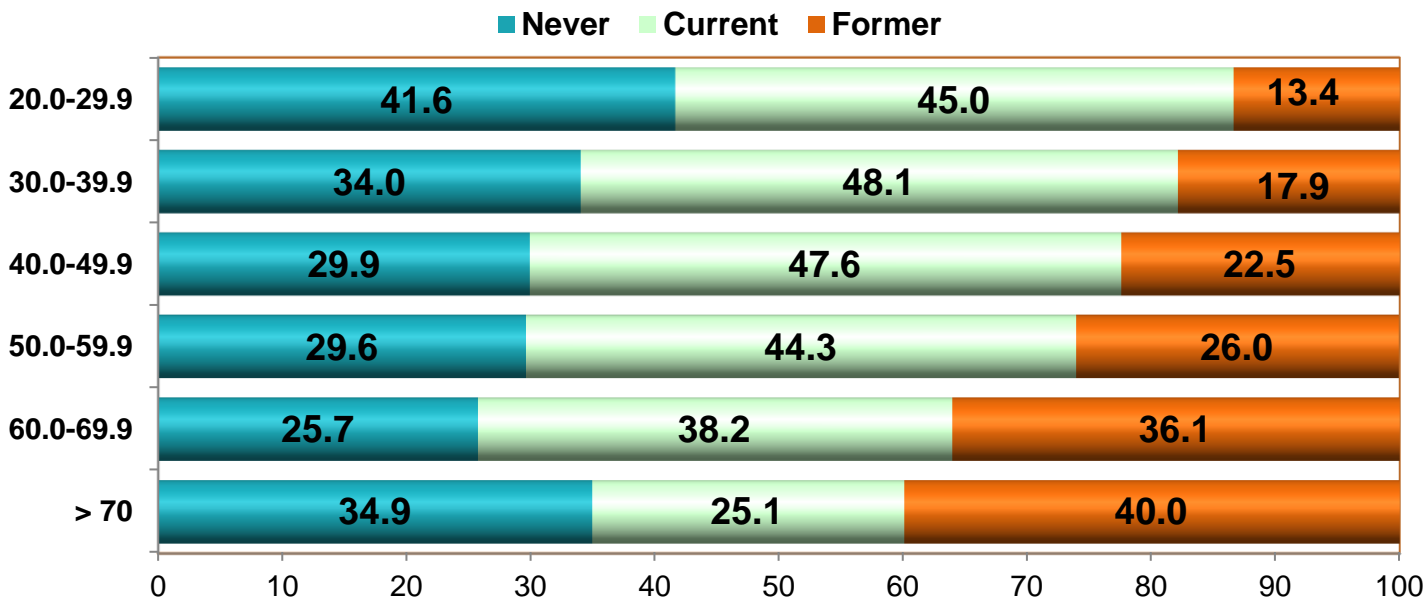
AGE GROUP



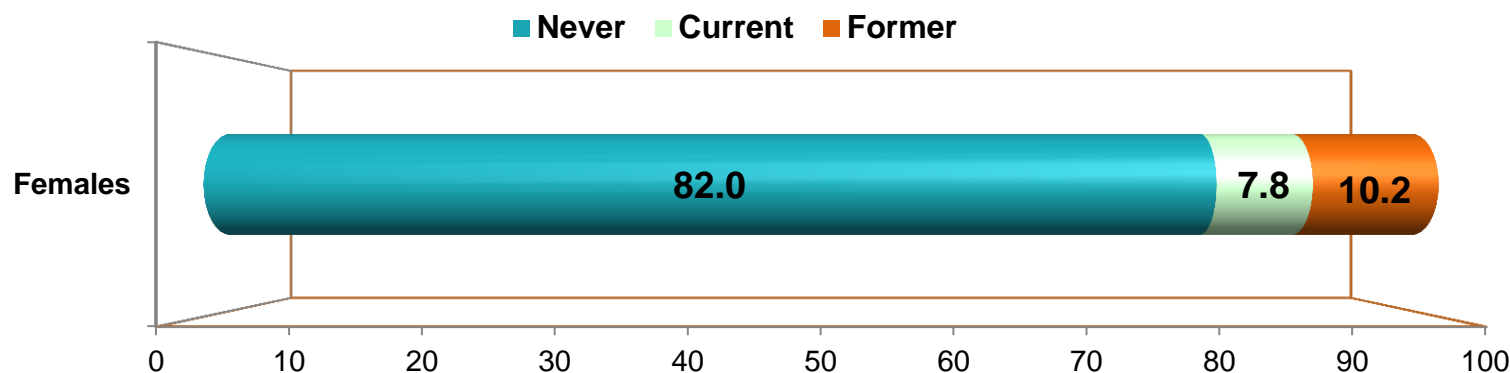
Distribution of male adults 20 years old and over by smoking status and age group: Philippines, 2013



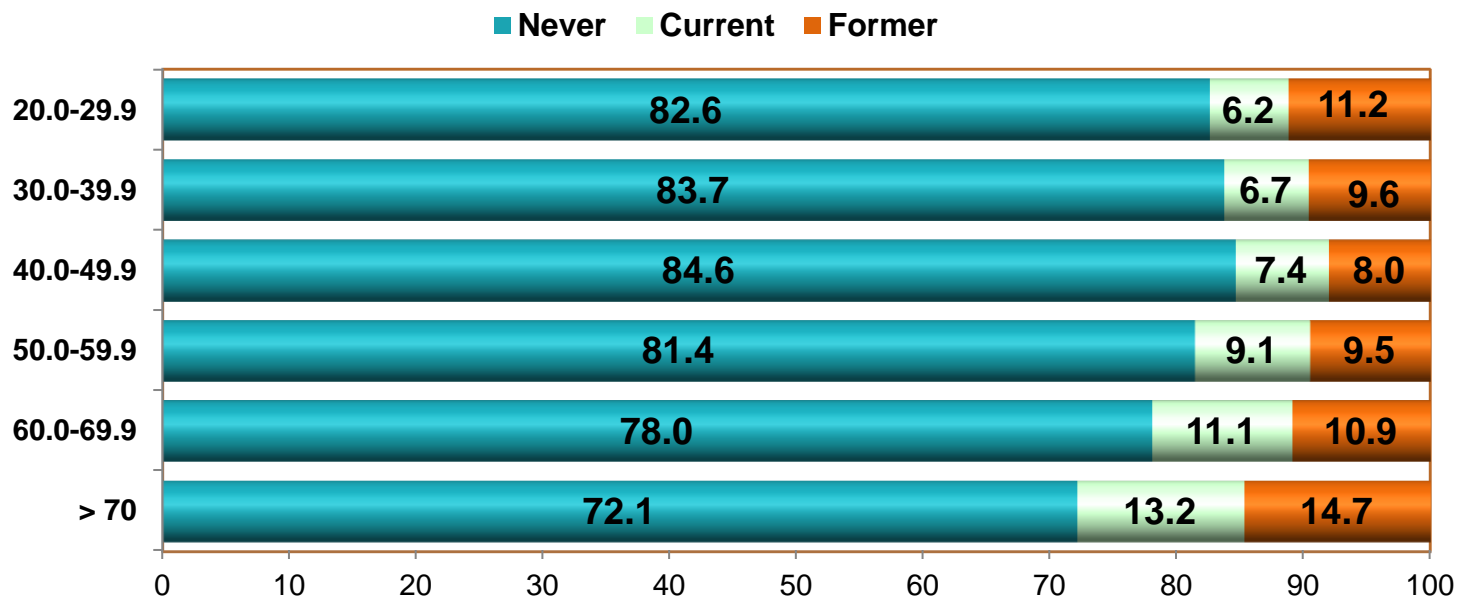
AGE GROUP



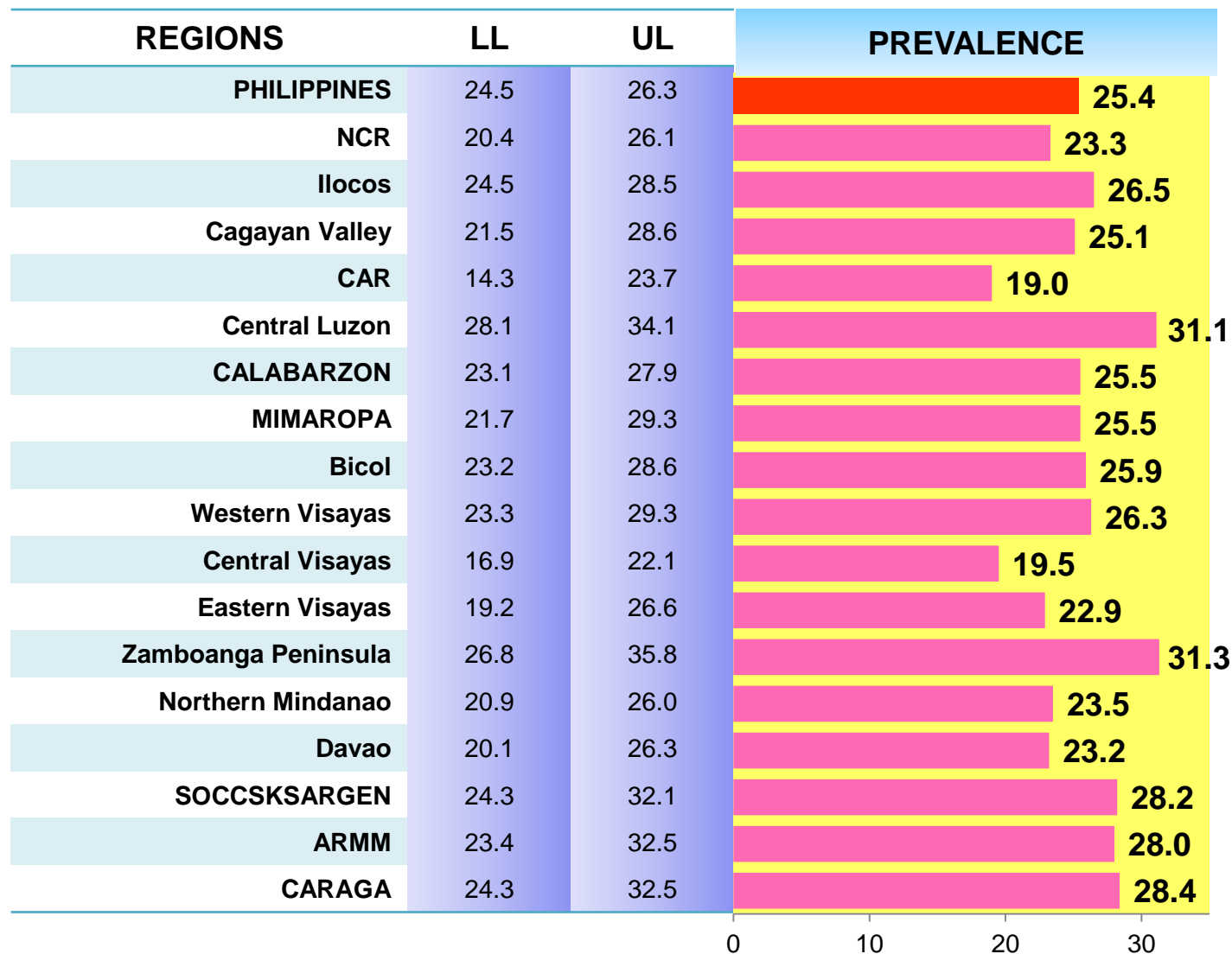
Distribution of female adults 20 years old and over by smoking status and age group: Philippines, 2013



AGE GROUP



Prevalence and 95% CI of adult current smokers: Philippines, 2013



LIFETIME ABSTAINERS

people who have never consumed alcohol

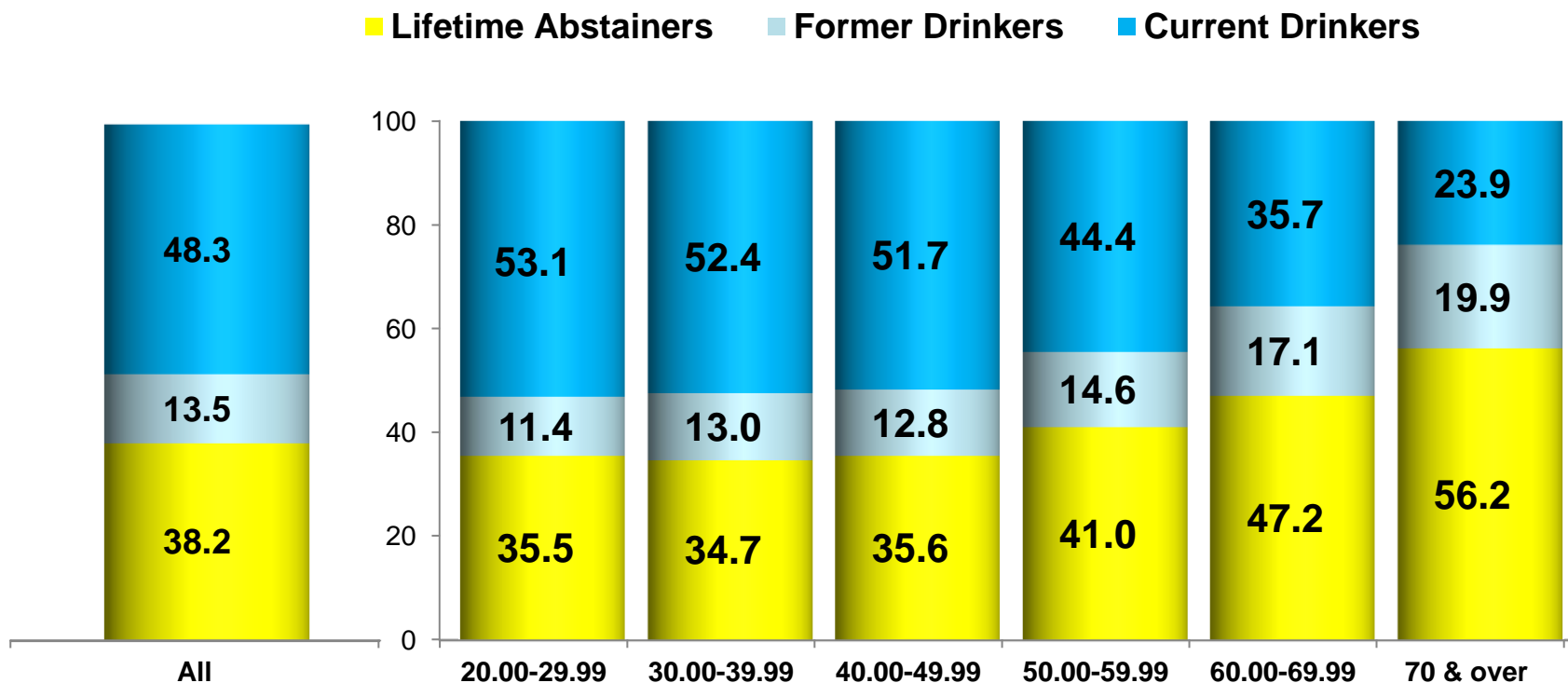
FORMER DRINKERS

people who have previously consumed alcohol but who have not done so in the previous 12-month period

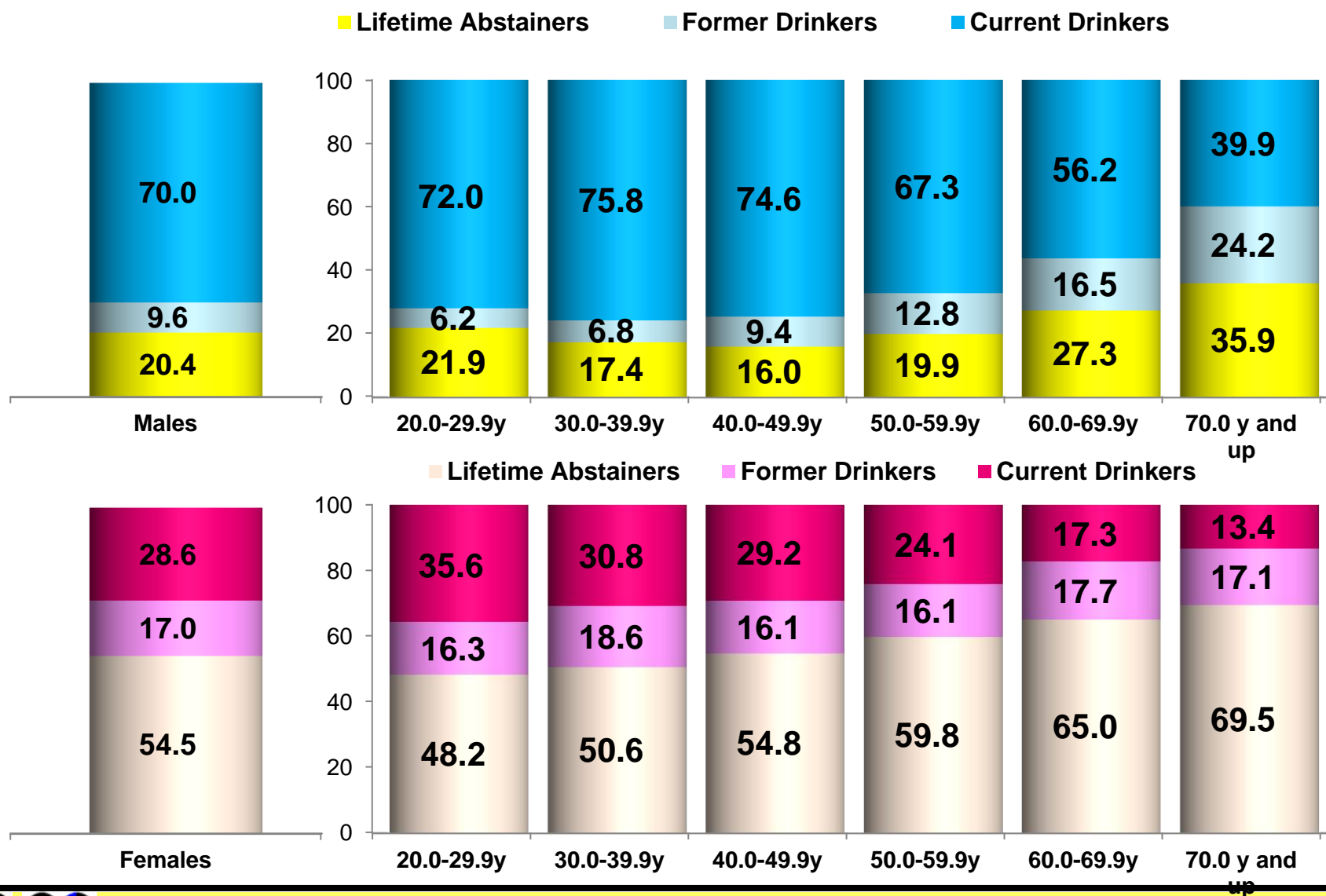
CURRENT DRINKERS

people who were currently consuming alcohol during the survey period

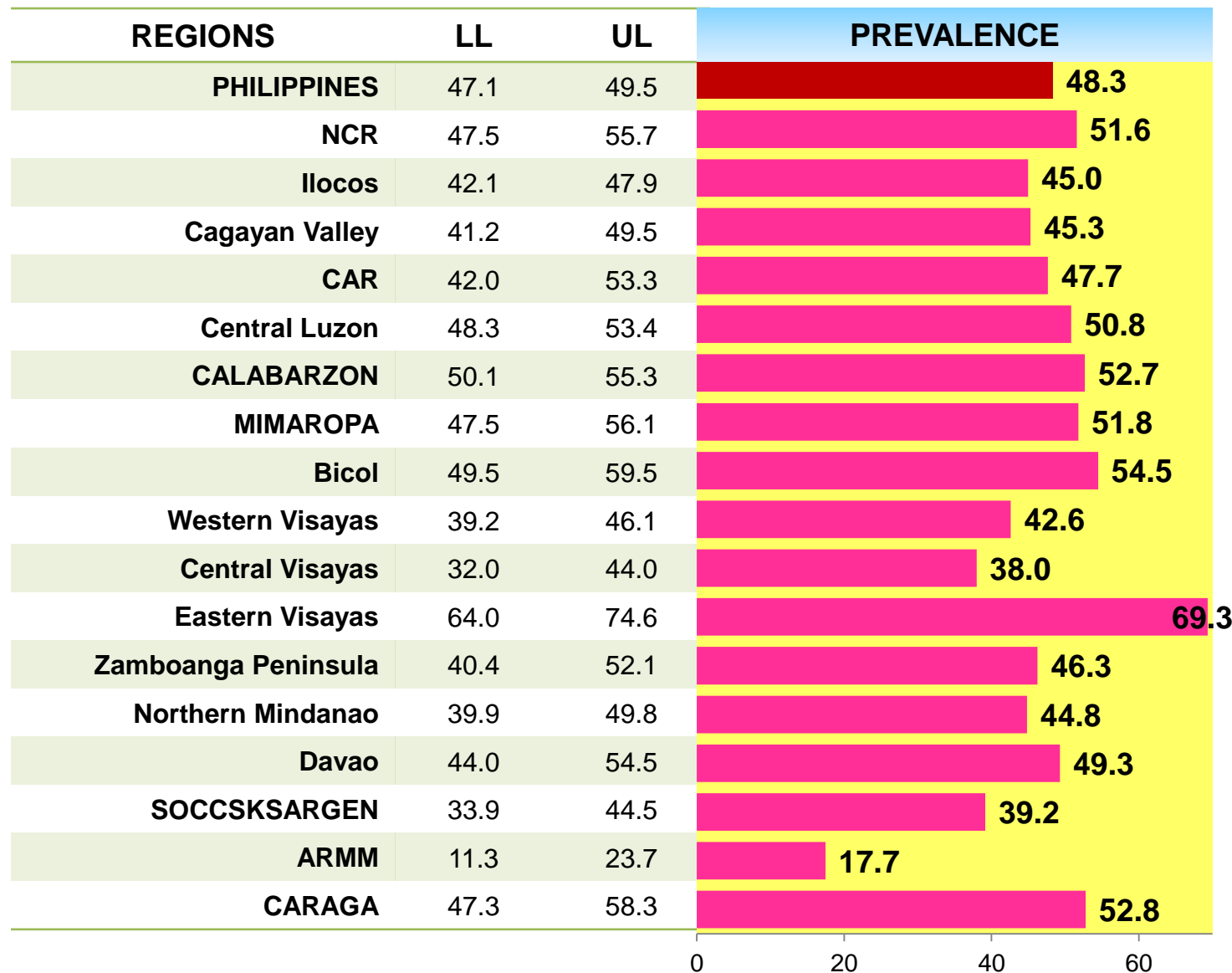
Distribution of adults 20.0 years old and over by alcohol consumption status and age group: Philippines, 2013



Distribution of adults 20.0 years old and over by alcohol consumption status, sex and age group: Philippines, 2013



Prevalence and 95% CI of adult current drinkers: Philippines, 2013





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OPERATIONAL DEFINITION

BINGE DRINKING

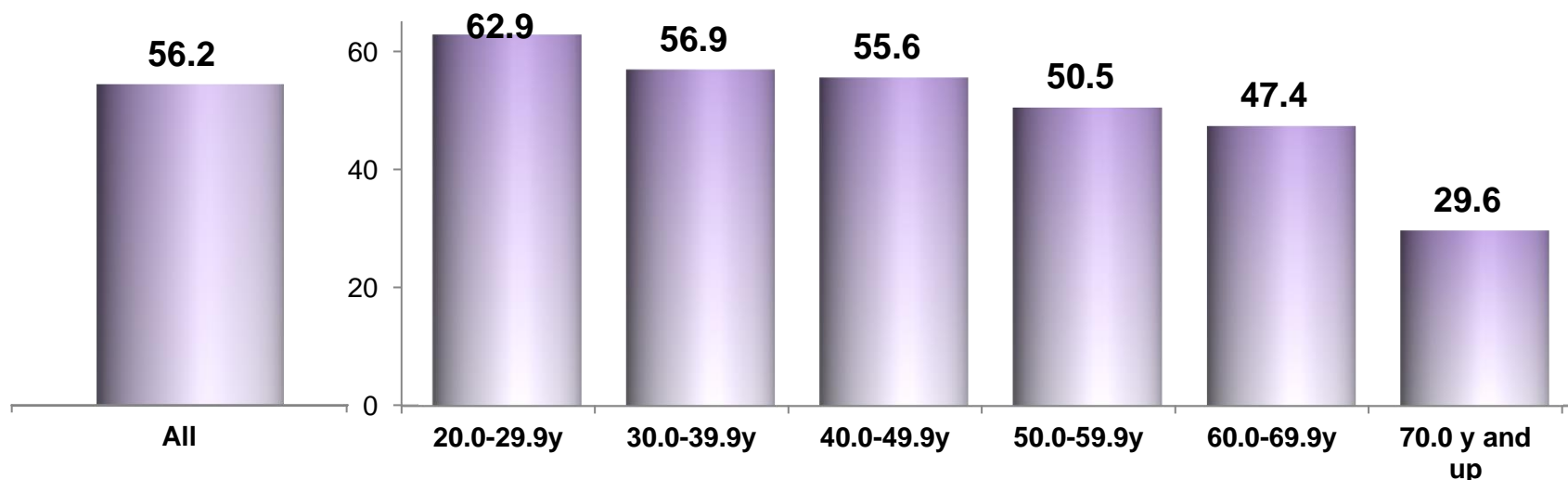
BINGE DRINKING

drinking of 5 or more standard drinks in a row for men

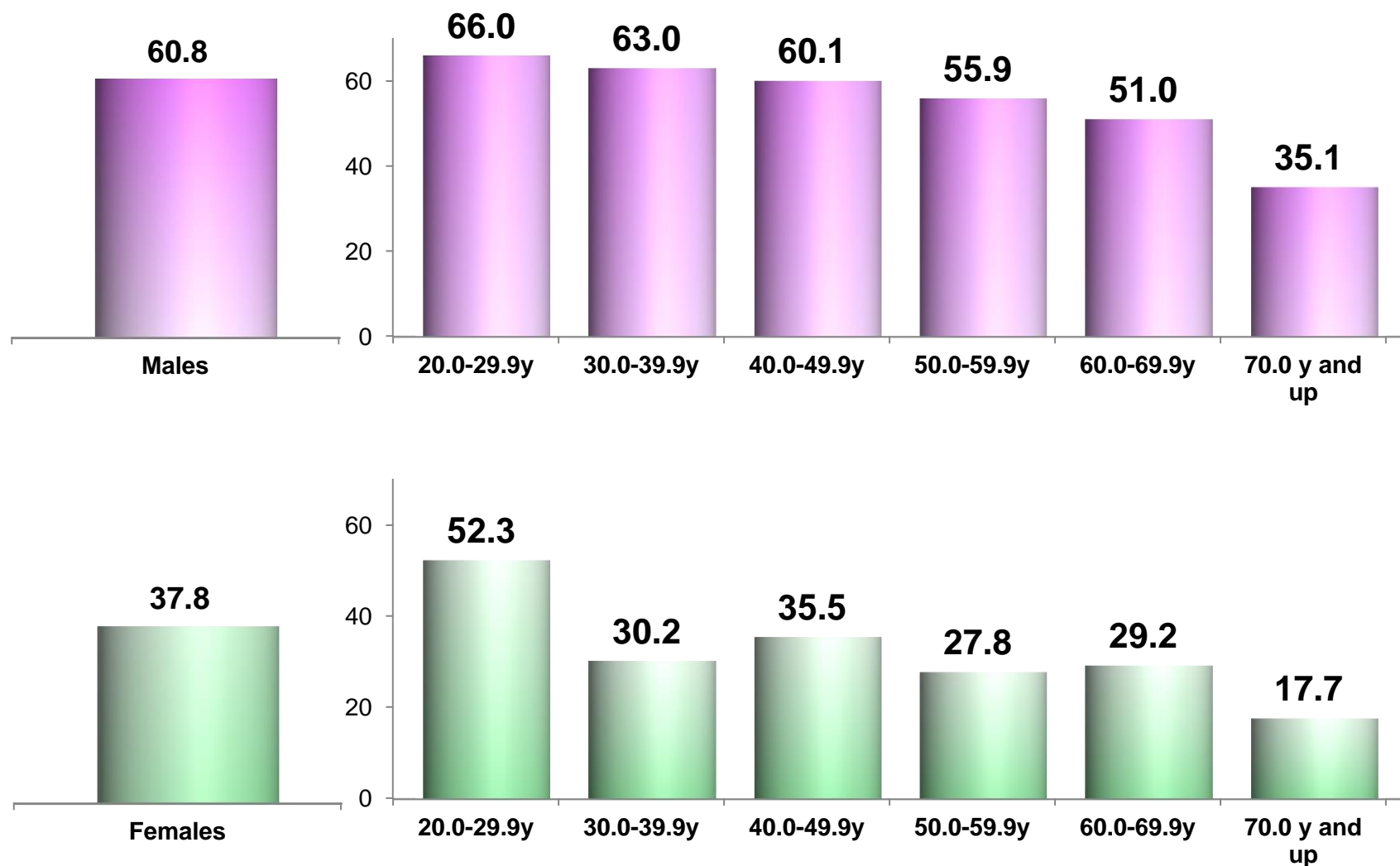
drinking of 4 or more standard drinks in a row for women

Reference: World Health Organization STEPS Surveillance

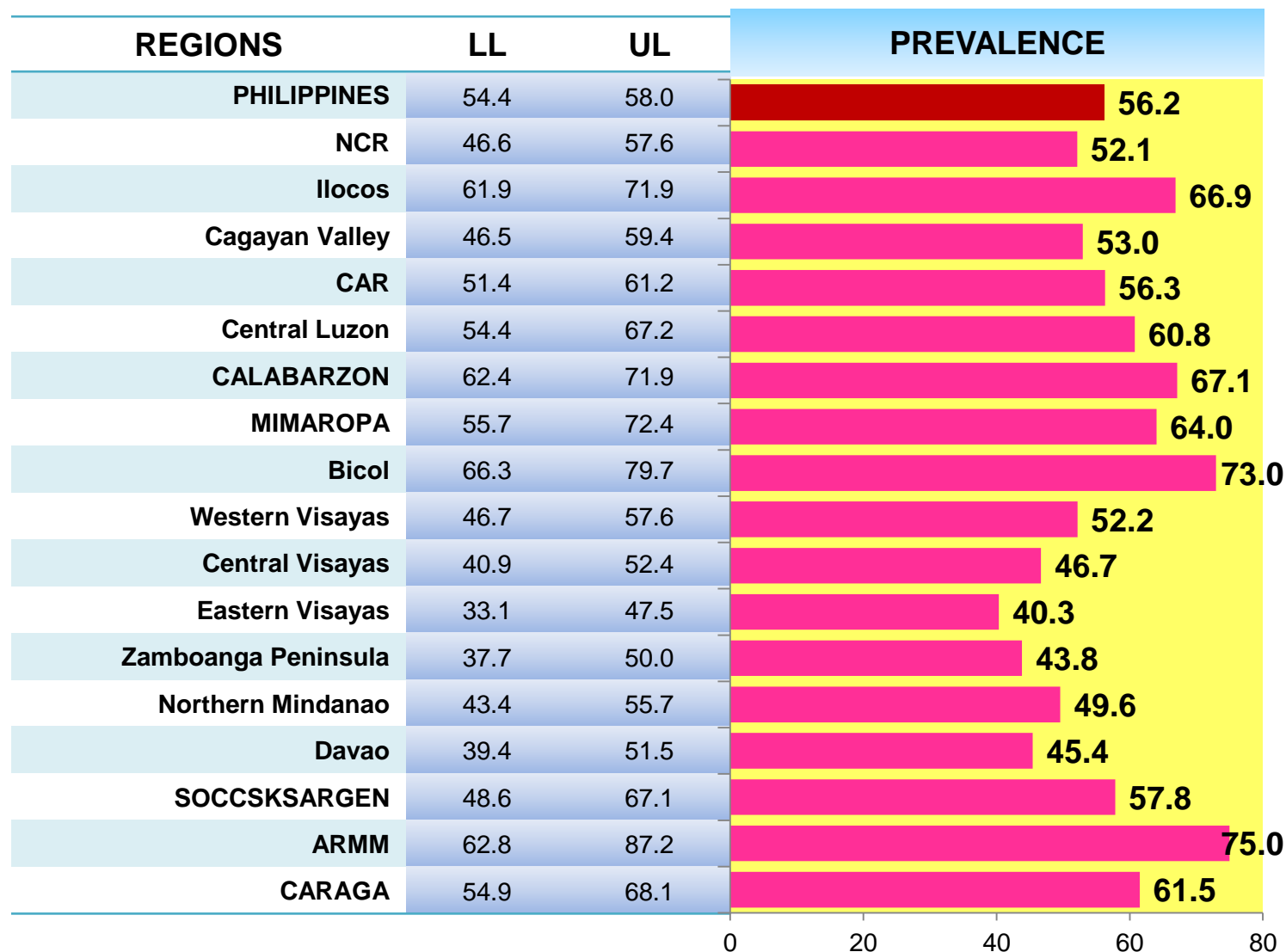
Proportion of binge drinkers, 20.0 years old and over by age: Philippines, 2013



Proportion of binge drinkers, 20.0 years old and over by sex and age: Philippines, 2013



Proportion and 95% CI of adult current binge drinkers: Philippines, 2013

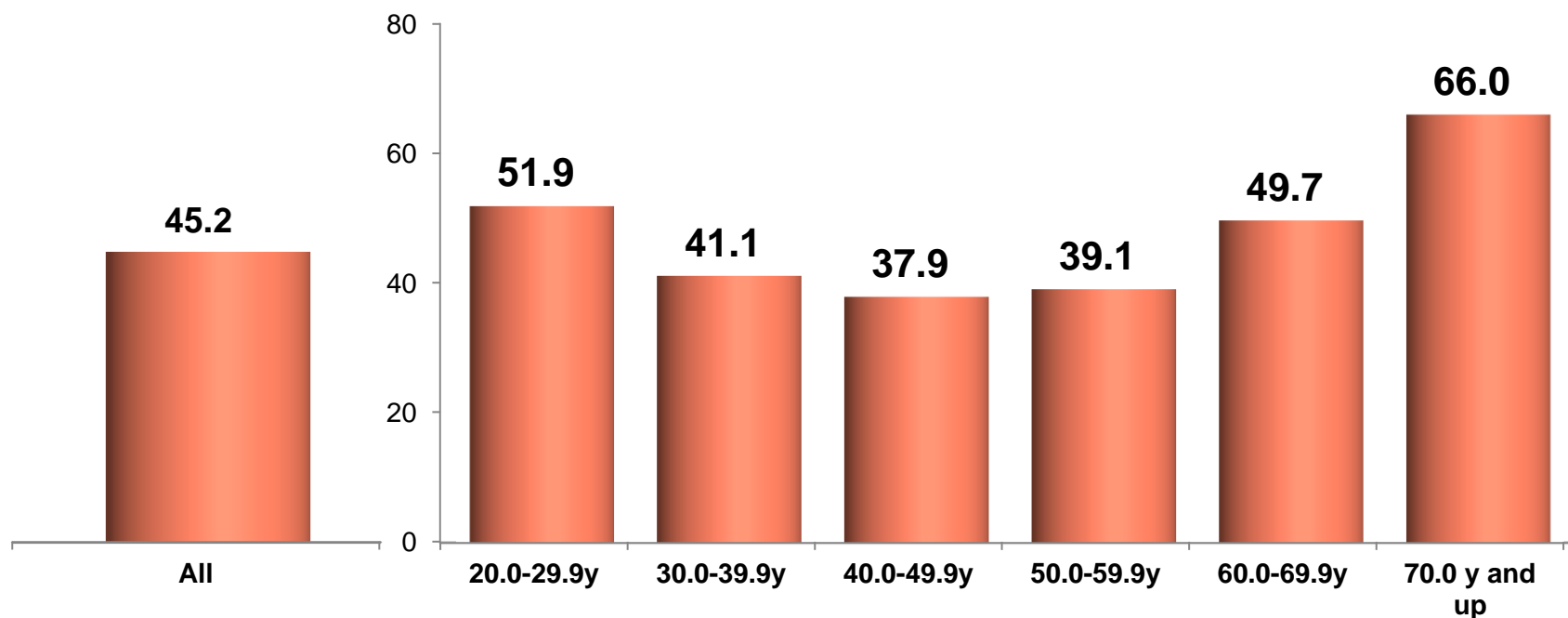


Insufficiently Physically Active

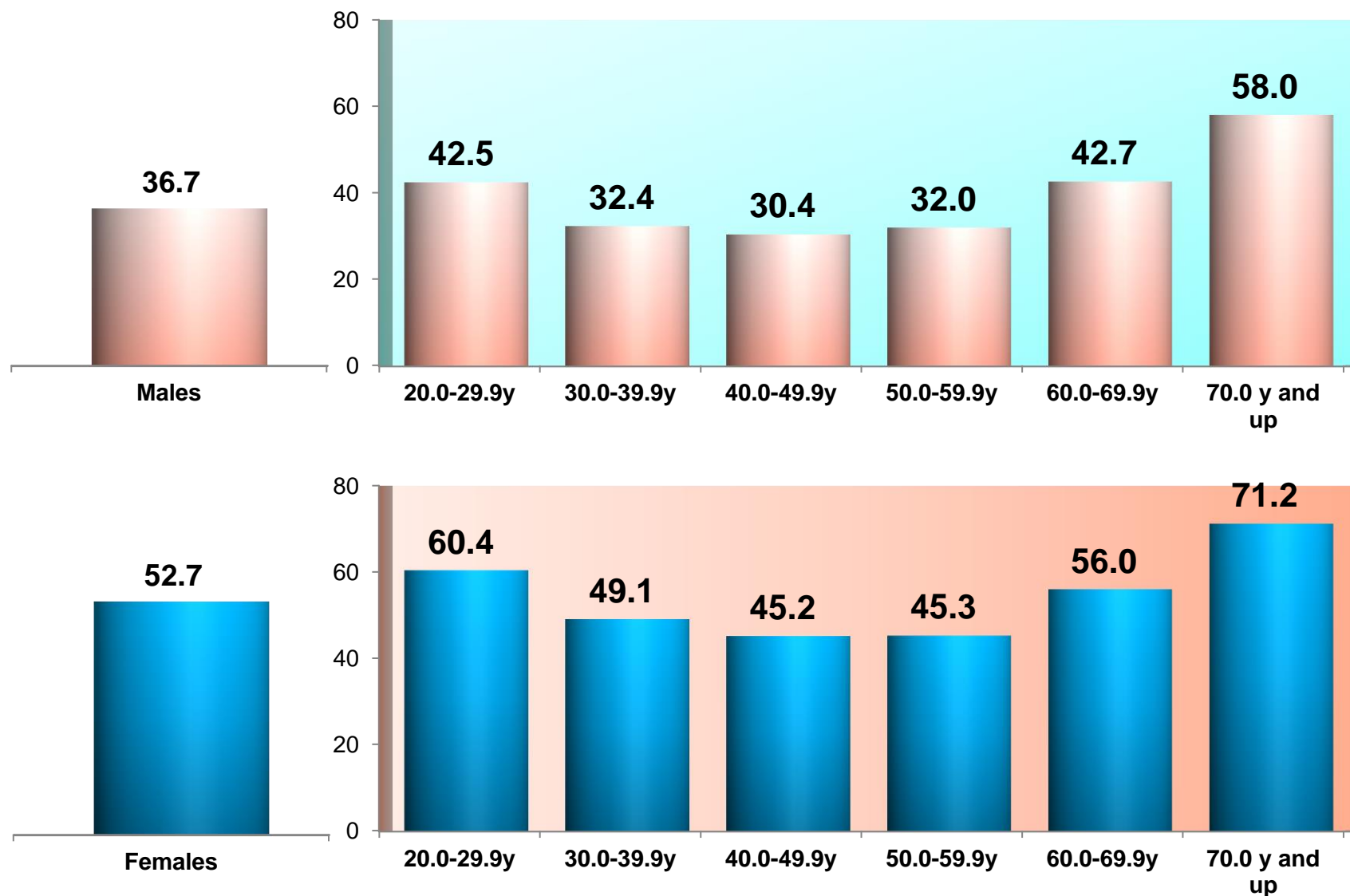
A person not meeting any of the following criteria is considered being physically inactive or insufficiently physically active and therefore at risk of chronic disease:

- 3 or more days of vigorous-intensity activity of at least 20 minutes per day; OR**
- 5 or more days of moderate-intensity activity or walking of at least 30 minutes per day**

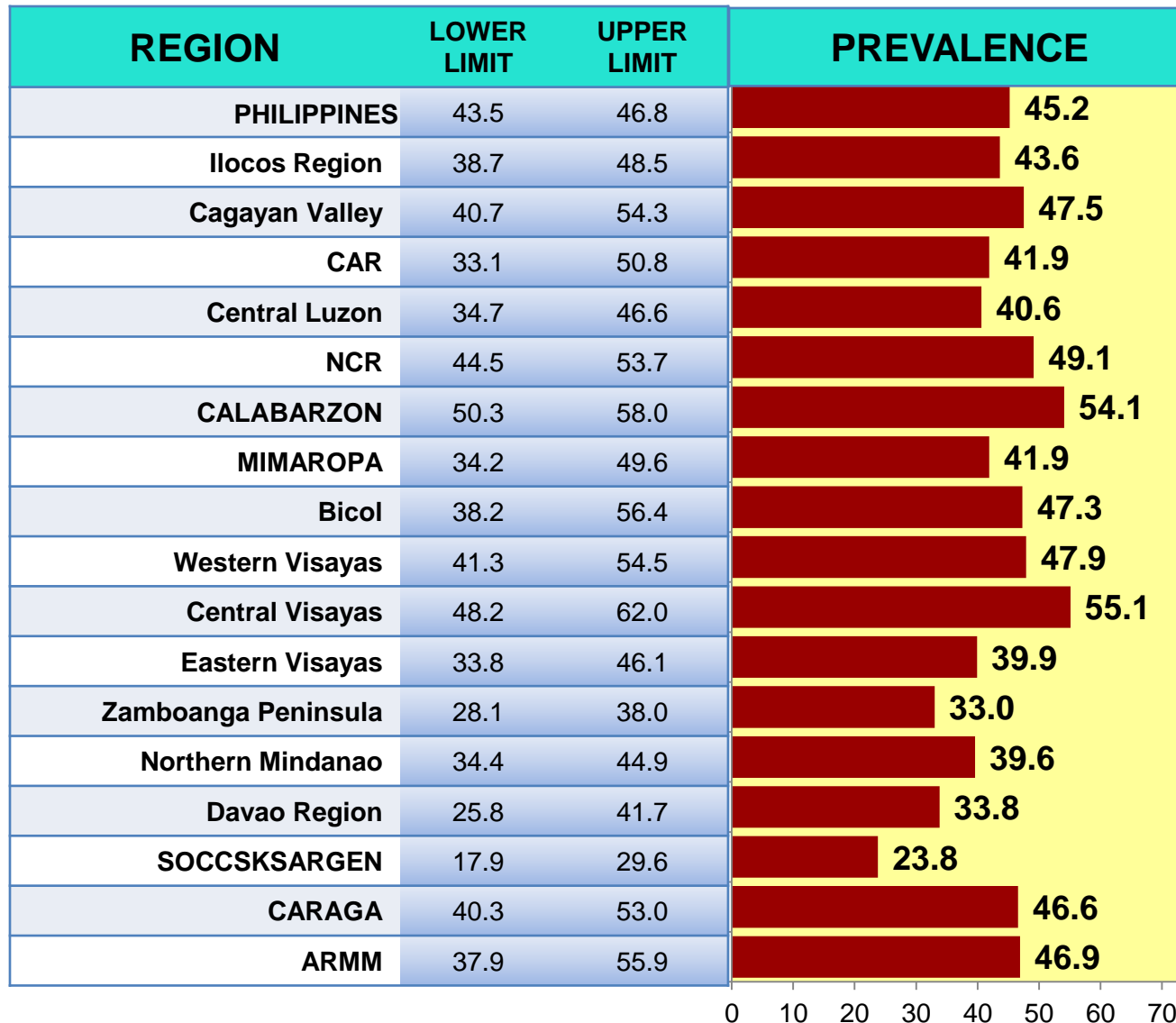
Proportion of insufficiently physically active adults 20.0 years old and over by age group: Philippines, 2013



Proportion of insufficiently physically active adults 20.0 years old and over, sex and age group: Philippines, 2013



Proportion and 95% CI of insufficiently physically active adults by region, Philippines: 2013



Proportion of current alcohol drinkers among adults 20 years and over by sex: Philippines, 2008

