

**The Alabama Department
of Public Health and
The March of Dimes
Prematurity Summit**





**Embassy Suites
Montgomery, Alabama
Friday, November 14, 2014**

**Chronic Disease
and Prematurity:
The Promise of
Preconception Care and the
Role of Primary Care**

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Program Director, Cahaba Family
Medicine Residency**

Preterm Birth

- **Preterm birth (< 37 weeks) affected (2012)**
 - **More than 450,000 babies**
 - **1 of every 9 infants born in the United States**
- **Preterm - related causes of death together accounted for 35 % of all infant deaths (2010)**

Preterm Birth

- **More than any other single cause**
- **Preterm birth is also a leading cause of long - term neurological disabilities in children**
- **Preterm birth costs the United States health care system more than \$26 billion in 2005**


CDC – <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm>

Preterm Birth Rates

- **March of Dimes Goal: 9.6 %**
- **United States in 2013: 11.4 %**
- **Alabama: 15.1 %**

<http://www.marchofdimes.org/mission/prematurity-reportcard.aspx>

**March of Dimes
2014 Report Card**



<http://www.marchofdimes.org/mission/prematurity-reportcard.aspx>

Case Presentation # 1.1

- 30 year old working mother of 1 child
- OB Hx: G4 P0121
 - 2 miscarriages
 - 1 preterm deliveries
- PMHx: Diabetes Mellitus, Epilepsy, recurrent DVTs, and Bipolar Disease

Case Presentation # 1.1

- Social History:
 - Daily smoker
 - Works at Wal-Mart
 - No insurance
 - New partner
 - Wants a child

Case Presentation # 1.2

- 30 G4 P0121 @ 16 weeks (DM, epilepsy, bipolar, DVT)
- Medications:
 - Metformin 500mg po twice daily
 - Lisinopril 20mg po daily
 - HCTZ 25mg po daily
 - Warfarin 5mg po qHS
 - Valproic acid 500mg po three times daily
 - Lithium ER po 600mg po twice daily

Case Presentation # 1.3

- 30 G4 P0121 @ 16 weeks (DM, epilepsy, bipolar, DVT)
- Hgb A1C 11.4%
- No shows to the two CDVs prior to conception because she could not afford the “copay”
- Could not qualify for Medicaid Maternity Waiver

Case Presentation # 1.3

- Sliding fee schedule
- No shows during the second trimester for unclear reasons; automated phone calls sent
- Called from on OB Registry
- Pregnancy outcome: IUFD @ 33 weeks

Case Presentation # 2.1

- 18 year old single mother
- OB Hx: G2 P0101
 - PPRM at 33 weeks
 - S / P vaginal delivery 4 months ago
- PMHx: none

Case Presentation # 2.1

– Social History:

- Nonsmoker
- Works at Jack’s drive-thru
- Working on her GED
- “Family - planning only” Medicaid

Case Presentation # 2.2

– 18 yo G2 P0101 @ 7 weeks

- Vaginal delivery at 33 weeks after PPROM 4 months ago
- Postpartum Depo - Provera before dismissal
- Missed her postpartum visit
- Missed her scheduled Depo shot at the Health Department

Case Presentation #2.2

- At rescheduled appointment, + pregnancy test
- EGA ~ 7 weeks

Non - obstetrical Risk Factors that are Associated with Preterm Birth

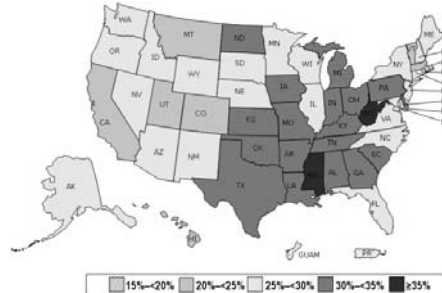
- Smoking
- Obesity
- Alcohol / substance abuse
- Poor nutrition
- No partner / lack of social support

Non - obstetrical Risk Factors that are Associated with Preterm Birth

- Stress / life events / anxiety / depression
- Low socioeconomic status
- Inadequate prenatal care

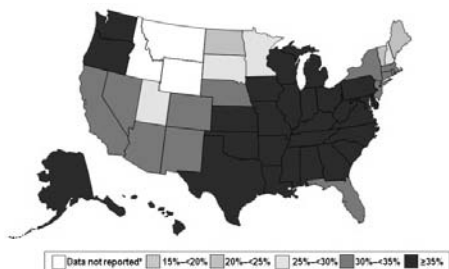
Preterm Birth: Causes, Consequences, and Prevention. Institute of Medicine (US) Committee on Understanding Premature Birth and Assuring Healthy Outcomes; Behrman RE, Butler AS, editors. Washington (DC): National Academies Press (US); 2007.

Obesity Prevalence in 2011



<http://www.cdc.gov/obesity/data/prevalence-maps.html>

Obesity Prevalence in 2011 Non - Hispanic African Americans



<http://www.cdc.gov/obesity/data/table-non-hispanic-black.html>

Chronic Diseases that are Associated with Preterm Birth

- Hypertension
- Hyperthyroidism
- Pregestational diabetes mellitus
- Maternal cardiac disease
- Asthma
- Pregestational renal disorders
- Systemic lupus erythematosus
- Restrictive lung disease

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Diabetes in Alabama

Figure 3. Percentage of U.S. Adults Aged ≥30 Years with Diagnosed Diabetes, by County, 2009

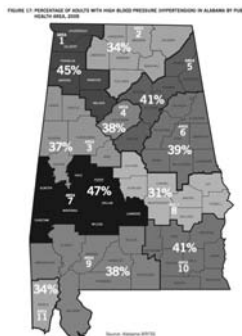


Age-adjusted percentage
 □ 0%–5.2%
 □ 5.4%–7.3%
 □ 7.4%–9.2%
 □ 9.0%–10.3%
 □ ≥10.6%

Data were age-adjusted. See Technical Notes for more details. Sources: National Diabetes Surveillance System, Behavioral Risk Factor Surveillance System data and U.S. Census Bureau Population Estimates Program data.

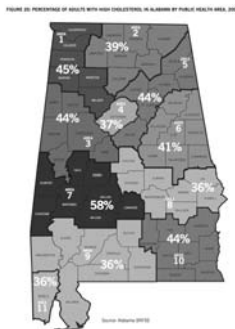
<https://adph.org/diabetes/assets/DiabetesinALReport09.pdf>

Hypertension in Alabama



http://www.adph.org/cvh/assets/2010_HeartDiseaseStroke_Alabama_Burden.pdf

High Cholesterol in Alabama



http://www.adph.org/cvh/assets/2010_HeartDiseaseStroke_Alabama_Burden.pdf

Preconception Care Goals

- Individual responsibility across the lifespan
- Consumer awareness
- Preventive visits
- Interventions for identified risks
- Interconception care
- Prepregnancy checkup
- Health insurance coverage for women with low incomes
- Public health programs and strategies
- Research
- Monitoring improvements

Recommendations to improve preconception health and health care—United States. A report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. Kohnson, et al. CDC/ATSDR Preconception Care Work Group; Select Panel on Preconception Care. MMWR Recomm Rep. 2006 Apr 21;55(RR-8):1-23. (PMID: 16617292)

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Preconception Health Care

<http://www.cdc.gov/preconception/index.html>



Healthy People 2000

- A Healthy People 2000 objective (objective 14.3) is for 60% of primary care physicians to provide age - appropriate preconception care (36)
- This objective was deleted from Healthy People 2010 because it was not being measured

Healthy People 2020

- **MICH - 16: Increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors**

<http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

Healthy People 2020

- **MICH - 16 Increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors**
 - **MICH - 16.1 (Developmental) Increase the proportion of women delivering a live birth who discussed preconception health with a health care worker prior to pregnancy**

Healthy People 2020

- **MICH - 16.6 (Developmental) Increase the proportion of women delivering a live birth who used contraception to plan pregnancy**

Healthy People 2020

- **MICH - 16: Increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors**
 - **MICH - 16.2 Increase the proportion of women delivering a live birth who took multivitamins/folic acid prior to pregnancy**

Healthy People 2020

- **MICH-16.3 Increase the proportion of women delivering a live birth who did not smoke prior to pregnancy**
- **MICH-16.4 Increase the proportion of women delivering a live birth who did not drink alcohol prior to pregnancy**

Healthy People 2020

- **MICH-16.5 Increase the proportion of women delivering a live birth who had a healthy weight prior to pregnancy**

<http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

Preconception Care Guidelines for the Primary Care Team

- Folic acid supplementation
- Rubella vaccination
- Diabetes management
- Hypothyroidism management
- Hepatitis B vaccination
- HIV / AIDS screening and treatment
- STD screening and treatment
- Maternal PKU management
- Oral anticoagulant use management
- Antiepileptic drug use management
- Accutane use management
- Smoking cessation counseling
- Eliminating alcohol use
- Obesity control

National Recommendations for Preconception Care: The Essential Role of the Family Physician. ALDunlop, et al. J Am Board Fam Med January-February 2007 vol. 20 no. 1 81-84. (PMID: 17204739)

Healthy People 2020

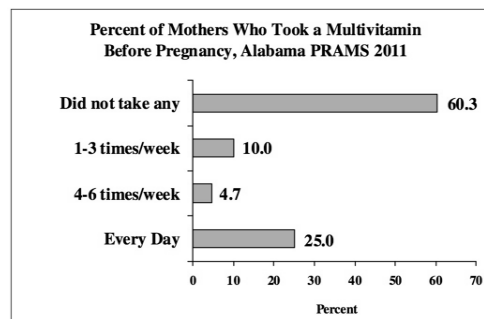
- MICH - 16.2 Increase the proportion of women delivering a live birth who took multivitamins / folic acid prior to pregnancy
 - Reduces occurrence of neural tube defects by 2 / 3
 - Baseline: 30.1 % (2007) →
 - Target: 33.1 %

Healthy People 2020

- MICH - 16.3 Increase the proportion of women delivering a live birth who did not smoke prior to pregnancy
- MICH - 16.4 Increase the proportion of women delivering a live birth who did not drink alcohol prior to pregnancy
- MICH - 16.5 Increase the proportion of women delivering a live birth who had a healthy weight prior to pregnancy

<http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

Folic Acid



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Healthy People 2020

- MICH - 16.2 Increase the proportion of women delivering a live birth who took multivitamins / folic acid prior to pregnancy
- MICH - 16.3 Increase the proportion of women delivering a live birth who did not smoke prior to pregnancy
 - Prevents preterm - birth, low birth weight, and other adverse perinatal outcomes

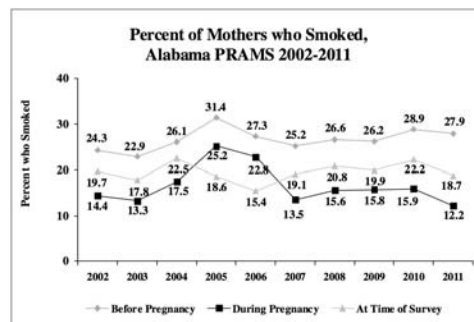
Healthy People 2020

– Baseline: 77.6 % (2007) → Target: 85.4 %

- MICH - 16.4 Increase the proportion of women delivering a live birth who did not drink alcohol prior to pregnancy
- MICH - 16.5 Increase the proportion of women delivering a live birth who had a healthy weight prior to pregnancy

<http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

Smoking



Alabama PRAMS 2011. <http://www.adph.org/healthdata/assets/Prams2011.pdf>

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Healthy People 2020

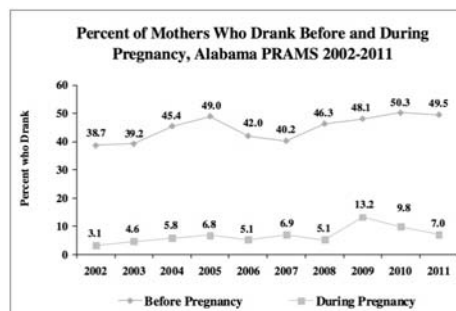
– Prevents fetal alcohol syndrome and other alcohol - related birth defects

– Baseline: 51.3 % (2007) → Target: 56.4 %

- MICH-16.5 Increase the proportion of women delivering a live birth who had a healthy weight prior to pregnancy

<http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

Alcohol



Alabama PRAMS 2011. <http://www.adph.org/healthdata/assets/Prams2011.pdf>

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Healthy People 2020

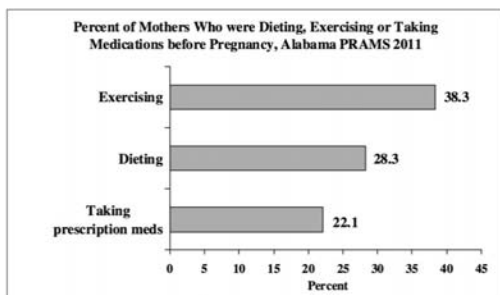
- **MICH - 16.4 Increase the proportion of women delivering a live birth who did not drink alcohol prior to pregnancy**
- **MICH-16.5 Increase the proportion of women delivering a live birth who had a healthy weight prior to pregnancy**

Healthy People 2020

- **Reduces the risks of neural tube defects, preterm delivery, diabetes, cesarean section, and hypertensive and thromboembolic disease that are associated with obesity**
- **Baseline: 48.5 % (2007) → Target: 53.4 %**

<http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>

Weight



Alabama PRAMS 2011. <http://www.adph.org/healthstats/assets/Prams2011.pdf>

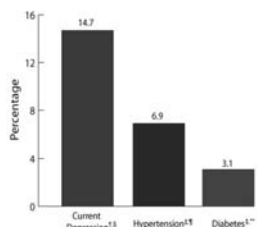
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Prevalence of Chronic Disease

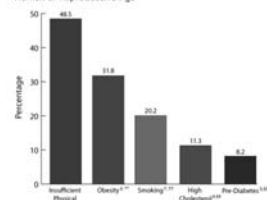
Prevalence of Chronic Diseases Among Women of Reproductive Age*



* Estimates for current depression, hypertension, and diabetes exclude pregnant women.
 † Ages 18–44 years.
 †† Ages 20–44 years.
 ‡ Depression is defined as major or minor depression as measured by the PHQ-9 scale. Data source: Behavioral Risk Factor Surveillance System (BRFSS), 36 states and District of Columbia (DC), 2008.
 § Hypertension is defined as an elevated BP ≥ 140 mmHg OR elevated BP ≥ 90 mmHg or taking anti-hypertensive medication. Data source: National Health and Medical Examination Survey (NHANES), 2003–2006.
 ¶ Diabetes is defined as a fasting blood glucose of at least 126 mg/dL. Data source: NHANES, 2003–2006.

Prevalence of Risk Factors

Prevalence of Chronic Disease Risk Behaviors and Risk Factors Among Women of Reproductive Age*



* Estimates for insufficient physical activity, obesity, and pre-diabetes exclude pregnant women. Estimates for smoking and high cholesterol include pregnant women.
 † Ages 18–44 years.
 †† Ages 20–44 years.
 ††† High cholesterol is defined as not meeting the 2003 Physical Activity Guidelines for Americans recommendation for aerobic physical activity (150 minutes of moderate intensity or 75 minutes of vigorous intensity weekly) and/or not meeting the physical activity guideline. Data source: BRFSS, 36 states, DC, and US territories, 2007.
 § Obesity is defined as a BMI greater than or equal to 30.0 kg/m². Data source: NHANES, 2003–2006.
 ¶ Smoking is defined as smoking at least one cigarette in the past 30 days. Data source: National Health and Medical Examination Survey (NHANES), 2003–2006.
 § High cholesterol is defined as total serum cholesterol levels of 240 mg/dL or higher. Data source: NHANES, 2003–2006.
 ¶ Pre-diabetes is defined as an impaired fasting glucose of 100–125 mg/dL (or 5.6–7.0 mmol/L). Data source: NHANES, 2003–2006.

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Chronic Diseases that are Associated with Prematurity

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Diabetes Preconception Guidelines

- American Diabetes Association: Standards of medical care in diabetes-2009. Diabetes Care 2009, 32(Suppl 1):S13–61.
- American Diabetes Association: Preconception care of women with diabetes. Diabetes Care 2004, 27(Suppl 1):S76–78.

Diabetes Preconception Guidelines

- NICE Clinical Guideline 63. Diabetes in pregnancy: management of diabetes and its complication from pre-conception to the postnatal period. <http://www.nice.org.uk/nicemedia/pdf/CG063Guidance.pdf>.
- SIGN Guideline 55: Management of Diabetes, Section 8: Management of Diabetes in pregnancy

Diabetes Preconception Guidelines

- The Australian Diabetes in Pregnancy Society: Consensus Guidelines for the Management of Patients with Type 1 and Type 2 Diabetes in Relation to Pregnancy. Medical Journal of Australia 2005, 1–30.

Preconception Care of Women With Diabetes: A Review of Current Guideline Recommendations. Maimunah Mahmud, Danielle Mazza. BMC Womens Health. 2010;10:5.

Diabetes Preconception Guidelines

- Multidisciplinary team for preconception care
- Evaluate and treat diabetic complications including:
 - Retinopathy
 - Pre - existing retinopathy may progress rapidly in pregnancy and should be treated first before pregnancy

Diabetes Preconception Guidelines

- Nephropathy
 - Patients with pre - existing microalbuminuria are more likely to develop pre - eclampsia
- Neuropathy
- Cardiovascular disease
- Hypertension
- Measure thyroid function in women with Type 1 Diabetes

Diabetes Preconception Guidelines

- Review all current medication use including complementary medication and change the following to a form of therapy which has less risk:
 - Angiotensin - Converting Enzyme (ACE) inhibitors

Diabetes Preconception Guidelines

- Angiotensin - II Receptor Blockers (ARB)
- Statins
- Diuretics
- β - blockers

Diabetes Preconception Guidelines

- **Assess level of metabolic control**
 - Measure HbA1C monthly until control is achieved
 - HbA1C should remain below 7 % (1 % above normal value), lower if possible
 - Blood glucose management

Diabetes Preconception Guidelines

- **Undertake blood glucose self monitoring with targets pre - meal of 4.4 - 6.1 mmol / l (110) and 2 hour after meal of < 8.6 mmol / l (155)**
- **Maintain blood sugar within normal range without hypoglycaemia**
- **Educate on hypoglycaemia awareness and management**

Diabetes Preconception Guidelines

- **Insulin should be prescribed to achieve target blood glucose levels**
- **Use metformin as an adjunct or alternative**

Diabetes Preconception Guidelines

- **Counseling**
 - Commence folate supplementation 5 mg daily pre - conceptually until 12 weeks gestation to prevent neural tube defects
 - Inform about risk of miscarriage, congenital malformation and perinatal mortality with poor metabolic control and unplanned pregnancy

Diabetes Preconception Guidelines

- Inform about how DM affects pregnancy and how pregnancy affects DM
- Use effective contraception until target blood glucose control is achieved before conception
- Encourage smoking cessation and reduction in alcohol intake

Diabetes Preconception Guidelines

- Encourage regular exercise and management of weight to achieve a BMI < 27
- Encourage diet with high levels of complex carbohydrates, soluble fiber and vitamins and reduced levels of saturated fats

Diabetes Preconception Guidelines

- **Contraindications to pregnancy**
 - HbA1C > 10%
 - Impaired renal function, creatinine > 0.2 mmol / L (increased risk of progression to dialysis during pregnancy)

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Preconception Care Guidelines for the Primary Care Team

- Diabetes mellitus
- Hypothyroidism
- Hypertension
- Cardiac disease
- Asthma
- Pregestational renal disorders

Preconception Care Guidelines for the Primary Care Team

- Systemic lupus erythematosus
- Restrictive lung disease
- Smoking cessation counseling
- Obesity control

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Barriers

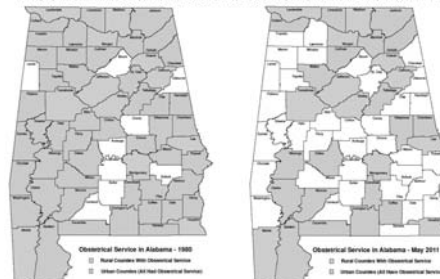
Multifactorial

Annual PEx / PAP / Pelvic



Loss of Rural Obstetrical Service

A PICTURE OF THE LOSS OF RURAL OBSTETRICAL SERVICE IN ALABAMA SINCE 1980 IN MAPS



Produced by the Alabama Department of Public Health, Office of Primary Care and Rural Health and the Alabama Rural Health Association, July 1, 2011. The defining of counties as being rural or urban is based upon a definition that is used for study purposes by these agencies.

Rural Travel Time

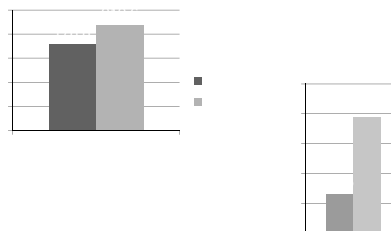
1980 Labor & Delivery Hospitals

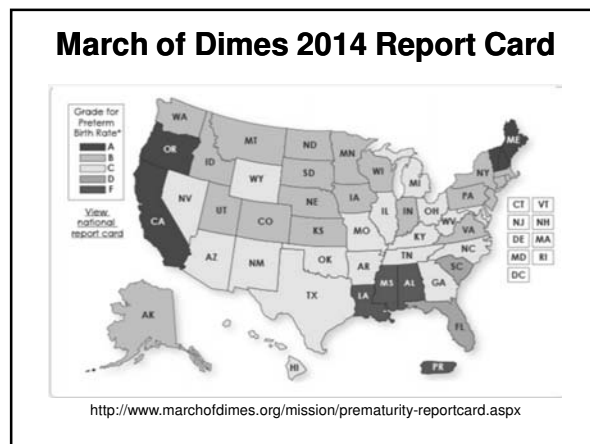
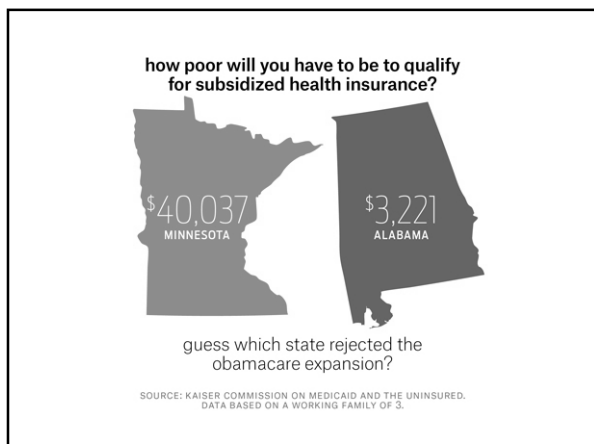
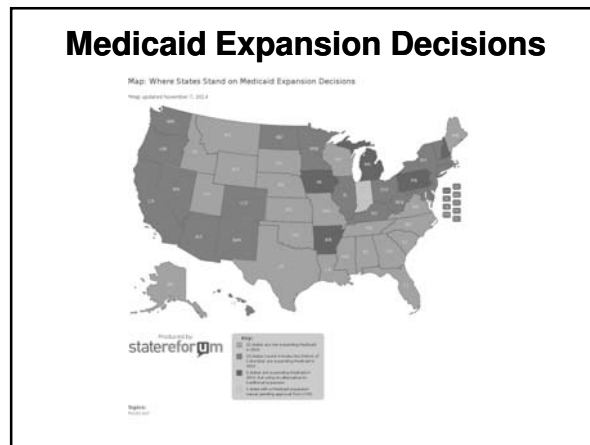
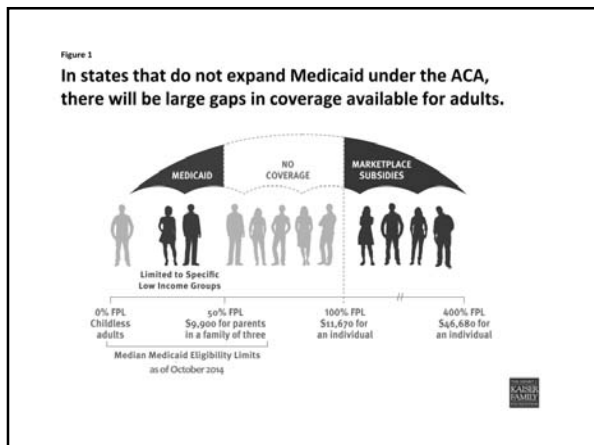
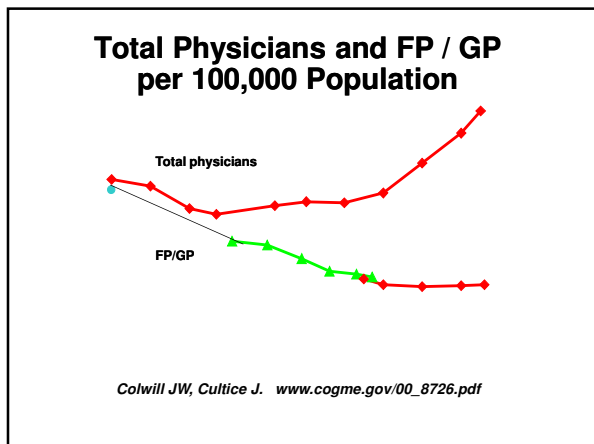


2011 Labor & Delivery Hospitals



Alabama Compared to U.S.





Case Presentation # 1.1

- 30 year old working mother of 1 child
 - OB Hx: G4 P0121
 - 2 miscarriages
 - 1 preterm deliveries
 - PMHx: Diabetes Mellitus, Epilepsy, recurrent DVTs, and Bipolar Disease

Case Presentation # 1.1

- Social History:
 - Daily smoker
 - Works at Wal-Mart
 - No insurance
 - New partner
 - Wants a child

Case Presentation # 1.2

- 30 G4 P0121 @ 16 weeks (DM, epilepsy, bipolar, DVT)
 - Medications:
 - Metformin 500mg po twice daily
 - Lisinopril 20mg po daily
 - HCTZ 25mg po daily
 - Warfarin 5mg po qHS

Case Presentation # 1.2

- Valproic acid 500mg po three times daily
- Lithium ER po 600mg po twice daily

Case Presentation # 1.3

- 30 G4 P0121 @ 16 weeks (DM, epilepsy, bipolar, DVT)
 - Hgb A1C 11.4%
 - No shows to the two CDVs prior to conception because she couldn't afford the "copay"
 - Could not qualify for Medicaid Maternity Waiver

Case Presentation # 1.3

- Sliding fee schedule
- No shows during the second trimester for unclear reasons; automated phone calls sent
- Called from on OB Registry
- Pregnancy outcome: IUFD @ 33 weeks

Case Presentation # 2.1

- 18 year old single mother
 - OB Hx: G2 P0101
 - PPROM at 33 weeks
 - S / p vaginal delivery 4 months ago
 - PMHx: none

Case Presentation # 2.1

- Social History:
 - Nonsmoker
 - Works at Jack's drive - thru
 - Working on her GED
 - "Family - planning only" Medicaid

Case Presentation # 2.2

- 18yo G2 P0101 @ 7 wks
 - Vaginal delivery at 33 weeks after PPROM 4 months ago
 - Postpartum Depo-Provera before dismissal
 - Missed her postpartum visit
 - Missed her scheduled Depo shot at the Health Department

Case Presentation # 2.2

- At rescheduled appointment, positive pregnancy test
- EGA ~ 7 weeks

References

- Recommendations to improve preconception health and health care--United States. A report of the CDC / ATSDR Preconception Care Work Group and the Select Panel on Preconception Care.
 - KJohnson, et al. CDC / ATSDR Preconception Care Work Group; Select Panel on Preconception Care. MMWR Recomm Rep. 2006 Apr 21;55(RR-6):1-23. (PMID: 16617292)

References

- National Recommendations for Preconception Care: The Essential Role of the Family Physician.
 - ALDunlop, et al. J Am Board Fam Med January-February 2007 vol. 20 no. 1 81-84. (PMID: 17204739)
- Preterm Birth: Causes, Consequences, and Prevention. Institute of Medicine (US) Committee on Understanding Premature Birth and Assuring Healthy Outcomes; Behrman RE, Butler AS, editors. Washington (DC): National Academies Press (US); 2007.