FIGO/March of Dimes Working Group for Preterm Birth Prevention

- Joe Leigh Simpson (US): Chair
- Gian Carlo Di Renzo (IT): Co-Chair, FIGO

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- James Martin (US)
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- Eduardo Fonseca (BR)
- Madhuri Patel (IN)
- Jennifer Howse (US)

ex officio
PREVENTING PRETERM BIRTH IN LIC AND HIC: A BROAD FIGO MANDATE
Preterm birth is the leading cause of neonatal and childhood death

As of 2013:

- *Single most important cause of neonatal mortality (34.1%)*
- *Leading cause of U-5 deaths (15.4%)*

![Image of a mother and baby in a hospital setting]
Global Progress to MDG 4 for child survival

Mortality per 1000 live births

Under five 5

Under-five mortality rate (UN)

Neonatal mortality rate (UN)

Year

1990
1995
2000
2005
2009
2015

0
10
20
30
40
50
60
70
80
90
100

3.1 million neonatal deaths, 40% of all under-five deaths

Born Too Soon
The Global Action Report on Preterm Birth
EXECUTIVE SUMMARY

march of dimes  The Partnership for Maternal, Newborn & Child Health  Save the Children  World Health Organization
1) 15 million babies are born too soon every year

2) 1.1m deaths, mostly in low income countries

3) Prevention of preterm birth must be accelerated

4) Many premature babies can be saved now with appropriate care
Long-Term Morbidity

Special Education Needs (SEN)

Mackay, 2010
The risk of adverse outcomes in late preterm (34 - 38 weeks gestation) and early term (37 0/7 to 38 6/7 weeks gestation) births is greater compared to delivery at 39 completed weeks gestation.

- Each week of continued gestation until full term lowers risk for neonatal and infant mortality as well as risk of neonatal morbidity.
Short-term neonatal morbidity associated with delivery 37-39 weeks:

- Increased rates of intensive care admissions
- Respiratory problems (respiratory distress syndrome, transient tachypnea of the newborn)
- Increased ventilator support
- Hypoglycemia
Preterm Birth in Low and Middle Income Countries (LIC/MIC)

1) Lifestyle, Infection, Nutrition, Contraception (lack) (LINC): Factors associated with greater proportion of PTB in LIC/MIC

2) These factors present but less likely explanation for preterm birth in High Income Countries (HIC)

3) Causes related to etiology of labor and preterm labor in HIC often are unknown and but when elucidated should be applicable in LIC
Preterm Birth Rate is Higher in LIC than in HIC

- Lifestyle
- Infection
- Nutrition
- Contraception
Preterm Birth Rate is Higher in LIC than in HIC

tobacco, alcohol, drugs, physical activity, diabetes, hypertension, asthma, thyroid disease, depression, violence
Preterm Birth Rate is Higher in LIC than in HIC

infection

urinary tract, malaria, HIV, syphilis, bacterial vaginosis
Preterm Birth Rate is Higher in LIC than in HIC

underweight, obesity, anemia, folic acid, iron and other micronutrient deficiencies
Preterm Birth Rate is Higher in LIC than in HIC

- Lifestyle
- Infection
- Nutrition
- Contraception

age at pregnancy (adolescence, advanced), lack of spacing between pregnancies
Why is Preterm Birth Rate Higher in LIC than in HIC?

Anemia During Pregnancy %

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>Anemia</th>
<th># Preterm Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>66.7%</td>
<td>3,500,000</td>
</tr>
<tr>
<td>India</td>
<td>49.7%</td>
<td>770,000</td>
</tr>
<tr>
<td>Pakistan</td>
<td>39.1%</td>
<td>750,000</td>
</tr>
<tr>
<td>World</td>
<td>41.8%</td>
<td></td>
</tr>
</tbody>
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* WHO Worldwide Prevalence of Anemia, 2008
Why is Preterm Birth Rate Higher in LIC than in HIC?

### Contraception and Pregnancy

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</thead>
<tbody>
<tr>
<td>India</td>
<td>55%</td>
<td>39</td>
</tr>
<tr>
<td>Nigeria</td>
<td>18%</td>
<td>113</td>
</tr>
<tr>
<td>Pakistan</td>
<td>27%</td>
<td>16</td>
</tr>
<tr>
<td>World</td>
<td>55%</td>
<td>49</td>
</tr>
</tbody>
</table>

*Contraceptive Prevalence Rate = % of married women using any form of contraception
Adolescent Birth Rate = # of births to 15-19 year olds per 1,000 15 – 19 year old girls*
How Much Can We Reduce Preterm Birth Given Current Evidence Based Interventions?
Evidence Based Prevention in High Income Countries (HIC)

1. Eliminate early elective deliveries (HBWW)
2. Progesterone for prior PTB
3. Fewer embryos transferred per cycle (Assisted Reproductive Technologies)
4. Cerclage when indicated
5. Eliminate maternal smoking
Preventing Preterm Births in HIC

• Only 5% rate reduction applying all 5 proved interventions 9.6 to 9.1% in 39 countries (Chang, et al., 2013) (MOD, WHO, Gates, NICHD)

• Often we do not know how to prevent preterm birth – especially 24-34 weeks.
Other Preventive Measures (2016)

- Pregnancy Spacing (Delivery-conception interval > 18 months). Biological explanation probably the need to reconstitute vaginal microbiome

- Vaginal progesterone for short cervical length (FIGO Good Practices)

- Aspirin for pre-eclampsia (FIGO Good Practices)

Magnitude of rate reduction achievable yet to be determined
How Low Can the Preterm Birth Rate Go Without More Discoveries?

- Sweden 5.5%; Germany 9.2%
- We do not know why preterm birth rates differ among HIC countries having equally strong economies, good health coverage and well educated populace
FIGO/March of Dimes (MOD) Memorandum of Agreement (2014)

- Working Group for Preterm Birth Prevention: Determine basis within and among HIC country PTB differences
- Apply findings in MIC (Cyprus, Costa Rica, Uruguay)
- Symposia on PTB at FIGO triennial Congresses and at FIGO regional meetings
- Share MOD-generated basic discoveries and translation, and implement through FIGO/MOD committee member exchanges