
In Partnership with:
US Agency for International Development (USAID)
UNICEF
MOH Kazakhstan
9 June 2009
CDC/CAR
Modes Operandi
Division of Reproductive Health
WHO Collaborating Center in Reproductive Health

Modes Operandi

- **CDC**
  - Without data…..
  - If you cannot count it…..
  - The most with the least
    - Information vs data

- **CDC application**
  - Every pregnancy counts, so account for every pregnancy
  - Every baby has weight, so weigh every baby

- **MARS (Method for assessing reported statistics)**
  - Assessment of IMR
  - Relate it to data for decision makers

- **MDGs 4 & 5 challenge**
  - Cause of Death (COD) approach

- **Quality & MDGs**
  - Local product
  - Quality improvement cycle is driven by local data

Site history

- US review (1982)
- Europe review (WHO/EURO) (1983)
- China (1985)
- UNRWA Activities (1983-90)
- Yugoslavia
- Romania (1992)
- UNRWA continued (1997-2001)
- Kazakhstan (2003)
- Uzbekistan (2005)
- Moscow Oblast (2005)
- Guyana (2007)
- Columbia (2008)
- Afghanistan (2003-present)
- Mexico, Tanzania,
Plan of presentation

- Approaches to revision of live and birth definitions in Kazakhstan in accordance with WHO recommendations
- Revising of infant mortality levels
- Application of BABIES Matrix – age at death and fetus weight at birth for working out the program aimed to reduce the infant mortality rate
## Comparison of stillbirth criteria

<table>
<thead>
<tr>
<th></th>
<th>WHO</th>
<th>Kazakhstan (2003y)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stillbirths</strong></td>
<td>No signs of life</td>
<td>No breathing</td>
</tr>
<tr>
<td><strong>Late miscarriage</strong></td>
<td>Less than 500gr, Less than 22 weeks (For international comparison)</td>
<td>Less than 1000gr, Less than 28 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Except those that survived for more than 7 days</td>
</tr>
</tbody>
</table>
Goals/Objectives

• Develop legal documents and government policies on infant mortality using WHO live birth criteria

• Help to implement WHO live birth criteria by:
  - training the staff of medical facilities, state statistics, and vital registration agency to register babies with low and extremely low birth weight during delivery
  - monitoring the use of these criteria

• Help analyze infant mortality data to guide implementation of interventions

• Introduce, standardize, and institutionalize the use of CDC’s Birth weight, Age at Death, Boxes, Interventions, Evaluation, System (BABIES) Matrix as a tool to promote related interventions
Activities

- **Prepared**: instructions on applying WHO criteria in public health practice for medical workers and further monitoring of trained people.

- **Trained**: 262 medical workers (obstetrician-gynecologists, neonatologists, patanatomists, medical statisticians, organizations in public health).

- **Equipment**: high-precision electronical scales, respirators, mucus suction, new statistical registration forms were delivered in obstetrical facilities of pilot sites.

- **Organized**: office of project with office equipment, CDC provided support to national coordinator of this project.
Major intervention groups to prevent newborn mortality based on birth weight and time of death:

- Stillbirths (>22 weeks)
  - VLBW (0-1499 gms)
    - Maternal Health
  - IBW (1500-2499 gms)
    - Maternal Care
  - NBW (>2500 gms)
    - Maternal Care

- Early Neonatal Death (<7 Days)
  - Maternal Health 1
  - Newborn Care 4
  - Newborn Care 7

- Late Neonatal Death (7-28 Days)
  - Maternal Health 2
  - Newborn Care 5
  - Infant Care 8

- Post Neonatal Death (>28 Days)
  - Maternal Health 3
  - Infant Care 6
  - Infant Care 9
Major intervention groups to prevent newborn mortality based on birth weight and time of death

- **VLBW** (0-1499 g.)
- **ILBW** (1500-2499 g.)
- **NLBW** (2500+ g.)

- **Maternal Health**
- **Newborn Care**
- **Infant Care**

- Stillbirth (22+ week)
- END (<7 d)
- LND (7-27d)
- PND (28d-1y)
Calculation of mortality rate by weight groups in pilot site FNMRDWG (Almaty+Almaty oblast 2003-2005, Mean)

<table>
<thead>
<tr>
<th></th>
<th>Weight at birth &lt;2500g %</th>
<th>VLBW &lt;1500g</th>
<th>ILBW 1500-2499g</th>
<th>NLBW 2500g&gt;</th>
<th>FNMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot without LBD criteria</td>
<td>7,2</td>
<td>512,9</td>
<td>92,8</td>
<td>10,5</td>
<td>20,4</td>
</tr>
<tr>
<td>Pilot with LBD criteria</td>
<td>8,7</td>
<td>825,9</td>
<td>102,9</td>
<td>12,4</td>
<td>37,4</td>
</tr>
<tr>
<td>Atlanta USA</td>
<td>7,8</td>
<td>370</td>
<td>19</td>
<td>3</td>
<td>9,4</td>
</tr>
</tbody>
</table>

FNMR- fetus-newborn mortality rate
Comparison of interventions aimed to reducing fetus-infant loses in pilot sites (Almaty+Almaty oblast 2003-2005y. Mean)

Pilot with LBD criteria

Pilot without LBD criteria

37.4

20.4

ENMR-Early Neonatal Mortality Rate, PMR- Perinatal Mortality Rate, NMR- Neonatal Mortality Rate, IMR- Infant Mortality Rate.
Specific Rates of Infant and Newborn Mortality with Birth Body Weight, Kazakhstan, 2008. (per 1000 born).

<table>
<thead>
<tr>
<th>Birth Weight (gr.)</th>
<th>AP</th>
<th>IP</th>
<th>0-6d</th>
<th>7-27 d</th>
<th>28d-1y</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-999</td>
<td>344.5</td>
<td>77.4</td>
<td>440.1</td>
<td>43.2</td>
<td>20.8</td>
<td>926.0</td>
</tr>
<tr>
<td>1000-1499</td>
<td>170.0</td>
<td>21.8</td>
<td>279.1</td>
<td>57.7</td>
<td>31.4</td>
<td>560.2</td>
</tr>
<tr>
<td>1500-2499</td>
<td>43.1</td>
<td>5.8</td>
<td>59.7</td>
<td>14.4</td>
<td>18.9</td>
<td>141.8</td>
</tr>
<tr>
<td>2500 and &gt;</td>
<td>2.7</td>
<td>0.9</td>
<td>3.5</td>
<td>1.3</td>
<td>4.3</td>
<td>12.6</td>
</tr>
<tr>
<td>Total</td>
<td>8.8</td>
<td>1.9</td>
<td>12.0</td>
<td>2.8</td>
<td>5.4</td>
<td>30.9</td>
</tr>
</tbody>
</table>
Proportional Rates of Infant and Newborn Mortality with Birth Body Weight. Kazakhstan, 2008 (per 1000 born).

<table>
<thead>
<tr>
<th>Birth Body Weight</th>
<th>AP</th>
<th>IP</th>
<th>0-6d</th>
<th>7-27d</th>
<th>28d-1y</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-999 gr.</td>
<td>2.5</td>
<td>0.6</td>
<td>3.2</td>
<td>0.3</td>
<td>0.2</td>
<td>6.8</td>
</tr>
<tr>
<td>1000-1499</td>
<td>1.4</td>
<td>0.2</td>
<td>2.4</td>
<td>0.5</td>
<td>0.3</td>
<td>4.7</td>
</tr>
<tr>
<td>1500-2499</td>
<td>2.3</td>
<td>0.3</td>
<td>3.2</td>
<td>0.8</td>
<td>1.0</td>
<td>7.6</td>
</tr>
<tr>
<td>2500 and&gt;</td>
<td>2.5</td>
<td>0.8</td>
<td>3.2</td>
<td>1.2</td>
<td>4.0</td>
<td>11.7</td>
</tr>
<tr>
<td>total</td>
<td>8.8</td>
<td>1.9</td>
<td>12.0</td>
<td>2.8</td>
<td>5.4</td>
<td>30.9</td>
</tr>
</tbody>
</table>
Intervention Packages Specification
Aimed to Decrease the Infant and Newborn Mortality, Kazakhstan, 2008.

6,0
7,2
6,2
11,5
Conclusion on Pilot project of applying WHO criteria in public health practice Almaty and Almaty oblast 2003-2006 (I)

- Registered official data of newborn and infant birth and death with low weight at birth was understated

- Children who died in early neonatal period were registered in official statistics as stillbirths or miscarriages because of fear to be punished for infant mortality rate growth

- Understating in early neonatal period lead to understating to mother health and newborns nursing

- Imperfection of registration forms did not allow to collect enough data about birth and death cases
Conclusion of Pilot project on WHO criteria applying in public health practice Almaty city and Almaty oblast 2003-2006 (II)

In compliance with applying WHO criteria in pilot regions the following outputs were done:

- Recommendations for applying WHO criteria in Kazakhstan based on experience of application in pilot sites
- Normative-legal (issued appropriate prikazes of the MOH, improved statistical registration documents) for registration of birth and death cases in accordance with WHO recommendations
- Training program and training modules for undergraduate and post graduate education on teaching WHO criteria in Medical Institutions
Conclusion of Pilot project on WHO criteria applying in public health practice Almaty city and Almaty oblast 2003-2006 (III)

• “WHO criteria applying and BABIES matrix” was included in training programs for post graduate education.

• New approaches in calculation of fetus-infant loses in compliance with weight at birth and time of death were successfully implemented.

• Indicators and adapted criteria of monitoring for problems definitions lead to fetus-infant loses were developed.

• Main approaches in program development aimed to reducing the infant mortality rate were developed.
Method for Assessing Reported Statistics (MARS)
Method for Assessing Reported Statistics (MARS)

| Birthweight Specific Postneonatal Mortality >=2500 g |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| BWS PNMR                        | 23          | 26          | 29          | 32          | 37          | 42          | 47          | 52          | 57          |
|_birthweight in grams_           |             |             |             |             |             |             |             |             |             |
| 23                             | 117         | 120         | 122         | 125         | 129         | 133         | 137         | 142         | 146         |
| 26                             | 120         | 122         | 125         | 127         | 132         | 136         | 140         | 144         | 148         |
| 29                             | 122         | 125         | 127         | 130         | 134         | 138         | 142         | 147         | 151         |
| 15                             | 110         | 113         | 115         | 118         | 122         | 126         | 131         | 135         | 139         |
| 20                             | 115         | 117         | 120         | 122         | 126         | 131         | 135         | 139         | 143         |
| 25                             | 119         | 121         | 124         | 126         | 131         | 135         | 139         | 143         | 148         |
| 30                             | 123         | 126         | 128         | 131         | 135         | 139         | 143         | 148         | 152         |
| 35                             | 127         | 130         | 132         | 135         | 139         | 143         | 148         | 152         | 156         |

- VLBWR (%): 2.6
- BWSIMRVLBW (o/oo): 1000
- IBWR: 13.1
- BWSIMRIBW (0/00): 400
- LBWR = 15.7
- BWSNMRNWB: 32
- BWSPNMRNWB: 32
- IMR: 132.4
Country X

IMR = 30

\[ IMR = VLBWR \times \frac{BWSIMRVLBW}{IBWR} \times BWSIMRIBW + (1 - LBWR) \times BWSIMRNBW \]

LBWR = 6.0
VLBWR/IBWR = 0.32
VLBWR (<1500) = 1.9
IBWR (1500-2499) = 4.1

BWSIMRVLBW = 125
BWSIMRIBW = 350
BWSIMRNLBW (Est.) = 278
BWSIMRNBW (Est.) = 14

IMR = 30
## Method for Assessing Reported Statistics (MARS)

### Country X

**IMR** = 30

**VLBWR (%)** = 2.6

**IMR = VLBWR x BWSIMRVLBW (o/oo)**

**+ IBWR x BWSIMRIBW**

**+ (1-LBWR) x BWSIMRNBW**

<table>
<thead>
<tr>
<th>LBWR</th>
<th>BWSIMRVLBW</th>
<th>BWSIMRIBW</th>
<th>BWSIMRNBW</th>
</tr>
</thead>
<tbody>
<tr>
<td>-6.0</td>
<td>125</td>
<td>350</td>
<td></td>
</tr>
</tbody>
</table>

**VLBWR/IBWR = 0.32**

**IBWR (1500-2499) = 4.1**

**BWSIMRNBW(Est.) = 14**

**IMR** = 30

### Estimated IMR from MARS Equation

<table>
<thead>
<tr>
<th>BWSPNMNRNBW</th>
<th>Birthweight Specific Postneonatal Mortality &gt;=2500 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Weight Specific NMR NBW</td>
<td>Birthweight Specific Postneonatal Mortality &gt;=2500 g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BWSPNMNRNBW</th>
<th>21</th>
<th>24</th>
<th>27</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birthweight Specific NMR NBW</td>
<td>21</td>
<td>139</td>
<td>141</td>
<td>143</td>
<td>145</td>
<td>149</td>
<td>153</td>
<td>157</td>
<td>161</td>
</tr>
<tr>
<td>24</td>
<td>141</td>
<td>143</td>
<td>145</td>
<td>148</td>
<td>152</td>
<td>156</td>
<td>159</td>
<td>163</td>
<td>169</td>
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<td>27</td>
<td>143</td>
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<td>148</td>
<td>150</td>
<td>154</td>
<td>158</td>
<td>162</td>
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<td>171</td>
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<tr>
<td>30</td>
<td>145</td>
<td>148</td>
<td>150</td>
<td>152</td>
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<td>155</td>
<td>159</td>
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<td>170</td>
<td>176</td>
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<tr>
<td>36</td>
<td>150</td>
<td>152</td>
<td>155</td>
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<td>161</td>
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<td>169</td>
<td>173</td>
<td>178</td>
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<tr>
<td>39</td>
<td>152</td>
<td>155</td>
<td>157</td>
<td>159</td>
<td>163</td>
<td>167</td>
<td>171</td>
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<td>42</td>
<td>155</td>
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<td>159</td>
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<td>166</td>
<td>169</td>
<td>173</td>
<td>177</td>
<td>183</td>
</tr>
</tbody>
</table>
Importance of infant mortality data for Public Health

<table>
<thead>
<tr>
<th></th>
<th>Infants (under 1 year)</th>
<th>Children under 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual number of children deaths around the world</td>
<td>7,000,000</td>
<td>12,000,000</td>
</tr>
<tr>
<td>Kazakhstan (2007)</td>
<td>4,700 children</td>
<td>5,600 children</td>
</tr>
<tr>
<td>Kazakhstan (2008)</td>
<td>7,400 children</td>
<td>8,400 children</td>
</tr>
</tbody>
</table>

• Most cases of children mortality are preventable
Importance of infant mortality rate level

- Used as indicator of health condition, economy, nourishing and social level
- Applicable for following up achievements for “Goal of millennium development”
- Serve as the main indicator for organization of international assistance
- Unauthenticity of infant mortality rate decreases its value in order to influence on infant mortality rate.
Kazakhstan
Territory-2724900 км²
Population-15484192 pers.
Man-7450418 pers.
Woman-8033774 pers.
Children under 14 years-3729900 pers.
Population density-6 pers/ км²
14 oblast and 2 city
Capital- Astana city
Birth and death rates in Kazakhstan (2000-2007) (per 1000 population)
Stillbirth and death rates among infants in Kazakhstan (2000-2007)

Stillbirth, Perinatal Mortality Rate: per 1000 born
Early Neonatal, Neonatal and Infant Mortality Rate: per 1000 born alive.
ENMR-Early Neonatal Mortality Rate, PMR- Perinatal Mortality Rate, NMR- Neonatal Mortality Rate, IMR- Infant Mortality Rate.
Project goal:

To introduce live birth and stillbirth criteria, recommended by the World Health Organization into practical health care of pilot regions of Kazakhstan:
- Almaty city,
- Almaty oblast (Enbekshi-Kazakh, Karasaj regions and Taldy-kurgan city)
Almaty city, Almaty oblast (Enbekshi-Kazakh, Karasaj regions and Taldy-Korgan city)

- Population 1,700,000 people, reside in 3 rayons and 3 cities
- 36,000 (0.47%) children under 1 year
- 15 hospitals, 133 clinics and medical stations, 1034 pediatricians, neonatologists, medical assistants
- Infant mortality rate (without taking into account WHO live birth recommendations) in 2006 year was 13.2 per 1000 born.
WHO live birth definitions

A fetus expelled out of the mother’s womb regardless gestational age and having one (any) of the following signs:

- Breathing
- Heart beat
- Cord pulsation
- Spontaneous muscle contraction
Phases of preparation to WHO criteria application in Kazakhstan (I)

- **Preparation (2002-2003 years):**
  - Preparation and issuance of MOH prikazes on application of WHO criteria in pilot cites’ medical facilities
  - Preparation of methodical documentation for medical workers on application of new approaches in determination of live birth, stillbirth, calculation of newborns and infants deaths rate, registration of birth and death cases in new statistical registration forms
  - Pilot sites determination.

- **Teaching (2003 year):**
  - Teaching medical workers in pilot sites taking part in registration of infant birth and death cases (obstetrician-gynecologists, neonatologists, pediatricians, forensic medical examination experts, medical statisticians) on applying WHO criteria in public health practice.

- **Collection and processing of information (2003-2006 years)**
  - Collection and processing of information on infant birth and death cases in pilot sites using specially developed statistical forms.
Phases of preparation to WHO criteria application in Kazakhstan (II)

• Preparation to WHO criteria application in Kazakhstan (2006-2007 years)

• Issuance of the Prime Minister of the Republic of Kazakhstan (March 2006 year) Command on creation of working group at the Government in order to apply new criteria, starting from 2008 year. Approval of action plan.

  “4.3.4. Realization of the following measures are being planned for making decision of socially important problems in public health:
  - on maternal and infant mortality reduction with systematization of certain achievements and measures existing and experienced in the world;
  - It is expected to have significant increasing of statistical data. In this case the Government announced a temporary moratorium for administrative punishment while doing transition to LBD criteria”.

Phases of preparation to WHO criteria application in Kazakhstan (III)

- Issuance prikazes of the Minister of Health (October, November 2007 year) regulated:
  - WHO criteria application in Kazakhstan starting from January, 2008,
  - Application of new statistical forms (delivery history, newborns’ history; death certificate, registration forms), that make it possible to collect data about newborns and infants birth and death cases in compliance with body weight at birth and time of death

- Teaching of trainers form 14 oblasts and 2 cities (Almaty, Astana) of Kazakhstan, for further teaching of local medical workers involved in the process of registration of infant birth and death cases in accordance with WHO criteria

- Activity on informing population, medical workers, policymakers about transition to new WHO recommended criteria starting from January 2008
Since 2003 year perinatal statistics was applied in medical facilities in pilot sites:

- live-born: newborn with body weight 500 gr and more, gestation term 22 weeks and more, height 25 sm and more, with at least one sing (breath, heartbeat, spontaneous muscle construction, cord pulsation)

- stillborn: newborn with weight 500 gr and more, gestation term 22 weeks and more, height 25 sm and more without any of life signs

- in medical registration documents (delivery history, history of newborn and other), weight of all born was marked as it was fixed at birth

- in statistical registration documents (reports about work of medical facilities), weight of all born was classified by following weight categories:
  
  Normal weight at birth $\geq 2500$gr,
  Low weight at birth $< 2500$gr,
  Very low weight at birth $< 1500$gr,
  Extremely low weight at birth $< 1000$gr.
Results of WHO criteria application in pilot site Almaty city, Almaty oblast (Taldy-Korgan city, Enbekshikazakh, Karasay rayons)
Comparison of newborn weight distribution in pilot site (Almaty, Almaty oblast 2003-2005, Mean)

<table>
<thead>
<tr>
<th></th>
<th>500-999gr %</th>
<th>1000-1499gr %</th>
<th>1500-2499gr %</th>
<th>2500gr+ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot region official</td>
<td>0,2</td>
<td>0,6</td>
<td>6,4</td>
<td>92,8</td>
</tr>
<tr>
<td>Pilot site (with WHO criteria)</td>
<td>1,7</td>
<td>0,6</td>
<td>6,5</td>
<td>91,2</td>
</tr>
<tr>
<td>Atlanta USA (1990)</td>
<td>1,5</td>
<td></td>
<td>6,3</td>
<td>92,2</td>
</tr>
</tbody>
</table>
Fetus-infant mortality rate in pilot site in comparison with official statistical data (Almaty, Almaty oblast 2003-2006)

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Official</td>
<td>Pilot</td>
<td>Official</td>
<td>Pilot</td>
</tr>
<tr>
<td>Infant mortality Rate</td>
<td>15.1</td>
<td>21.6</td>
<td>13.7</td>
<td>22.3</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>6.3</td>
<td>15.8</td>
<td>5.4</td>
<td>17.2</td>
</tr>
<tr>
<td>Early neonatal Mortality Rate</td>
<td>8.7</td>
<td>14.8</td>
<td>7.7</td>
<td>15.0</td>
</tr>
<tr>
<td>Neonatal Mortality Rate</td>
<td>11.3</td>
<td>17.8</td>
<td>9.7</td>
<td>17.2</td>
</tr>
</tbody>
</table>
## Ratio of infant mortality rate and still birth rate of the pilot region in accordance with the WHO criteria and official statistics (2003-2006)

<table>
<thead>
<tr>
<th></th>
<th>Kazakhstan (Pilot region, Mean)</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMR</td>
<td>1.53</td>
<td>1.31</td>
</tr>
<tr>
<td>Still Birth</td>
<td>2.66</td>
<td>1.52</td>
</tr>
<tr>
<td>ENMR(0-6 d)</td>
<td>2.2</td>
<td>1.61</td>
</tr>
<tr>
<td>PMR</td>
<td>1.83</td>
<td>1.42</td>
</tr>
<tr>
<td>NMR</td>
<td>1.67</td>
<td></td>
</tr>
</tbody>
</table>

*Latvia, Lithuania, Estonia, Georgia, Belarus, Kyrgyzstan
• Application of method of newborn and infant mortality rate redistribution depending on age at death and fetus weight at the birth in order to plan programs aimed to reducing of infant mortality rate
Calculation of fetus-newborn mortality rate depending on weight groups (FNMRDWG)

\[
\text{FNMRDWG} = \frac{\text{Number of stillbirths + number of dead newborns by weight groups at birth}}{\text{Total number of stillbirths and live born by weight groups at birth}} \times 1000
\]
• Due to increasing of infant and newborn mortality in Kazakhstan, in 2008 the Government of Kazakhstan stated the Prenatal Program with the view of decreasing the prenatal mortality.

• The information of every case of infant and newborn mortality is transmitted to the Ministry of Health on a daily basis for further expertise.

• The information of every case of infant and newborn mortality is transmitted to the Executive Office of the President of the RK on a monthly basis for making the necessary decisions.
Thank you for your attention
• Since January 2008 the WHO Life Birth Definition Criteria has been implemented within the Republic of Kazakhstan.
I assume that we can eventually agree on......

- If every mother and child count, then we should account for every mother and child at the district level.

- The disparity that exists in MNH statistics between the developed world and the developing world is due to an inability to implement evidenced-based interventions already known to be effective. This, then, is a management problem.

- The solution to the management problem is a “systems solution” that provides quality services.

- We need to define the “gaps” at the district level and see them as an “opportunity” to close the “gap” to achieve the MDGs.

To operationalize these previous four points:

- We must avoid “outcome displacement” at the district level.

- Quality is a “local product” that is internal and locally driven.

- Four output categories:
  - Coverage
  - Matching skill with need
  - Referral pattern
  - Altering risk factors

- Every time that we have a service to be delivered at the local level we will inquire about the 5 As (Available, accessible, acceptable, affordable, appropriate)
Guiding Principles
for MNHS M&E at district level

• “Systems solution”
• Packages of intervention
• “Every Mother and Child Count”
• Guided by UN directives
• The “most with the least”
• Quality of MNHS is a local product
The challenge in closing the gaps in international response:

- Gaps in social justice
- Gaps in responsibility
- Gaps in implementation
- Gaps in knowledge