

Complications of Cesarean Delivery

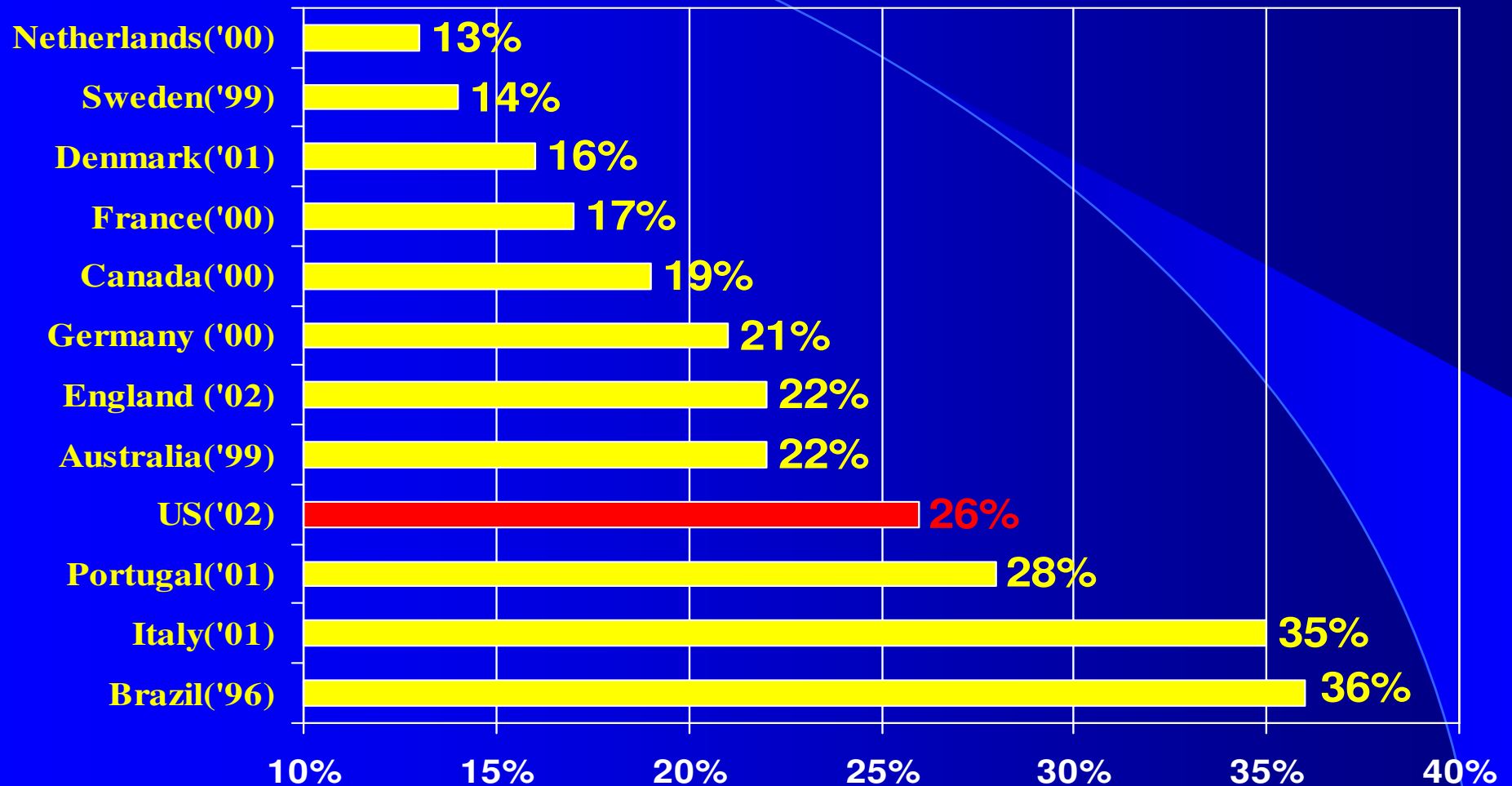
Peter Bernstein, MD, MPH
Medical Director of OB/GYN,
Comprehensive Family Care Center–Montefiore Medical
Center

Associate Professor of Clinical Obstetrics & Gynecology
and Women's Health

Albert Einstein College of Medicine

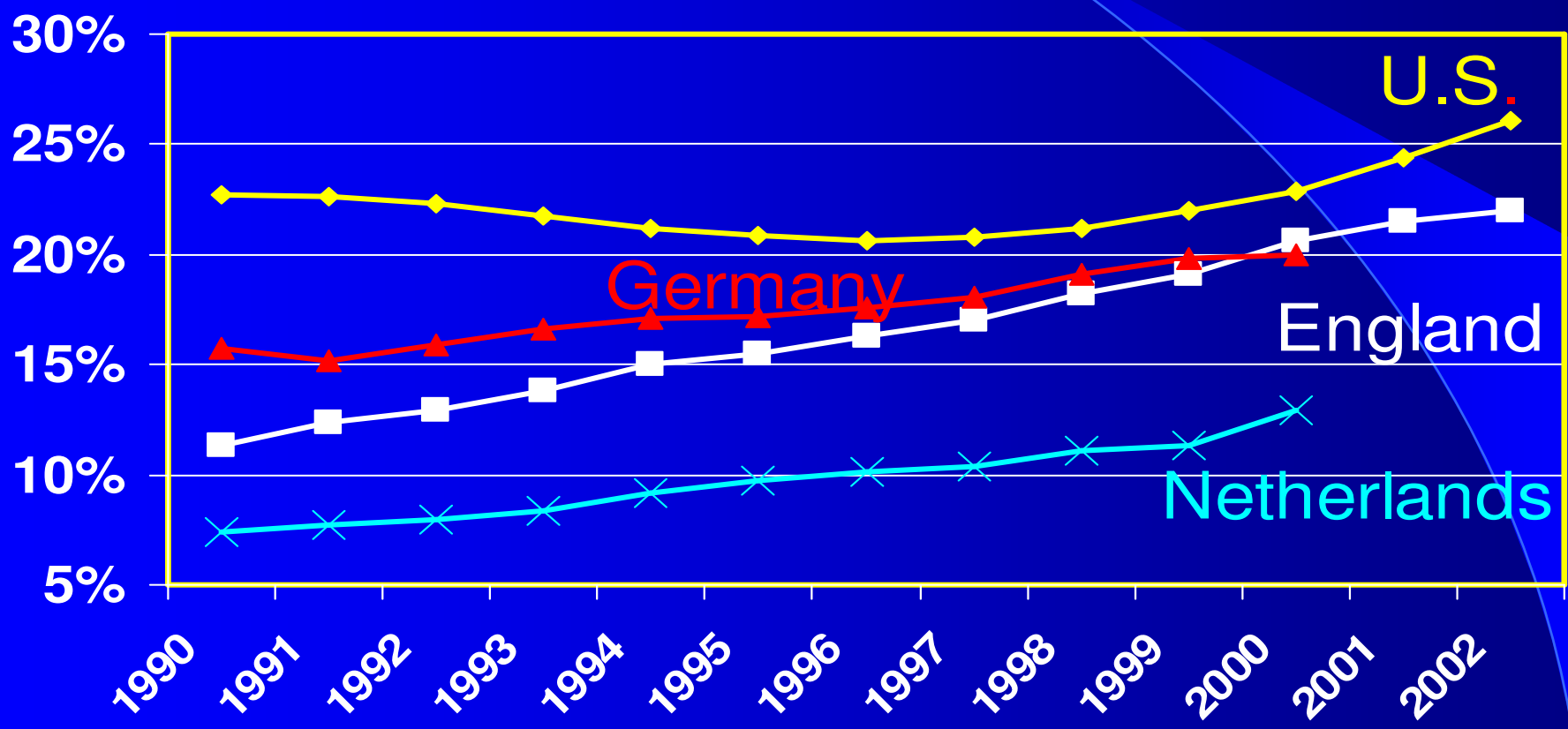


Comparative Cesarean Rates



Source: OECD Health Data 2003; U.S. Natality Data; Sentinel CS study

National Cesarean Rates 1990-2002

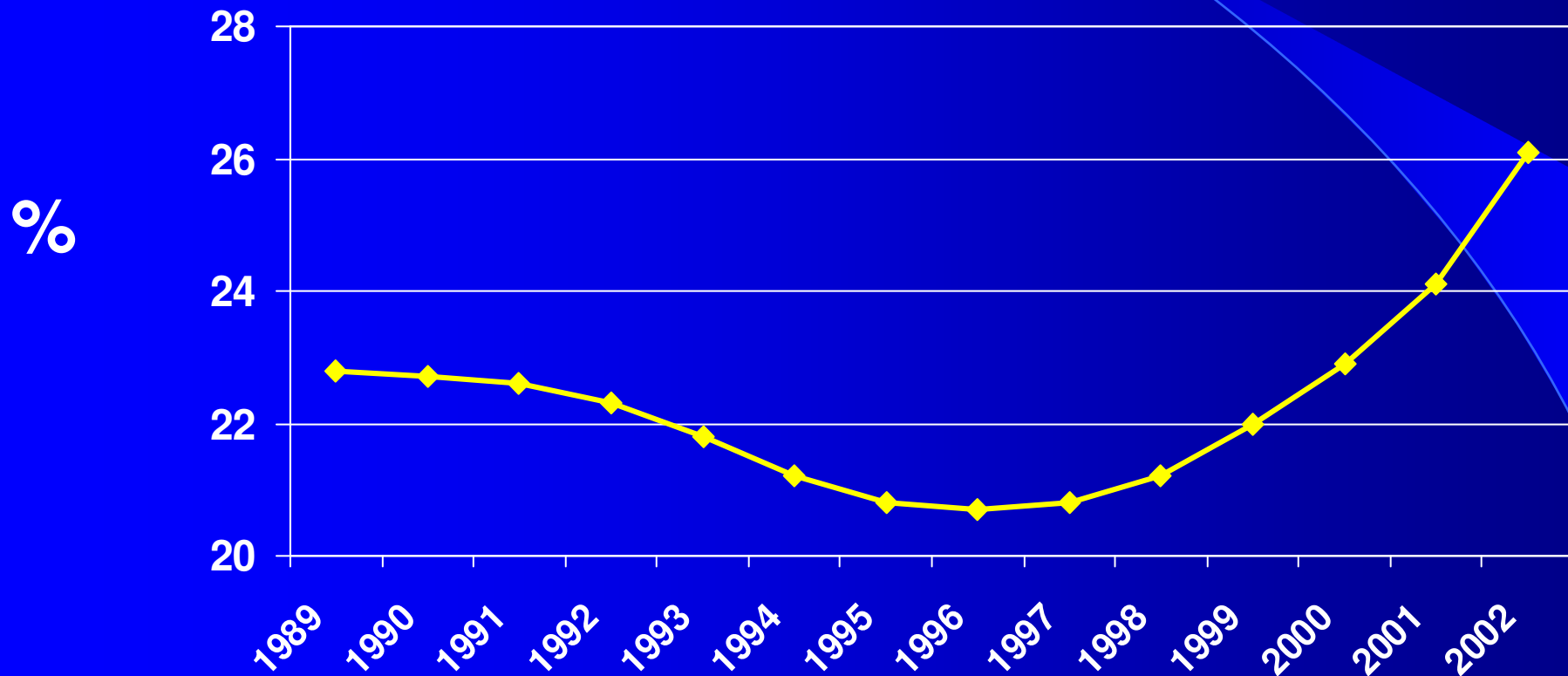


Source: OECD Health Data 2003; U.S. Natality Data; Sentinel CS study

Defining Terms

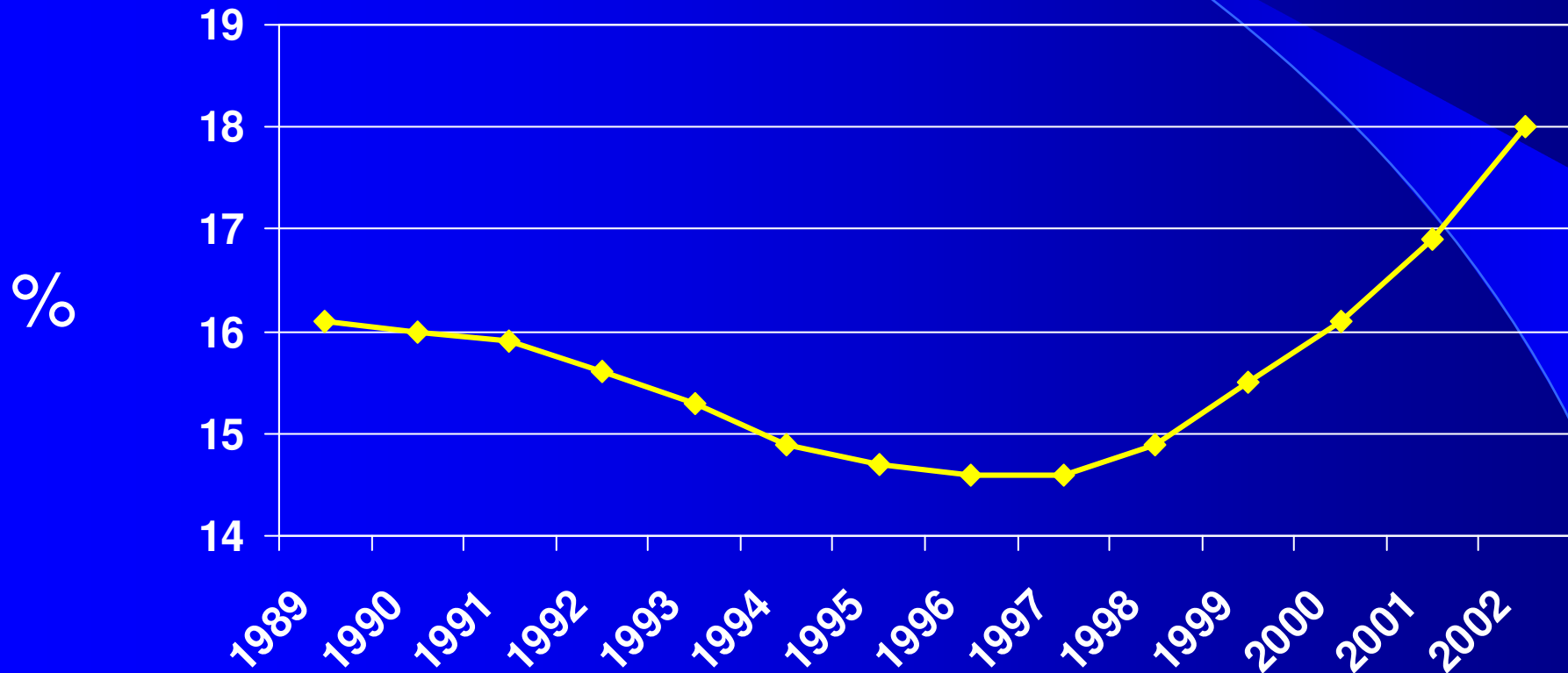
- Mothers without a prior cesarean:
 - Vaginal Birth
 - Primary Cesarean
- Mothers with a prior cesarean
 - Vaginal Birth after Cesarean (VBAC)
 - Repeat Cesarean

US Overall Cesarean Rates, 1989-2002



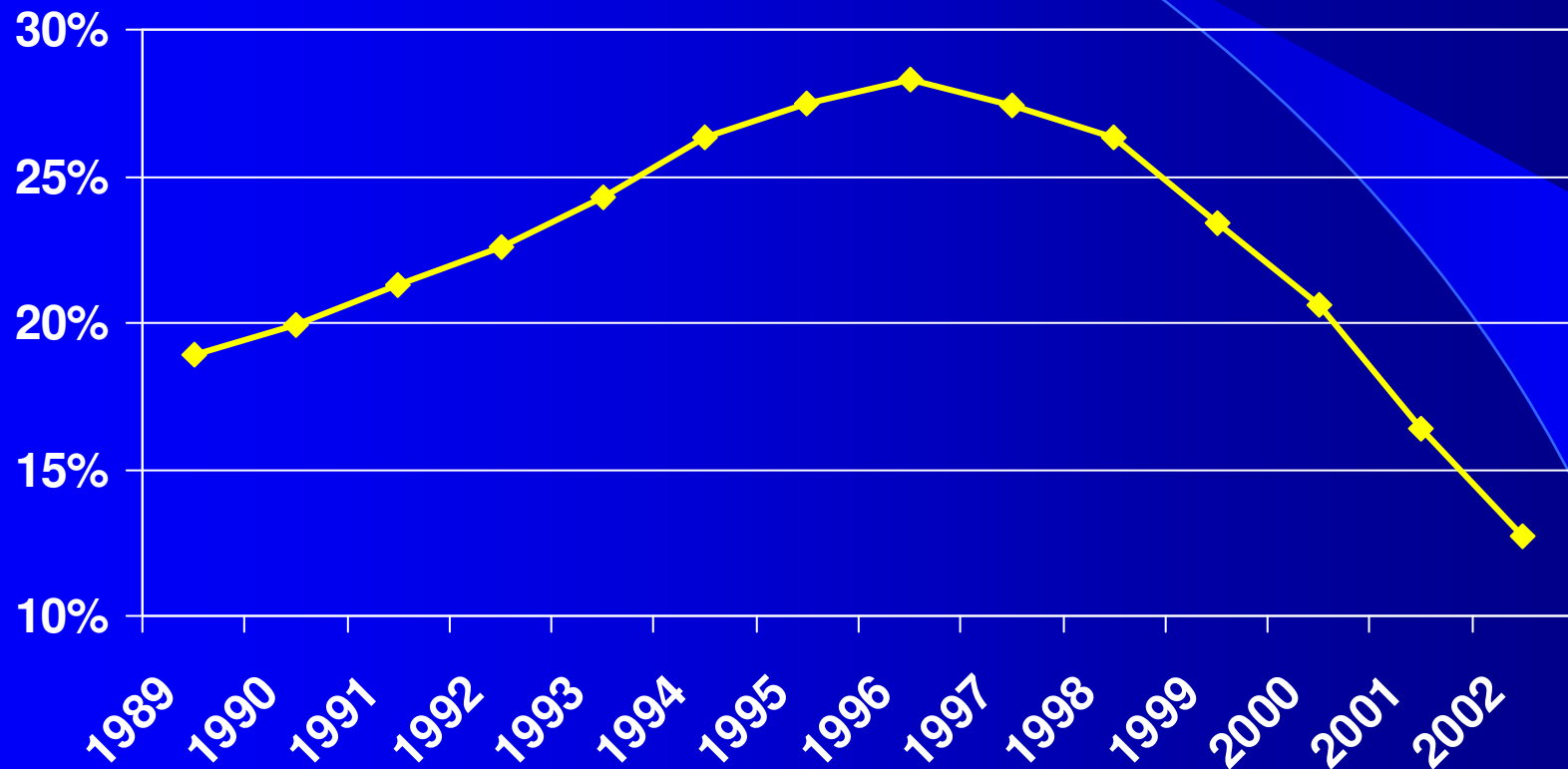
Source: Adapted from Martin et al. 2003. Births Final Data for 2002. NVSR; NCHS.

US Primary Cesarean Rates, 1989-2002



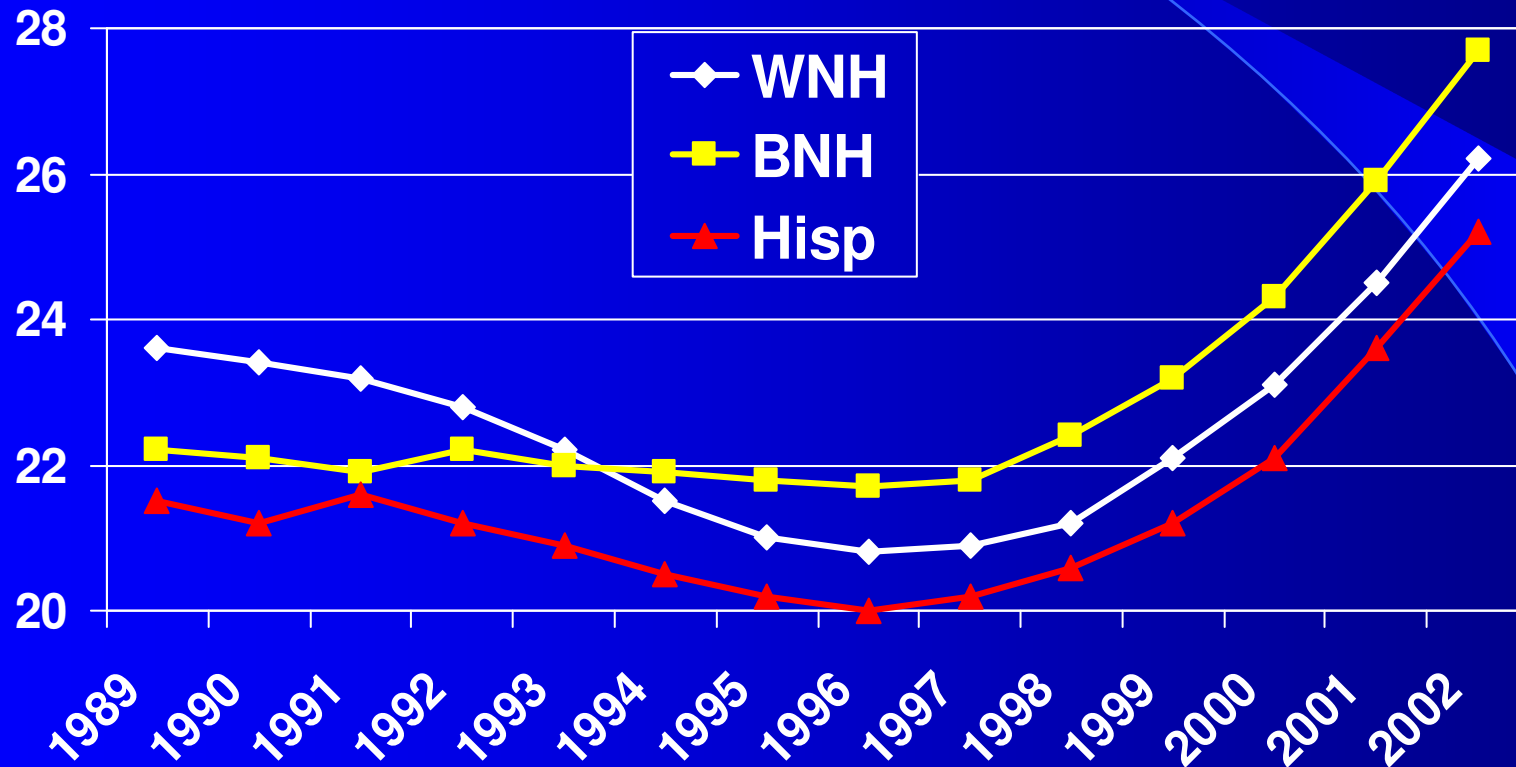
Source: Adapted from Martin et al. 2003. Births Final Data for 2002. NVSR; NCHS.

US Rates of Vaginal Birth After Cesarean, 1989-2002



Source: Adapted from Martin et al. 2003. Births Final Data for 2002. NVSR; NCHS.

Overall Cesarean Rates by Race/Ethnicity, 1989-2002



Source: Adapted from Martin et al. 2003. Births Final Data for 2002. NVSR; NCHS.

Common Indications for Cesarean Delivery

- Failure to progress in labor
- Nonreassuring fetal status
- Prior cesarean delivery or hysterotomy
- Malpresentation
- Failed induction of labor
- Other less common indications include:
 - Herpes outbreak
 - Poorly controlled HIV infection

Other Potential Benefits of Cesarean Delivery

- Timing of delivery can be planned
- Reduced risk of neonatal postmaturity syndrome and intrauterine fetal demise at term
- Reduced risk of untoward intrapartum events
- Reduced risk of pelvic floor disorders

Caveat in Interpreting Studies of Cesarean Delivery

- Really should not compare women who deliver by cesarean to those who deliver vaginally
- Instead should compare those who have a trial of labor to those who have a planned cesarean
- Safer to have a planned cesarean than one in labor

Short Term Risks of Cesarean

- Extended Hospitalization
- Thromboembolism
- Hemorrhage
- Infection
- Incidental Surgical Injuries
- Maternal Death
- Emergency Hysterectomy
- Pain
- Poor Birth Experience

Long Term Risks of Cesareans

- Hospital Readmission
- Pain
- Infertility/Subfertility

Risks of Cesarean to Future Pregnancies

- Uterine Rupture
- Abnormal Placentation
(e.g. placenta previa, accreta)
- Hysterectomy
- Requirement of blood transfusion

Risks of Cesarean to Fetus/Newborn

- Death
- Neonatal respiratory problems
- Asthma
- Iatrogenic prematurity
- Trauma
- Failure to Breastfeed

Conclusion

Given the rising rates of cesarean delivery, we have already started to see more and more of these complications, particularly those associated with repeat cesarean deliveries.