

The size and scope of the problem



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Port fairy yacht Club September 3rd & 4th 2012

WHO Collaborating Centre for Obesity Prevention





Session outline

What's the problem?

Where did it come from?

What's it got to do with kids?

What can be done about it?

What are we going to do about it?





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<http://www.youtube.com/watch?v=UWTIHqca5AM&feature=relmfu>





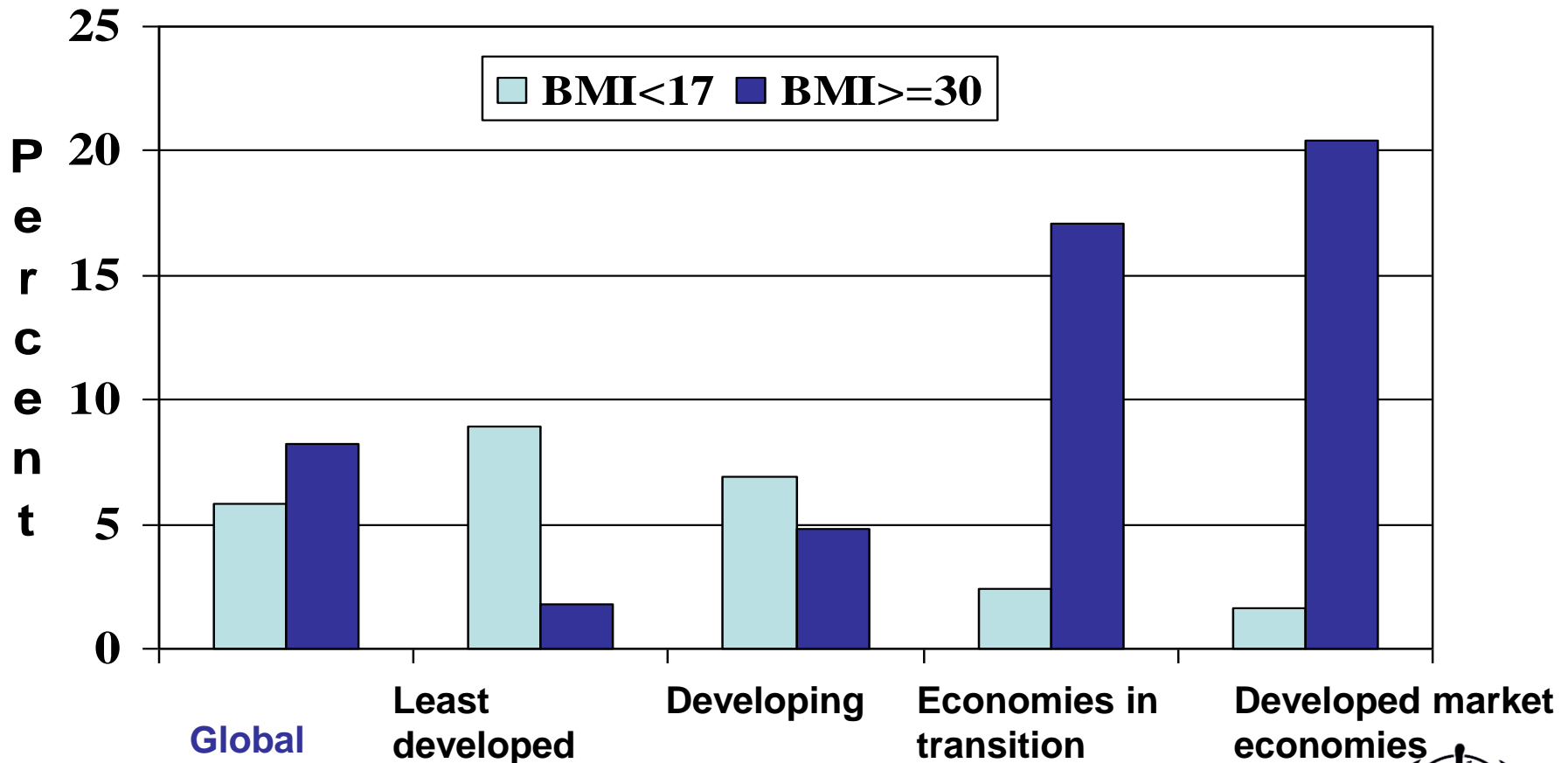
As we look to the future and where childhood obesity will be in 20 years... it is every bit as threatening to us as is the terrorist threat we face today.

Vice Admiral Richard Carmona
U.S. Surgeon General





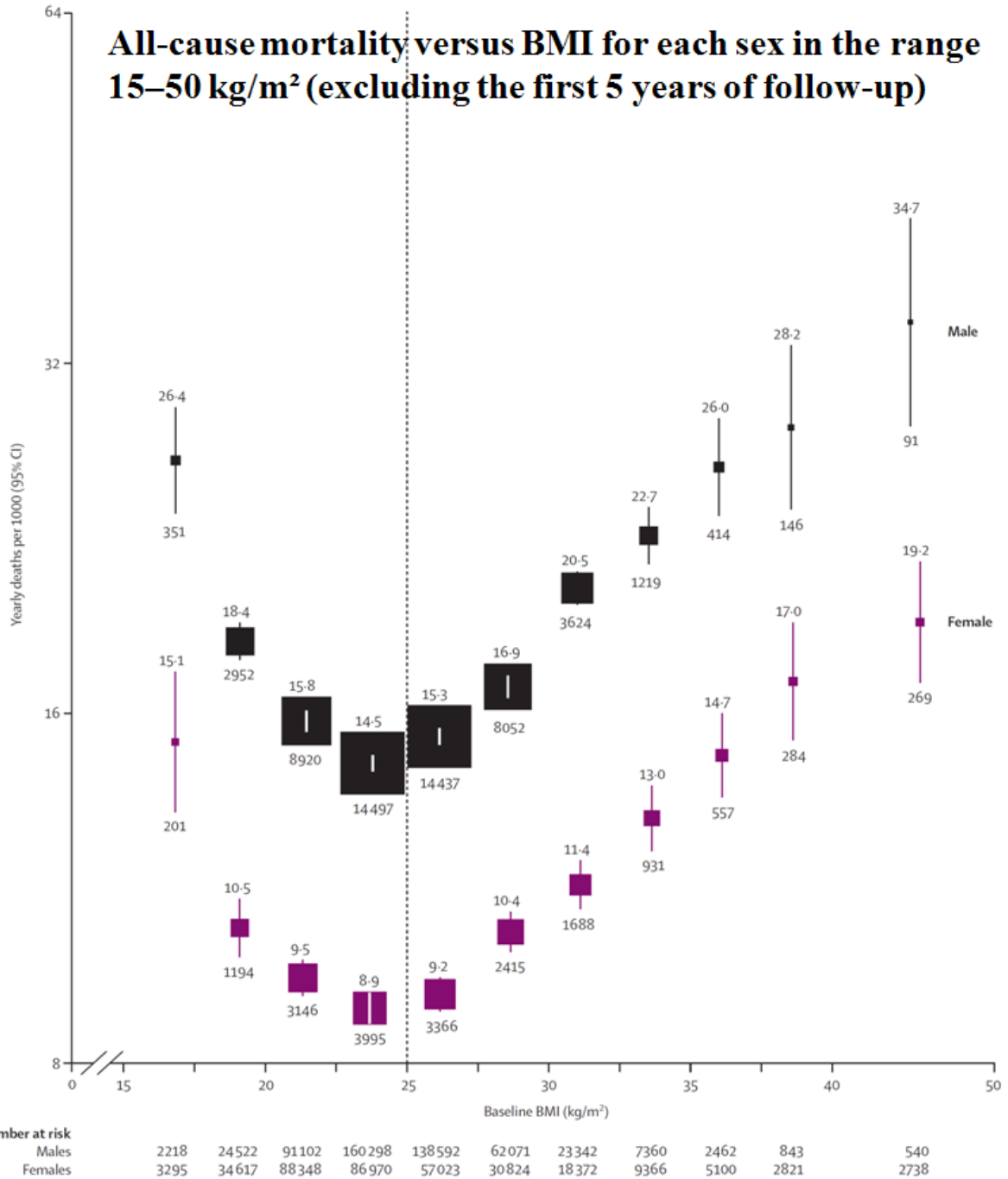
Obesity and Underweight according to the Level of Development



Source: World Health Organization



All-cause mortality versus BMI for each sex in the range 15–50 kg/m² (excluding the first 5 years of follow-up)



Relative risks at ages 35–89 years, adjusted for age at risk, smoking, and study, were multiplied by a common factor (ie, floated) to make the weighted average match the PSC mortality rate at ages 35–79 years. Floated mortality rates shown above each square and numbers of deaths below. Area of square is inversely proportional to the variance of the log risk. Boundaries of BMI groups are indicated by tick marks. 95% CIs for floated rates reflect uncertainty in the log risk for each single rate. Dotted vertical line indicates 25 kg/m² (boundary between upper and lower BMI ranges in this report).

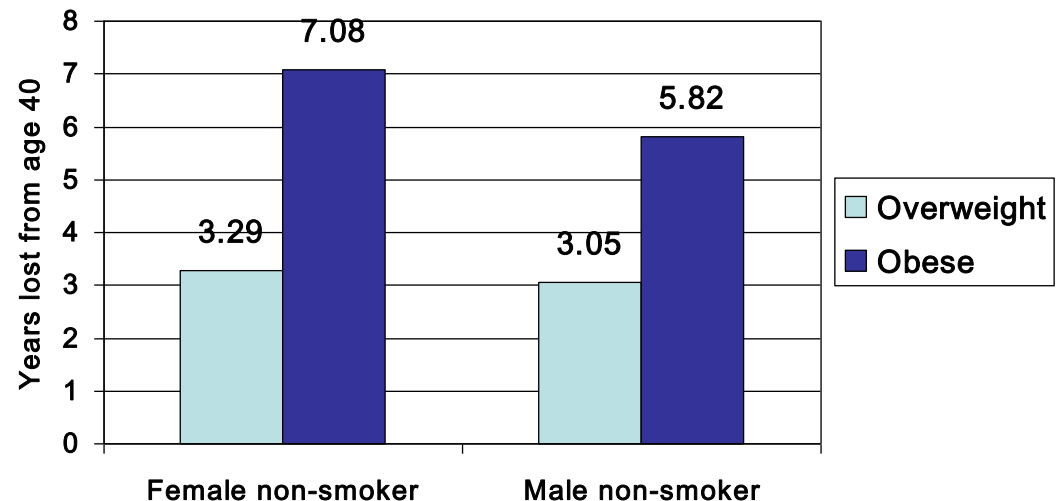
Prospective Studies Collaboration. Body-mass index and cause-specific mortality in 900 000 adults: collaborative analyses of 57 prospective studies. *Lancet* 2009; 373: 1083–96.



Obesity and years of life lost

- Framingham Heart Study (n=3457)
- Decreases in life expectancy similar to those seen with smoking
- Obese smokers lost 13 to 14 years
- Weight fluctuation
- Does weight loss prevent early death?

Years lost from the age of 40 relative to those in a healthy weight range



Peeters et al, Ann Intern Med 2003





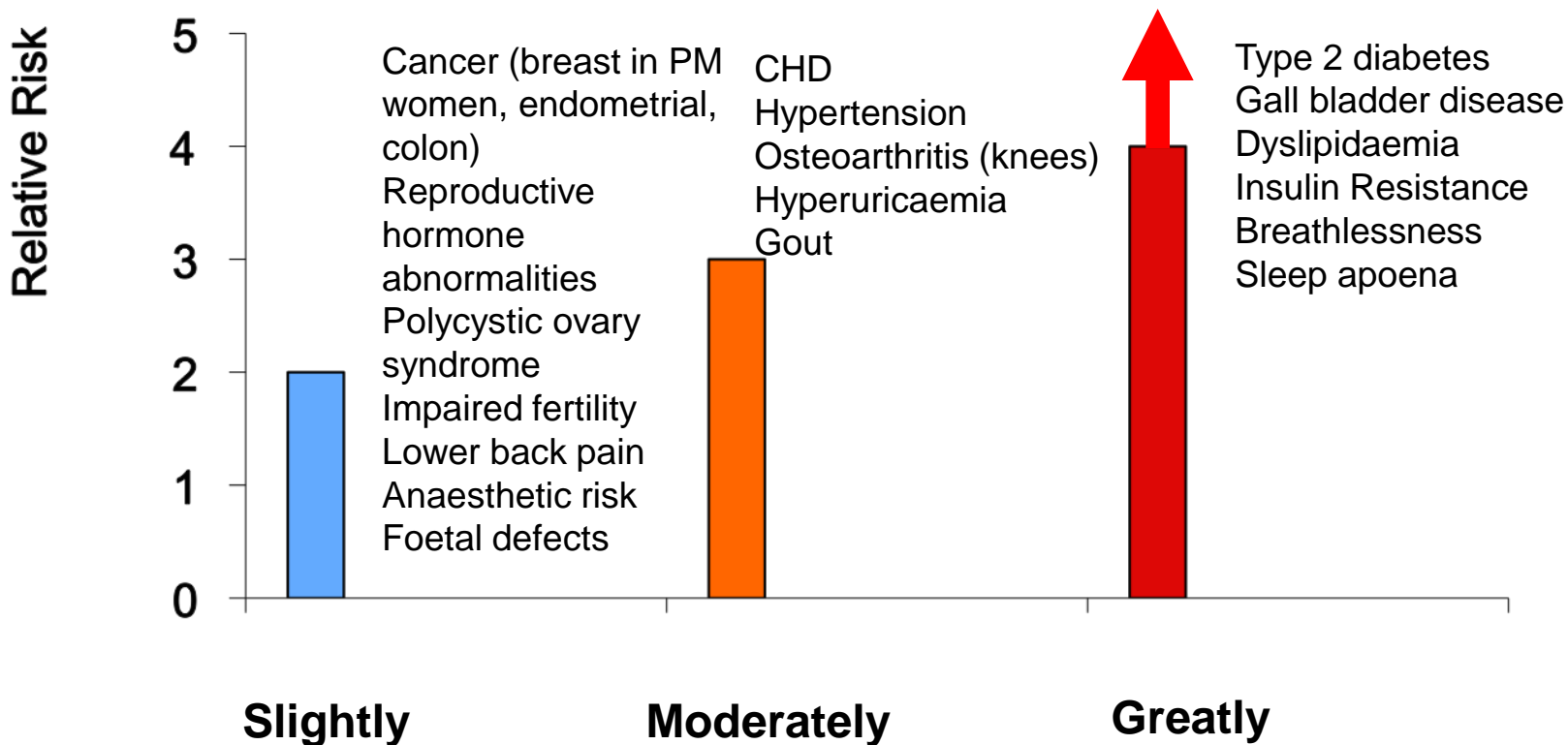
Physical impacts of obesity

- Cardiovascular
- Respiratory
- Endocrine
- Gastrointestinal
- Genito-urinary
- Skin
- Orthopaedic





Relative Risk of Health Problems Associated with Obesity in adults

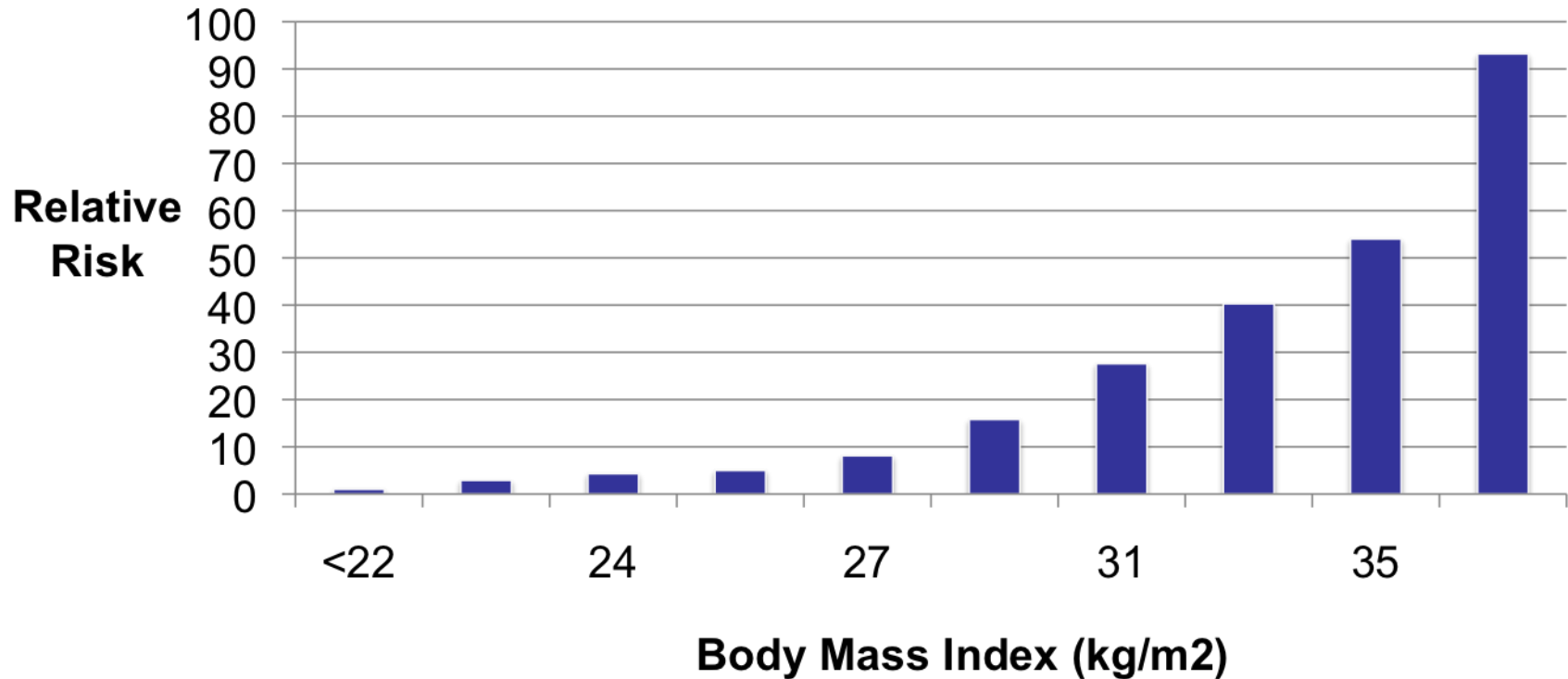


From WHO consultation on obesity report, 1997





BMI and Diabetes Risk in Adults

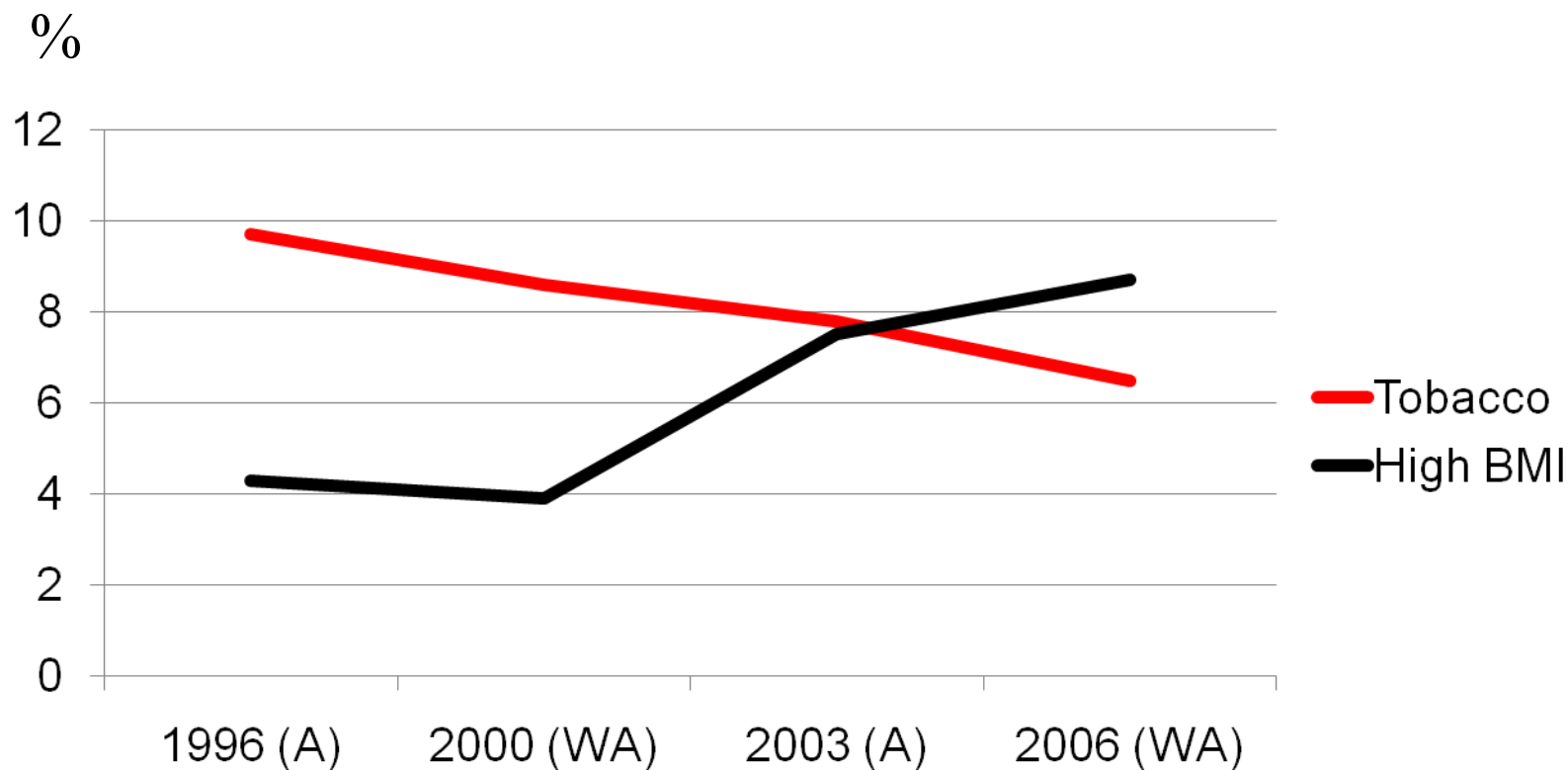


Colditz et al. Ann Int Med 1995, 122:481-6





Changing risk factor burden



Hoad et al ANZJPH 2010

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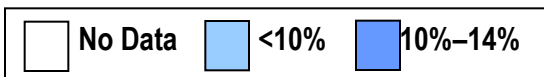
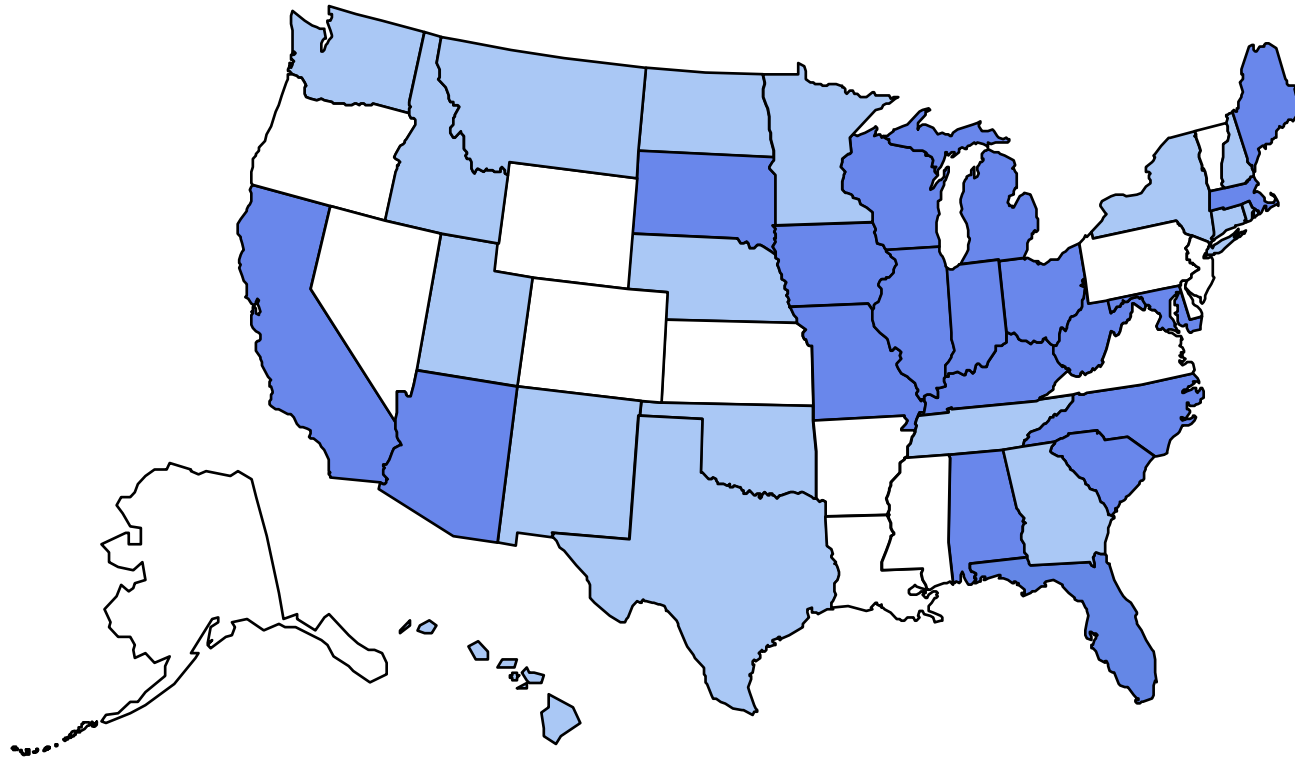




Obesity Trends* Among U.S. Adults

BRFSS, 1988

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

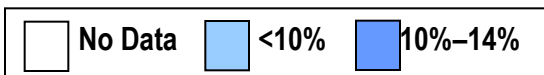
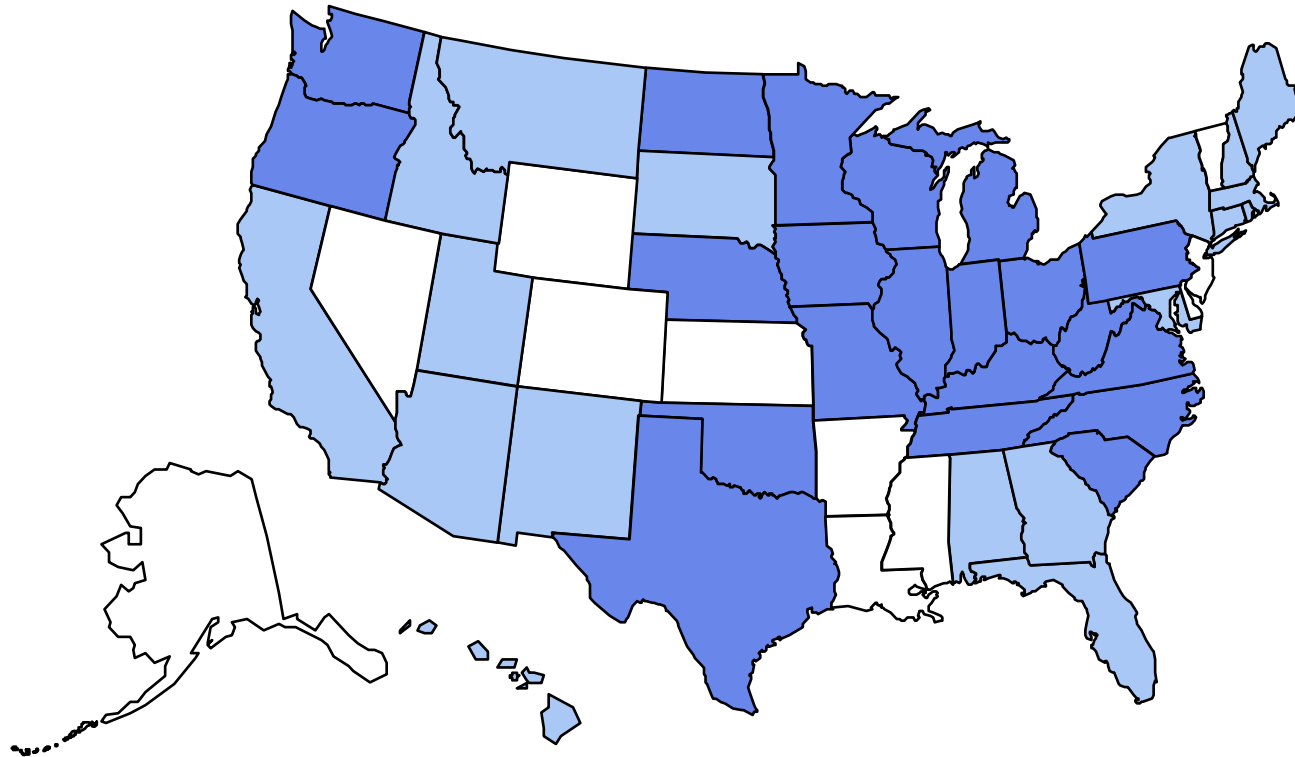




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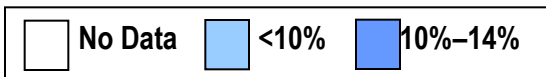
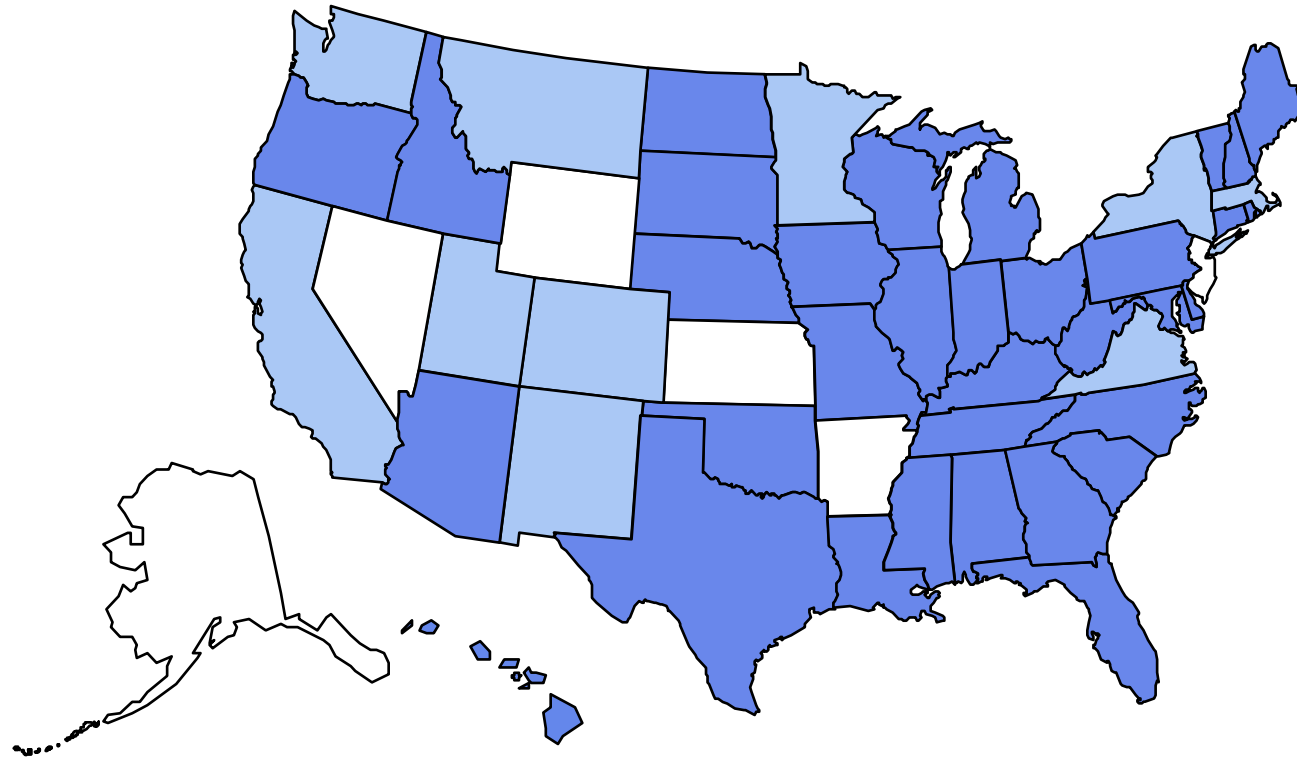




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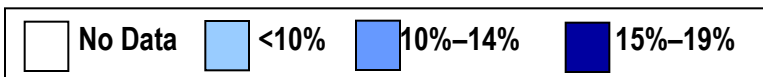
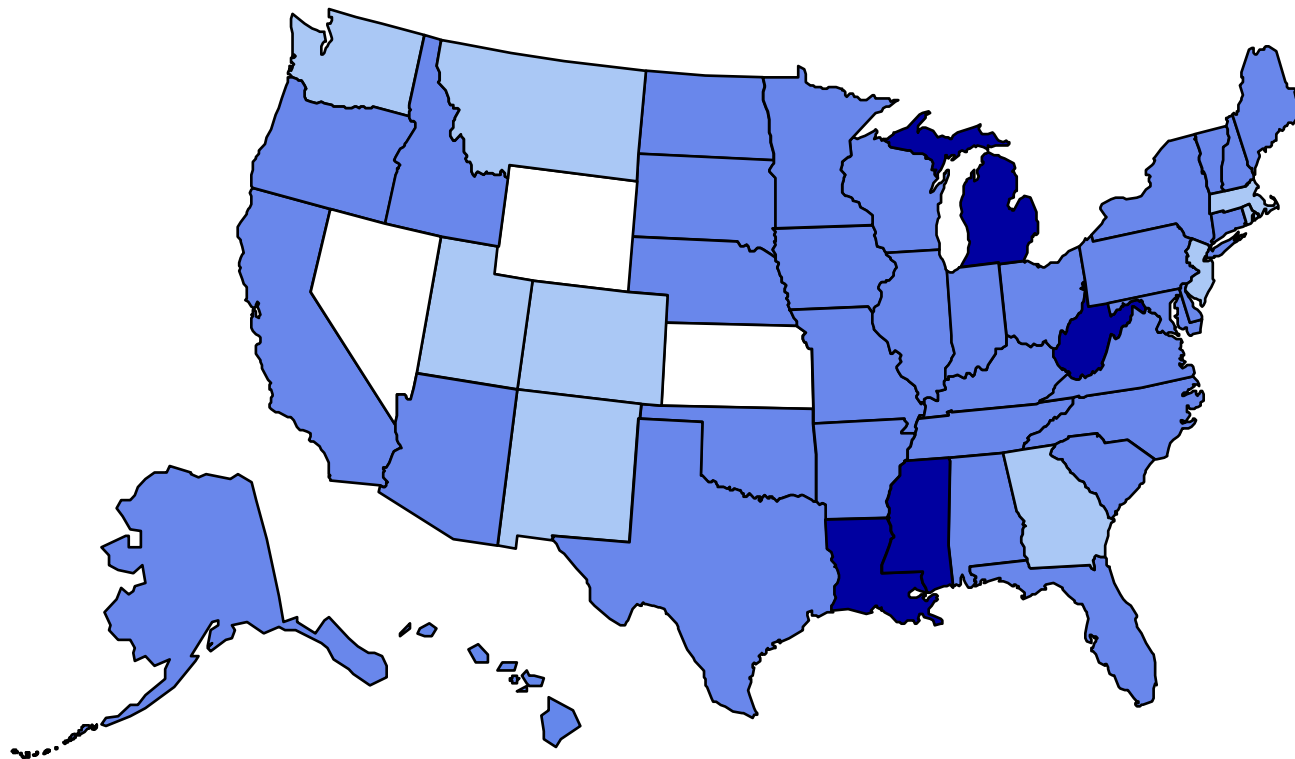




Obesity Trends* Among U.S. Adults

BRFSS, 1991

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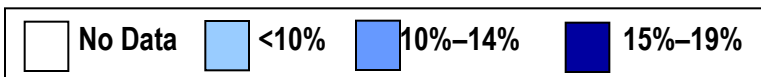
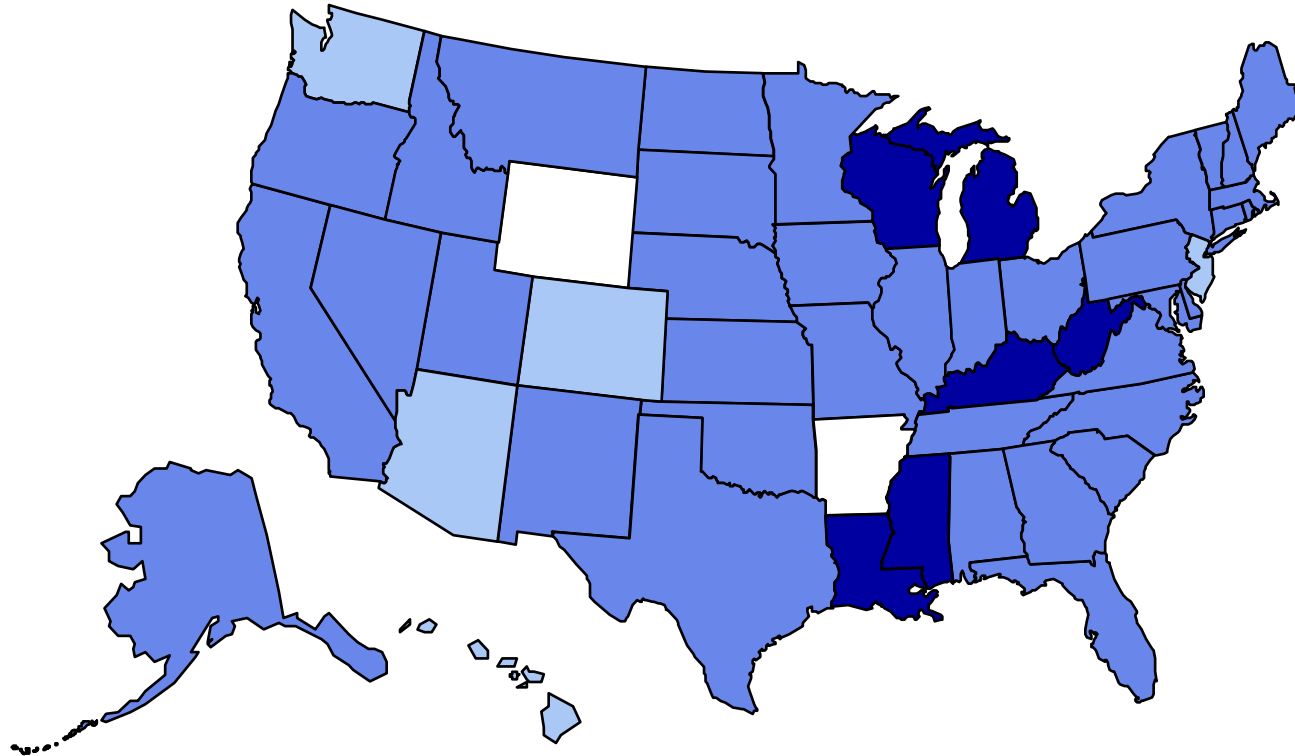




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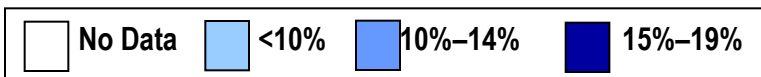
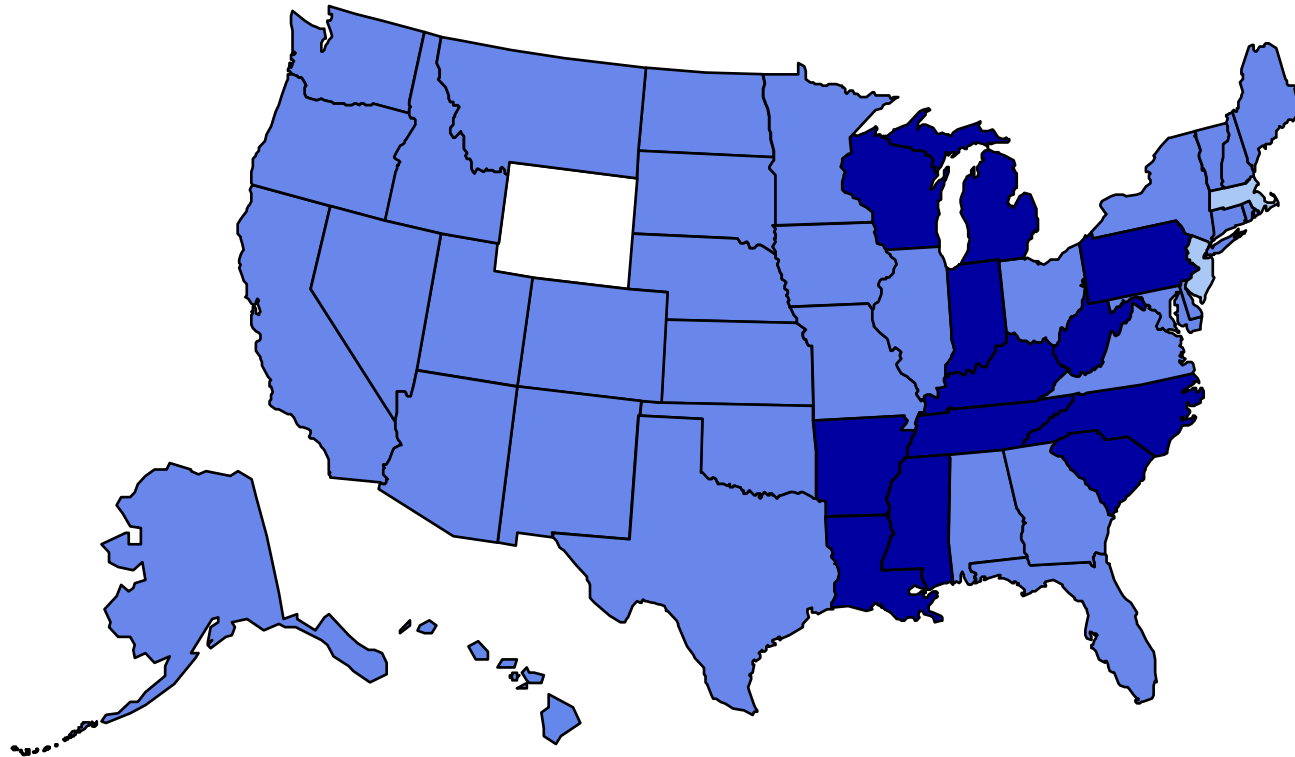




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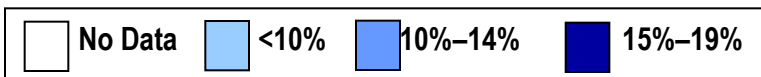
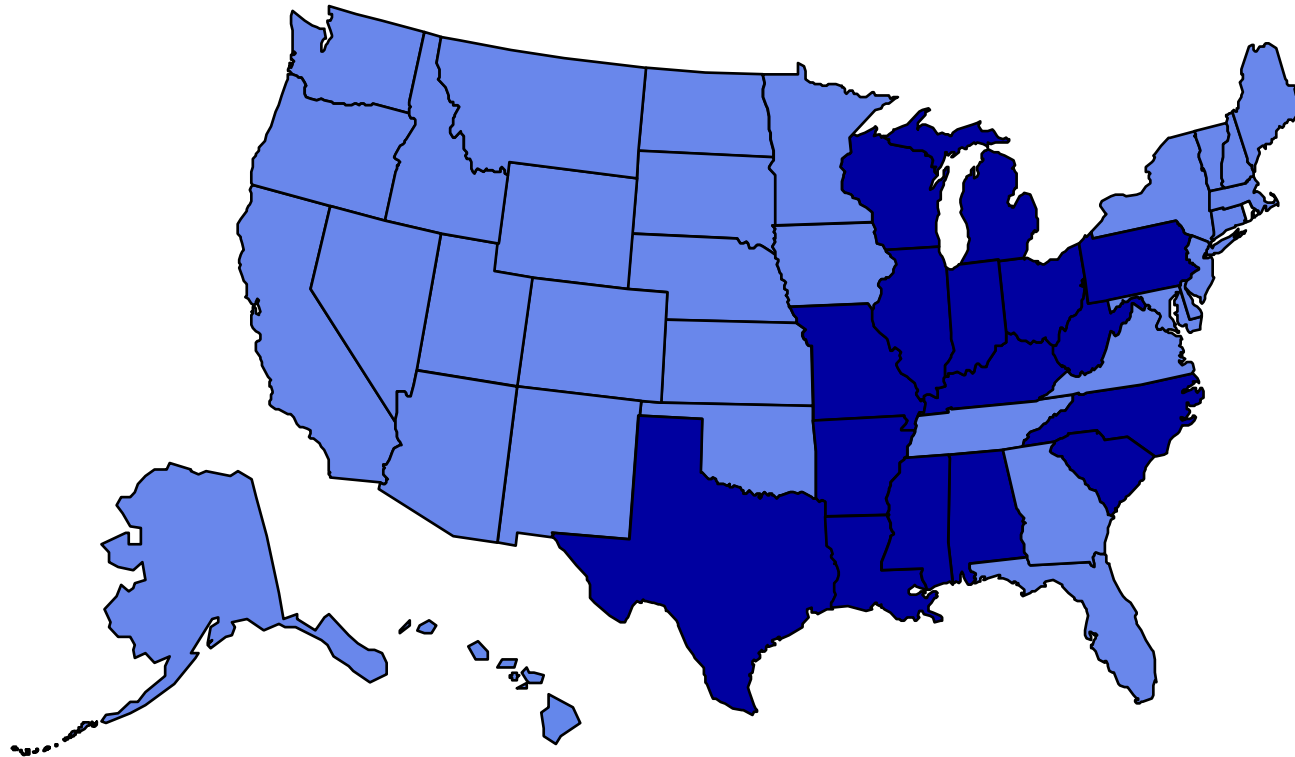




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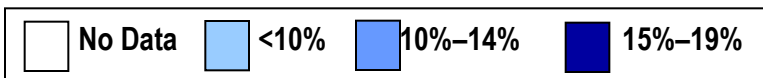
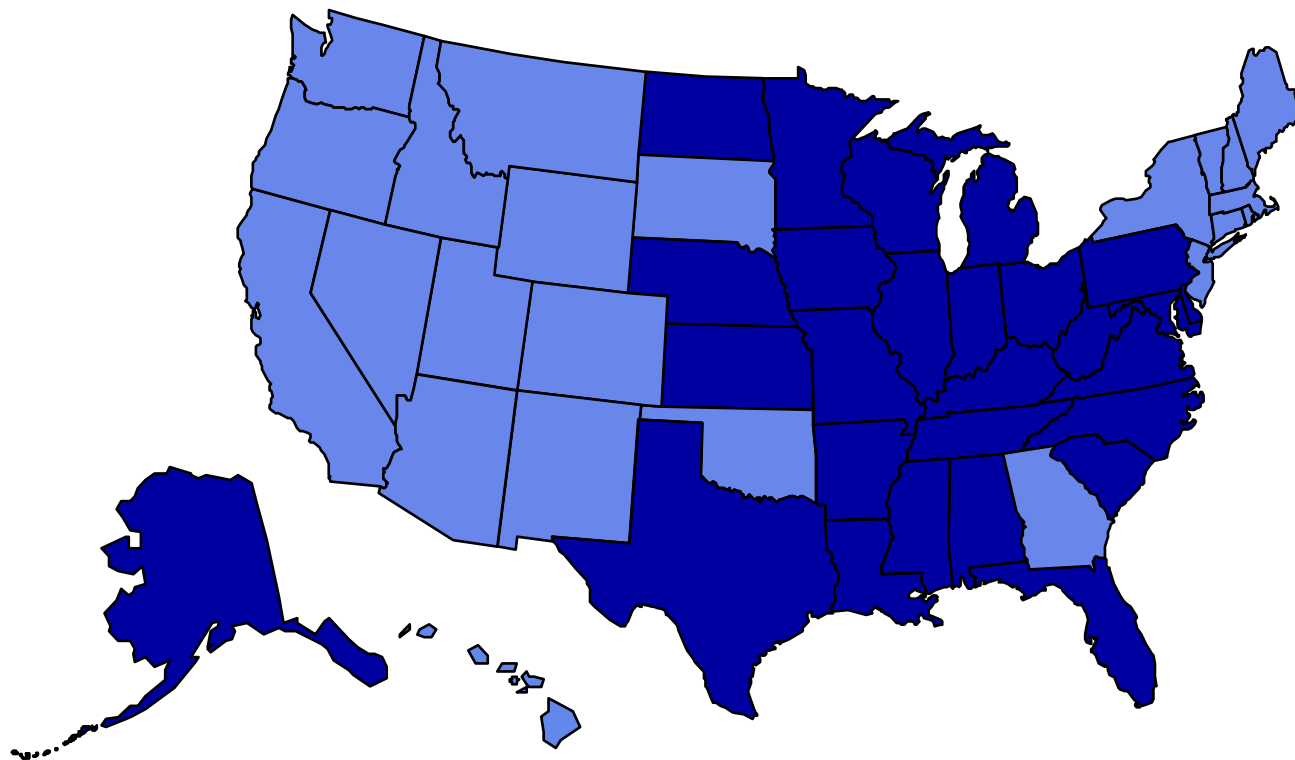




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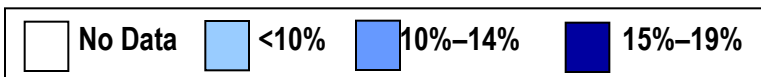
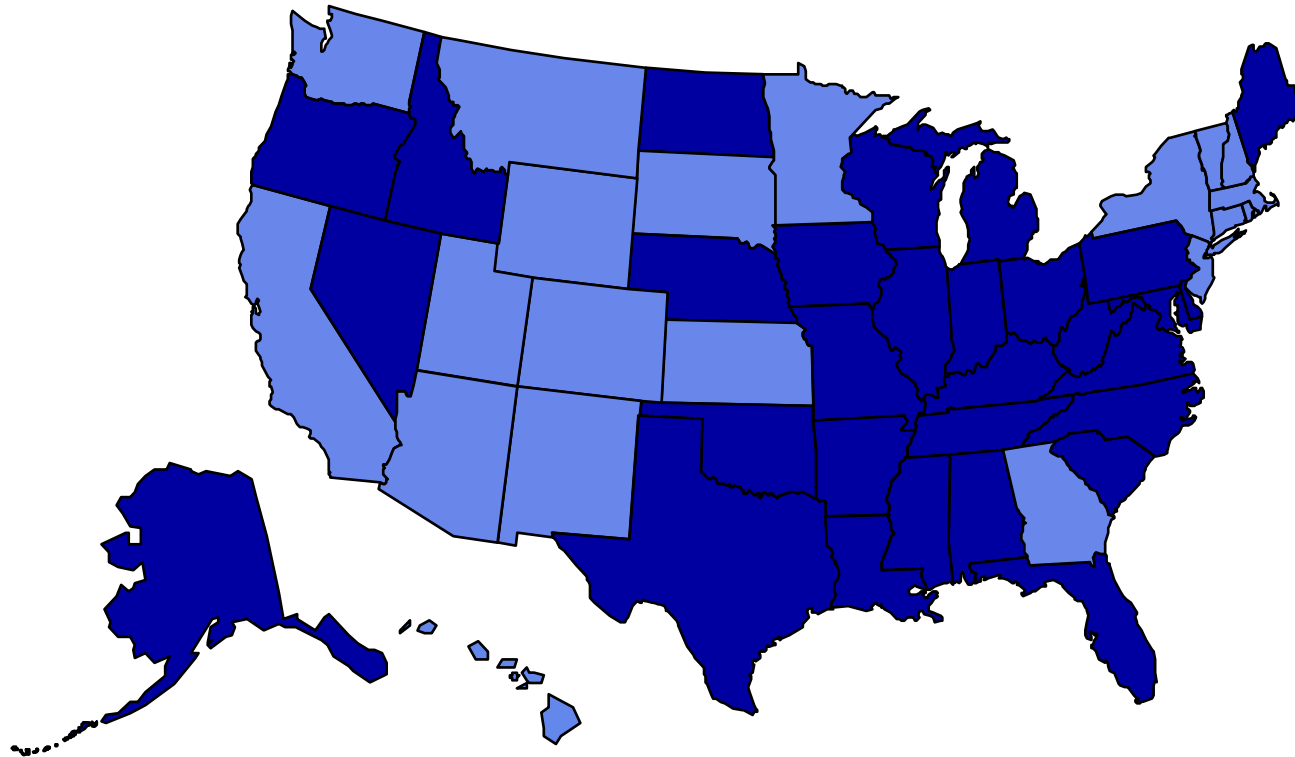




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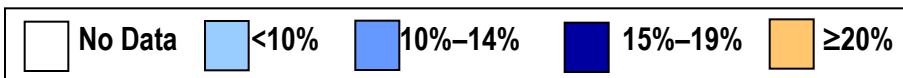
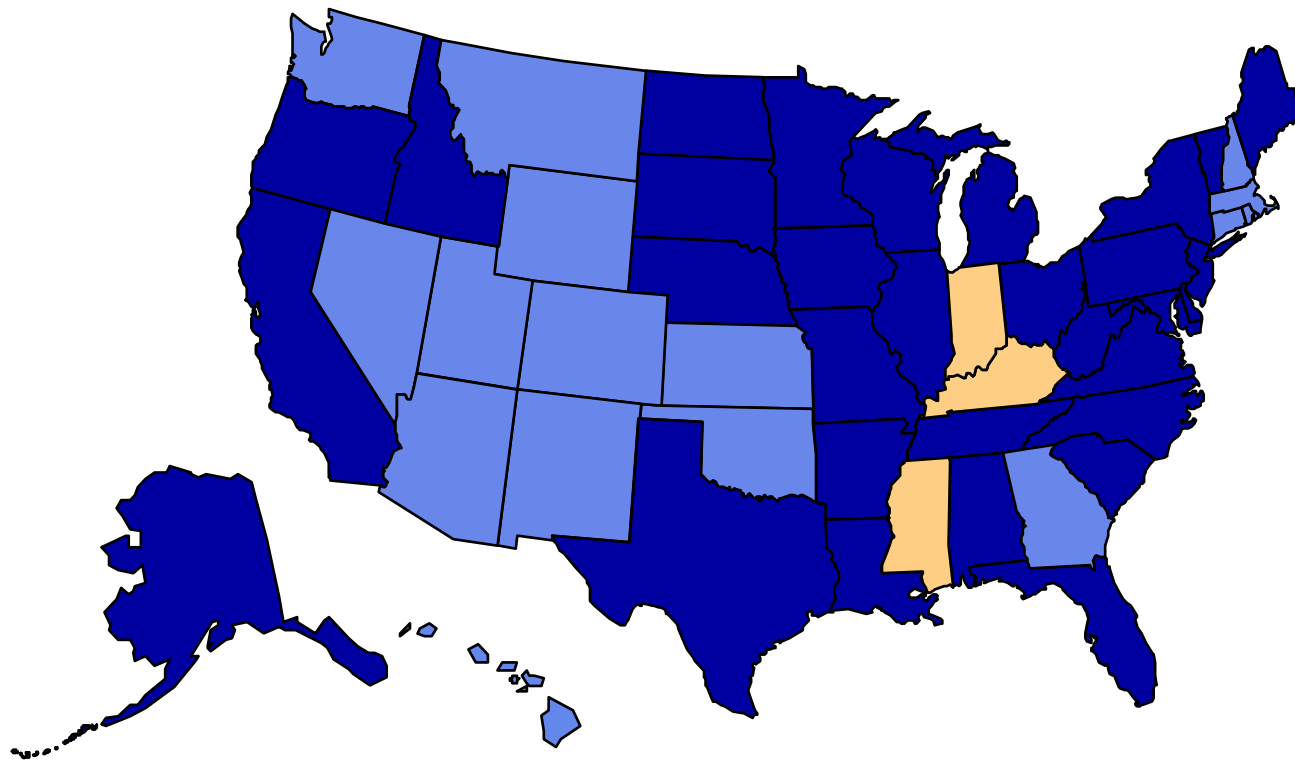




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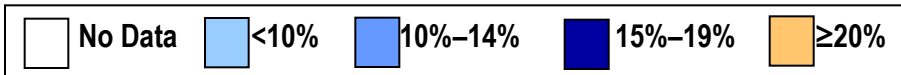
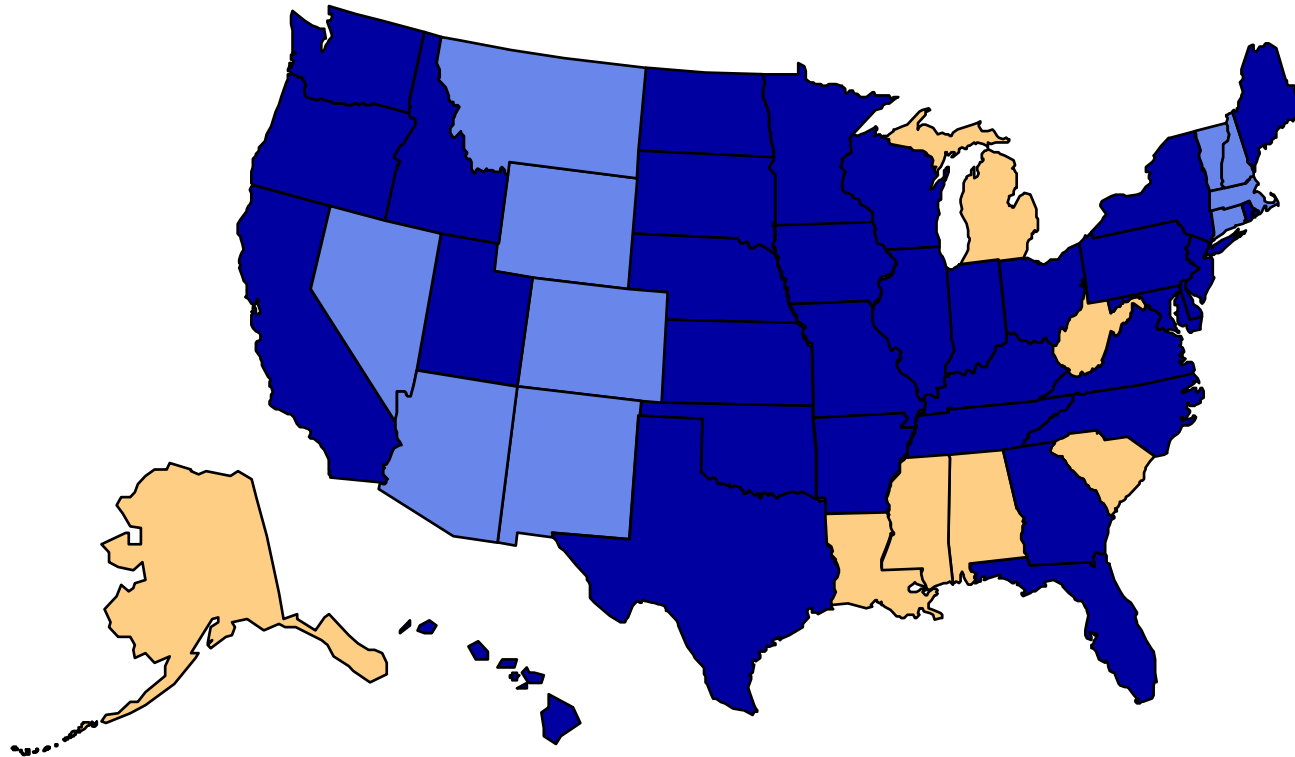




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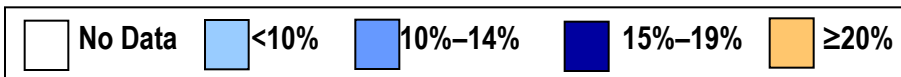
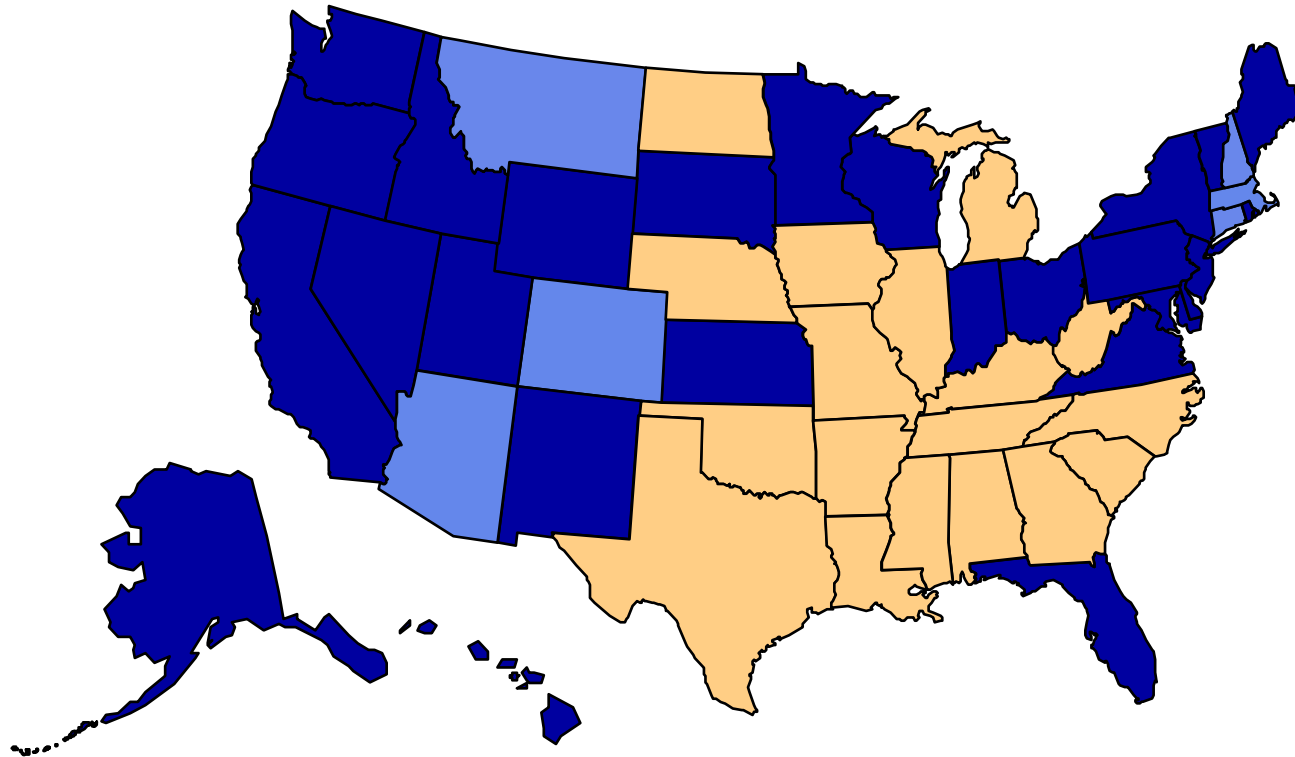




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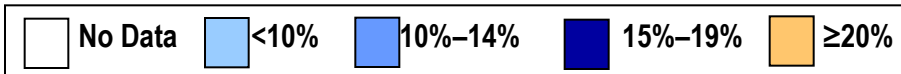
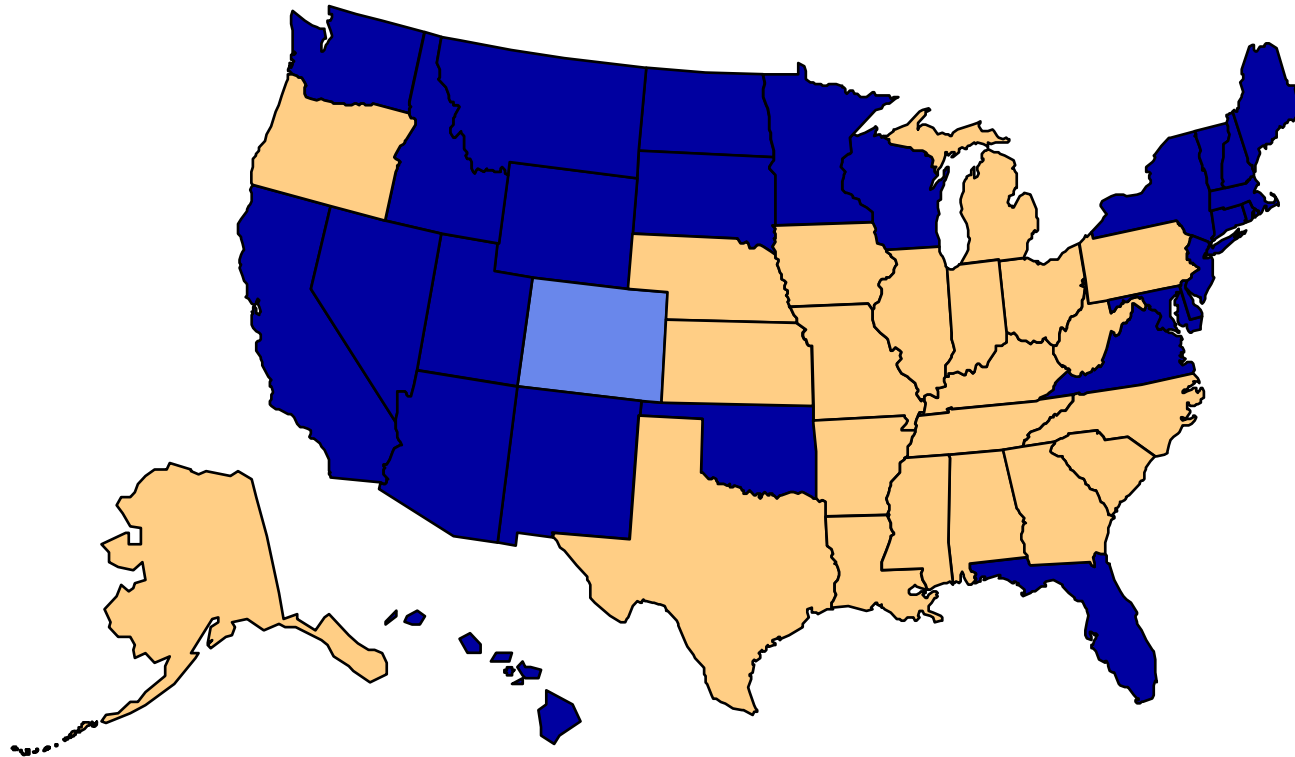




Obesity Trends* Among U.S. Adults

BRFSS, 2000

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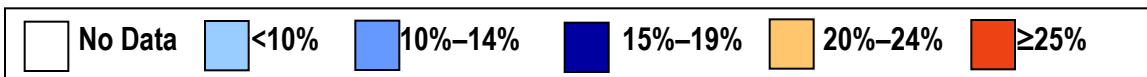
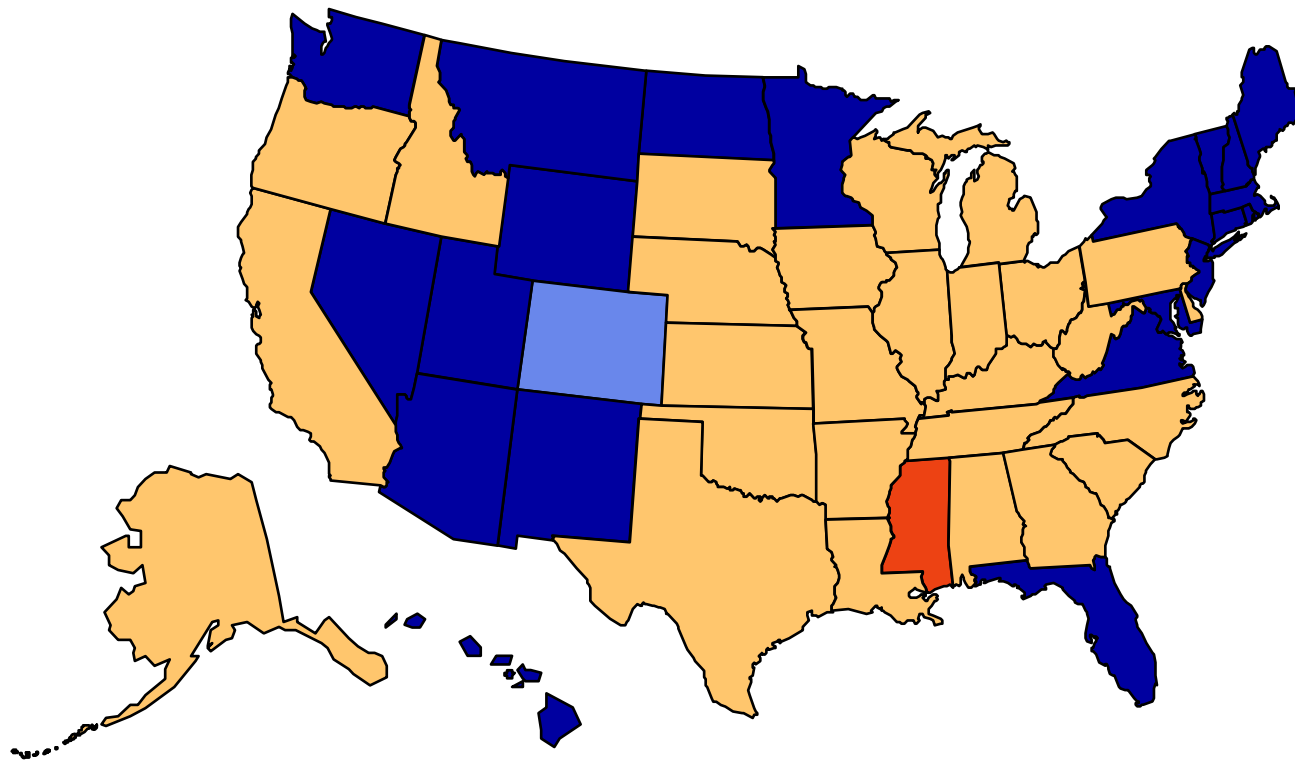




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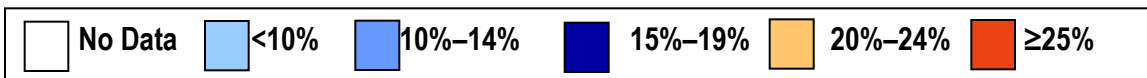
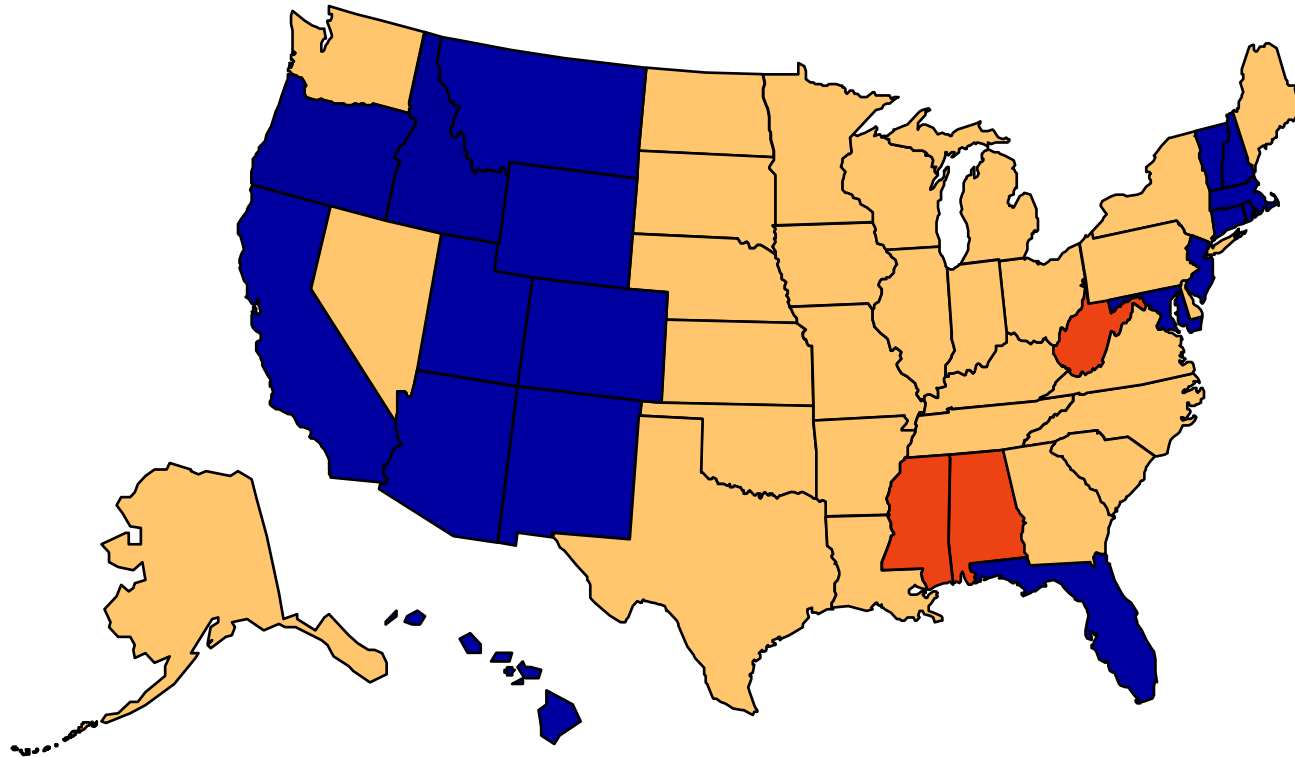
BRFSS, 2001

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)





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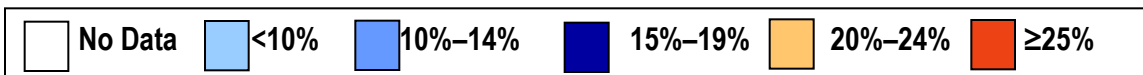
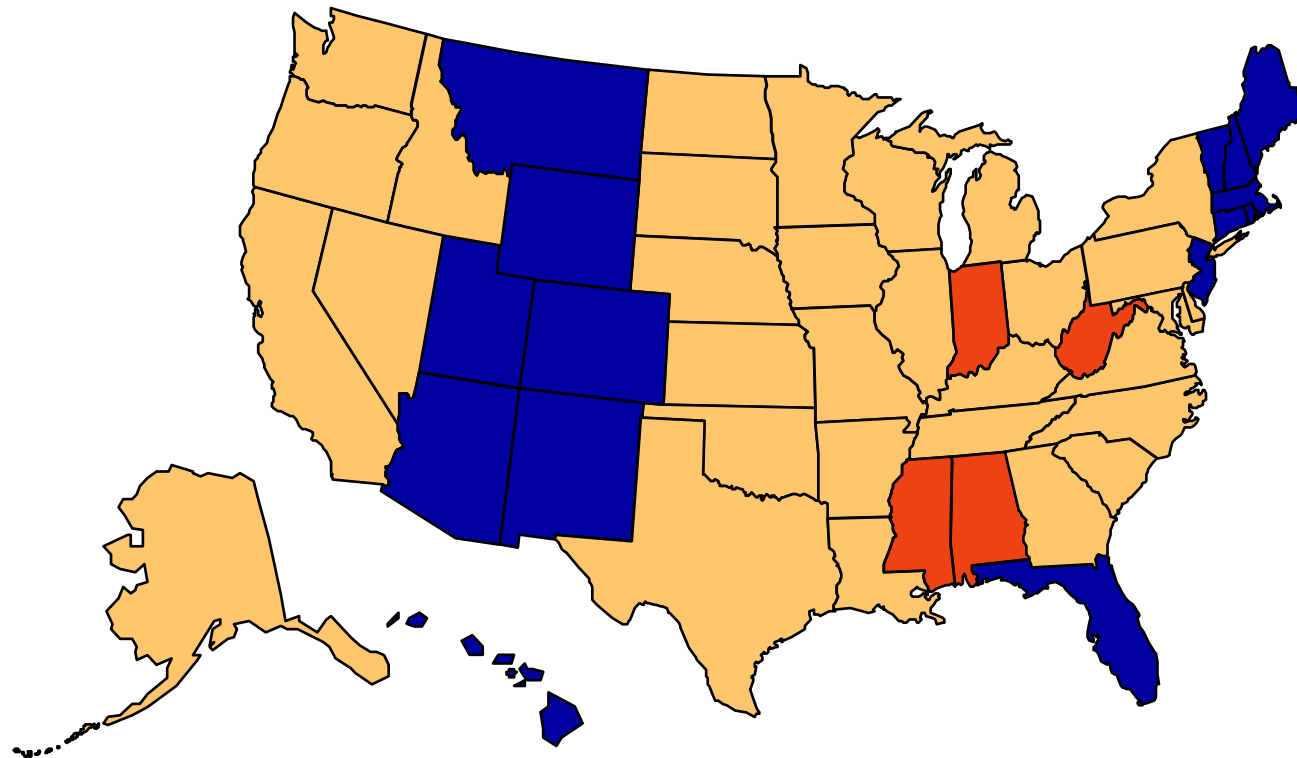




Obesity Trends* Among U.S. Adults

BRFSS, 2003

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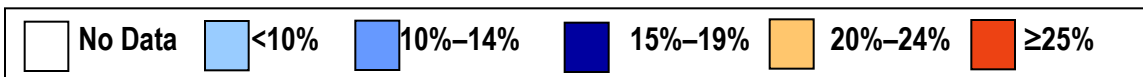
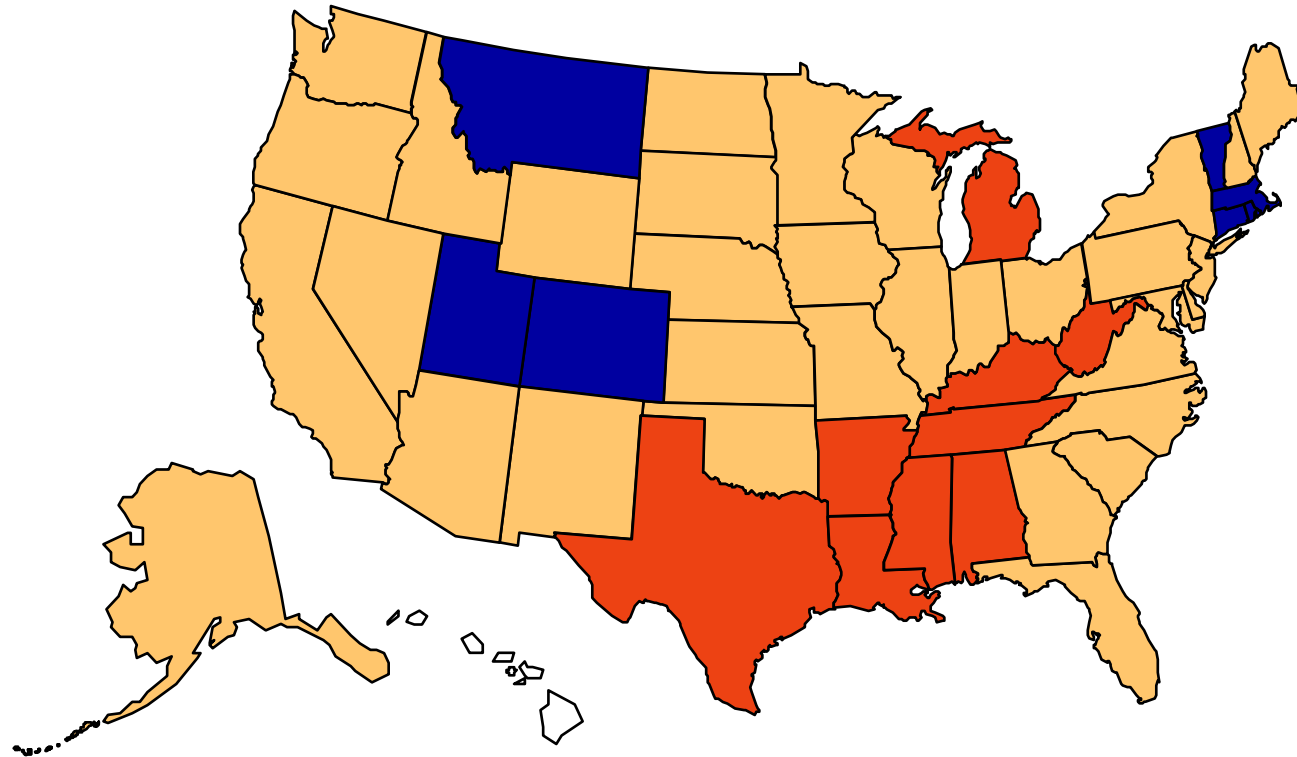




Obesity Trends* Among U.S. Adults

BRFSS, 2004

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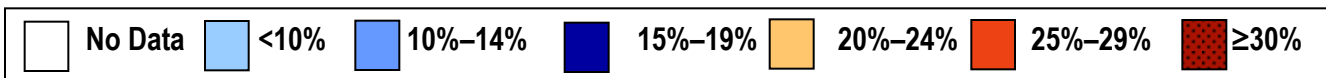
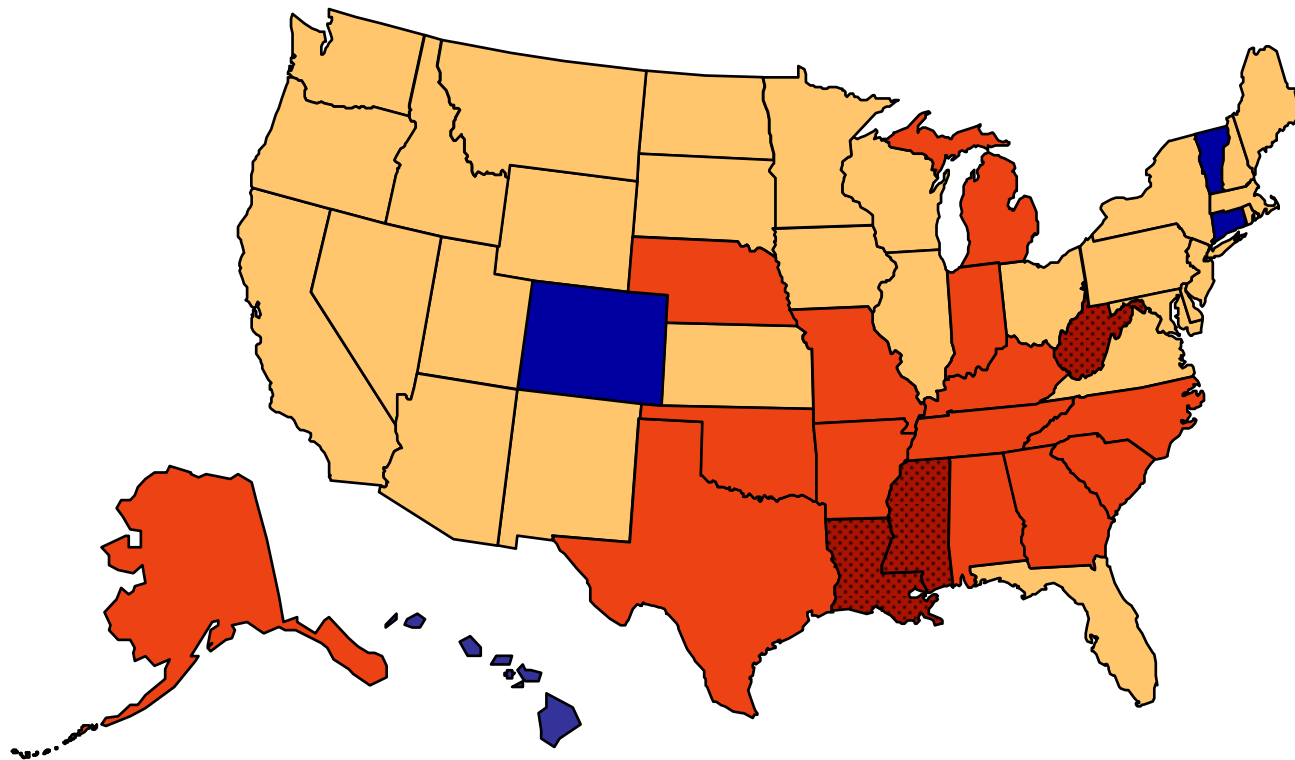




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BRFSS, 2005

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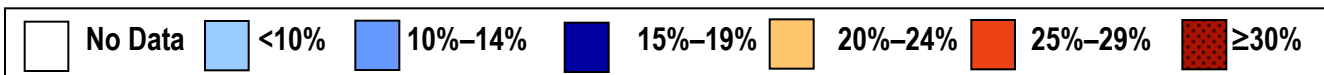
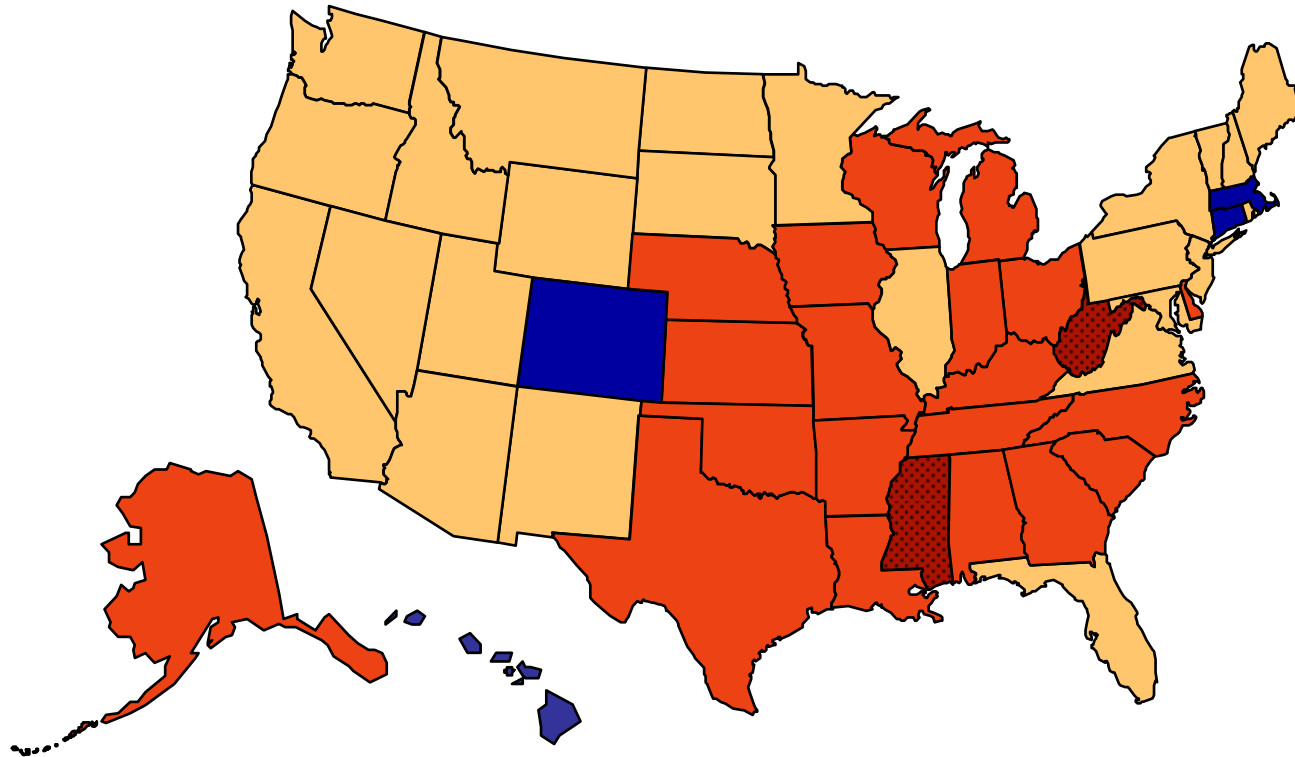




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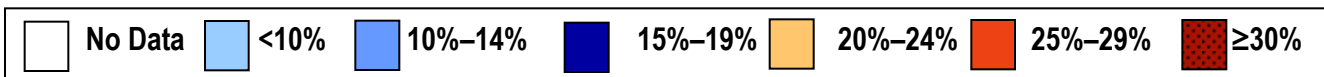
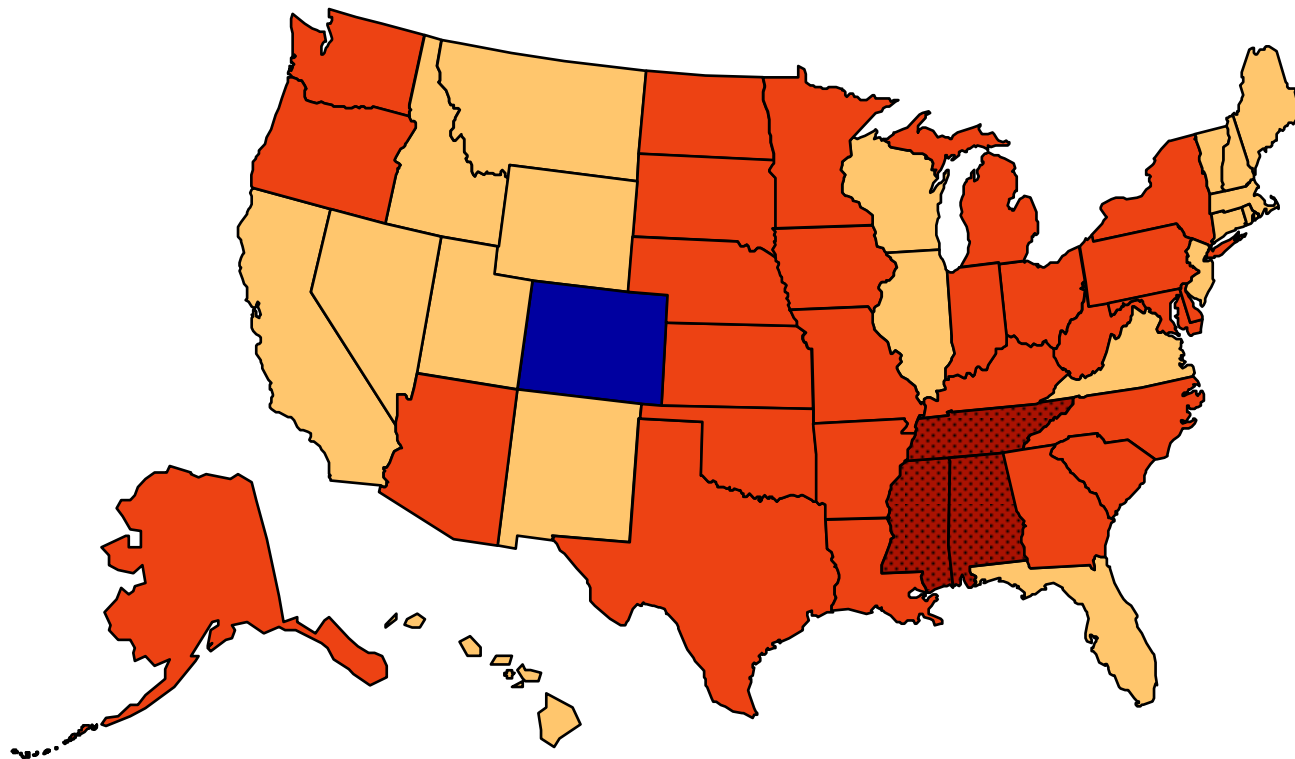




Obesity Trends* Among U.S. Adults

BRFSS, 2007

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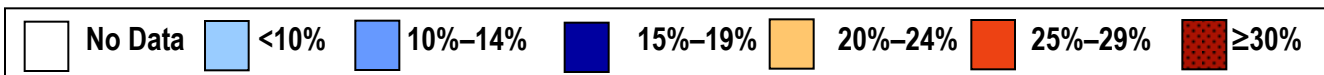
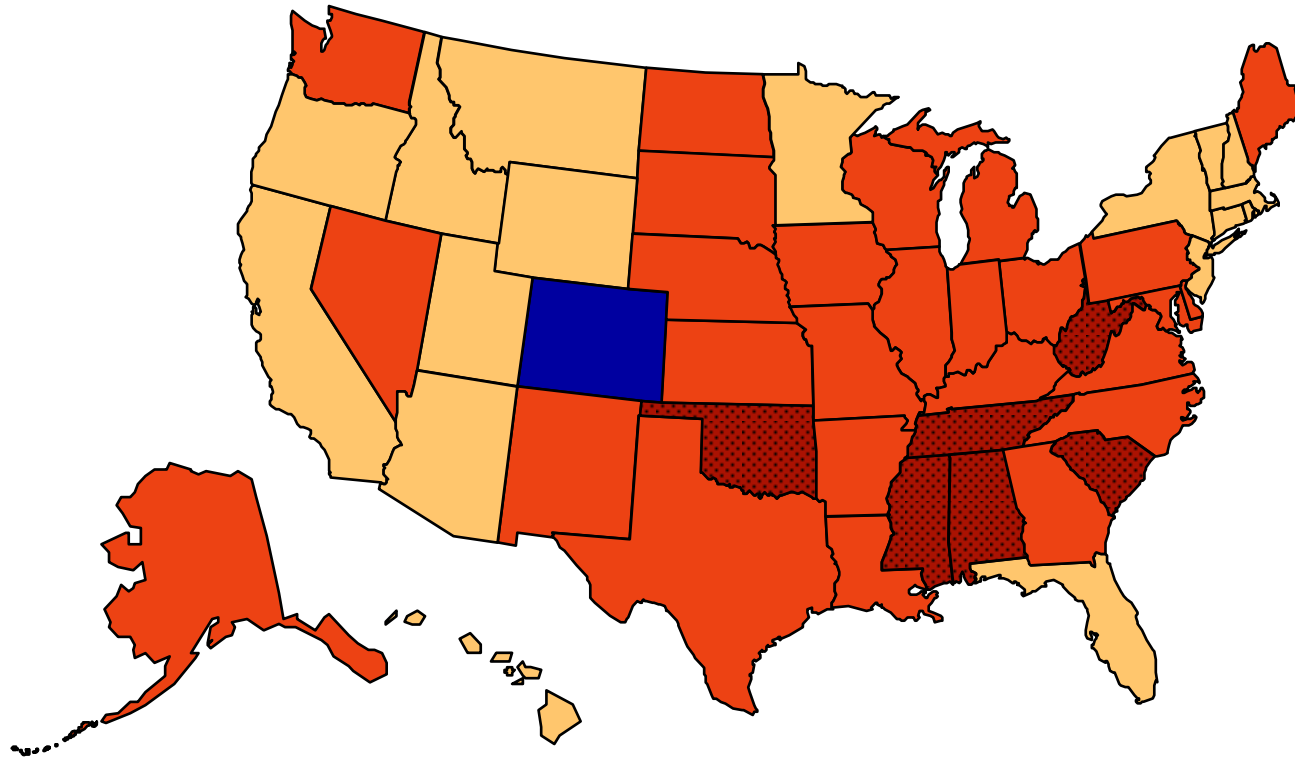




Obesity Trends* Among U.S. Adults

BRFSS, 2008

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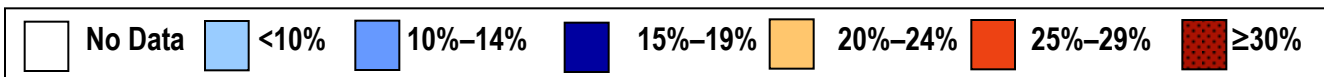
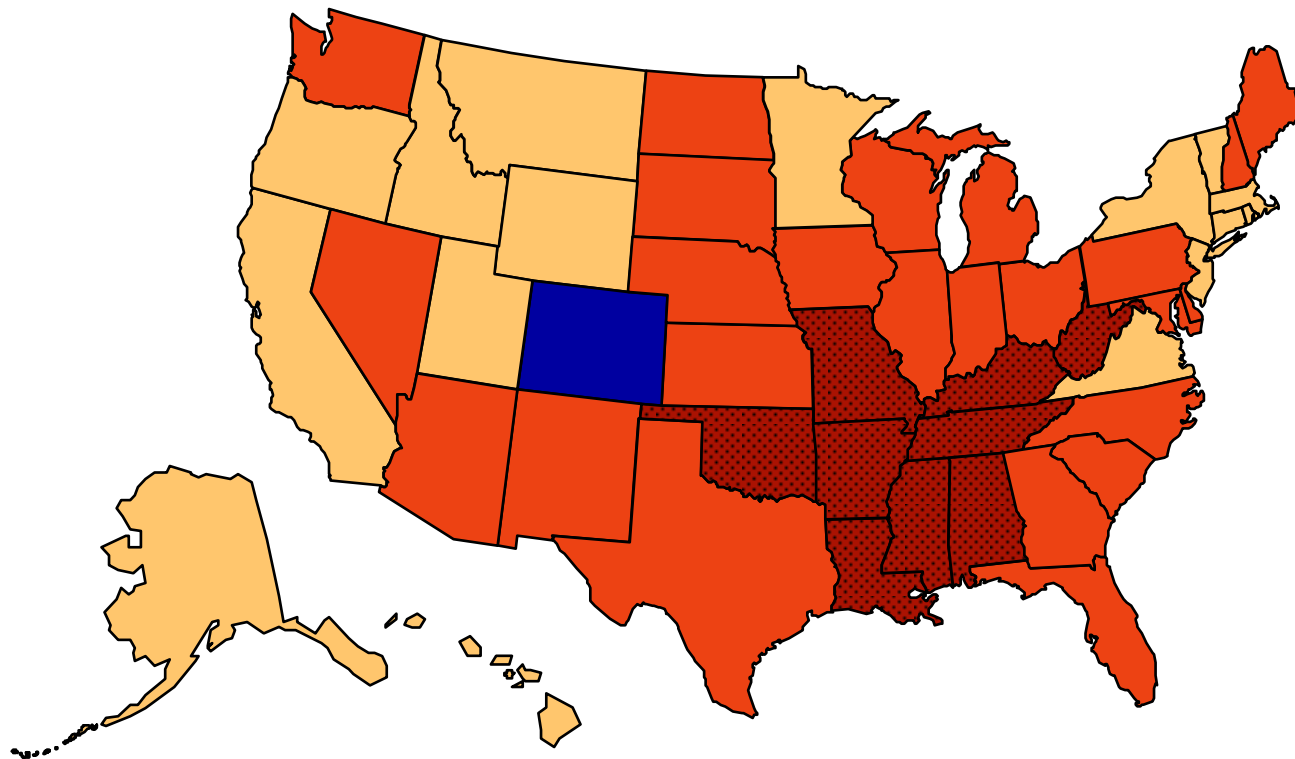




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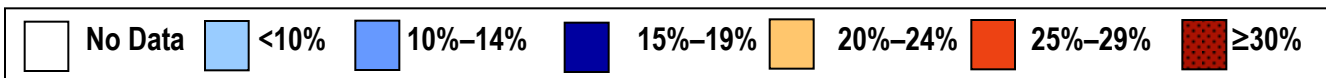
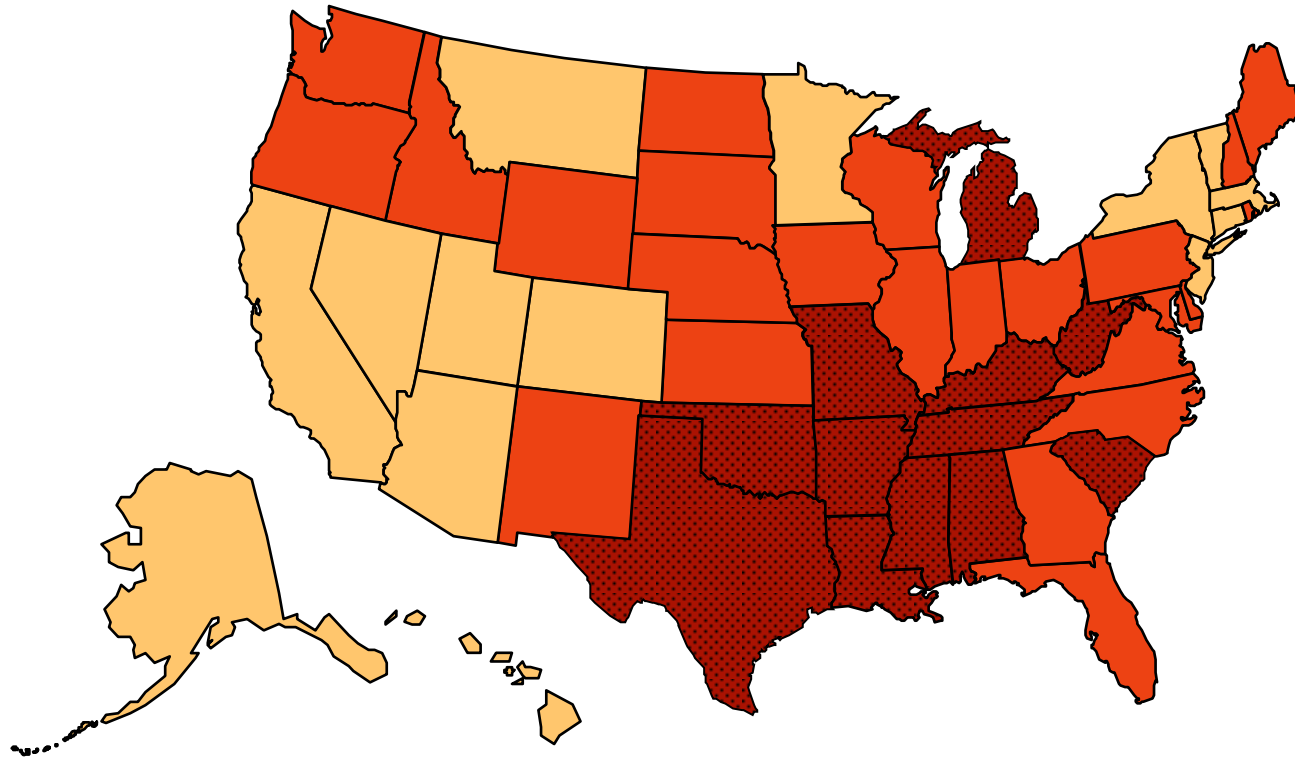




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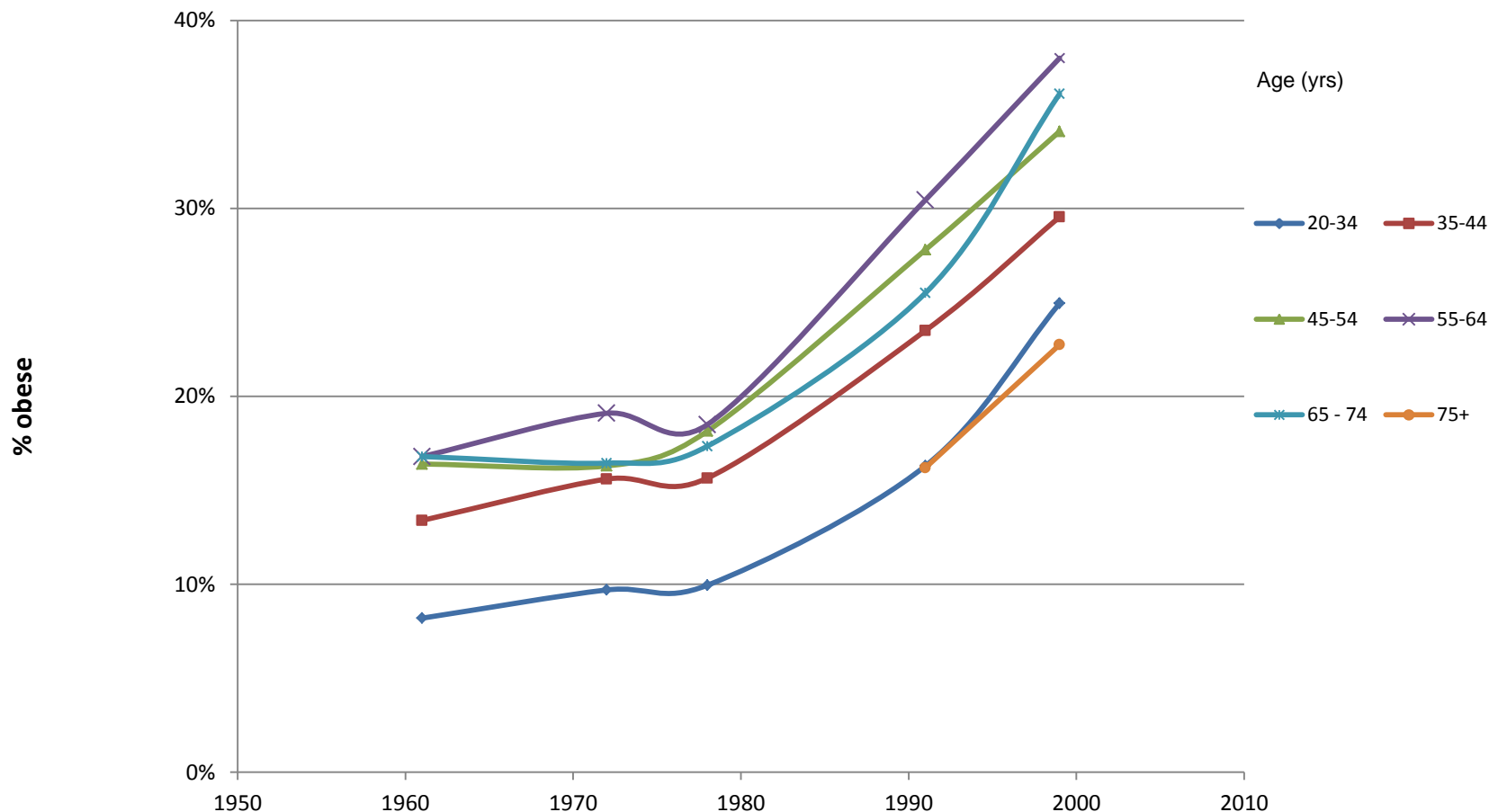
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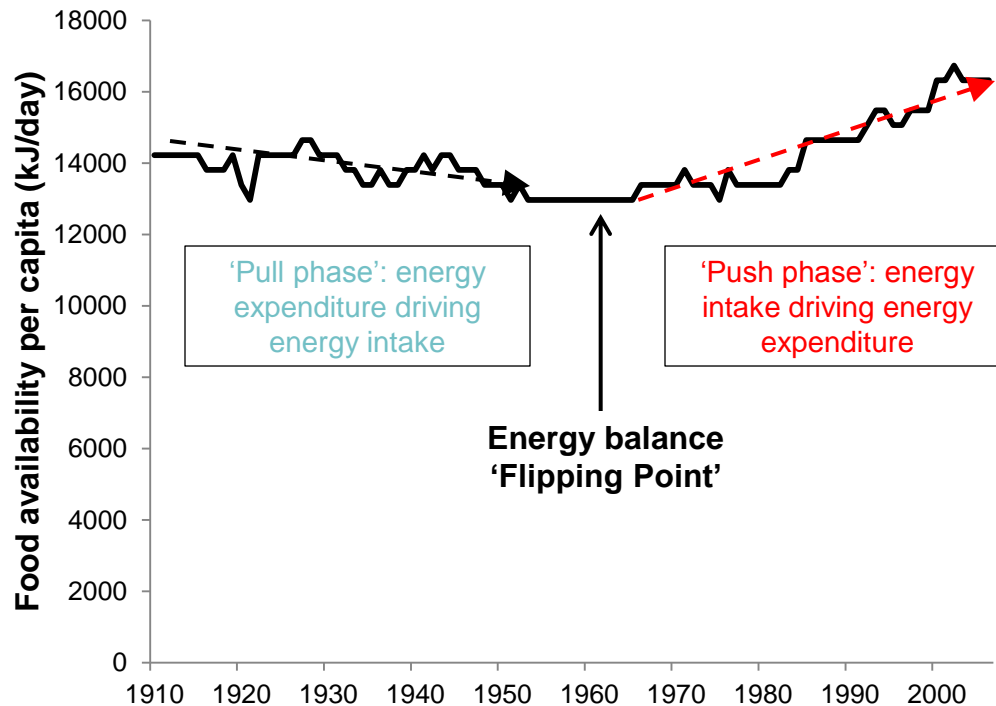




Obesity increase by age group



Energy Balance Flipping Point



US Food availability data, 1910-2000

- Food energy increase more than enough to explain the increase in weight in the US
- Increasing food waste parallel to the increase in food supply per capita
- ↑weight leads to ↑ metabolic rate
- Change in PA environments (cars, TV, computers, e-games etc)



Food energy supply, USA 1910-2000

Figure 1—Calories From the U.S. Per Capita Food Supply, Adjusted for Losses, Increased 20 Percent Between 1982 and 2000



Rise in food energy supply is more than enough to explain the rise in body weight in the US.
Swinburn et al
AJCN 2009

¹ Rounded to the nearest hundred.

² Not calculated for years before 1970.

Source: USDA's Center for Nutrition Policy and Promotion; USDA's Economic Research Service.





Bottom line

The only plausible explanation for the simultaneous, global increase in obesity is that has been driven by the changes in the global food supply (price, product, placement, promotion)

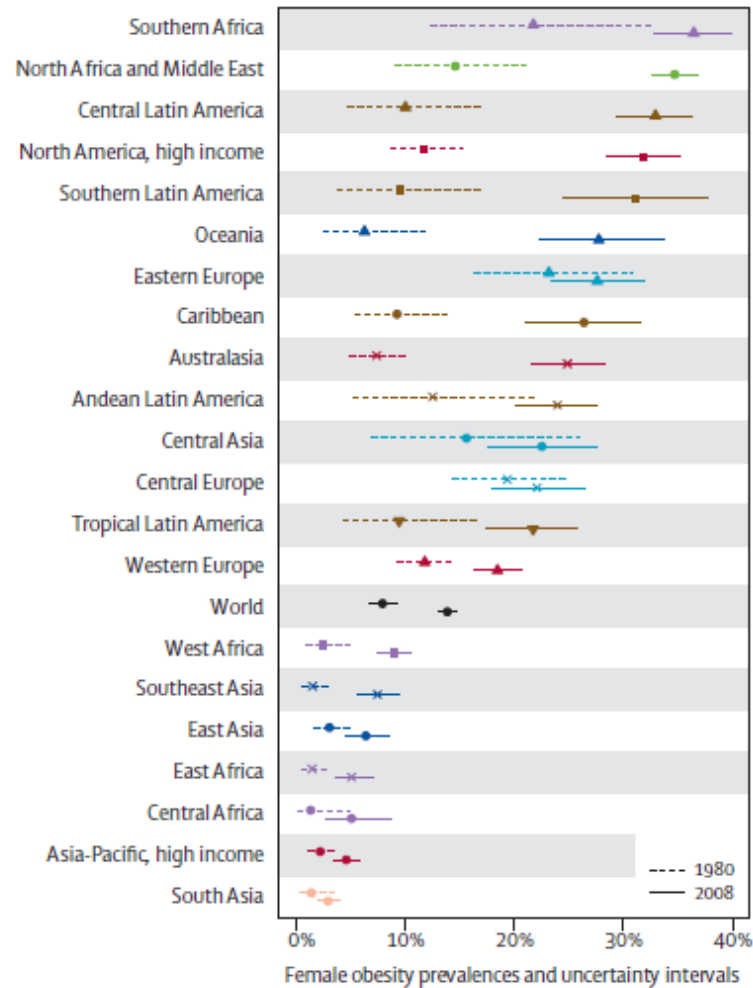
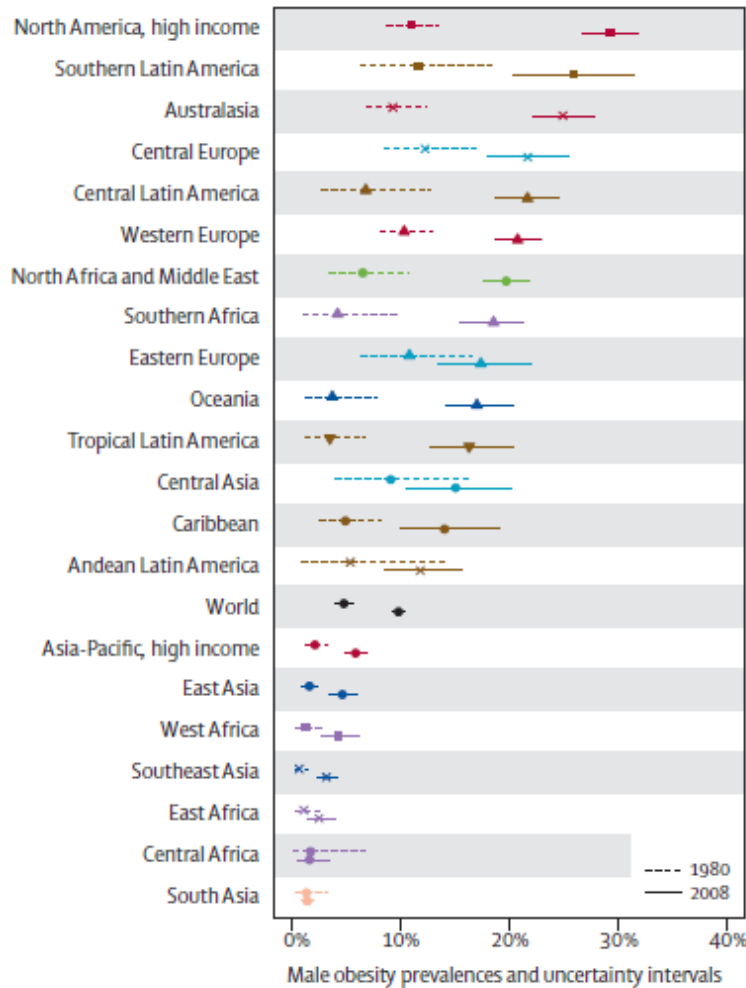




Increasing adult obesity (1980-2008)

Males

Females





Australia: A big Country



Australia's **health**2010



Obesity—weighing up the facts

Karen Bishop and Ilona Brockway

www.aihw.gov.au





Overweight or obese

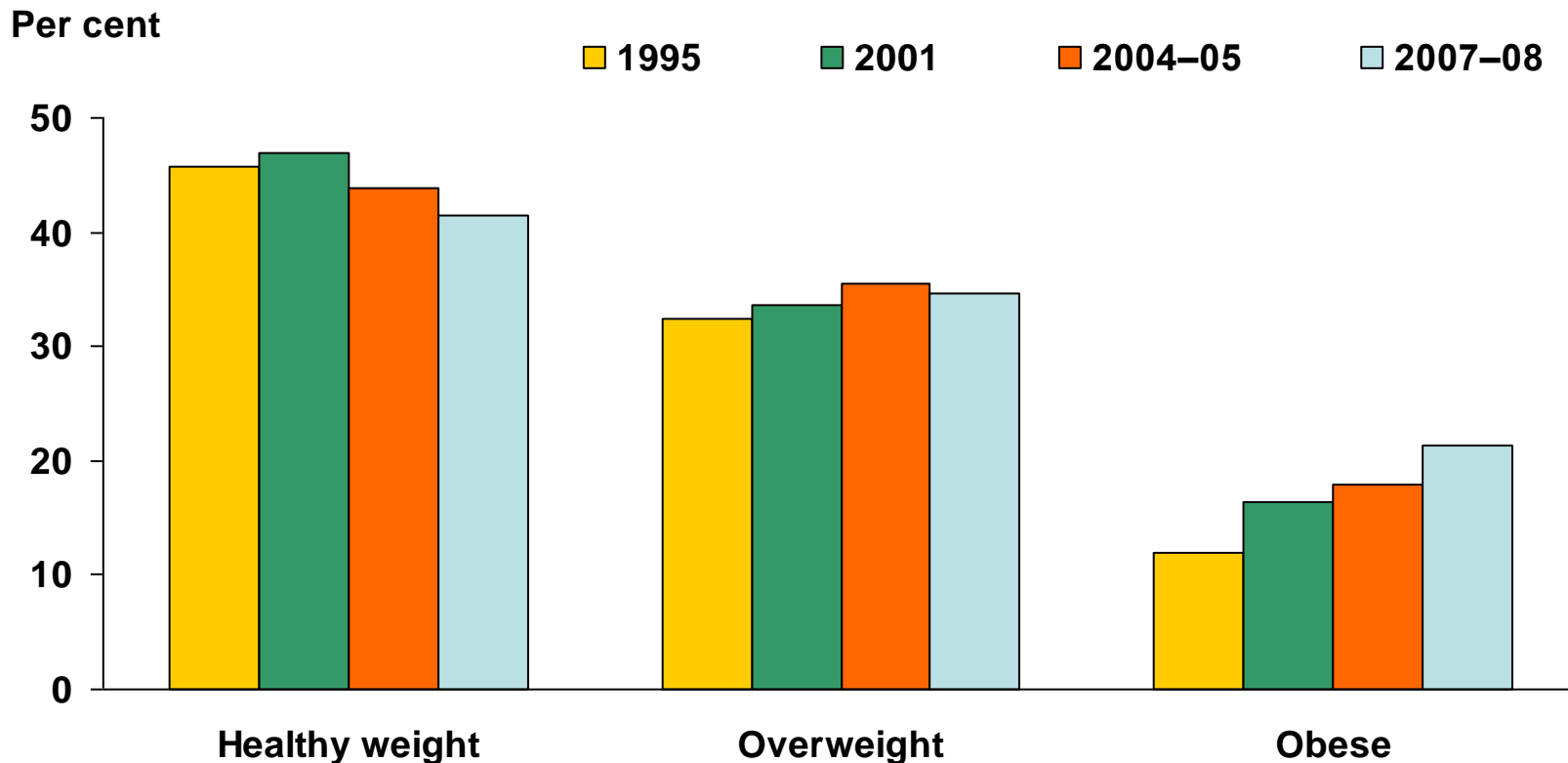
	Males	Females
Overweight	42%	31%
Obese	25%	24%
Overweight or obese	67%	55%

Measured data, NHS 2007–08





Trends in BMI

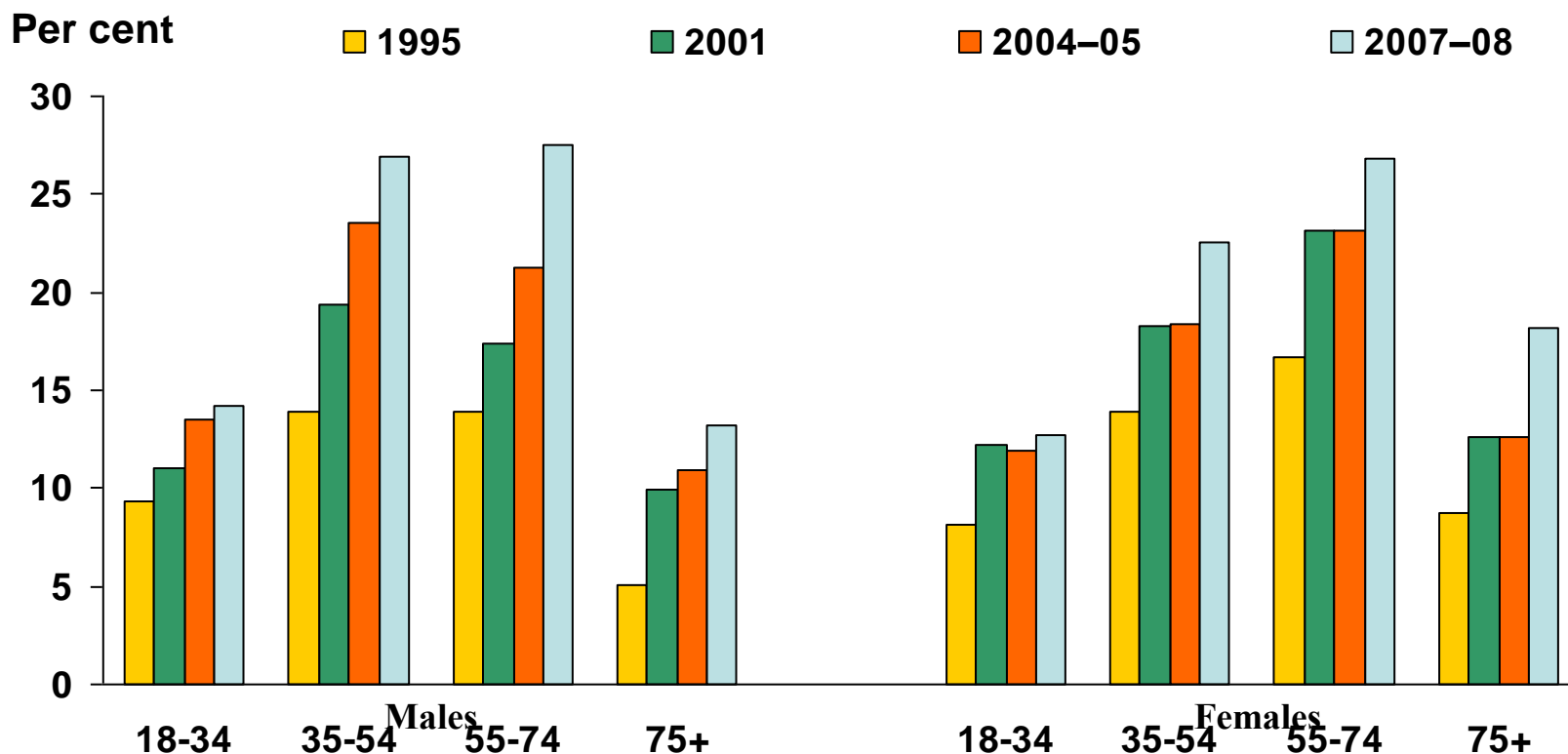


Self-reported height and weight, 18 years plus, various NHS surveys





Trends in obesity by age



Self-reported height and weight, 18 years plus, various NHS surveys

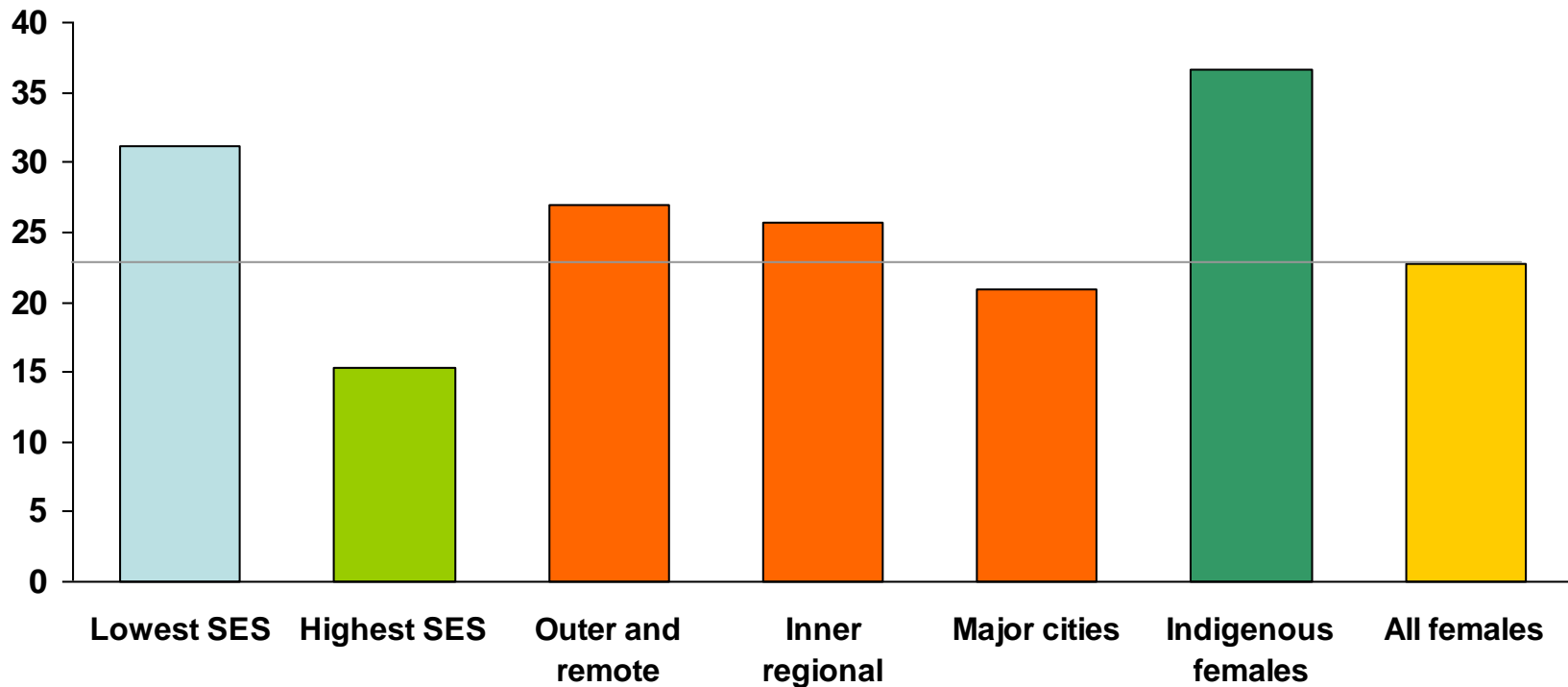
WHO Collaborating Centre for Obesity Prevention





Comparisons for obese females

Per cent



Prevention of cardiovascular diseases,
diabetes and chronic kidney disease
WHO Collaborating Centre for Obesity Prevention





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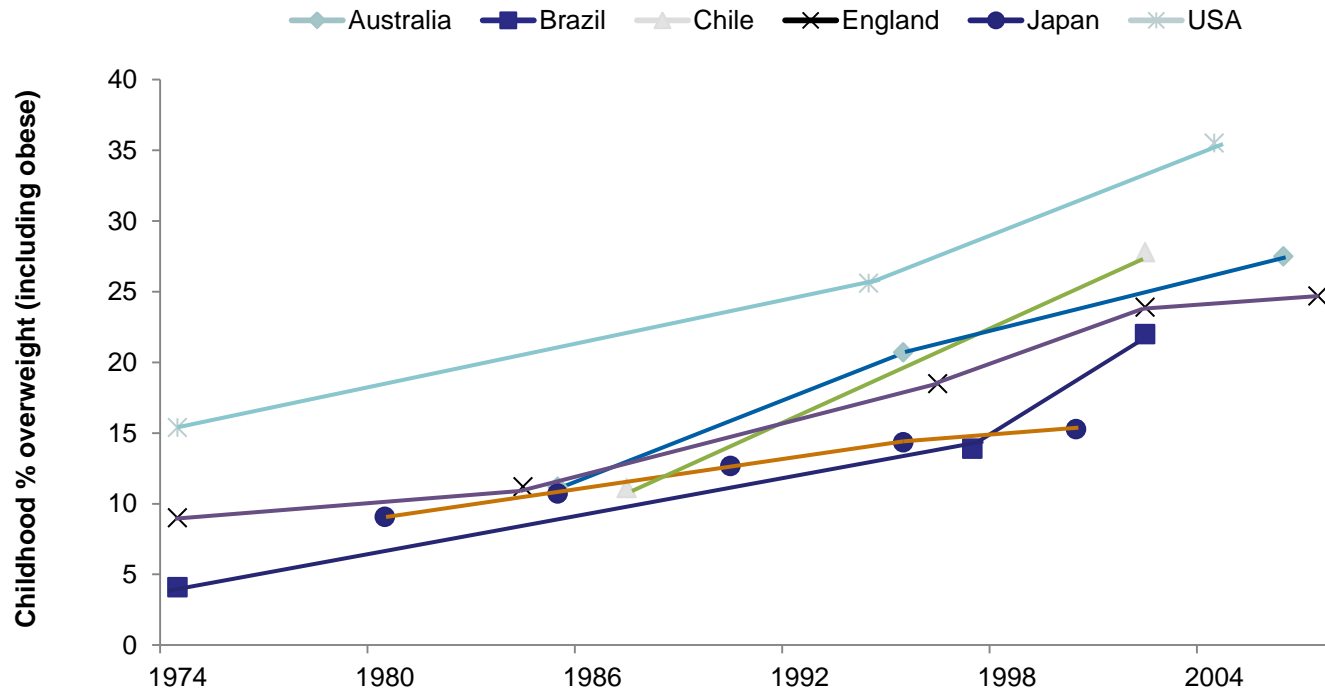
What can be done about it?

What are we going to do about it?





Childhood overweight prevalence



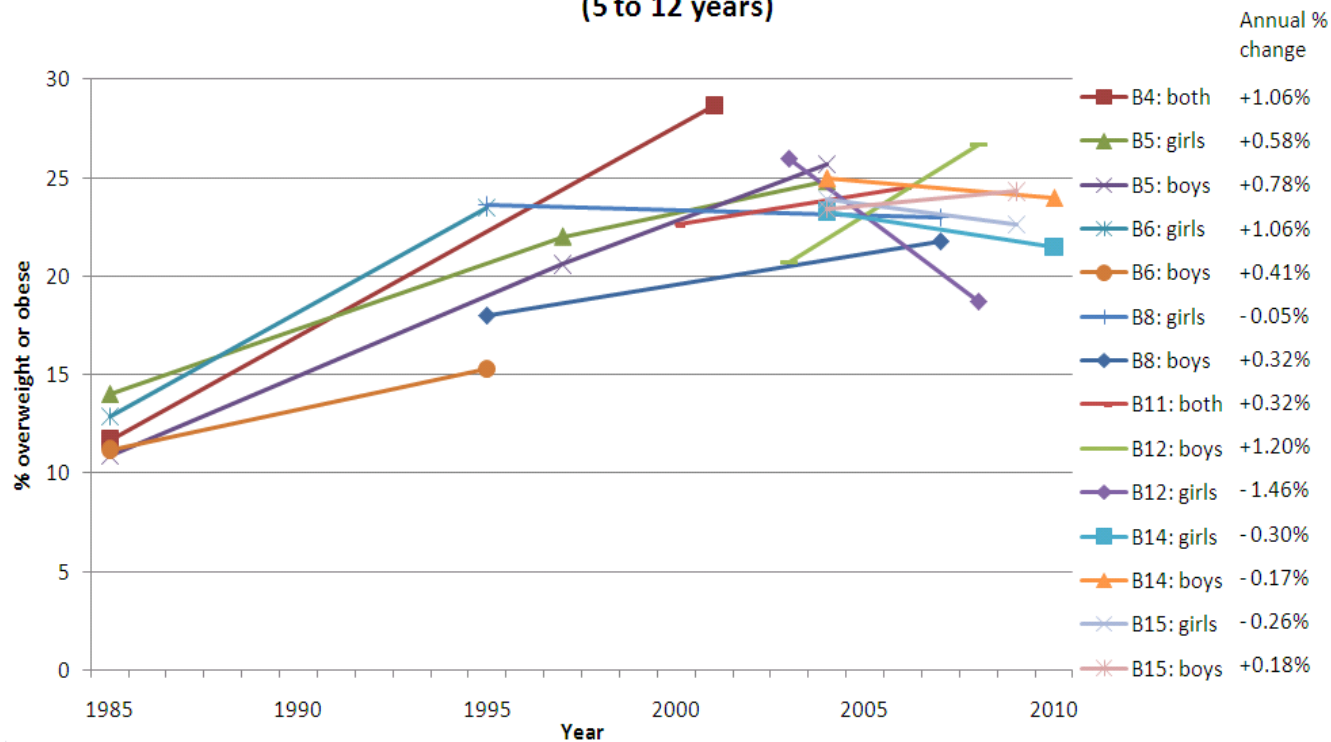
- Increasing prevalence since the 1970s
- Evidence of plateaus in several countries (Olds T IJPO, 2011)





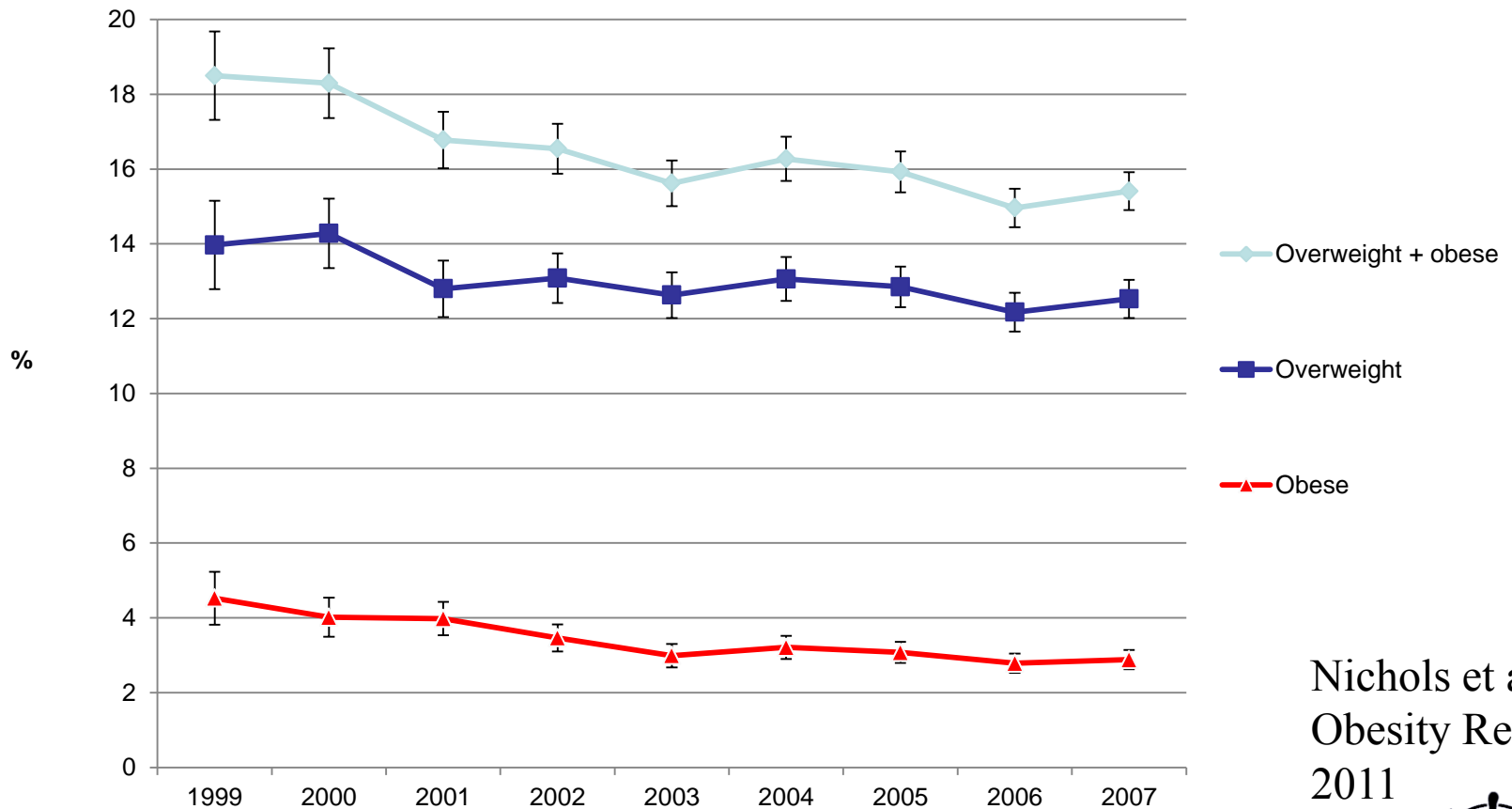
Overweight/obesity plateaus

Trends in prevalence of overweight and obesity among Australian children (5 to 12 years)





Prevalence of overweight and obesity among 3.5 year old Victorian children 1999 - 2007



Nichols et al
Obesity Rev
2011





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<http://www.youtube.com/watch?v=FG8IAxHqtFo>





Barwon-South Western region



**Regional
population
~300,000**

**Geelong
population
~200,000**





CBI demonstration projects

- Purposes of demonstration projects
 - Build the evidence on ‘what works for whom, why, in what contexts and at what cost?’
 - Build the skills and capacity
 - Create proof of principle for ‘translation to scale’
- Barwon-SW region of Victoria as a ‘Sentinel Site for Obesity Prevention’
 - Local organisations implement the action plan
 - University provides support and evaluation

Bell et al Health Prom Int 2008

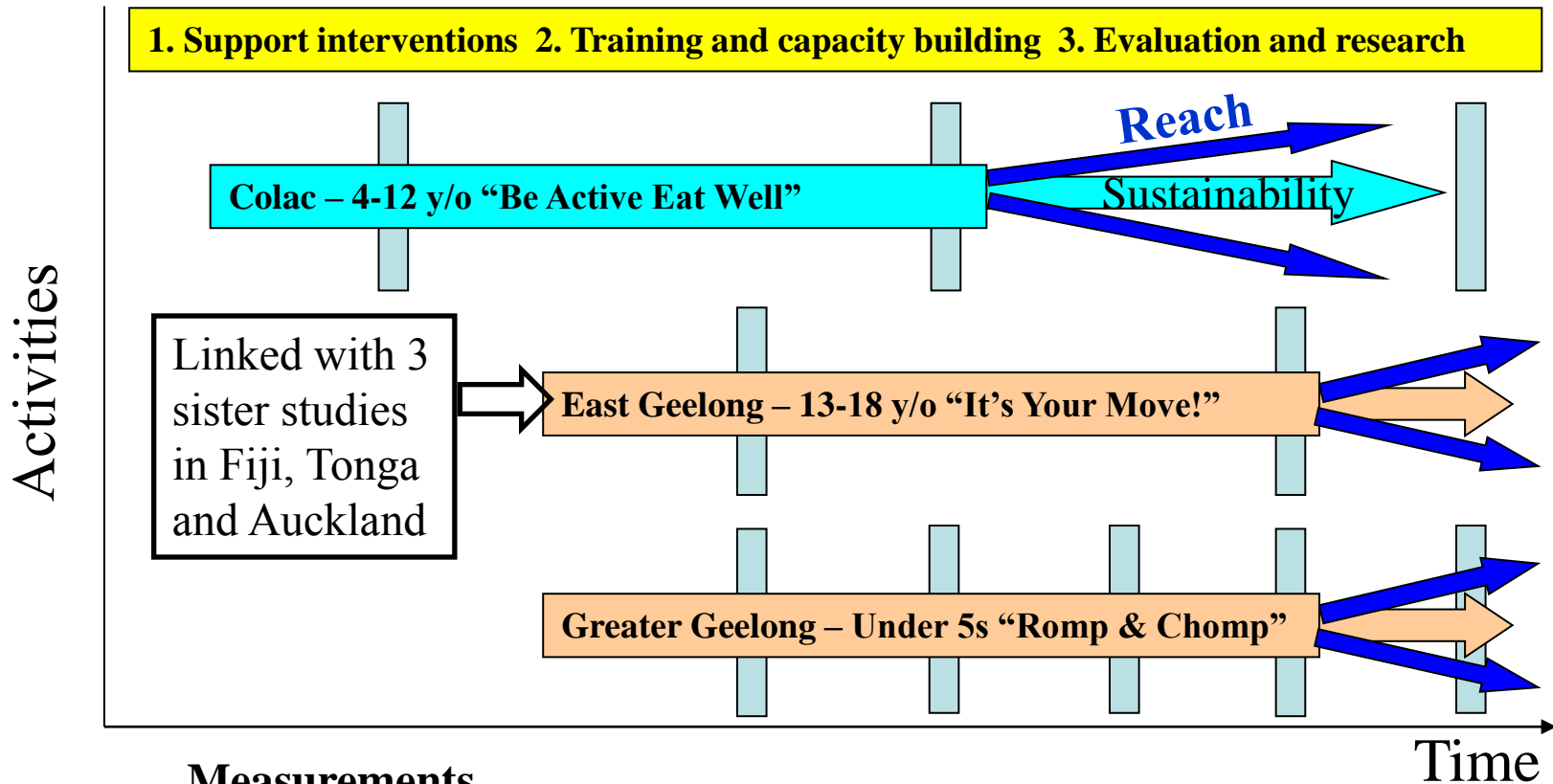




3 CBIs of the Sentinel Site for Obesity Prevention

2002 2003 2004 2005 2006 2007 2008 2009

1. Support interventions 2. Training and capacity building 3. Evaluation and research

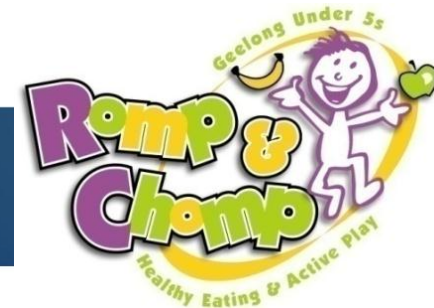


Measurements

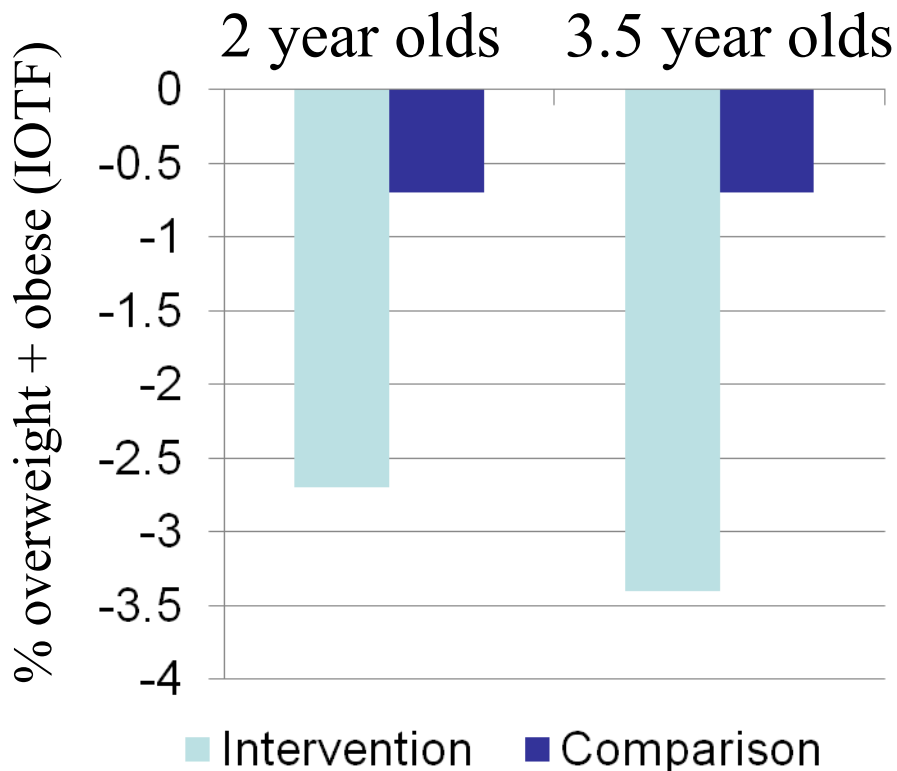
Components: Anthropometry, behaviours, environments

Intervention groups: Impact of interventions, sustainability, population reach

Regional sample: Comparison sample with intervention population, monitoring trends.



Romp & Chomp: Under-5s



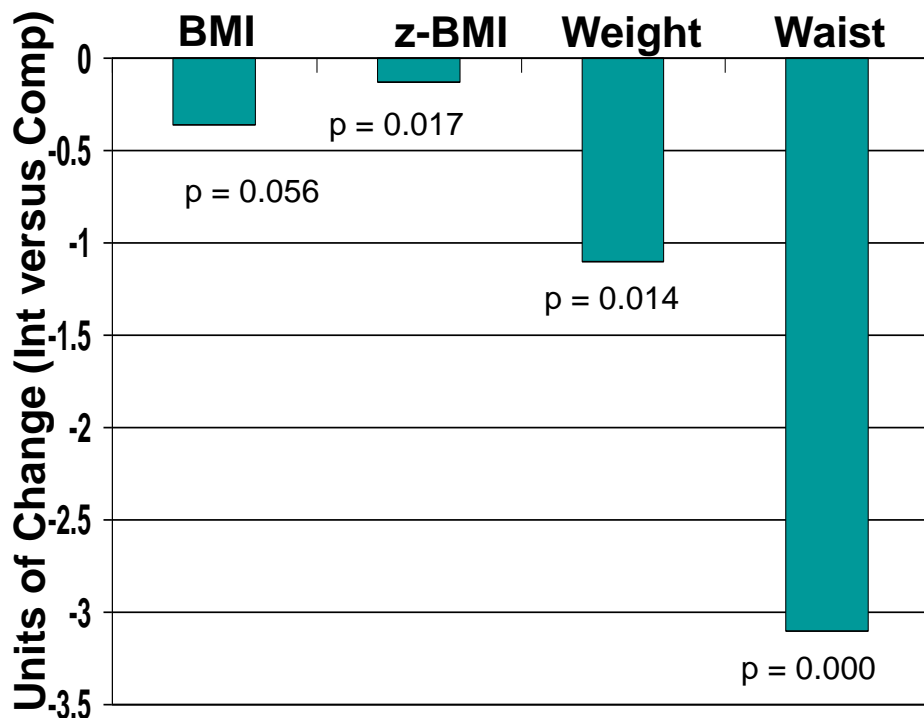
- **Relative reduction of 1.8 and 2.7 %-points over 3 years (p<0.05)**
- Low budget (\$100k over 3y) for 12,000 children
- Changes in behaviours and environments
- State prevalence ↓ing

De Silva-Sanigorski Am J Clin Nutr 2010





Be Active Eat Well: Primary schools



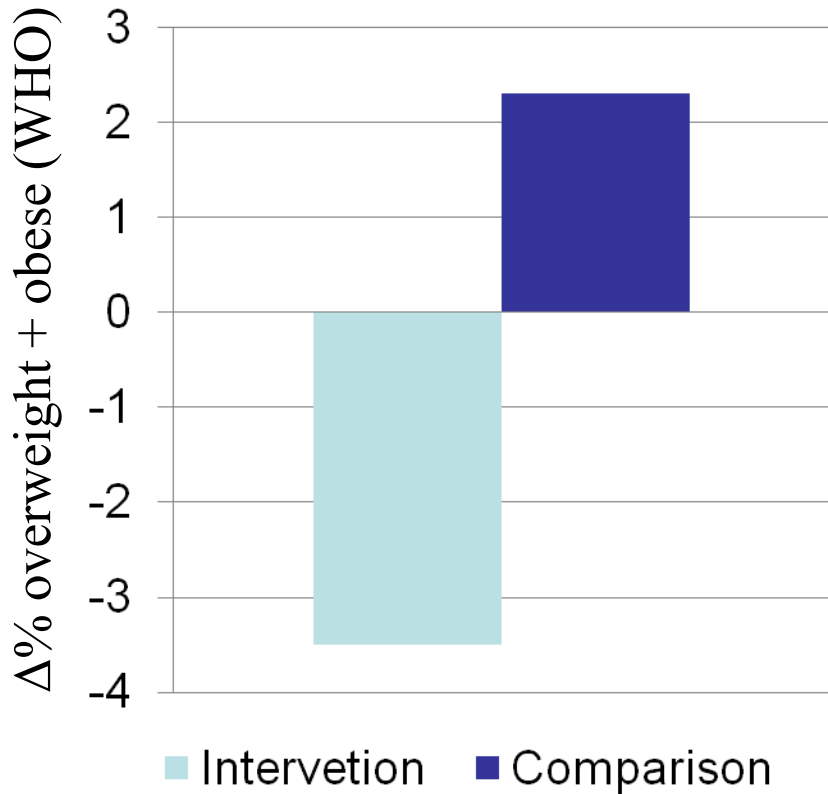
- Reduction of ~1kg, 3cm waist over 3y
- Greater effect in lower SES children
- No differences in 'safety measures' eg self-esteem, dieting under-weight, etc
- Sustainability?

Sanigorski et al Int J Obesity 2008





It's Your Move!: Secondary Schools



- 5.8 %-points lower relative prevalence over 3 years
- Changes in community capacity
- Changes in school envs
- Few significant changes in behaviours seen

Millar et al Obesity Rev 2011





Session outline

What's the problem?

Where did it come from?

What's it got to do with kids?

What can be done about it?

What are we going to do about it?





ANGELO



Prioritizing areas for action
in the field of population-based
prevention of

CHILDHOOD OBESITY

A SET OF TOOLS FOR MEMBER STATES

to determine and identify priority areas for action



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Creating community action plans for obesity prevention using the ANGELO (Analysis Grid for Elements Linked to Obesity) Framework

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Article ID pmed.1999.0585, available online at <http://www.idealibrary.com> on IDEAL[®]

Dissecting Obesogenic Environments: The Development and Application of a Framework for Identifying and Prioritizing Environmental Interventions for Obesity¹

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Background. The “obesogenicity” of modern environments is fueling the obesity pandemic. We describe a framework, known as ANGELO (analysis grid for environments linked to obesity), which is a conceptual model for understanding the obesogenicity of environments and a practical tool for prioritizing environmental elements for research and intervention.

Methods: Development of the ANGELO framework. The basic framework is a 2 × 4 grid which dissects the environment into environmental size (micro and

Key Words: obesity; dietary fats; exercise; environment; intervention studies; public health.

INTRODUCTION

Background

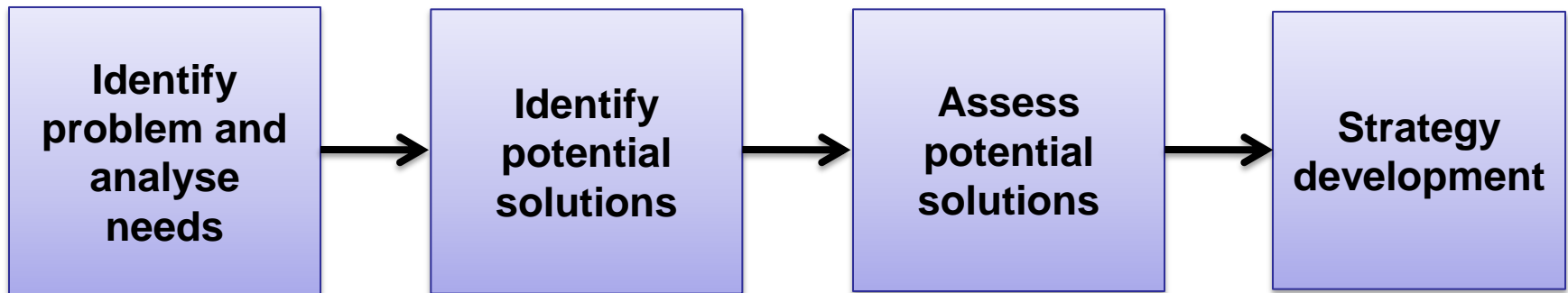
The increasing prevalence of obesity in developed and developing countries means that obesity is now being



The priority setting process

Purpose: To guide stakeholders in conducting a systematic, evidence-informed approach to effectively identify priority areas for action

Prioritisation process:



Working with stakeholders

Use of evidence throughout





ANGELO Process

Analysis Grid for Elements Linked to Obesity

- Practical tool for whole-of-community programs
- Process that engages stakeholders
- Identifies and prioritises potential:
 - Behaviours
 - Knowledge/skills
 - Environments for intervention
- Uses stakeholder knowledge + literature as the evidence base
- Key priority setting criteria: Changeability; Importance (relevance, impact)
- Outcome: Community action plan with agreed objectives and strategies
- Efficient (<3 months: background work + 2-day workshop)

Reference: Simmons et al. (2009). Health Promotion International, 24(4):311-324.



The size and scope of the problem



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Port fairy yacht Club September 3rd & 4th 2012

WHO Collaborating Centre for Obesity Prevention

