After Birth: Women, Work and Health

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Who Cares?

Employed women & their families

- Experience of overall health in contrast to the focus of the literature on body systems or organs overall health
- Role of women as family care-givers

Employers

- Are charged with implementing the federal Family & Medical Leave Act
- Must address dynamics of the changing labor force
  - MN has one of the highest rates of labor force participation among women in the country (73.8% vs. 63.5%) (1)

Who Cares?

Policy-makers

- 1993 Family & Medical Leave Act enacted
- 2002 California passed a paid family & medical leave
- 2002 Minnesota passed the At-Home Infant Care Program, cut in 2003, reestablished in 2004
- Senate briefing on paid sick leave, 7-17-07
  - 48% private sector workers
  - 79% of low wage workers

What is the Postpartum ?

- **Traditional Medical Perspective**
  - **Approximately 4 to 6 weeks after childbirth**
  - **Involution of the uterus**
  - **Typically involves one medical visit**

What is the Postpartum ?

- There are many minor to moderate discomforts that may last for weeks to months after childbirth
  - Fatigue, breast soreness, C-section or episiotomy discomforts, constipation or hemorrhoids, uterine cramps, sexual concerns & respiratory symptoms
- There are serious problems (postpartum depression) that may last for several months after childbirth

US Labor Force Participation (LFP) Rates & Mothers of Infants

- **Dramatic changes in LFP rates:**
  - **54% in 2005 vs. 38% in 1980 [2]**
- **Timing of return to work after childbirth among first time mothers in the U.S. employed during pregnancy:**
  - **4.7 % at 1 month**
  - **60% at 3 months**
  - **82% at 12 months [3]**

Research Objectives

- **Evaluate the personal, perinatal and employment factors that affect women's postpartum health**
- **Identify the factors that promote the successful merger of work and parenting roles**

Methodology

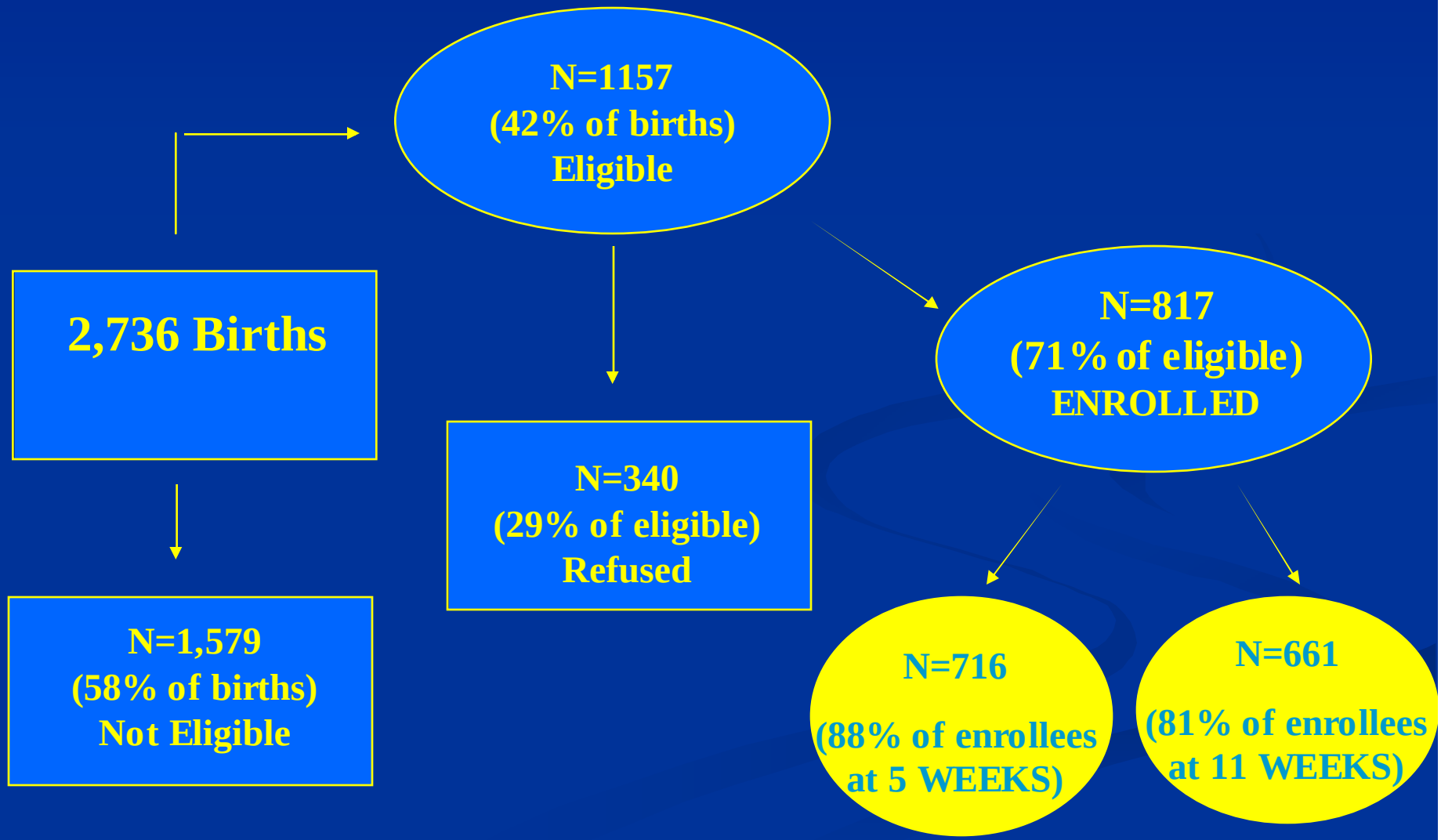
- **Design**
  - Longitudinal study
- **Target Population:**
  - Women, 18 years or older
  - Reside in the 7 county metropolitan Twin Cities area
  - Live, singleton birth in 2001
- **Sampling Frame:**
  - All women delivering in 3 metropolitan hospitals (Minneapolis/St. Paul)
  - Recruitment between April 9 & November 19, 2001
- **Selection Criteria:**
  - Speak English
  - Healthy infant
  - Employed for at least 3 consecutive months, 20 hours or more per week before birth
  - Plan to return to work following childbirth

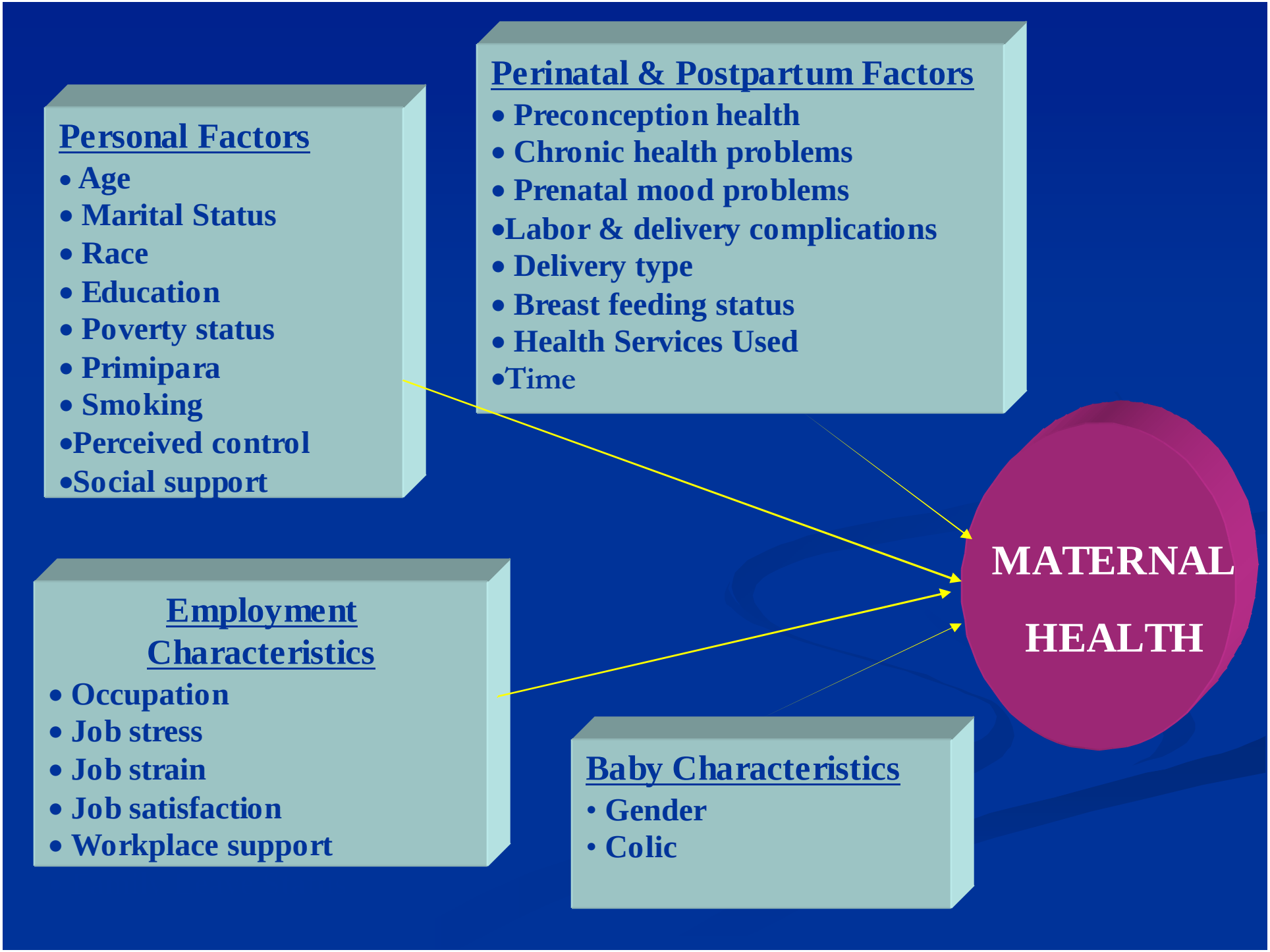
Data Collection

- Approval of Institutional Review Boards at:
  - The 3 participating hospitals
  - University of Minnesota
- Hospital enrollment at childbirth
  - Nurses elicited women's consent
    - Abstract information from birth records
    - Conduct in-person interviews

- Telephone interviews at 5 and 11 weeks postpartum by University interviewers

Participation Rate and Eligibility





Health Outcome Measures

- **SF-12 Version 2 Mental and Physical Component Summary Scores (MCS & PCS)** [7]
  - **Physical function, role limitations, pain, general health, social function, mental health & vitality**
- **Symptom Score**
  - **Presence or absence of 28 symptoms in past 4 weeks**
  - **Symptoms experienced in the postpartum & representative of major body systems or constitutional in nature**

Analytic Methods

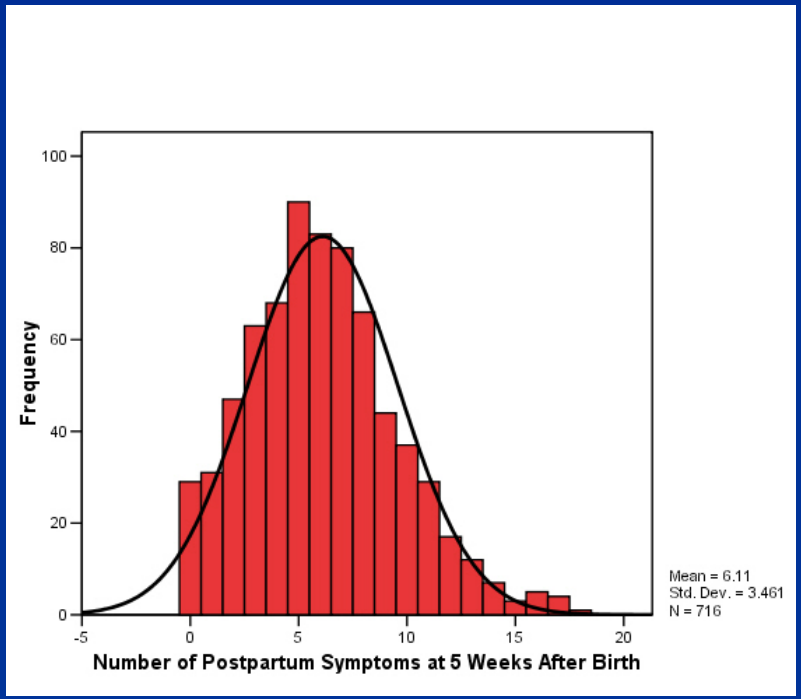
- **Chow tests**
  - Test if the effects of explanatory variables associated with health outcomes differed by women's work status

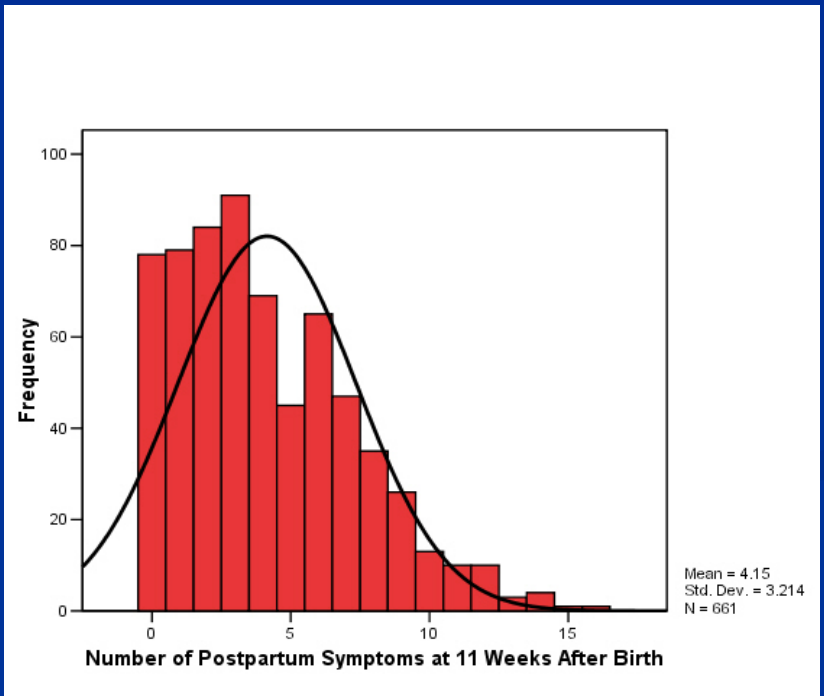
- **Instrumental variable technique (two-stage least squares)**
  - Inclusion of choice (endogenous) variables in the model which may lead to omitted variable bias

Participants' Characteristics (N= 661)

- **Demographics**
  - **Mean age: 30 years (s.d: 5.3 yr.)**
  - **Married/partnered: 88%**
  - **Caucasian: 86%**
- **Birth factors**
  - **First time mothers: 46%**
  - **Breastfeeding: 67% (5 wk) & 52% (11 wk)**
- **Economics**
  - **Poor (12%)**
  - **Back to work: 7% (5 wk) & 51% (11 wk)**

Frequency of Postpartum Symptoms





Women's Postpartum Symptoms	Five Weeks after Childbirth	Eleven Weeks after Childbirth
Fatigue	64%	43%
▪ Duration of sleep (mean)	6.4 hrs/night	6.8 hrs/night
▪ Awakenings (mean)	2.6 times/night	2 times/night
▪ Frequency of "never /rarely" feeling refreshed on awakening	50%	30%

Symptoms	Five Weeks Postpartum	Eleven Weeks Postpartum
Breast symptoms	69%	24%
Decreased libido	52%	37%
Headaches	50%	42%
Back or neck pain	43%	38%
Upper respiratory symptoms	41%	48%
Constipation	27%	14%
Hemorrhoids	24%	13%

Participants Compared to National Norms on SF-12v2 Scores

	US Norm 25 - 34 yrs	MN Study (5 wk)	MN Study (11 wk)
PCS	52.7 (7.1)	51.4 (7.2) Z= -3.9; p <.001	55.7 (5.2) Z= 8.5; p < .000
MCS	47.2 (12.1)	49.6 (7.9) Z= 4.9; p < .000	50.4 (7.3) Z= 6.7; p < .000

Factors Associated with Better Mental Health (2SLS estimates)

Five Weeks Postpartum	Eleven Weeks Postpartum
Better preconception health	Better preconception health
No prenatal moods	No prenatal moods
Increased perceived control	Increased perceived control
Increased available social support	Increased available social support
	Less job stress

Factors Associated with Better Physical Health (2SLS estimates)

Five Weeks Postpartum	Eleven Weeks Postpartum
Better preconception health	Better preconception health
Increased perceived control	
Vaginal delivery	
	More coworker support

Factors Associated with More Postpartum Symptoms (2SLS estimates)

Five Weeks Postpartum	Eleven Weeks Postpartum
Worse preconception health	Worse preconception health
Prenatal mood problems	
	Single parent
Breastfeeding	
Infant colic	Infant colic

Limitations

- Generalizability is limited to women of similar racial/ethnic origins and comparable economic situations
- Findings are from initial waves of data from a longitudinal study

Discussion

Higher physical health scores with vaginal deliveries:

- Role for providers to counsel on expected symptoms & prescribe adequate length of leave
- Increasing trend of c-section deliveries-national rate of 29% in 2004, highest ever (8)

Discussion

- **Breastfeeding associated with increased (non-breast) symptoms**
  - Suggests a role for clinicians in counseling breastfeeding mothers about what to expect & how to manage symptoms
- **67% of mothers were breastfeeding at 5 wk and 50% at 11 wk (vs. Healthy People 2010 goal of 75%)**
  - Raises questions about the degree to which employers allow women time and space for breastfeeding/pumping, & consistency of human resources policies with state regulations

Discussion

- **Fatigue was one of the most frequent symptoms experienced by new mothers**
  - For most mothers it declines with time, but evidence of relentless fatigue for some
  - May be caused by general recovery from childbirth, childcare responsibilities, reduced sleep, or anemia
- **Infant sleep patterns and maternal fatigue strongly associated with the onset of depressive symptoms**
- **Selected women may benefit from an intervention aimed at encouraging rest and quiet time**

Discussion

- **Better preconception health consistently associated with better postpartum health**
  - 1/3 to 1/2 of women have more than 1 primary care provider [9]
  - All providers can contribute to improving preconception health & health care
    - Chronic medical conditions, personal behaviors, psychosocial risk & environmental exposures can be modified preconception

Discussion

- Prenatal moods were associated with poorer postpartum mental health & more symptoms

- Clinicians have an important role to play in evaluating women's moods & referring them to specialists for comprehensive evaluation and treatment

Discussion

- Several work-related factors were associated with better health (11 wk)
  - Social support from coworkers was associated with better physical health
  - Lower levels of job stress was associated with better mental health
  - Greater levels of perceived control over work (& home) was associated with better mental health
- Need for research on factors that may increase work-related support, decrease women's job stress and increase their sense of control and support at work

Discussion

- Social support from friends & family was an important factor associated with better mental health (5, 11 wks)
- Additionally married & partnered women had better mental health (11 wk)
- Not all women may have social support available to them, or they may feel uncomfortable asking for help
- Clinicians have a role to play in educating women about the nature of support, its importance to wellbeing and how to access support in times of need

Conclusions & Implications

- **These mothers continued to experience a variety of symptoms at 11 weeks postpartum**
  - **Need for rest & recovery**
- **Intermittent leave under the Family & Medical Leave Act (FMLA) may be an important alternative to straight-time leave**
- **Use by an employee requires medical certification of a "serious health condition" (SHC)**
  - Some providers may be uncomfortable referring to childbirth as a SHC (special vs. equal treatment)
  - Legal term under the FMLA

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Publications

- **Postpartum Health of Employed Mothers 5 Weeks After Childbirth** by Pat McGovern, Bryan Dowd, Dwenda Gjerdingen & colleagues. **Annals of Family Medicine, 2006 (4):159-167.**

- **Mothers' Health & Work-Related Factors at 11 Weeks Postpartum** by Pat McGovern, Bryan Dowd, Dwenda Gjerdingen, Rada Dagher & colleagues. **Annals of Family Medicine, forthcoming.**

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