Maryland's "BIG" Priorities
A Case Example:
Diabetes and Childhood Obesity

Maryland Health Quality and Cost Council
Chronic Care Work Group
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Purpose of this Presentation

Provide a case example of using the “B.I.G” Prioritization Strategy for focusing on diabetes and childhood obesity

- Burden
- Improvability
- “Gut Check”

Burden

Step 1: Identify high-priority conditions based on clinical, social, and economic **burden**

- Large impact on health, health-related quality of life, and mortality
- Affects a significant proportion of the population (particularly if conditions disproportionately affect disadvantaged populations),
- Has significant economic cost to Maryland including the state government, employers, and our health care system

Suggestion: Start with priority areas identified by other methods (Institute of Medicine Priority Areas for National Action, Healthy People 2010 Leading Indicators)

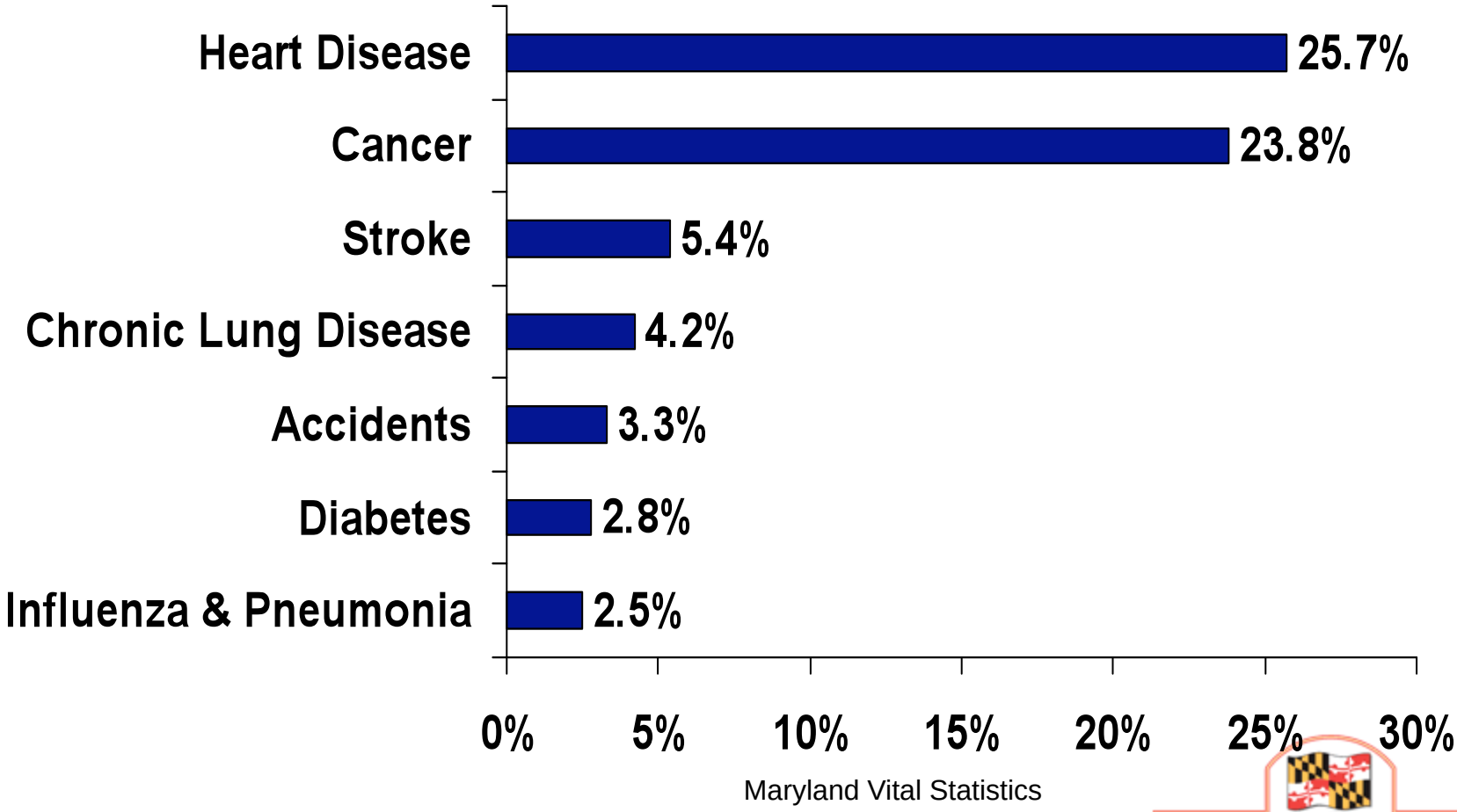
Economic Costs of Diabetes

- One in five health care dollars is spent caring for someone with diagnosed diabetes
- People with diagnosed diabetes incur medical expenditures that are 2.3 times higher than would be expected in the absence of diabetes.

Economic Costs for MD

- Estimated 2007 cost of diabetes is $3.8 billion, including $2.5 billion in excess medical expenditures and $1.3 billion in indirect costs.

Leading Causes of Death, Maryland, 2006



Maryland Vital Statistics

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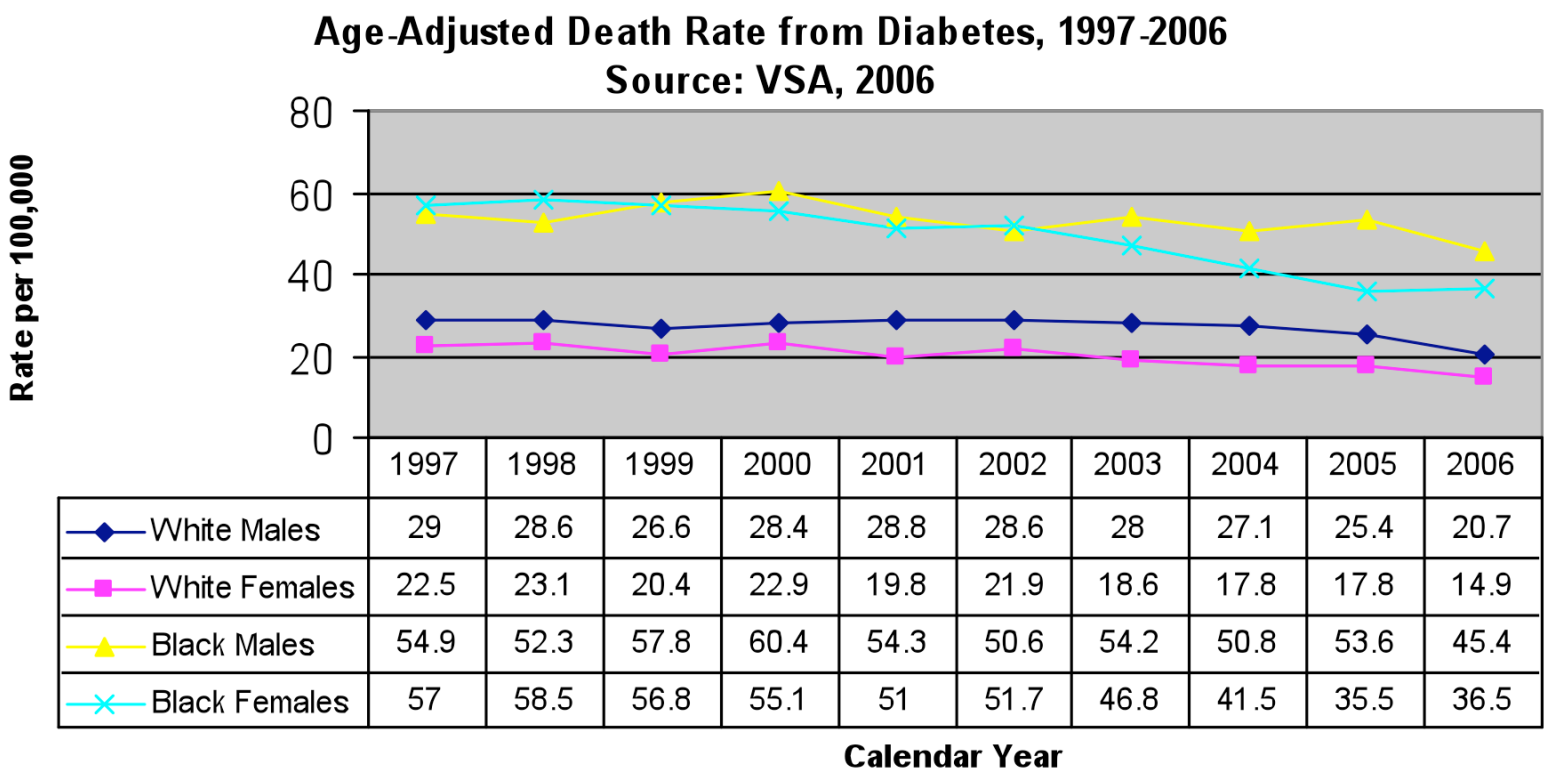
Diabetes Mortality in MD



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
White Males	29	28.6	26.6	28.4	28.8	28.6	28	27.1	25.4	20.7
White Females	22.5	23.1	20.4	22.9	19.8	21.9	18.6	17.8	17.8	14.9
Black Males	54.9	52.3	57.8	60.4	54.3	50.6	54.2	50.8	53.6	45.4
Black Females	57	58.5	56.8	55.1	51	51.7	46.8	41.5	35.5	36.5

Calendar Year

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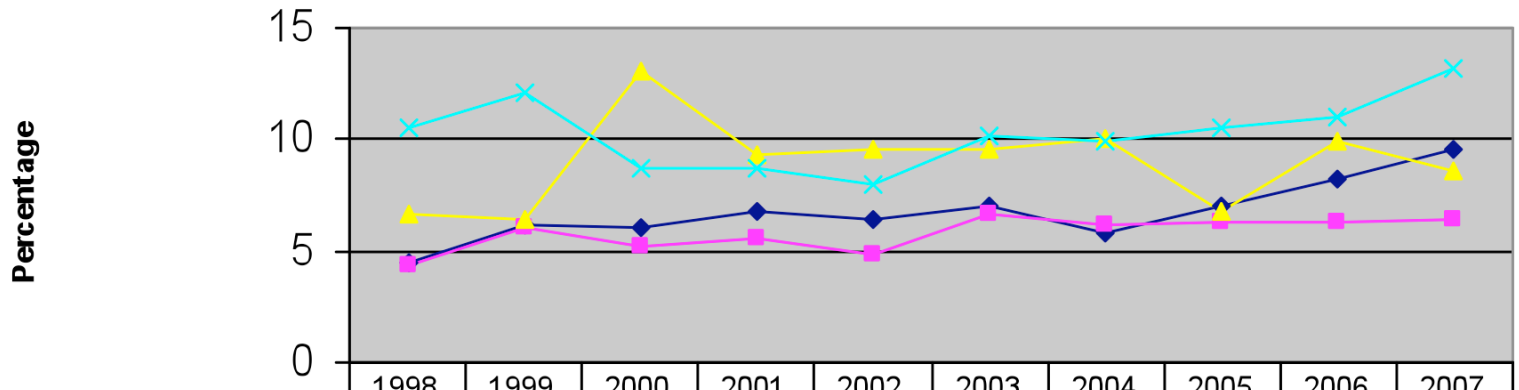
Diabetes Prevalence



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
White Males	4.5	6.2	6.1	6.8	6.4	7	5.8	7	8.2	9.6
White Females	4.3	6.1	5.2	5.6	4.8	6.6	6.2	6.3	6.3	6.4
Black Males	6.7	6.4	13.1	9.3	9.6	9.6	10.1	6.8	9.9	8.6
Black Females	10.5	12.1	8.7	8.7	8	10.2	9.9	10.5	11	13.2

Calendar Year

Macrovascular Diabetes Complications

Heart Disease & Stroke

- Adult with diabetes are 2-4 times more likely to have heart disease than non-diabetics.
- Heart attacks occur at an earlier age in people with diabetes
- Diabetics are 2-4 times more likely to have a stroke than non-diabetics

Microvascular Diabetes Complications

Kidney Disease

- Diabetes is leading cause of end-stage renal disease, 44% of new cases in 2002
- In 2002, 44,400 people with diabetes began treatment for ESRD
- In 2002, 157,730 people with ESRD were on chronic dialysis or with kidney transplant

Other Diabetes Complications

- Acute life-threatening metabolic conditions
- Increased risk of complications from cellulitis, pneumonia, and influenza
- Dental disease
- Birth defects and pregnancy complications
- Depression

Diabetes and Health-related Quality of Life

Persons with diabetes aged 60 years or older are 2–3 times more likely to report an inability to walk one-quarter of a mile, climb stairs, do housework, or use a mobility aid compared with persons without diabetes in the same age group.

Adults with diabetes reported experiencing 9.9 unhealthy days per month compared to 5.1 unhealthy days per month for adults without diabetes.

Improvability

Step 2: For these high-priority conditions, identify potential for **improvability**, including

- large preventable burden of disease;
- technical feasibility or availability of evidence-based strategies for improvement through promoting wellness and early identification and treatment of disease;
- large, measurable gaps in prevention and care compared to evidence-based standards;
- relatively low current resource allocation

Quality of Diabetes Care in MD

Maryland's diabetes quality process and outcome measures are generally average compared to US

Type 2 Diabetes is Preventable by Avoiding 2 Risk Factors

Eating healthy and being physically active can help lead to a healthy weight and prevent diabetes

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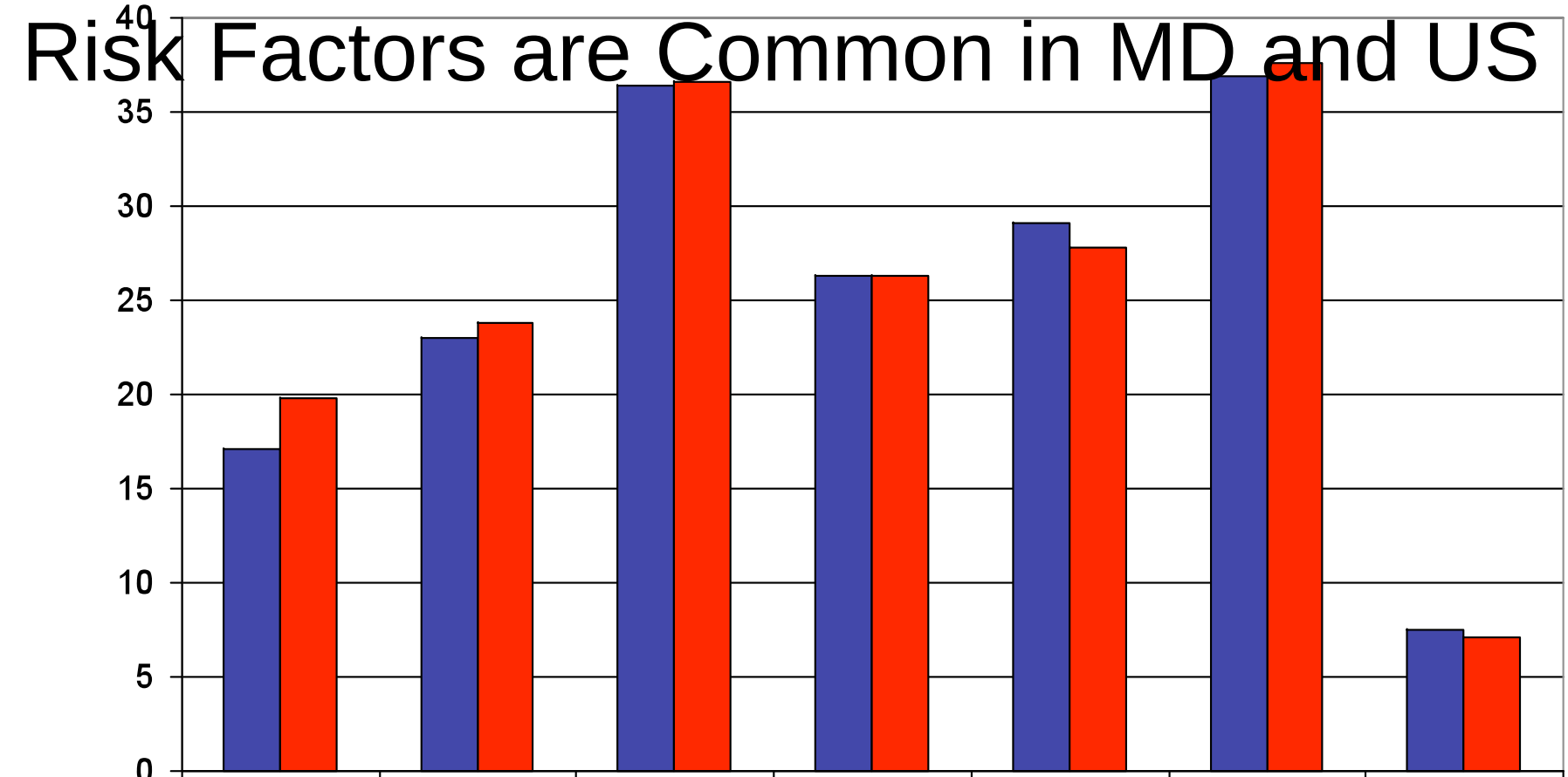
Diabetes and Related Chronic Disease Risk Factors are Common in MD and US



	Smoking	Physical Inactivity	Overweight	Obesity	High Blood Pressure	High Cholesterol	Diabetes
Maryland	17.1	23.0	36.4	26.3	29.1	36.9	7.5
United States	19.8	23.8	36.6	26.3	27.8	37.6	7.1

BRFSS, 2007

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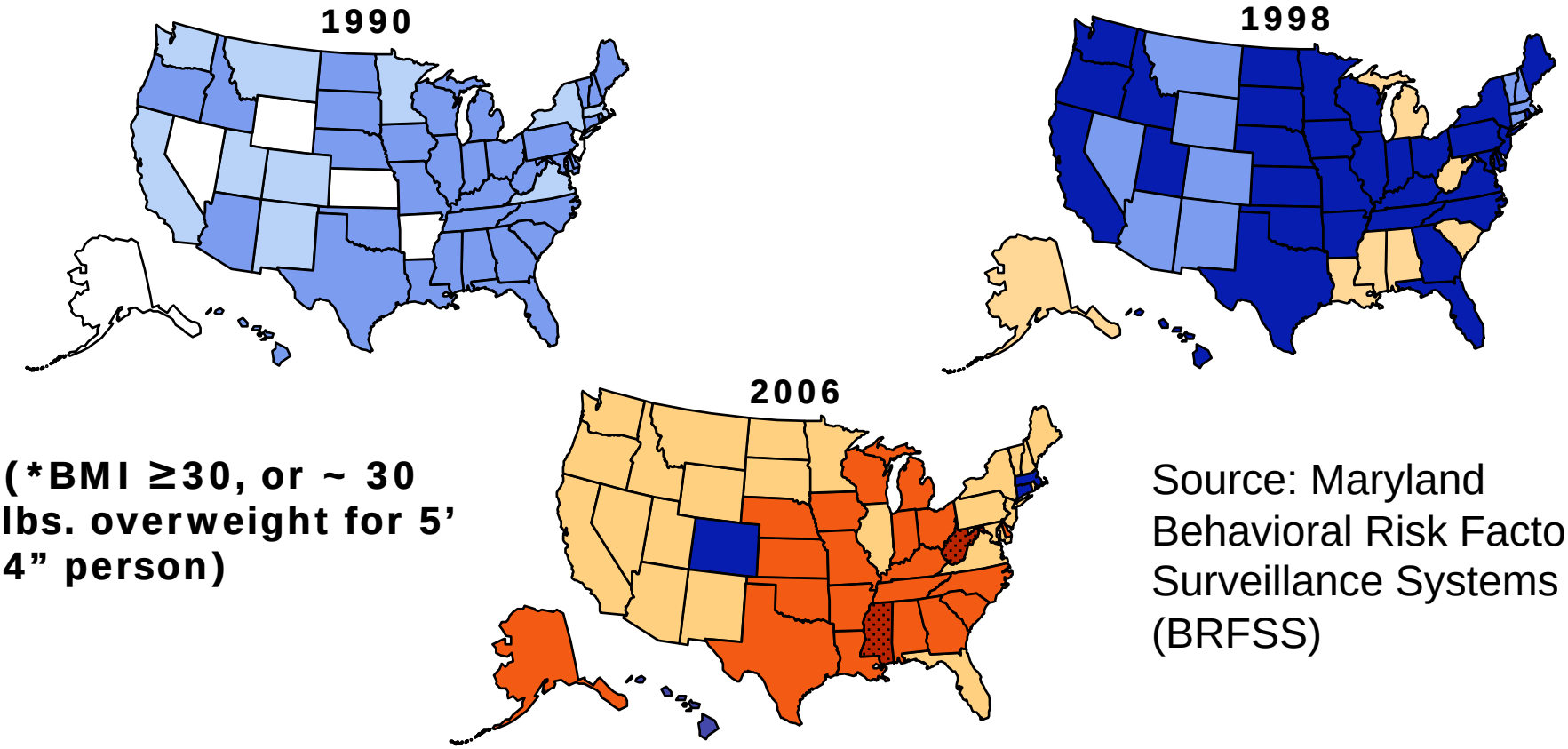
Adult Obesity Rates Increased Significantly in US

Obesity Trends* Among U.S. Adults

BRFSS, 1990, 1998, 2006



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

Source: Maryland Behavioral Risk Factor Surveillance Systems (BRFSS)

No Data | <10% | 10%–14% | 15%–19% | 20%–24% | 25%–29% | ≥30%

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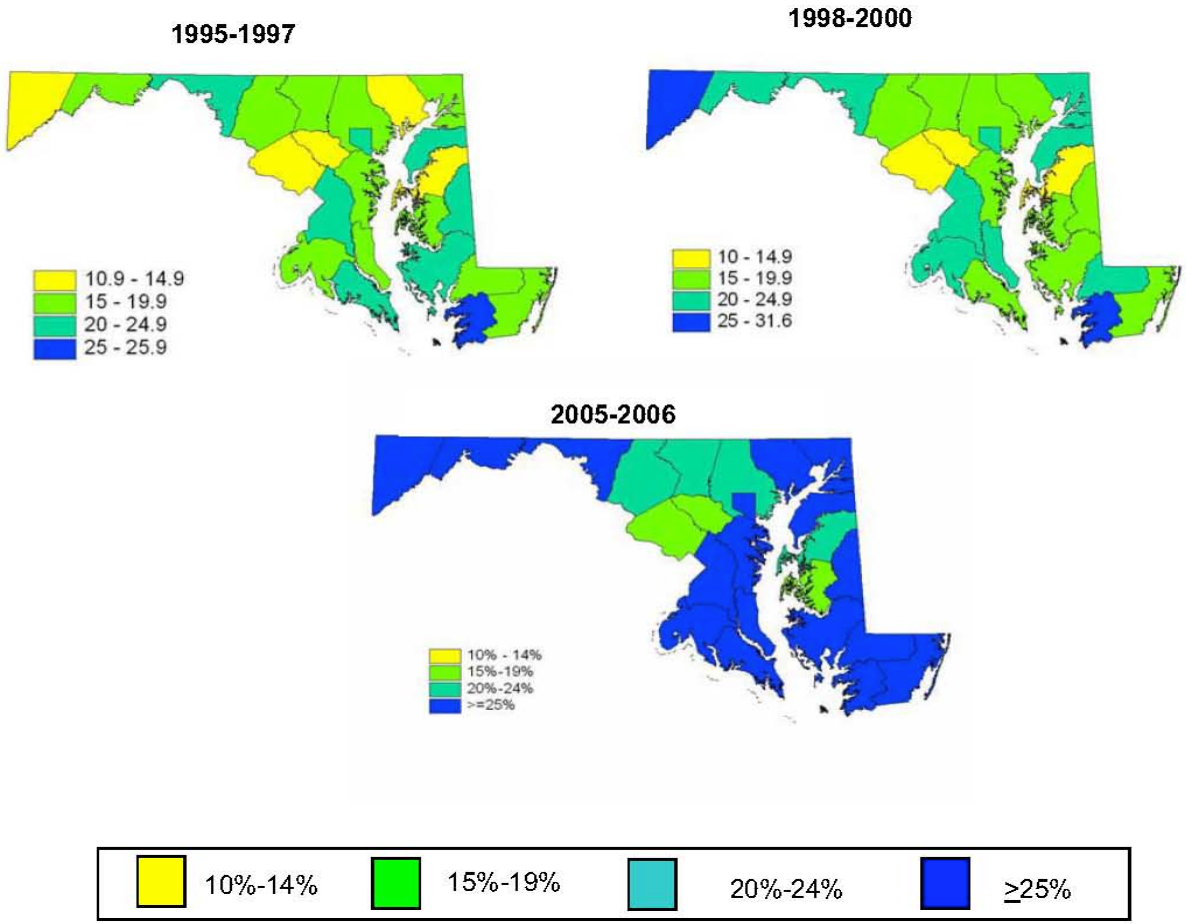
Adult Obesity Rates Also Increasing in MD

Obesity Trends Among MD Adults
Maryland BRFSS, 1995-2006



Source: Maryland BRFSS

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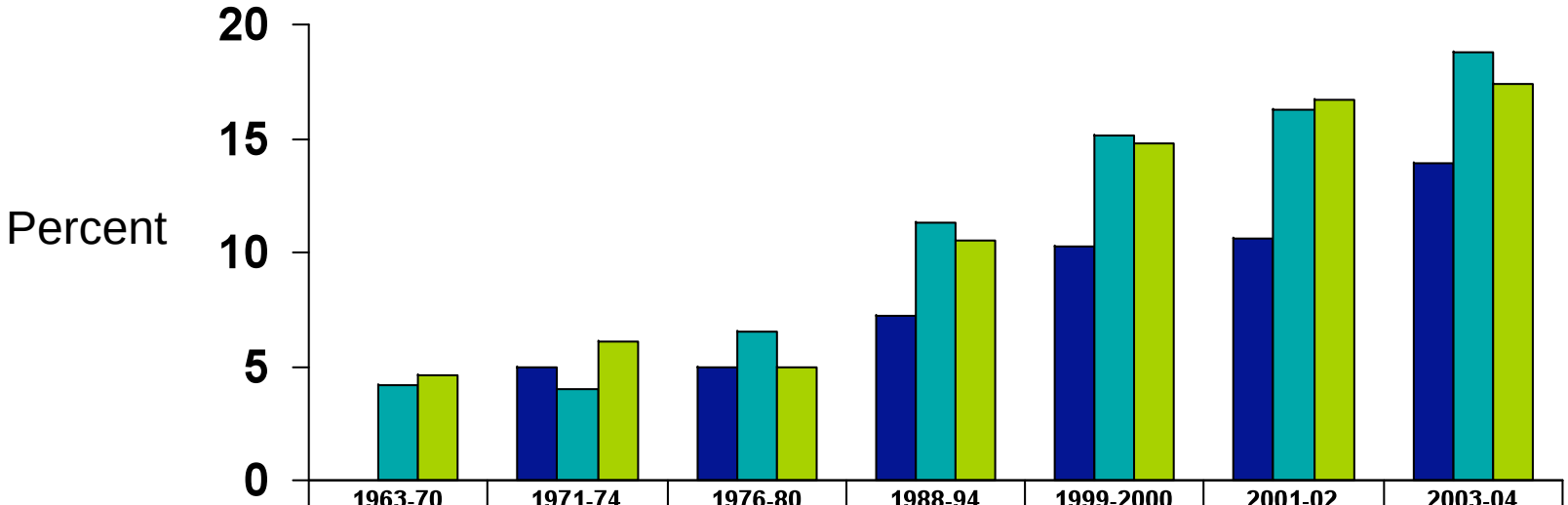
Childhood Obesity Epidemic in US is Worsening

Prevalence of Obesity Among US Children and Adolescents Aged 2 to19 Years



	1963-70	1971-74	1976-80	1988-94	1999-2000	2001-02	2003-04
2-5 years	-	5	5	7.2	10.3	10.6	13.9
6-11 years	4.2	4	6.5	11.3	15.1	16.3	18.8
12-19 years	4.6	6.1	5	10.5	14.8	16.7	17.4

Source: Centers for Disease Control and Prevention (CDC)

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Addressing Childhood Obesity is Critical for Children Now

- Obese children can have serious medical complications including:
  - high blood pressure, high cholesterol, diabetes, orthopedic problems, gall bladder disease, sleep apnea, asthma, and mental health conditions
- Obese children have poor quality of life (rated equivalent to children with cancer)

Addressing Childhood Obesity is Even More Important for the Future

- 50% of obese children aged 3-6 will become obese adults
- Obese teens have an 80% chance of remaining obese as adults.
- Children born in 2000 will have a 33% chance of developing diabetes.
- Today's generation of children might be the first to have shorter life spans than their parents because of increased risk of chronic diseases earlier in life.

Diabetes and Obesity are Improvable

Diabetes (and its related risk factor of obesity) is a prime example for improvability

- large preventable burden
- convincing clinical guidelines
- a robust set of measures
- known ways of improving prevention and delivery of care already exist

“**G**ut Check”

Step 3: Last, apply the **gut check** to ensure that this focus area makes sense

- partnerships are established to tackle this priority
- political and social will exists to address the priority

Potential Partnerships

Other state government agencies

Academic public health, medical, nursing, and pharmacy experts

Other professional groups: pharmacists, nurses

Employers and employer purchasing coalitions

Providers: Hospitals, FQHCs

Payers: Medicaid, CMS, commercial carriers

Patient Advocacy Groups: ADA, AHA, ACS

Political and Social Will

- National growing recognition of importance of including wellness and chronic disease prevention as part of health reform
- Has Maryland followed this trend?
  - Health Quality and Cost Council
  - Childhood Obesity Committee
  - Walking as designated state exercise