

National Scale-up of Micronutrient Powders in Mongolian Integrated Program

Innovations in
Micronutrient Powder Programs:
Opportunities to Reduce Child Anaemia

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Background

Mongolia

Total population: 2,8 m

Surface area: 1,564,116

HD Index: 100



Background

Micronutrient Powders in an Integrated Nutrition Program



Nutritional Deficiencies

42% Child Anaemia; 33% Rickets*

Sprinkles

- Micronutrient Powder to fortify complementary foods (Fe 40mg, zinc 10mg, Vits D 10µg, A 600IU, C 50mg, folate 150µg)

Integrated with:

- Capacity building PHC
- PD/Hearth
- MCHN community education
- Influencing National Nutrition policy



* Mongolia NRC & UNICEF, 2000

Background

Innovation of Sprinkles (2000)

- One delivery mechanism for multiple micronutrients
- Tailor formula to context
- Minimal change of behaviour required
 - tasteless, odourless, colourless (acceptable)
- No increased work load of women
- Empowering for families



Background



Phases of Scale-Up

Phase 1

MOH/WV Pilot (2000 to 2004)

Phase 2

MOH/WV Provincial Scale-up (2005-10)

Phase 3

National Scale-Up (2009 to present)



Phase 1



Phase 1: Pilot (2000-2003)

World Vision, MOH & SGHI

Target group: 15,000 children (6-35 months);
4 provinces; 9 WV Areas

Distribution: WV Nutrition Workers distribute 30 sachets monthly to homes (100-150 households/NW)

Dose: 1 sachet/day from 6 to 36 months

Cost of Sprinkles: USD 0.032/sachet; 11.68/child/yr

Supplier: Heinz (Italy)

Funders: World Vision



Phase 1

Pilot Results (2001–2003)

Coverage in Children (6-35 months)

Sprinkles Coverage	89%
Taking sprinkles at final survey	48%
Taking sprinkles for >4 months	88%
Average duration	13 months
Average initial start age	13 months

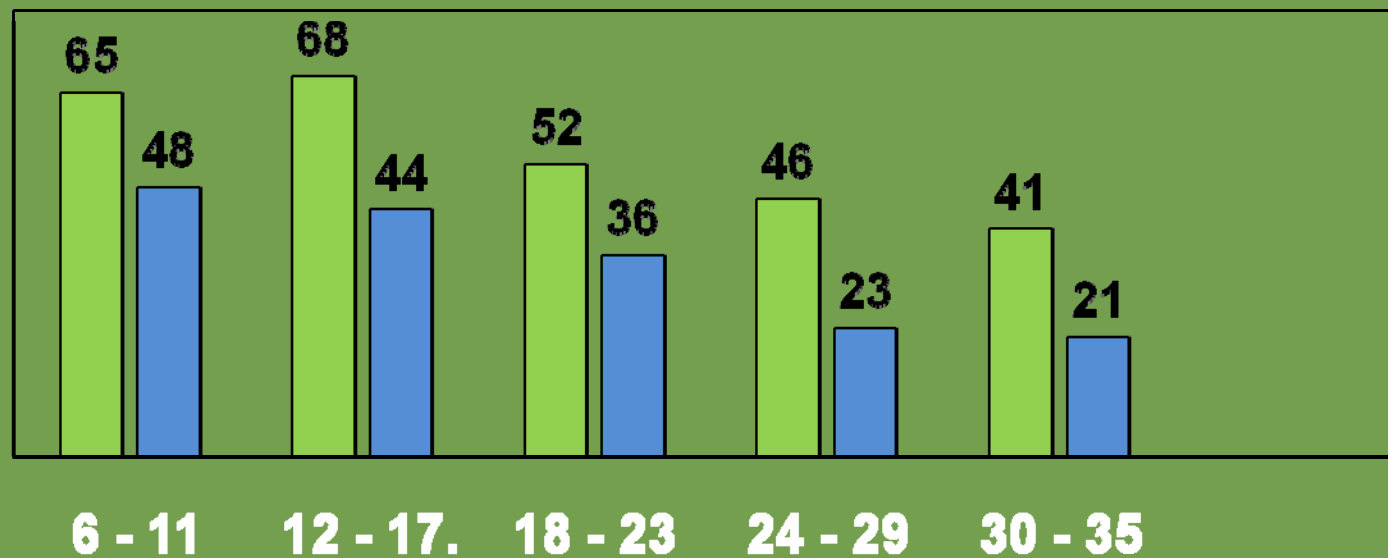


Phase I

Pilot Results (2001 – 2003)

Changes in Anaemia by Age (mo)

■ Baseline ■ Final

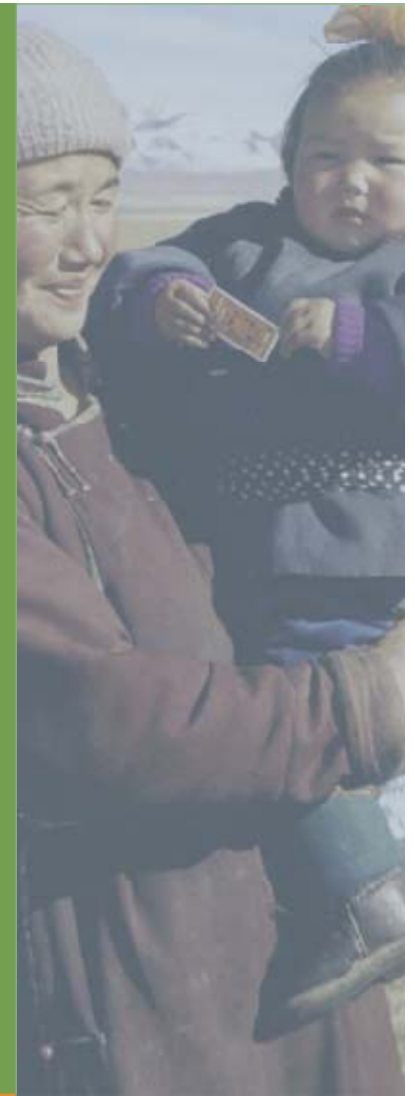


Phase I

Pilot Results (2001 –03)

Impact in Children (6-59 months)

Decrease in anaemia	46% to 24%
No change in rickets	28% to 28%
Increase in EBF	24% to 52%
Decrease in stunting	23% to 18%



Obstacles During Pilot Phase

Policy & political support

- No policy; limited political support; new product; but one key champion (Secretary of the MOH)

Delivery system

- Limited community-based PHC system; WV delivery system human resource intense; high dependency on WV

Duration of delivery

- 12 months too long for adherence

Higher cost of sprinkles than 2 supplements

(not total program costs)

- Sprinkles \$11.68/child/yr (\$0.032/sachet) vs. Supplements \$2.50/child/yr (only iron syrup and vitamin D)



Recommended Changes Based on Pilot

Decrease costs (US\$11.68/child/yr to \$2.85/child/yr)

Sourcing from India at 0.019/sachet

Decreasing length of coverage to 5 months/year

Research cost effectiveness

With academic institution (Susan Horton, U of Waterloo)

Increase coverage of sprinkles to 6-12 months age group

Modify formulation ↑vitamin D , ↑ zinc & ↓iron

Enhance delivery mode

increased health post distribution during immunisations &
decreased home visits

Strengthened community mobilisation

volunteer mother recruitment



Provincial Scale-Up Phase (2005-10)

MOH/WV Scale-up in Selenge Province

Target Group:

- 3,900 children (6-24 months)
- Selenge province (total population: 90,000)

Distribution: Public Health Workers or Community Volunteers give 30 sachets monthly (most come to Health post; if not PHW goes to homes)

Dose: 1 sachet/day for 5 months

Cost of Sprinkles: USD 0.019/sachet; USD 2.85/child/year

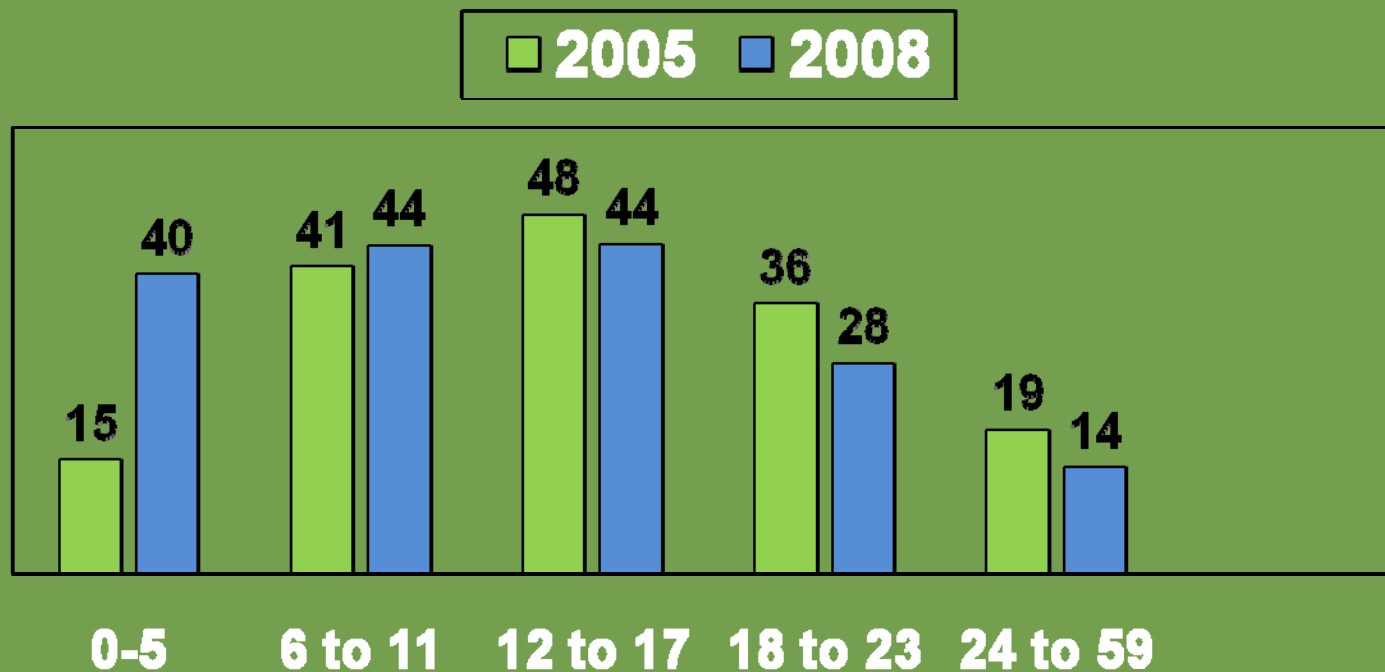
Supplier: Hexagon Nutrition, India

Funders: MOH & WV & Centerra Gold (private donor)



Selenge Mid-Term Results

Changes in Child Anaemia by Age (mo)



Obstacles for Scale-Up

Agreeing on formulation of sprinkles

- Generic vs. tailored to context

Determining distribution process at community level

- Mainly MDs at health centres and health posts with limited time to provide adequate counselling
- Community Volunteer support for better coverage and compliance exist in WV areas only

Poor compliance and acceptance of product in 6-12 month age group

- Despite highest levels of anaemia

Lack of adequate donors to cover costs



Micronutrient Powder Formulation

Nutrients	National
Iron (mg)	10
Vitamin D (μg)	10
Vitamin A (μg)	400
Vitamin C (mg)	30
Folic Acid (μg)	150
Zinc (mg)	4.1
Vitamin E (mg)	5
Iodine (mkg)	90

Nutrients	National
Selenium (μg)	17
Vitamin B1 (mg)	.5
Vitamin B2 (mg)	.5
Vitamin B3 (mg)	6
Vitamin B6 (mg)	.5
Vitamin B12 (μg)	.9
Copper (mg)	.56

National Scale-up to all Mongolia (2009-present)

Target Group:

- 49,480 children 6-23 months of age
- Total pop: 2,176,430; >50% in UB

Distribution: PH system (Nurses, Public Health Workers, Community Volunteers) – families come to Health Post

Dose: 60 sachets at 6, 12, 18 and 23 mo; 120 sachets/yr

Cost of Sprinkles: US\$0.019/sachet ; USD4.56/child/2 yr

Implementers/Funders: MOH – 9 provinces & 6 UB districts
WV – 8 provinces & 3 UB districts
UNICEF – 4 provinces

Suppliers: Hexagon, India (MOH);
Hexagon, India (WV);
DSM – MixMe (UNICEF)



Scaling-Up MNP

1. Country-Wide Ownership

Government

- Establish & lead Working Groups:
 - National AND
 - Provincial AND
 - Local

Community

- Social mobilization led by local government
- Community Volunteers/Workers
 - In WV areas



Scaling-Up MNP

2. Phased Approach

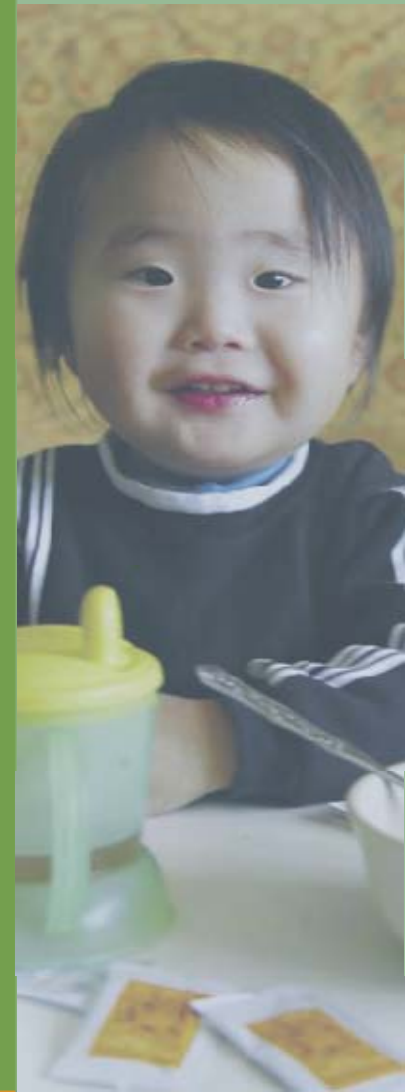
Pilot of innovation in country is a powerful advocacy tool

- Demonstration of innovation & results
- Demonstrated impact in neediest areas
- First effectiveness trial of sprinkles

Provincial level scale-up

- field test for national scaling
- a 'learning lab' for other provinces; increases acceptance of sprinkles
- Baseline & midterm by NRC & shared results with Ministry
- Final survey – currently collecting data (June 2011)

National scale-up



Scaling-up MNP

3. Integrate With & Build Capacity of Existing Systems & Programs

- Deliver sprinkles within the existing health care system
- Developed national guidelines and promotion materials
- Integrated training and marketing with existing Health Promotion (e.g., TV spots, pamphlets, MCH booklet)
- Integrated with existing MCHN programs (IMCI, IYCF)
- Develop a unified procurement and distribution system
- Monitoring integrated into existing HIS

4. Ensure Strong Monitoring and Evaluation

5. Access Technical Expertise

- Partnerships



Scaling-up MNP

6. Partnerships Foundational

- Mongolia Government (MOH)– leadership; policy; implementation; funding; multiple levels
- Community Workers/Volunteers – implementation
- iNGO – World Vision (Mongolia and Canada) – implementation; technical support; funding; capacity building; advocacy at national level
- Sprinkles Global Health Initiative – technical assistance (pilot)
- Universities – research on cost-effectiveness
- UNICEF – funding; procurement of sprinkles; capacity building
- Private Sector – Mongol-Em Impex – private logistics company, distribute Sprinkles; Centerra Gold Mining Company



Positive Lesson Learned

Micronutrient powders are effective within an integrated program.

Children's lives are improved.

Mothers report changes... "With sprinkles my child's appetite has increased, she is more active and her hair and teeth are healthier."

Scale-up is feasible.



Thank you

