#### Smarter Futures/FFI Meeting 2 – 3 December 2014, Cape Town Celebrating and Equipping Progress Through Partnerships

### Estimating Fortification's Costs and Economic Benefits

**Presented by: Quentin Johnson** 

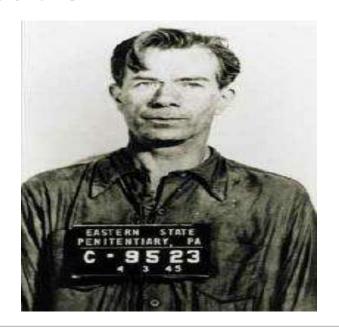
Date: 3 December 2014





### Multiple Rationales for Investment in Flour Fortification

- Moral
  - HumanitarianImperative
- Good Governance
  - Obligation to Citizen
     Rights to Nutrition
- Economic Growth & Development
  - National Development
     Investment



Willie Sutton: Infamous Bank Robber

in 1930's USA Depression Era.

Question: Why do you rob banks?

Answer: "That's where the money is."



#### **Workshop Tool**

- Excel software with multiple spreadsheets
- Fixed parameters used to determine health and economic related losses based on existing literature and economic studies.
- Anemia, iron deficiency, NTDs
- Specific data for countries can be used based on country official data and statistics.



#### Rationale

- Development of cost benefit case for flour fortification.
- Advocacy to private sector, milling industry etc.
- Allows economists to compare flour fortification to other government programmes and health interventions
- Use as advocacy tool for policy makers in government ministries and Prime Minister Office



#### Methodology

- Workshop Structure based on 4-5 days
- Country teams representing Industry, Ministry of Health, Ministry of Trade and/or Finance
- Country team 3 7 people ideal
- Data collection by country teams prior to the workshop – essential!
- Country teams need to reach consensus on their own country data and statistics.



## Workshop Process Determination of Economic Losses

- Objective: Determine the costs of doing nothing
- Estimate and validate country health statistics
  - Iron: Iron Deficiency, Iron Deficiency Anemia
  - Folic Acid: NTDs and deaths
- Estimate Economic Losses
  - Iron deficiencies cause loss in economic productivity
  - Folic Acid deficiencies cause increase health care costs and economic burden on families for additional healthcare costs
- Review spreadsheet calculations and revise if required



### Examples of Economic losses The National Burden of IDA, VAD & NTD

- Child Mortality Cost of VAD
- 2. Neo-Natal Mortality Cost of IDA in Pregnant Women
- 3. Maternal Mortality Cost of IDA in Pregnant Women
- 4. Mortality & Disability Cost of NTDs
- Future Productivity Loss Due to Cognitive Deficits in Children
- 6. Current Productivity Loss Due to Anemia in Adult Women and Men
- 7. Summary: Money, Mortality



## Flour Fortification: A Strategy to Lower the Burden

- 1. Coverage of Flour Consumption
- 2. Effectiveness Among Consumers
  - Flour Additional Rates
  - % RNI for Risk Groups
  - Projected Reduction in Baseline Prevalence
    - Explain why you chose that number
- 3. The Potential Benefits of Flour Fortification
  - Money and Lives
- 4. Cost of Flour Fortification
- 5. 10 Year Benefit Cost Ratio

Source: Jack Bagriansky



#### Fortification For NTD Prevention Examples of Health Impact

Meta-analysis published in 2010:				
8	Included 8 studies published between 2002 to 2008 by 8 different authors			
5	Reflected studies using sub-national data in 5 countries: Argentina, Canada, Chile, South Africa, USA			
31 – 78%	Neural tube defect reductions ranged from 31% to 78%			
46%	Overall reduction in risk of neural tube defects was 46%			



#### Effectiveness of National Flour Fortification Programmes

### National Programme Evaluations Prevalence of Iron Deficiency and Anemia

Country	Risk Group	Condition	Pre	Post	<b>% Reduction</b>
Venezuela	Children > 5yrs	Iron Deficiency	37.2%	15.5%	58.3%
		Anemia	18.1%	17.1%	5.5%
Costa Rica	Adult Women		18.4%	10.2%	45%
Kuwait			33%	24%	27%
Oman	Pregnant Women		49%	31%	37%



# Large Scale Effectiveness Trial Darjeeling, India

### Prevalence of Vitamin A Deficiency (Serum Retinol < 0.70 umol/l)

	Pre	Post	% Reduction
Pregnant Women	24.5%	23.2%	5%
School Age Children	34.5%	18.7%	46%
Adolescent Girls	30.1%	12.5%	58%
Pre-School Children	26.5%	22.5%	15%



# Cost Benefit Workshops Completed

The following regions and countries have had CBA workshops:

- CEE and Eurasia
- Uzbekistan
- East Africa
- Participant responses have been very positive and the workshops have resulted in flour fortification being implemented



## Cost Benefit Workshops Planned for Africa 2015 - 2016

- French language version for Francophone countries
- English language version for Southern Africa countries.



#### For More Information

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