

# Neonatal Outcomes: NIH Household Air Pollution Training Workshop

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# Neonatal Outcomes of Interest

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- Mortality
- Morbidity
- Maturity
- Cause of death

# Neonatal Mortality

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- **Stillbirth (SB)**
  - Fresh: often intrapartum (delivery)
  - Macerated: skin peels after 1 wk
- **Perinatal mortality: SB + early neonatal death (usually 1<sup>st</sup> 3 days)**
- **Neonatal mortality: to 28 days**
- **Cause of death: usually determined by verbal autopsy**

# Neonatal Morbidity

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- **Prematurity:** <37 wks (term 40 wks)
- **Small for gestational age:** birth weight <3d percentile for population/  
WHO norms
- **Malnourished:** falling off growth curve, usually
  - Inadequate breast milk intake
  - Diarrhea

# Neonatal Morbidity

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- **Sepsis/pneumonia:** non specific symptoms (per GOI, WHO IMNCI)
  - Poor feeding/decreased activity
  - Low body temperature > fever
  - Breathing > 60 breaths/min
  - Chest indrawing/cyanosis
  - Jaundice of the soles
  - Seizures

# Neonatal Outcomes - Challenges

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## Capturing/ classifying every

- Birth (esp home births)
- Stillbirth vs. live born
- Neonatal death
- Cause of death
- Measures of maturity
- Appropriateness of fetal/NN growth

# Neonatal Outcomes Data

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- Date & approximate time of birth
- Date & time of death (thru 28 days)
- Stillbirth
- Perinatal mortality
- Neonatal mortality
- Birth weight
- Cause of death (sepsis/pneumonia)

# Additional Neonatal Data

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- Site of birth (home or facility)
- Birth attendant (traditional birth attendant, auxiliary nurse midwife, midwife)
- Mode of delivery
- Appropriate fetal growth
- Gestational age (maturity)
- Postnatal growth/nutrition



# Birth weight

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- Easier to assess than GA so **low birth weight** (<2500 gms) may be used as surrogate for SGA); BUT
- Scales often not available or calibrated
- May weigh only to nearest 50 gm
- Rounding is very common
- Often not weighed on first day
- Dead fetuses are rarely weighed

# Causes of Death

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- Asphyxia: failure to breathe spontaneously or be resuscitated
- Sepsis/pneumonia
- Prematurity
- Diarrhea
- Maternal eclampsia
- Syphilis
- Hypothermia



# Global Network for Women's and Children's Health Research

<http://gn.rti.org>

<http://www.globalhealthreporting.org>

<http://ClinicalTrials.gov>

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