

Global Network for Women's & Children's Health Research

**NIH Implementation & Dissemination
Conference**

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Background

- **Nearly 99% of maternal and infant deaths worldwide occur in low and middle-income countries**
- **4 million newborns, 3.7 million stillborns, and 550,000 mothers die every year--most of these deaths are preventable**
- **Only 4% of these deaths occur in countries with registries; stillborns aren't registered**

Global Health

- **50% of premature deaths around the world are related to:**
 - **Childhood infectious diseases**
 - **Birth-related complications**
- **As countries develop, there is a shift from communicable to non-communicable disease burden**
- **Undernutrition is a universal problem**

Pervasive Poverty

- **Over 1.3 billion people live in dire poverty, surviving on \$1 or less/day per person**
- **Poorest countries spend \$1-\$10 per person per year on health**
- **Health systems are weak, logistics are worse, and services and competence suffer**

Why Implementation Research?

- **Research from developed countries may not be valid in the developing world**
- **Many high-impact, evidence-based interventions aren't implemented because there is a lack of political will or the expertise/communication, seriously hampering research and the implementation of results**

Why Implementation Research?

- Evidence-based interventions haven't been scaled up in an affordable, sustainable manner
- Interventions lack the high-quality data required before they can be implemented, e.g., resuscitation training, antenatal steroids
- Knowledge isn't enough to change practice = implementation research

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

- **Established by NIH and the Gates Foundation in 2001**
- **Unique private-public collaboration to build maternal and child health capacity thru research partnerships**
- **Cooperative agreement between 7 US and developing world scientist teams, a data center, and NICHD**

Global Network Goals

- **To address common perinatal public health problems to improve the outcome of women and children in the developing world**
- **To build scientific capacity and sustainable research and public health infrastructures**
- **To focus on feasible, sustainable, cost-effective community-based interventions**
- **To disseminate results, increase political will, scale up, change local/national health policy**

Global Network Organization

**ADVISORY
BOARD**

DMC

**US Principal
Investigators**

NICHD

**Steering
Committee**

**Senior Foreign
Investigators**

RTI

Global Network Sites



US locations

New Orleans, Louisiana
Chapel Hill, North Carolina
Birmingham, Alabama
Denver, Colorado
Newark, Delaware
Philadelphia, Pennsylvania
Indianapolis, Indiana

Boston, Massachusetts

Research Triangle Park, North Carolina (DCC)

Leading Causes of Death Among Pregnant Women and Neonates

Women

- Hemorrhage
- Malaria and anemia
- Sepsis/unsafe abortion
- Eclampsia

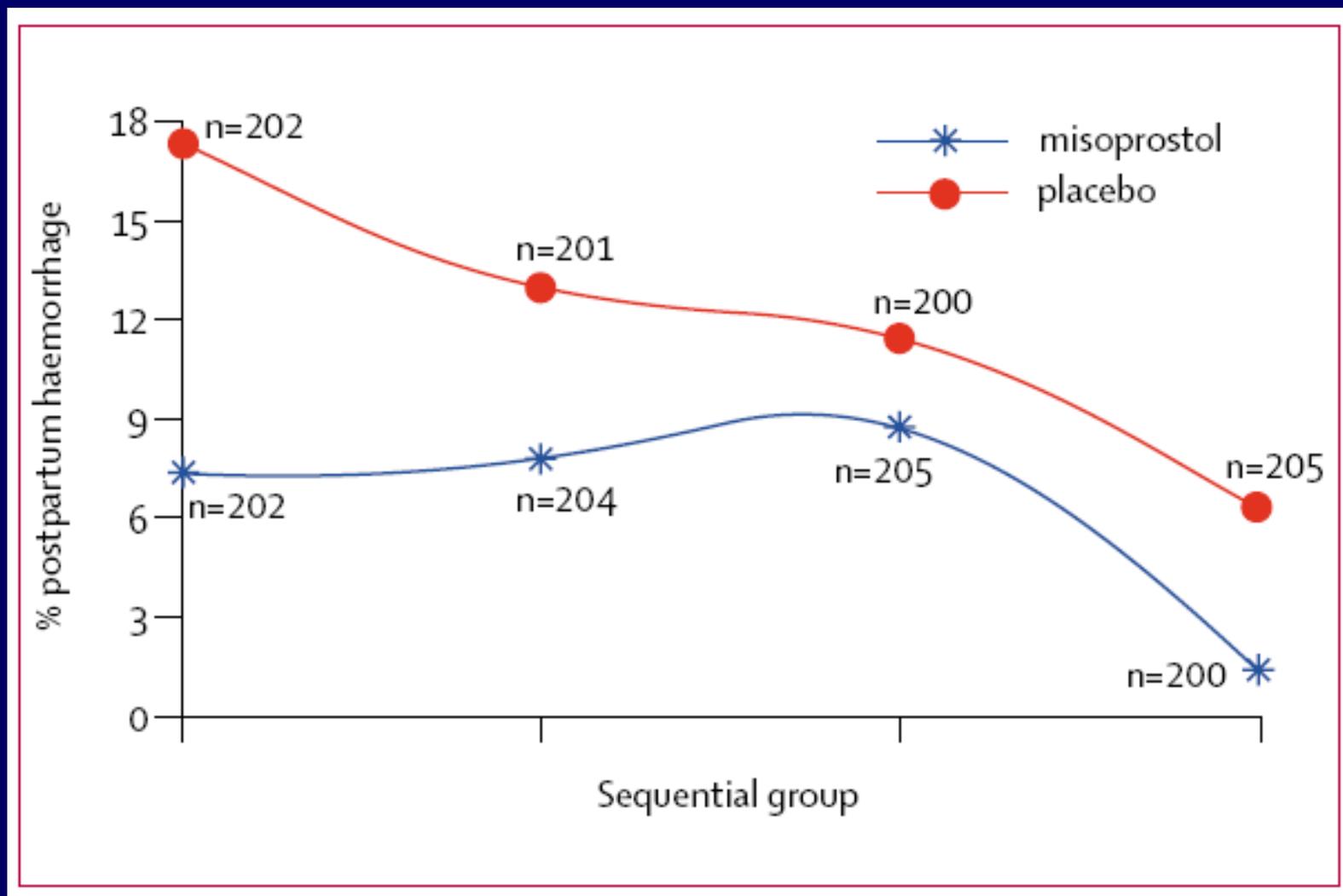
Neonates

- Asphyxia
- Prematurity/low birth weight
- Infection

Global Network Trials/Studies

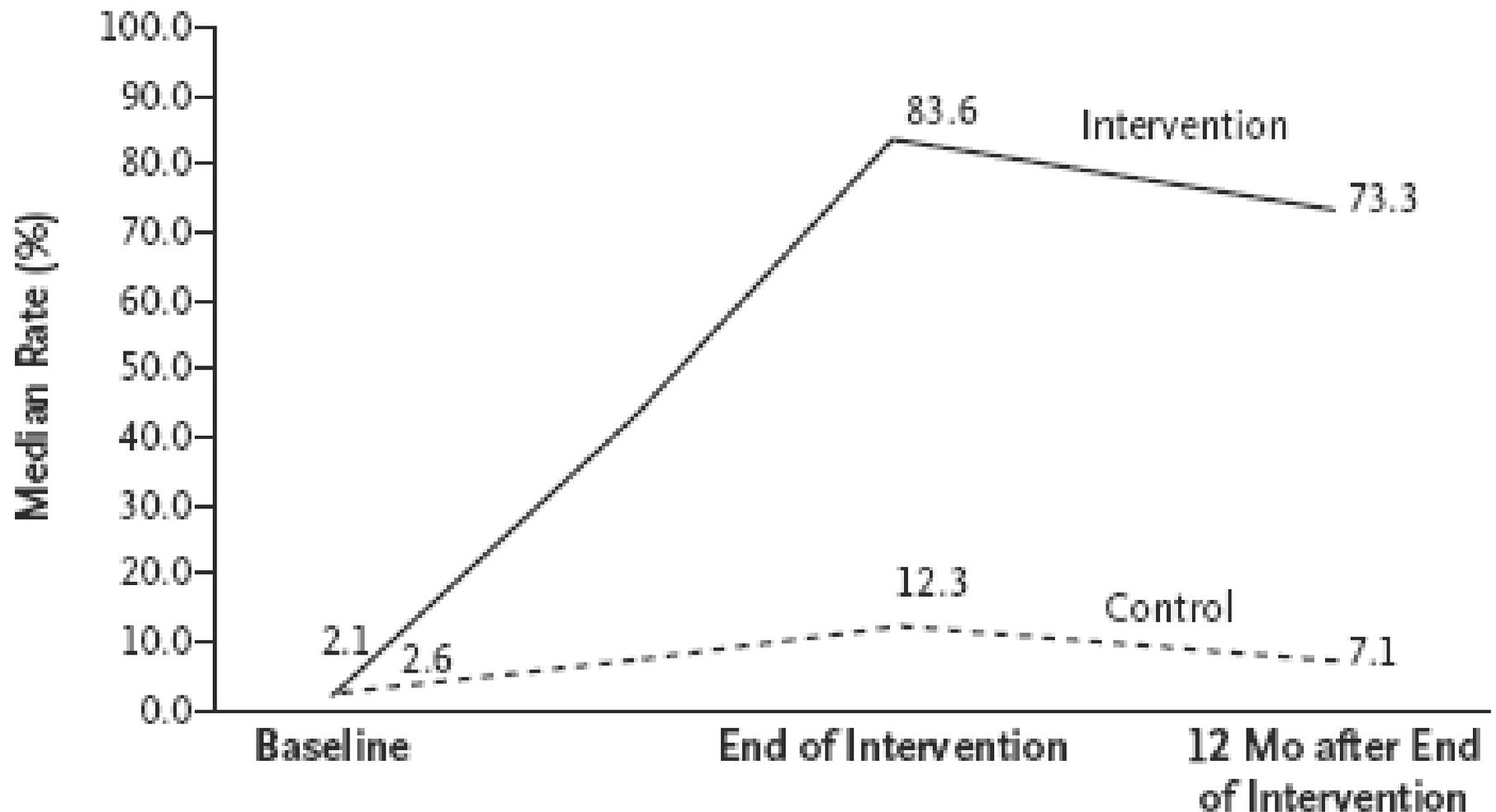
- Preventing postpartum hemorrhage (MP)
- Providing standard OB care
- Preventing preeclampsia/eclampsia
- Study of tobacco exposure & knowledge
- Reducing perinatal mortality 2^d asphyxia
- Early home intervention for asphyxia
- Emergency OB/neonatal care package
- Optimizing infant nutrition and growth
- Optimizing neonatal sepsis/pneumonia care to reduce infant mortality
- PK/PD study of artesunate in pregnancy

Postpartum Hemorrhage Rates for Four Sequential Subgroups of Randomized Women (Misoprostol vs. Placebo)



Changing Physician's Behavior: The Guidelines Trial

A Prophylactic Oxytocin



Changing Physician's Behavior: The Guidelines Trial

B Episiotomy

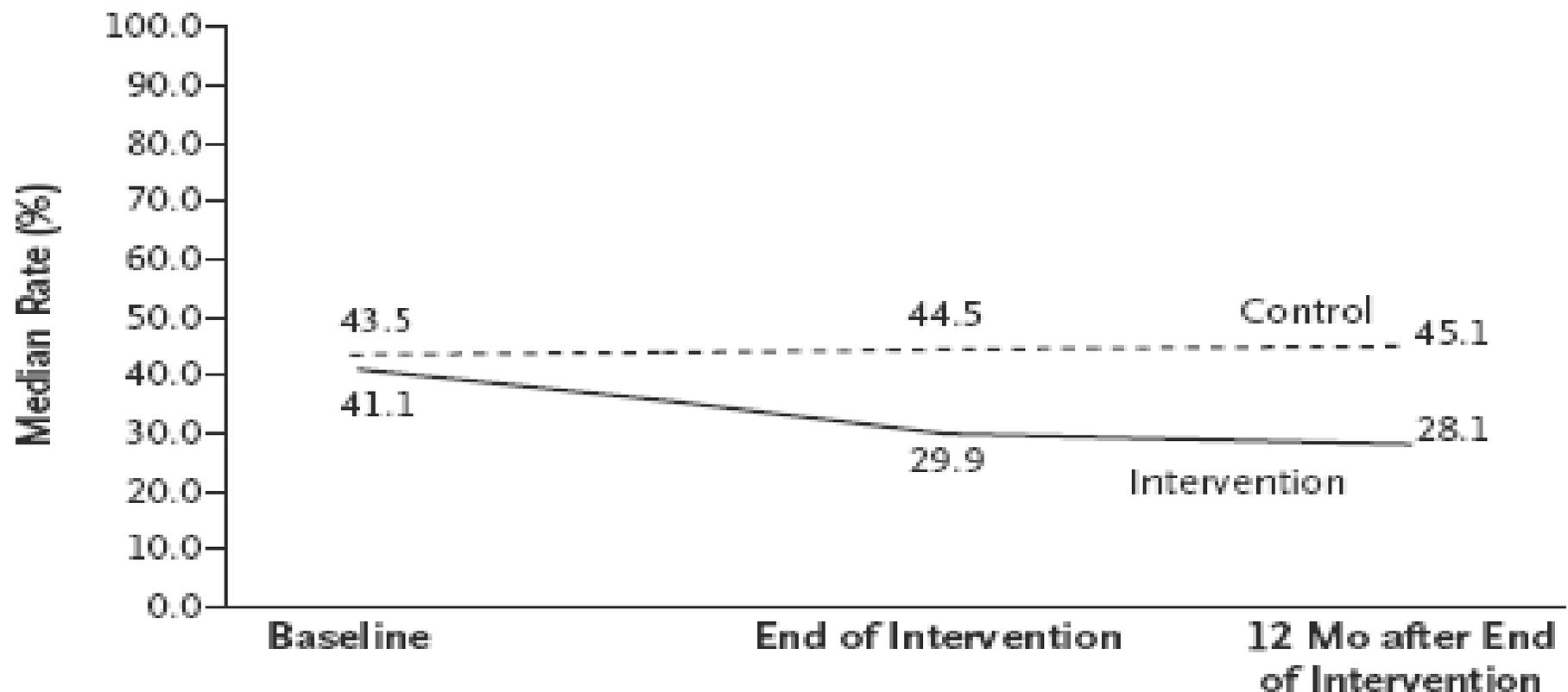
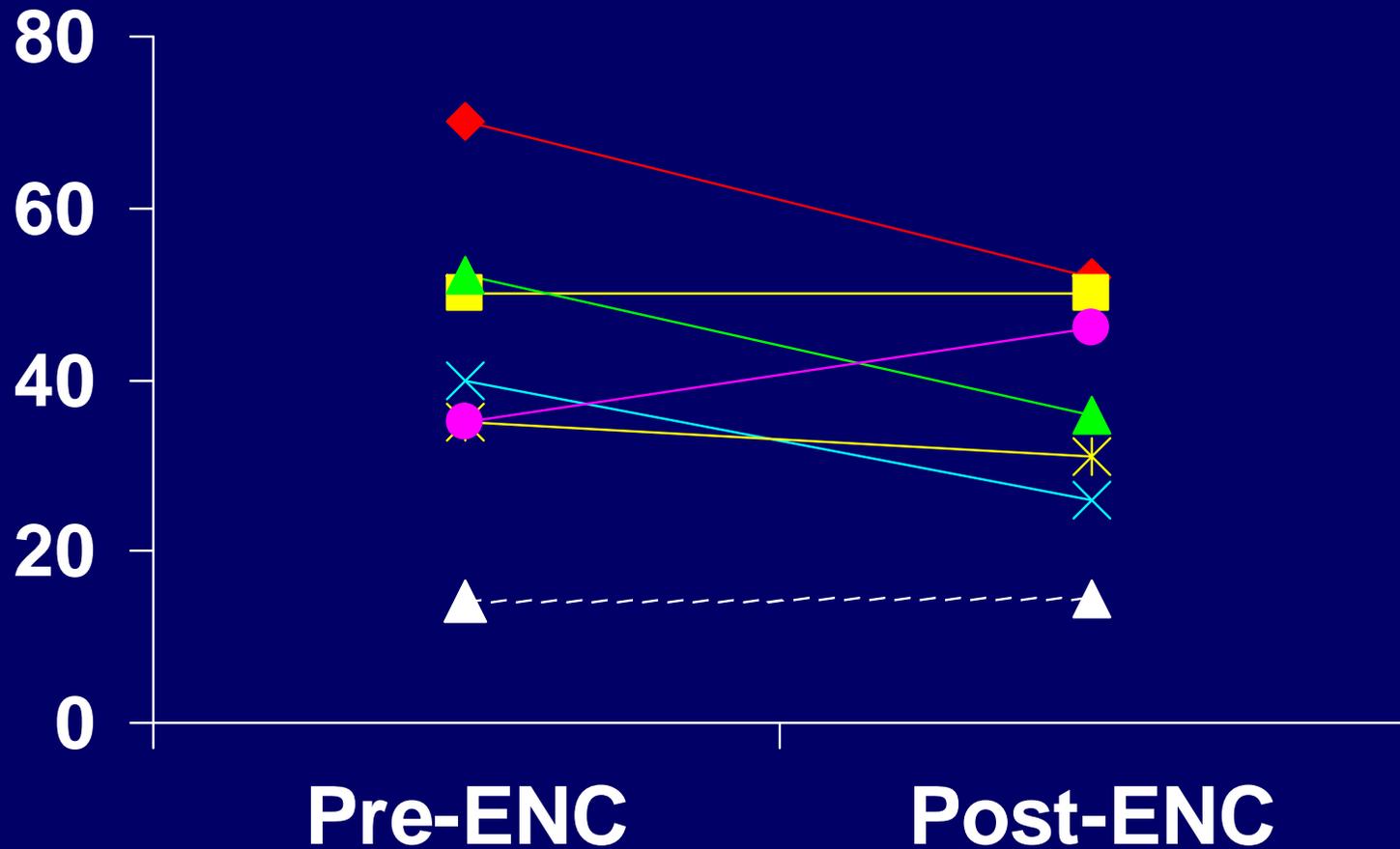


Figure 3. Rates of Prophylactic Use of Oxytocin (Panel A) and Episiotomy (Panel B) at Intervention and Control Hospitals during the Baseline, Postintervention, and 1-Year Follow-up Periods.

Perinatal Mortality Rate by Site



**So What Infrastructure Is
Required for Multicenter
International Centers of
Excellence?**

Funding and Personnel

- **Secure funding**
- **Foreign IRBs & government support**
- **Foreign administrative support**
- **Committed multidisciplinary research team: data center (bio-statisticians, epidemiologists, IT, data managers) + specialists (OBs, pediatricians, nurse midwives, social scientists) + site translators, data entry, drivers, etc. with formal training/field experience**

Patients, Equipment & Facilities

- **Abundant patients and adequate patient care facilities**
- **Vital registry**
- **Central secure office and training facilities**
- **Field research stations**
- **Reliable computer network, basic office equipment, GPS systems, generators, locked storage, AV equipment**
- **Software and databases**
- **Library access**
- **Safe transport**

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<http://gn.rti.org>

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Thanks to our Mothers & Babies

