Micronutrient Initiative

Solutions for hidden hunger

National Distribution of MNP in Bolivia

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Program Background

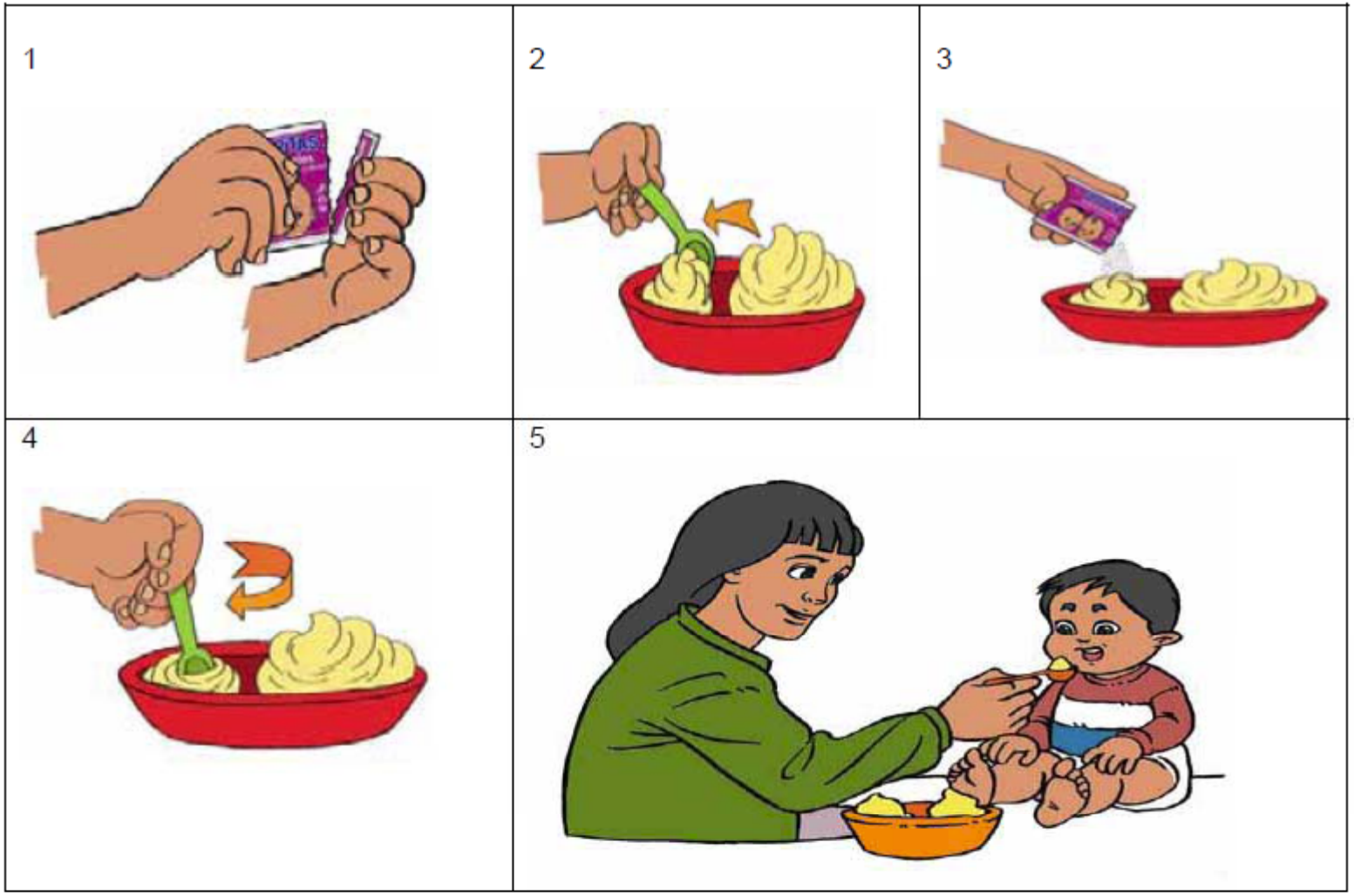
- **Ferrous sulfate syrup major source of iron supplementation until 2006 for Bolivian children**
- **Iron syrup distributed free to all children 6-59months via public health system – 3 jars annually per child**
- **Generally accepted that undesirable taste and frequently reported side effects caused low acceptability of iron syrup – but never systematically reviewed**
- **High prevalence of anemia and low acceptability of iron syrup led to seeking alternative product**
- **“Desnutricion Cero” (Zero Malnutrition) Program launched in 2006 by Evo Morales government included anemia reduction as prioritized objective.**

Early Stages of MNP Program

- **Working PAHO, UNICEF, WFP and PSI, Micronutrient Initiative proposed to replace iron syrup with MNP at the national level**
- **Distribution of MNP was integrated into design of "Desnutricion Cero" program in 2006**
- **MNP gradually replaced depleting stocks of iron syrup in public health centers for children 6-23 months (24-59months continue to receive syrup)**
- **MI provided initial donation of 6 million sachets (enough for 100,000 children) to Ministry of Health, and worked with PAHO and PSI to design the sachet and select the name**
- **"Chispitas" brand was chosen via focus groups with caregivers (local term for child who is bright and energetic)**
- **The distribution centre for health supplies (called CEASS) was the national procurement agency for the Ministry of health and managed the distribution to the 9 departments of the country**

Early Stages of MNP Program cont'd

- **Program targets all 400,000 children aged 6-23 months in Bolivia**
- **Aims to reach 80% of these children by 2012, and expand program to include all children up to 59 months**
- **Initial program plan included distribution scheme, staff training, program monitoring and development of communications materials**
- **Distribution scheme: included in national health insurance package (free) via public health system, 60 sachets annually (each child should receive 120 total between 6-23 months)**
- **Communications: with WFP and PAHO, developed pamphlets, posters, flip charts, radio spots and calendars, all distributed via public health system**
- **Staff training and monitoring plan: developed with Ministry of Health and implemented with partners, limited and gradual because of immediate national scale**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MNP Program - Procurement

- **Initial donation from MI (6 million sachets) imported from India (Nicholas Piramal)**
- **Subsequent orders made by CEASS on behalf of Ministry of Health, also imported from India (Nicholas Piramal and Hexagon)**
- **In 2008, Ministry of Health issued bid to Bolivian pharmaceutical manufacturers to provide national supply – import pre-mix and package in Bolivia**
- **Bureaucratic delays encountered and no additional stock imported to cover gap resulted in stock-outs in 2009**
- **Early 2010, 1 national manufacturer packaged first batch of Chispitas, by July 2010, another 2 manufacturers were also packaging and distributing**
- **Currently, those 3 companies are distributing in Bolivia**

MNP Program – Distribution & Costs

- **New legislation in 2009 allows municipalities (who are responsible for procuring MNP from CEASS) to now procure directly from manufacturers, in order to avoid bottlenecks at central level**
- **Bolivian manufacturers prices range from 14.05Bs to 15Bs (US$2.07 to US$2.15) for a box of 60 sachets.**
- **Manufacturers also allowed to sell directly to private pharmacies (approx. US$3.42 per 60 sachets) in parallel with free distribution through public health system**
- **Supplies of MNP gradually replaced depleting stocks of iron syrup for 6-23months in public health centers**
- **Nearly the same price per child as the iron syrup to the public health system (15Bs per 3 jars of syrup vs. 14Bs per 60 sachets) made for smooth transition and helped convince municipal gov’ts**

Current Program - Snapshot

Micronutrient Supplement	2006	2007	2008	2009	2010
Vitamin A					
Children 6-11 months	59%	64%	73%	75%	71%
Children 1<5 years (1st dose)	46%	49%	51%	51%	48%
Children 1<5 years (2nd dose)	39%	43%	42%	39%	37%
Iron					
Children 6-23 months (Chispitas)	29%*	47%	63%	37%	48%
Children 24-59 months (iron syrup)	30%	37%	44%	40%	41%
Pregnant women complete dose (90 tablets)	55%	61%	51%	70%	68%
Post-partum women complete dose (90 tablets)	39%	42%	44%	46%	46%
Zinc					
Treatment of diarrhoea	ND	ND	ND	<30%	52%

Coverage information collected through National Health Information System (SNIS)

Current Program – Monitoring & Evaluation

Three primary sources used to evaluate diverse aspects of MNP program:

1. **External monitoring study in 2008 to assess logistics system, acceptability of Chispitas by caregivers and adequacy of preparation in the household**
2. **Participatory workshop in 2009 to review the MNP program with stakeholders and multiple levels of the government (national, regional, municipal, etc)**
3. **Study in 2010 to gather data to develop a behavior-change communications strategy for the micronutrient supplementation program of Desnutricion Cero.**

Serve as a comparison post-implementation at various points in time, but not scientifically rigorous enough to draw nationally representative conclusions.

Findings & Conclusions

Logistics/Supply Chain:

- **In 2008, the logistics system was not uniformly managed in all health districts, caused stock-outs.**
- **In 2010, improvements made in stock management and more uniform implementation (though still some gaps)**

Acceptability:

- **In 2008, ineffective counseling to caregivers for how to use MNP, inadequate use and acceptability and about ½ of caregivers had doubts about the product related to taste, effectiveness, correct preparation**
- **In 2010, differences in correct knowledge about MNP detected between rural (61%) and urban (50%) populations**
- **Health center personnel were most common source of information about MNP to caregivers**

Findings & Conclusions

Adequacy of Preparation:

- **In 2008, high reporting (91%) of caregivers having received MNP and majority (69%) continued to give MNP every day for 60 days**
- **In 2010, continued high reporting of adequate preparation (74% in urban pop and 82% in rural pop) but lower reporting of consuming all 60 sachets (45% urban and 52% rural), possibly due to sharing amongst siblings in household.**

Participative workshop (2009) conclusions:

- **Demonstration of MNP preparation at health center and explaining benefits to caregivers were identified as key strategies to improve acceptance among caregivers**
- **Capacity of health personnel, availability of promotional material and the product itself and incentives/support to staff were primary factors that affect the demand for MNP**
- **Identified important roles for municipalities, community leaders, churches and schools for promotion of MNP**

Lessons Learned

- **Rapid staff turn-over in public health system (all levels) affected program implementation and limited implementation of key recommendations – broader issues of public health system**
- **Legal framework was important aspect of national implementation of MNP program (inclusion of MNP in insurance commodity package)**
- **Government ownership (and enthusiasm!) helped propel program**
- **Lack of formative research or pilot phase limited ability to identify problems in design and implementation prior to national scale implementation**
- **Inclusion of MNP in Desnutricion Cero strategy strengthened nutrition policy and dialogue in Bolivia generally and MNP program took advantage of that for immediate national implementation**
- **Smaller scale implementation initially (with good monitoring) may have facilitated timely resolution of supply, knowledge, acceptance and utilization problems**

Next Steps

- **Government of Bolivia plans to evaluate impact of MNP on anemia reduction this year**
- **Ongoing issues need to be resolved to smooth out distribution system, now complicated/strengthened by 3 national manufacturers selling directly to municipalities**
- **Support government to transition from iron syrup to MNP for 24-59month children (expected this year)**
- **Implement behavior-change communications strategy to increase demand in public health system**
- **Re-training and incentives to health personnel to keep motivation for program high**
- **More systematic monitoring of program implementation, caregiver acceptability/adherence and health personnel counseling, integrated in program design**

Conclusion

Micronutrient Powders can be an effective vehicle for anemia reduction strategies if appropriately integrated into existing public health and nutrition program(s) and adapted to local context and needs.

THANK YOU

Questions/Comments –
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