Trends in Anemia Prevalence and Control Programs in Rwanda

Presentation at the Multi-Sector Anemia Partners’ Meeting

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Anemia Prevalence is Declining in Rwanda

Trends in Anemia in Children 6-59 months and Pregnant Women 2005-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Children 6-59 mos</th>
<th>Pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>56</td>
<td>20</td>
</tr>
<tr>
<td>2007/8</td>
<td>48</td>
<td>27</td>
</tr>
<tr>
<td>2010</td>
<td>38</td>
<td>21</td>
</tr>
<tr>
<td>2005</td>
<td>35</td>
<td>13</td>
</tr>
<tr>
<td>2007/8</td>
<td>29</td>
<td>13</td>
</tr>
<tr>
<td>2010</td>
<td>20</td>
<td>12</td>
</tr>
</tbody>
</table>

- All anemia
- Mild anemia
- Moderate anemia
- Severe anemia
Trends in Anemia Prevalence in Women by Reproductive Status

Trends of Anemia in Rwandan Women by Reproductive Status 2005-2010

- % Anemic
- Not PG/BF: 33, 27, 17
- PG: 35, 29, 17
- BF: 33, 27, 18

Legend:
- 2005
- 2007/8
- 2010
Regional Comparisons

Prevalence of Anemia in Pregnant Women

- Burundi: All anemia 26, Mild 15, Moderate 10, Severe 1, Total 32
- Congo, DR: All anemia 60, Mild 25, Moderate 32, Severe 3, Total 60
- Rwanda: All anemia 19, Mild 12, Moderate 7, Severe 0, Total 38
- Tanzania: All anemia 53, Mild 23, Moderate 28, Severe 2, Total 86
- Uganda: All anemia 31, Mild 20, Moderate 11, Severe 0, Total 62
Trends in Anemia in Children by Age Group

Trends of Anemia in Rwandan Children 6-59 Months 2005-2010

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2005</th>
<th>2007/8</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-59 mos</td>
<td>56</td>
<td>48</td>
<td>38</td>
</tr>
<tr>
<td>6-8 mos</td>
<td>77</td>
<td>78</td>
<td>70</td>
</tr>
<tr>
<td>9-11 mos</td>
<td>68</td>
<td>71</td>
<td>69</td>
</tr>
<tr>
<td>12-23 mos</td>
<td>64</td>
<td>57</td>
<td>50</td>
</tr>
<tr>
<td>24-59 mos</td>
<td>51</td>
<td>39</td>
<td>31</td>
</tr>
</tbody>
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Regional Comparisons

Prevalence of Anemia in Children 6-59 months

- Burundi: 45 (All anemia), 23 (Mild), 21 (Moderate), 1 (Severe)
- Congo, DR: 71 (All anemia), 23 (Mild), 23 (Moderate), 4 (Severe)
- Rwanda: 38 (All anemia), 24 (Mild), 14 (Moderate), 1 (Severe)
- Tanzania: 58 (All anemia), 27 (Mild), 29 (Moderate), 2 (Severe)
- Uganda: 48 (All anemia), 22 (Mild), 26 (Moderate), 2 (Severe)
Regional Comparisons—Anemia in All Children and Children 6-11 Months

<table>
<thead>
<tr>
<th>Country, Year</th>
<th>Children 6-59 months</th>
<th>Children 6-11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi 2010</td>
<td>45%</td>
<td>70%</td>
</tr>
<tr>
<td>Ethiopia 2011</td>
<td>44%</td>
<td>66%</td>
</tr>
<tr>
<td>Congo, DR 2007</td>
<td>71%</td>
<td>85%</td>
</tr>
<tr>
<td>Rwanda, 2010</td>
<td>38%</td>
<td>70%</td>
</tr>
<tr>
<td>Tanzania 2010</td>
<td>59%</td>
<td>80%</td>
</tr>
<tr>
<td>Uganda, 2011</td>
<td>49%</td>
<td>68%</td>
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</tbody>
</table>
Major Direct Causes of Anemia

- Poor, insufficient, or abnormal red blood cell production (poor dietary intake and/or absorption of iron and other micronutrients; infectious diseases; increased requirements due to disease and growth)
- Excessive red blood cell destruction (malaria)
- Excessive red blood cell loss (helminths, bacterial or viral infections that cause blood loss; reproductive-related losses)
What Interventions will Decrease Anemia—Related to the Causes?

- Improving intake of iron
  - Improved dietary intake
  - Supplementation
  - Food fortification
  - Food processing
- Preventing & Controlling Malaria
  - Sleeping under LLINs
  - IPTp, IPTi
What Interventions will Decrease Anemia—Related to the Causes?

- Preventing & Controlling Diarrhea
  - ORS
  - Continued and recuperative feeding
  - Clean water and sanitation access
- Reproductive losses
  - Modern contraceptive use
- Preventing & Controlling Hookworm & Schistosomiasis
  - Deworming for hookworm
Has Iron Intake Improved 2005-2010?

Dietary Intake of Iron-Rich Foods in Children 6-23 months

- Meat/Fish/Poultry/Eggs: 20.9 (2005), 21 (2010)
Trends in Meat Availability (kg/capita/year)

Source: FAO Food Balance Sheets
Trends in Pulse Availability (kg/capita/year)

Availability of Pulses 1980-2009 (kg/capita/year)

Source: FAO Food Balance Sheets
Iron-Folic Acid Consumption by Pregnant Women in Rwanda 2005-2010
Controlling Malaria-LLIN Use

LLIN Coverage Pregnant Women & Children 6-59 months in Rwanda

- Pregnant Women: 72% in 2005, 72% in 2010
- 6-8 months: 17% in 2005, 15% in 2010
- 9-11 months: 15% in 2005, 15% in 2010
- 12-23 months: 16% in 2005, 70% in 2010
- 24-59 months: 10% in 2005, 70% in 2010
Controlling the Negative Outcomes of Diarrhea

ORT & Giving More Liquids or Food During Diarrhea 2005-2010

% of pregnant women/children

Use of Modern Family Planning Methods

Use of Any Modern Family Planning Method

- 2005: 10
- 2010: 45

Source: USAID, Maternal and Child Health Integrated Program (mCHIP)
Controlling for Helminths

Received Deworming Medication

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2010</th>
</tr>
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<tbody>
<tr>
<td>Children 6-59 months</td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>Pregnant Women</td>
<td></td>
<td>39</td>
</tr>
</tbody>
</table>
Major Contributors to Reducing Anemia

- LLIN use which has increased dramatically
- Deworming of children 1-5 years of age
- Some improvement in women taking some IFA
- Increase in women using modern family planning methods
- Increase in ORT use
Other Activities

- Rwanda has just completed a study using Micronutrient Powders and is planning to scale-up the distribution of MN throughout the country with messages about improving CF in general.
- Counseling package on IYCF which has been developed and plans are to train 40,000 CHWs on its use
What has MCHIP’s Role Been?

- MCHIP held a national consultation on anemia which was represented by people working in nutrition, malaria, disease control, agriculture, education and the private food industry.

- MCHIP is completing a program review of current programs and a secondary analysis of the RDHS which will give more information on targeting anemia control programs.
Recommendations From the National Consultation

- Target interventions to the youngest of children including starting with in pregnancy through 2 years of age.
- Improve existing supplies and counseling for the recommended 180 IFA; consider CB distribution; increase use of delayed cord clamping (DCC).
- Scale-up micronutrient powders with improved complementary feeding. In 2010 only 17% of children were receiving an adequate diet.
Recommendations From the National Consultation

- Increase the partnership between the Ministry of Health & Agriculture to increase the availability of iron-rich foods and develop recipes and increase channels of information.

- Other components of the integrated package should be scaled-up including ensuring that all pregnant women and young children sleep under LLINs and receive deworming medication.
Recommendations From the National Consultation

- Include the recommendations from the consultation in the National Nutrition Strategy which is now being revised.
- This is now underway but follow-up is needed.
Un-answered questions

- Why is anemia so low in pregnant women in Rwanda compared to other countries while anemia in children is similar to prevalence rates elsewhere?