Fortification Assessment Coverage Toolkit (FACT)

Rebecca Spohrer
Global Alliance for Improved Nutrition (GAIN)
QA/QC Training Workshop Harare, Zimbabwe
13 May, 2015
Presentation outline

• The need for evidence to guide programs

• The challenges to measuring LSFF program impact

• Determining factors for effective LSFF programs

• Fortification Assessment Coverage Tool

• Example in Practice: Selected results from Senegal
Why measure impact of an intervention?

• Provide evidence of impact of government or donor investments

• Improve program performance based on evidence

• Modify programs in response to changing environments

• Minimize risks

• Consider and support complementarity of interventions

… So you can tell if the program is working!
Understanding program pathway to impact

**Policies**
Development & implementation of policies, legislation regulations & registrations

**Production & Supply**
Development & implementation of provision, production, procurement & training strategies

**Delivery**
Development of delivery system, implementation of strategy for management, training & maintaining motivation among providers & distributors

**Quality**
Development & implementation of an external & internal quality control system

**Behaviour Change & Communication**
Engagement of stakeholders & advocacy, Development & implementation of intervention strategy for information, education & communication for behaviour change, Implementation of industry marketing

**Management, Staff, National Coalition, Financial Resources, Infrastructure, Other Material Contributions from Partners**
Availability of intervention in country, Importation, production & distribution of products meeting quality standards & specifications, Providers / distributors have knowledge & motivation to adequately distribute, inform & problem solve with target population

**Coverage of intervention**
Access to or presence of intervention in communities or facilities

**Target population uses intervention appropriately**
Target population knows, demands, accepts & has ability to appropriately use the intervention

**Improved intake & diminished loss of vitamins & minerals**

**Decreased mortality & morbidity**

**Improved nutritional status**

**Achieved Millennium Development Goals**

**Other interventions**

**EFFECTIVE PROJECT MANAGEMENT & MONITORING AND EVALUATION**

© World Health Organization 2011

WHO/NMH/NHD/MNM/11.5
LSFF programs are by nature difficult to measure impact

Methodological issues

• Lack of control group

• Biomarkers only modifiable in subset of population

Difficult to determine if programs are “evaluation ready”

• Compliance monitoring and quality assessments imperfect

• Implemented inconsistently; often at factory only; assumptions about community or household level

Dietary data to quantify nutrient gap and assess intake of fortified foods is lacking

• Sugar fortification in Guatemala

• Cake flour consumption in South Africa
The goal of LSFF is to shift distribution of nutrient intakes.

Distribution of intakes without fortification

Distribution of intakes with fortification

Level of intake below which biomarker may be altered (deficiency)

Intake of essential micronutrient

Level of intake associated with risk of excess
Who has the potential to benefit from LSFF?

Population

Consumers

At-risk population who are consumers
Determining factors of impact for LSFF

**Potential to benefit:** Who within population do we want to benefit? What is their dietary gap? Does this vary by region, economic group?

**Coverage:** What proportion of the population consume fortified food? Are those with potential to benefit (e.g., women of reproductive age; in poverty) consuming the fortified food?

**Utilization:** How much of the fortified food is consumed and how regularly? Does this vary by region, economic group? Are some at risk of high intakes?

**Quality of the product at point of consumption:** Is the product reaching the communities/households adequately fortified?

... in other words, what is the “effective coverage”
Fortification Assessment Coverage Tool (FACT) measures effective coverage

**Coverage**
- Coverage of fortified foods
- Bottlenecks and enhancers
- Coverage of additional micronutrient interventions

**Utilization**
- Quantity consumed at household & individual level
- Dietary intake from modified food recall
- Intake of additional fortified products

**Nutrient contribution**
- Samples collected at community level
- Fortification level linked to household use
- Contribution calculated from consumption & quality

**Strategic sampling**
- Large representative sample stratified by factors that might modify coverage, utilization, and risk of inadequate diet
- Region of residence; poverty; education; others

**Feedback to countries**
- Fast turnaround to provide feedback to stakeholders
Assessing coverage and intakes at individual level

Diagram:

- Product 1
  - Food Frequency (7 day recall)
  - Portion Size (visual scale)
  - Recipe Data

- Product n
  - Food Frequency (7 day recall)
  - Portion Size (visual scale)
  - Recipe Data

Food Score

Fortification Level

Nutrient Score

Specimen
FACT appropriate to be implemented at program start and after running
Micronutrient deficiencies highly prevalent in women of reproductive age and children (2011):

<table>
<thead>
<tr>
<th>Children &lt; 5 y of age</th>
<th>Poor¹ (%)</th>
<th>Non-poor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A deficiency</td>
<td>26.8</td>
<td>13.3</td>
</tr>
<tr>
<td>Anemia</td>
<td>49.5</td>
<td>44.1</td>
</tr>
<tr>
<td>Iron deficiency</td>
<td>46.0</td>
<td>45.7</td>
</tr>
<tr>
<td>Iron deficiency anemia</td>
<td>30.4</td>
<td>27.6</td>
</tr>
</tbody>
</table>

Fortification in place since 2009:
Cooking oil – Vitamin A
Wheat flour – Iron, folic acid
Fortifiable flour is consumed regularly by the poor and non-poor.

- Flour is mainly consumed as commercial products, bread, etc. from local and/or larger producers, and not as products prepared in the home.
Most women are obtaining a meaningful % of RNI weekly from fortified flour

<table>
<thead>
<tr>
<th>% of sample population</th>
<th>Poor</th>
<th>Non-poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>61%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

61% of sample population classified as poor

90% of women consumed **any flour-based products** at least once per week

85% of women consumed **fortifiable flour-based product** at least once per week

66% of women consumed **≥10% daily RNI from fortified flour** (averaged over 1 week)
Based on distribution of intakes, Senegal is well below upper limit for iron.

Among daily consumers, median intake of fortifiable flour was 96.2g daily. This amount of flour provides close to 30% iron RNI and almost 40% folic acid RNI.
On average, retail samples collected met or exceeded minimum fortification standard

94 flour samples collected at the retail level; on average, they contained the mandated level of iron

- 44% Fortified at or above standard
- 52% Not fortified

Average iron fortification level of 44.4ppm (minimum fortification level at point of distribution at time of survey was 40ppm)
Although efficacy well proven, evidence of effectiveness of food fortification programs limited because…

- complexity of impact evaluation in population-based programs
- evaluations carried out before programs are “evaluation-ready”

**Accurate estimates of effective coverage could help fill this gap**

To permit feedback to programs and recommendations for improvement, surveys should be agile, permitting rapid turn-around from data collection to synthesis and dissemination

… **FACT** is a survey method to fulfill this objective
Thank you

For further information: rspohrer@gainhealth.org