

Off to a Good Start: State Efforts to Promote Healthy Babies

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National Conference of State Legislatures Fall Forum
Washington, DC
December 7, 2012



If you want 1 year of prosperity, grow grain. If you want 10 years of prosperity, grow trees. If you want 100 years of prosperity, grow people.

Chinese Proverb

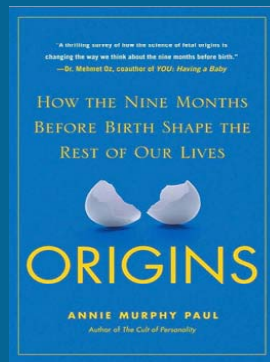


If you want to grow healthy people, you start by growing healthy babies.

Not a Chinese Proverb



Fetal Origins of Health & Disease



*Promoting healthy babies is not only good public policy.
It's good fiscal policy.*



Why You Should Care About Healthy Babies

- **Medicaid accounts for 23.6% of all state expenditures in 2011**
- **Medicaid pays for > 40% of all births**
- **Combined hospital bill to Medicaid for perinatal healthcare was \$39 billion in 2006**
 - \$21 billion for pregnancy and delivery
 - \$18 billion for newborn care

Andrews RM. The national hospital bill: The most expensive conditions by payer, 2006. Healthcare Cost and Utilization Project. Statistical brief #59. September 2008



Why You Should Care About Healthy Babies

- **1 in 8 (11.7%) babies are born preterm in the U.S.**
- **Medical costs for first year of life**
 - Term infant: \$4,551
 - Preterm infant: \$49,033

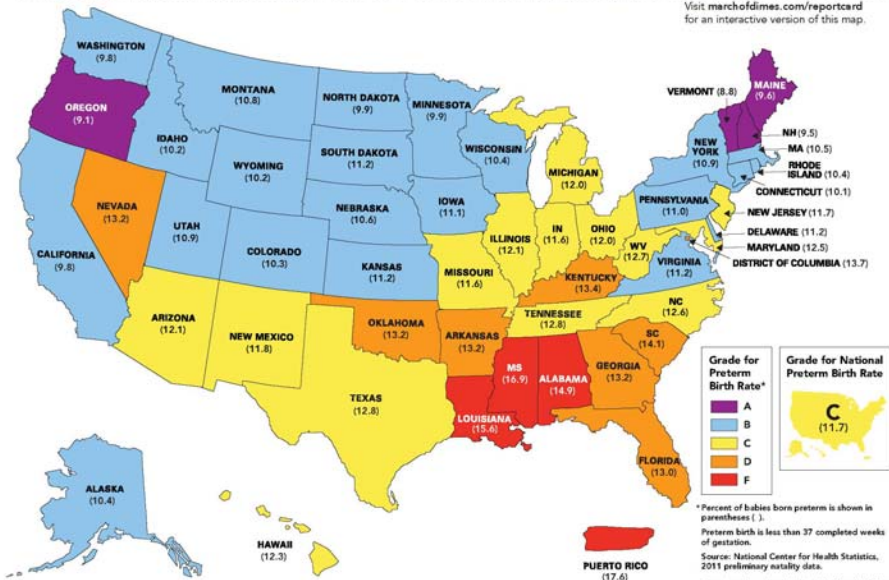
http://www.marchofdimesusa.net/prematurity/21198_15349.asp
- **Preterm births cost the U.S. \$26.2 billion a year**
 - <http://www.iom.edu/Reports/2006/Preterm-Birth-Causes-Consequences-and-Prevention.aspx>



March of Dimes 2012 Premature Birth Report Card



Visit marchofdimes.com/reportcard for an interactive version of this map.



We can do better.



Evidence-Based Strategies to Promote Healthy Babies

- Reduce early elective delivery
- Reduce smoking in pregnancy
- Increase safe sleep
- Improve perinatal regionalization
- Increase access to interconception care



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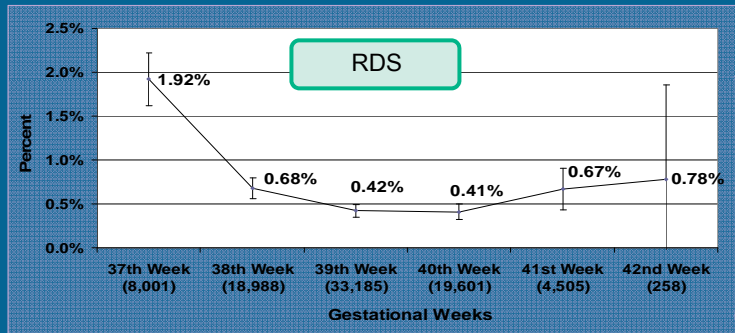
Complications of Elective Deliveries Between 37 and 39 Weeks

- **Increased NICU admissions**
- **Increased transient tachypnea of the newborn (TTN)**
- **Increased respiratory distress syndrome (RDS)**
- **Increased ventilator support**
- **Increased suspected or proven sepsis**
- **Increased newborn feeding problems and other transition issues**

Clark 2009, Madar 1999, Morrison 1995, Sutton 2001, Hook 1997



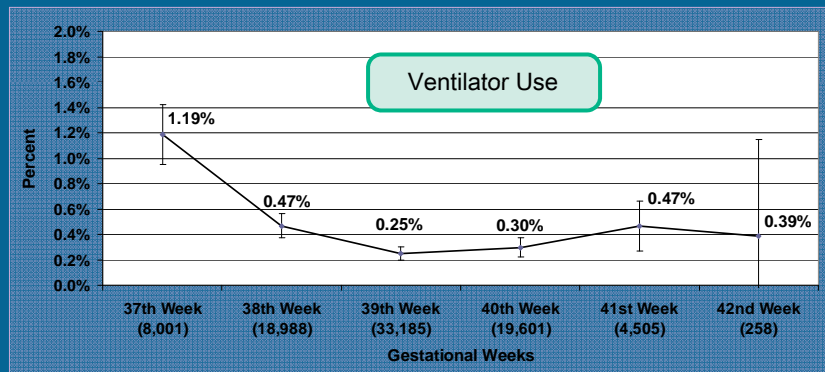
RDS By Weeks Gestation Deliveries Without Complications, 2000-2003



Oshiro et al. Obstet Gynecol 2009;113:804-811.



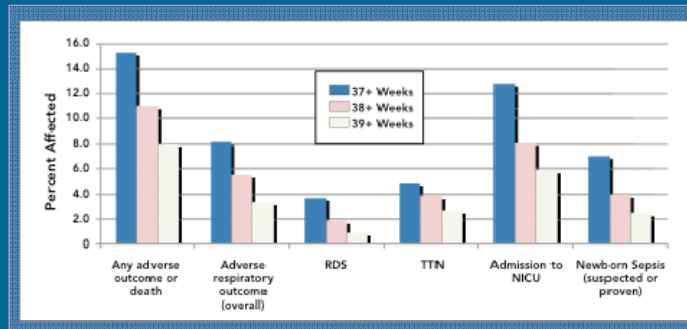
Ventilator Usage By Weeks Gestation Deliveries Without Complications, 2000-2003



Oshiro et al. OBSTET GYNECOL 2009;113:804-811.



Adverse Neonatal Outcomes By Week of Gestation at Delivery



ADAPTED FROM TITA AT, ET AL. NEJM 2009;360:111

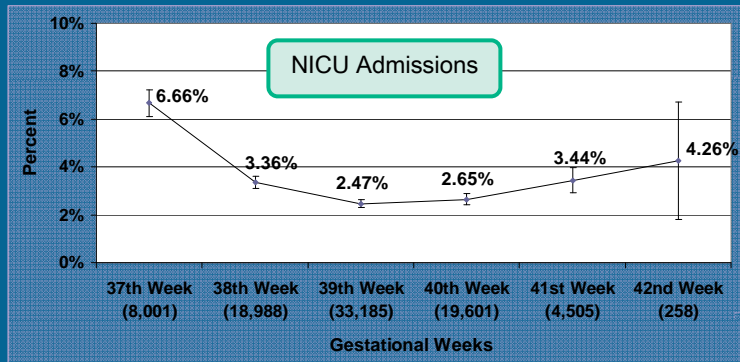


Timing of Fetal Brain Development

- **Cortex volume increases by 50% between 34 and 40 weeks gestation.**
(Adams Chapman, 2008)
- **Brain volume increases at rate of 15 mL/week between 29 and 41 weeks gestation.**
- **A 5-fold increase in myelinated white matter occurs between 35-41 wks gestation.**
- **Frontal lobes are the last to develop, therefore the most vulnerable.**
(Huttenloher, 1984; Yakavlev, Lecours, 1967; Schade, 1961; Volpe, 2001).



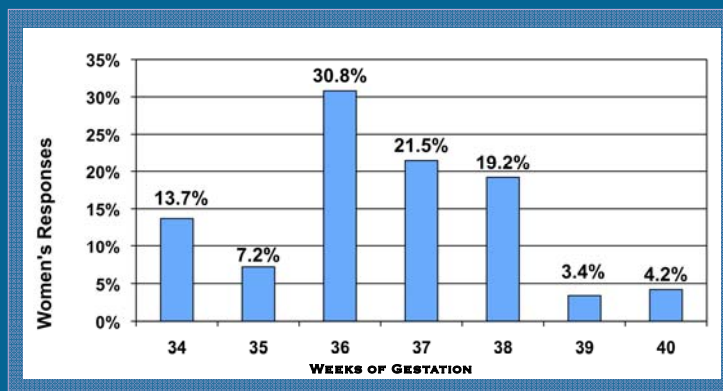
NICU Admissions By Weeks Gestation Deliveries Without Complications, 2000-2003



OSHJ 0907, AL. OBSTET GYNECOL 2009;113:804-811.



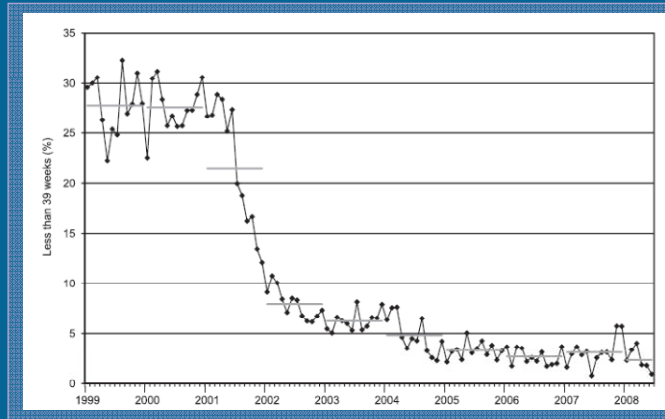
The Gestational Age that Women Considered it Safe to Deliver



OBSTET GYNECOL 2009;114:1254



Percent Elective Deliveries <39 Weeks, Intermountain Healthcare, Jan 1999 – Dec 2005



Stillbirths Before and After Implementation of Guidelines at Intermountain Healthcare

Weeks of Gestation	1999-2000			July 2001 to June 2006				
	Stillbirths	Deliveries	%	Stillbirths	Deliveries	%	Odds Ratio	95% CI
37	17	4,117	0.41	22	13,077	0.17	0.406	0.22-0.77
38	19	9,954	0.19	21	28,209	0.07	0.390	0.21-0.72
39	10	13,752	0.07	28	51,721	0.05	0.744	0.36-1.53
40	10	7,925	0.13	14	24,140	0.06	0.459	0.20-1.03
41	2	1,938	0.10	3	5,571	0.05	0.522	0.09-3.12
All	58	37,686	0.15	88	122,718	0.07	0.466	0.33-0.65

Oshiro, B. et al. Obstet Gynecol 2009;113:804-811.



Reduce Early Elective Delivery

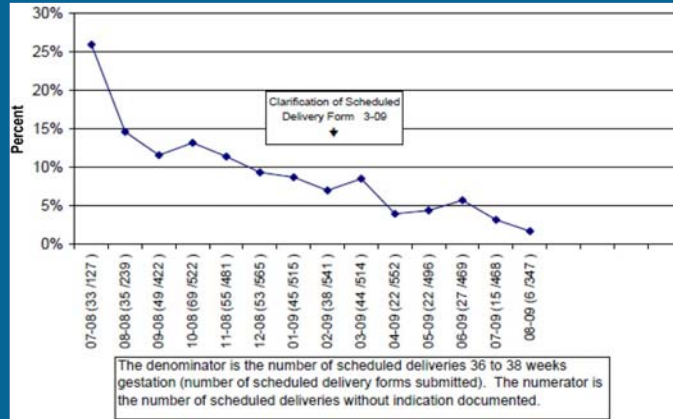
- Kentucky
 - *Healthy Babies are Worth the Wait*
- Louisiana
 - *Louisiana Birth Outcomes Project*
- California
 - *California Maternal Care Quality Collaborative*
- Ohio
 - *Ohio Perinatal Quality Collaborative*
- Oklahoma
 - *Every Week Counts*
- Indiana
 - *Every Week Counts*
- Texas
 - *House Bill 1983*



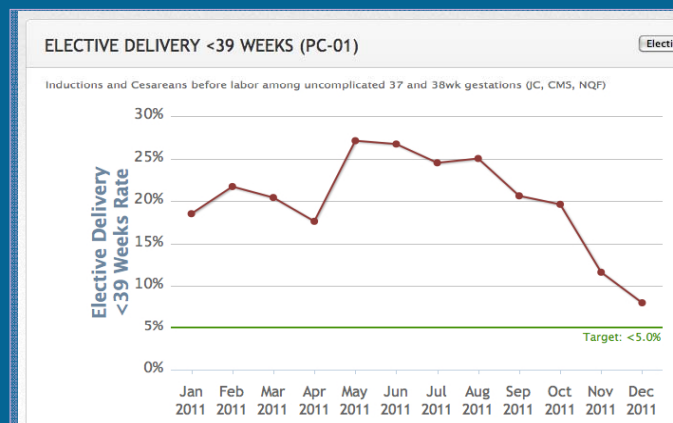
Healthy Babies Are Worth the Wait: Brain Card



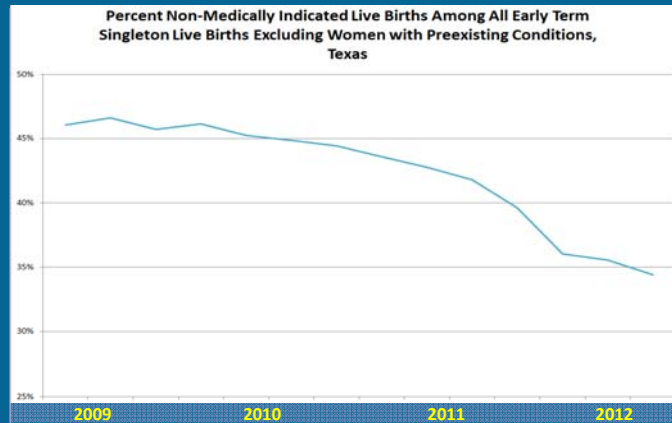
Percent Elective Deliveries <39 Weeks, Ohio Perinatal Quality Collaborative



Percent Elective Deliveries <39 Weeks, California Maternal Quality Care Collaborative



Percent Elective Deliveries <39 Weeks, Healthy Texas Babies



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Smoking Cessation in Pregnancy

- **Smoking cessation interventions work**
 - Review of 72 clinical trials involving 25,000 pregnant women
 - Reduced smoking by 6% overall (by 24% in most effective interventions)
 - Reduced low birth weight and preterm births by about 15%
 - <http://summaries.cochrane.org/CD001055/interventions-to-help-women-to-stop-smoking-in-pregnancy>
- **State Medicaid programs must now cover tobacco cessation services for pregnant women without cost-sharing**
 - States may claim 50% administrative match for quit lines



Smoking Cessation

- **Colorado**
 - **Colorado QuitLine, a free program for pregnant women**
- **Oklahoma**
 - **Practice facilitation model in obstetric care settings; SoonerQuit statewide media campaign**
- **North Carolina**
 - **You Quit Two Quit Project**
- **Massachusetts**
 - **QuitWorks referral program**
- **Michigan**
 - **Free quitline counseling for uninsured or Medicaid enrollees**



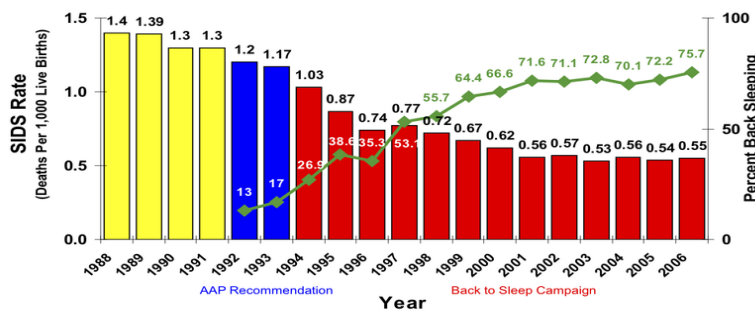
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Safe to Sleep

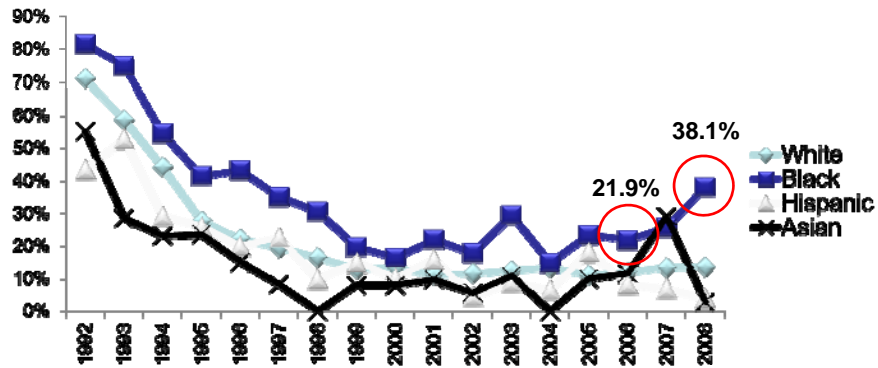
SIDS Rate and Back Sleeping
(1988 – 2006)



SIDS Rate Source: CDC, National Center for Health Statistics,
Sleep Position Data: NICHD, National Infant Sleep Position Study.



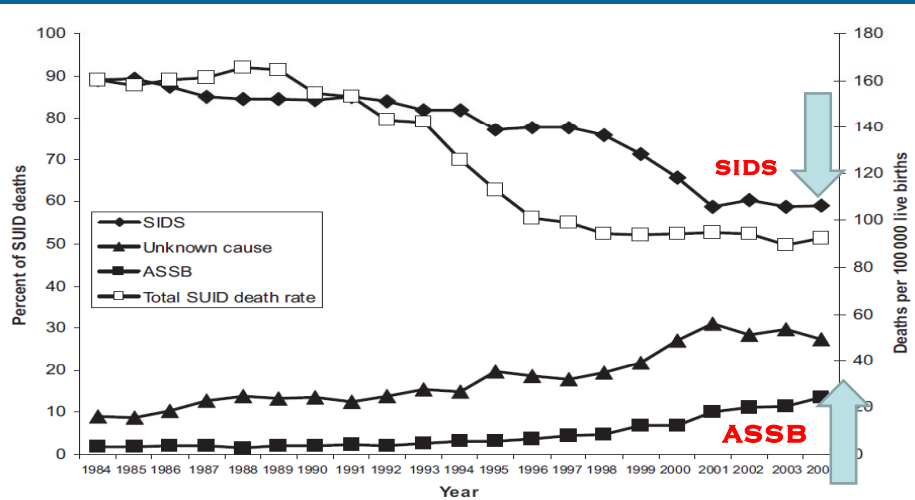
Prone Sleep Prevalence by Race and Ethnicity



National Infant Sleep Position Survey, 2008;

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Established Risk Factors for Sleep-Related Deaths

- ❑ **Side or prone position (OR 2.3-13.1)**
- ❑ **Bedsharing (OR 2.88): risk increases with**
 - Smoker parent (OR 2.3-17.7)
 - Infant <3 months (OR 4.7-10.4), regardless of parental smoking status
 - Soft surfaces (couches, armchairs (OR 5.1-66.9)
 - Soft bedding (OR 2.8-4.1)
 - Multiple bedsharers (OR 5.4)
 - Parent consumed alcohol, drugs, or is overtired (OR 1.66)
- ❑ **Soft bedding (OR 5.0; + prone = 21.0)**
- ❑ **Smoke exposure (prenatal + postnatal)**
- ❑ **Prenatal drug and alcohol use (OR varies, >3.0)**

OR: odds ratio

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Protective Factors for Sleep-Related Deaths

- ❑ **Roomsharing without bedsharing (OR 0.5)**
- ❑ **Breastfeeding: ever (OR 0.4); any exclusive (OR 0.27)**
- ❑ **Pacifier use (OR 0.39)**
- ❑ **Immunizations (OR 0.5)**

OR: odds ratio

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Level A AAP Recommendations for Reducing the Risk of SIDS/SUID

□ Based on good and consistent scientific evidence

- Back to sleep for every sleep
- Room-sharing without bed-sharing
- Keep soft objects and loose bedding out of the crib
- Use a firm sleep surface
- Pregnant women should receive regular prenatal care
- Avoid smoke exposure during pregnancy and after birth
- Avoid alcohol and illicit drug use during pregnancy and after birth
- Breastfeeding is recommended

Pediatrics. 2011; 128(5)

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Safe Sleep

- Georgia
 - Crib Matching Program through SIDS Injury Prevention Program
- Maryland
 - B'more Babies Safe Sleep Campaign



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Safe to Sleep

Perinatal Regionalization for Very Low-Birth-Weight and Very Preterm Infants A Meta-analysis

Sarah Marie Lasswell, MPH
Wanda Denise Barfield, MD, MPH
Roger William Rochat, MD
Lillian Blackmon, MD

Context For more than 30 years, guidelines for perinatal regionalization have recommended that very low-birth-weight (VLBW) infants be born at highly specialized hospitals, most commonly designated as level III hospitals. Despite these recommendations, some regions continue to have large percentages of VLBW infants born in lower-level hospitals.

Conclusion For VLBW and VPT infants, birth outside of a level III hospital is significantly associated with increased likelihood of neonatal or predischarge death.

JAMA. 2010;304(9):992-1000

www.jama.com



VLBW infants (<1500g) Admitted Directly to NICU

State	No. of infants with VLBW	Total*		
		No.	%	95% CI†
Overall[§]	25,231	19,512	77.3	(76.8–77.9)
California	5,965	3,801	63.7	(62.5–64.9)
Delaware	193	172	89.0	(84.5–93.4)
Florida	3,306	2,718	82.2	(80.9–83.5)
Idaho	206	176	85.4	(80.5–90.2)
Kansas	411	331	80.7	(76.9–84.5)
Kentucky	647	573	88.6	(86.1–91.0)
North Dakota	82	77	93.4	(87.8–99.0)
Nebraska	276	232	84.3	(79.9–88.6)
New Hampshire	121	102	84.3	(77.8–90.8)
New York**	1,588	1,401	88.2	(86.6–89.8)
Ohio	1,991	1,534	77.0	(75.2–78.9)
Pennsylvania	1,998	1,667	83.4	(81.8–85.0)
South Carolina	944	815	86.4	(84.2–88.6)
South Dakota	111	104	92.8	(87.2–98.3)
Tennessee	1,316	1,132	86.0	(84.1–87.9)
Texas	5,266	4,107	78.1	(76.9–79.2)
Vermont	57	45	79.0	(68.4–89.5)
Washington	726	518	71.5	(68.2–74.8)



MMWR Nov 12, 2010 59:144-7



Improve Perinatal Regionalization

- **New York**
 - **Regional Perinatal Center (RPC) leads and coordinates affiliated hospitals**
- **Tennessee**
 - **Perinatal Advisory Committee; five statewide centers provide 24-hour consultation and referral**



Barriers to Perinatal Regionalization

- Lack of standards and definitions for levels of NICU care
 - **American Academy of Pediatrics issued new policy statement on levels of neonatal care**
<http://pediatrics.aappublications.org/content/130/3/587.full.pdf+html>
- Reimbursement policies



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Access to Interconception Care

- Georgia
 - **Expanded Section 1115 Medicaid waiver**
- Oregon
 - **Innovative Reproductive Health Program combines Title X and Medicaid family planning waiver programs**
- South Carolina
 - **Campaign to Prevent Teen Pregnancy website**
- California
 - **The Interconception Care Project**

