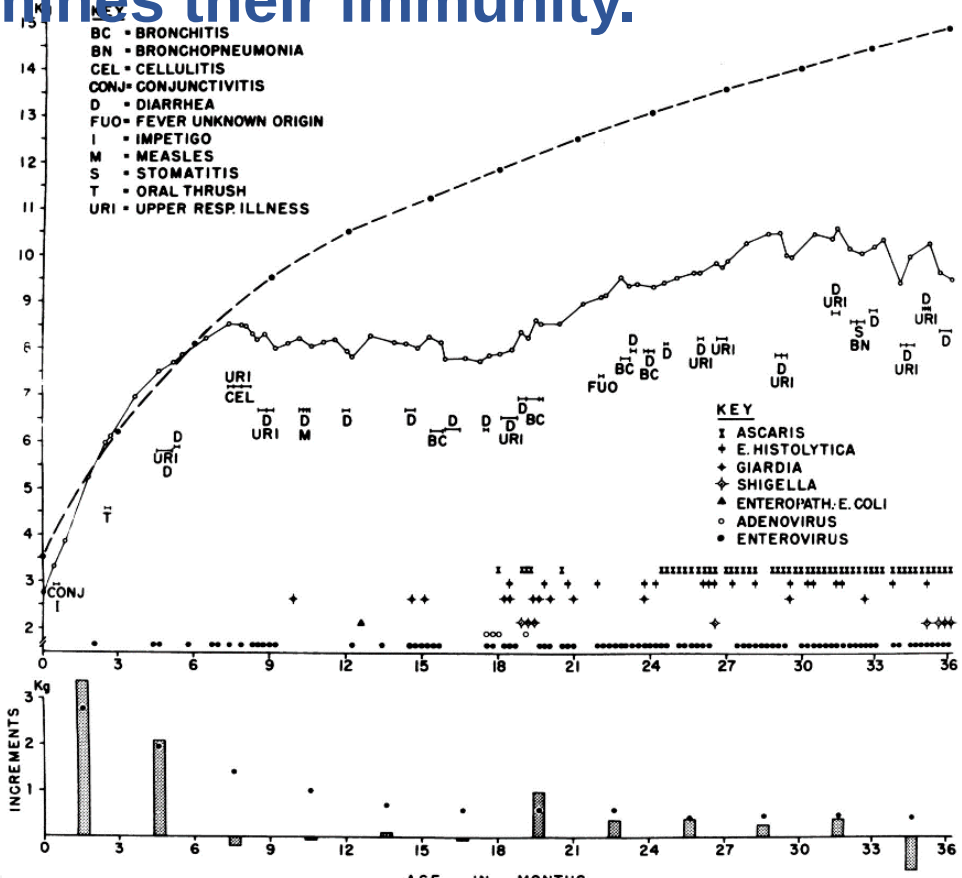
Ill and Convalescent Children

Steve Hodgins and Rolf Klemm

Session Plan

- Evidence Review & Key Take Home Messages (15 min)
- Group Task 1: Attacking the “Tail” (15 min)
- Group Task 2: Attacking the “Whole” (15 min)
- Plenary (15 min)

Repeated bouts of common illnesses undermine the nutritional status of infants & young children, which in turn undermines their immunity.

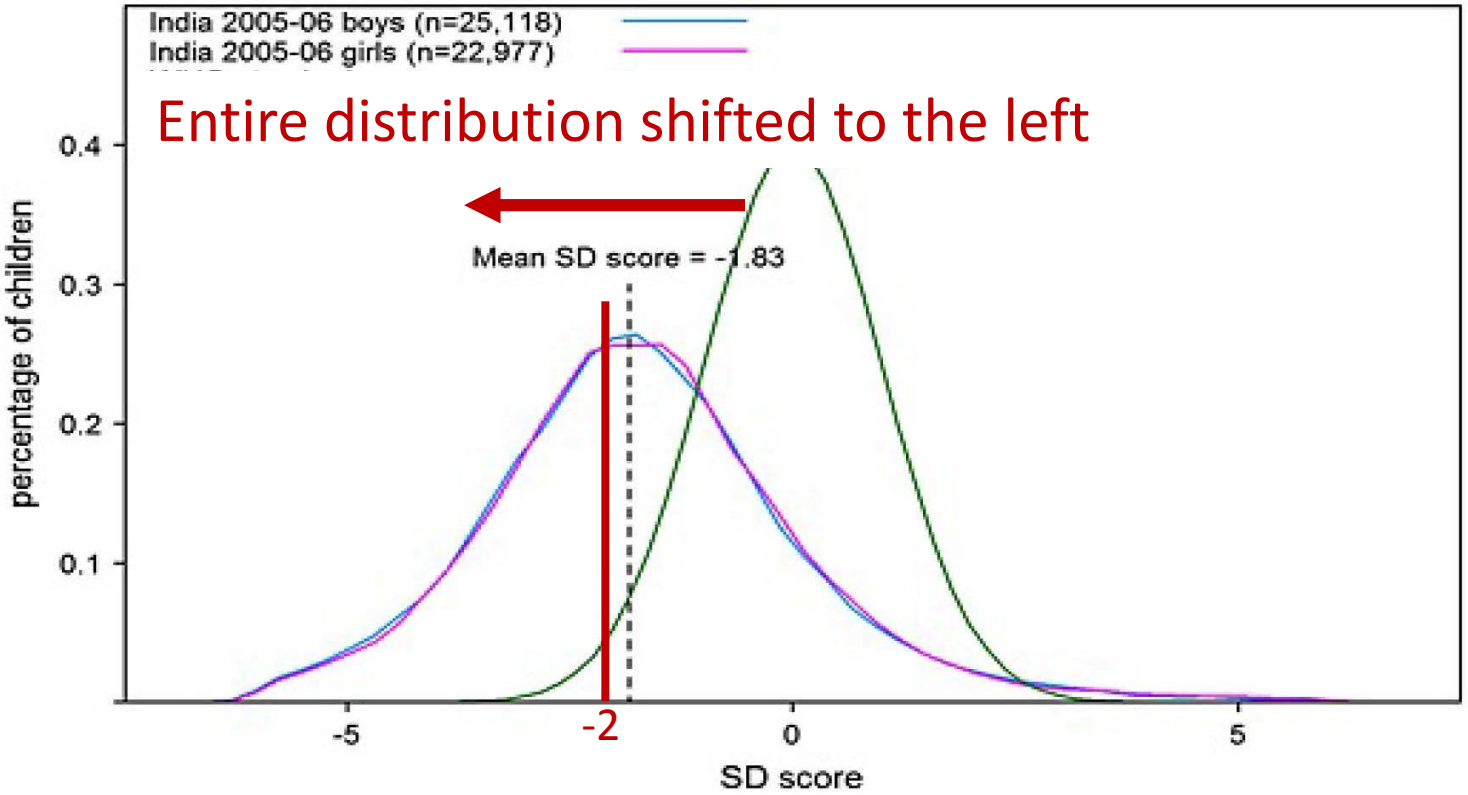


Burden of infection on growth failure. J Nutr 1999

Take home messages-1

- Child illness and undernutrition often operate in a vicious downward spiral.
- Addressing child illness without addressing child undernutrition often leads to higher risk of both conditions (and mortality)
- Overt infections that are not fatal and subclinical infections alter nutrient intake, absorption, secretion, diversion, catabolism, and expenditure and thereby affect growth.
- Environmental enteric dysfunction (EED) is also emerging as a widespread and important cause of chronic inflammation in the developing world that contributes to this cycle.

Growth faltering affects WHOLE populations, not just the “tails” (i.e. those classified as “stunted” or “wasted”)



De Onis et al, Child stunting: a global perspective. MCN, 2016, 12:12-26

A lethal combination—Wasting & Stunting increase the risk death

More severe wasting

Weight-for-Length Z-Score	All Deaths HR (95% CI)	Pneumonia Deaths HR (95% CI)	Diarrhoea Deaths HR (95% CI)	Measles Deaths HR (95% CI)	Other Infectious Deaths HR (95% CI)
< -3	11.6 (9.8, 13.8)	9.7 (6.1, 15.4)	12.3 (9.2, 16.6)	9.6 (5.1, 18.0)	11.2 (5.9, 21.3)
-3 to < -2	3.4 (2.9, 4.0)	4.7 (3.1, 7.1)	3.4 (2.5, 4.6)	2.6 (1.3, 5.1)	2.7 (1.4, 5.5)
-2 to < -1	1.6 (1.4, 1.9)	1.9 (1.3, 2.8)	1.6 (1.2, 2.1)	1.0 (0.6, 1.9)	1.7 (1.0, 2.8)
≥ -1	1.0	1.0	1.0	1.0	1.0

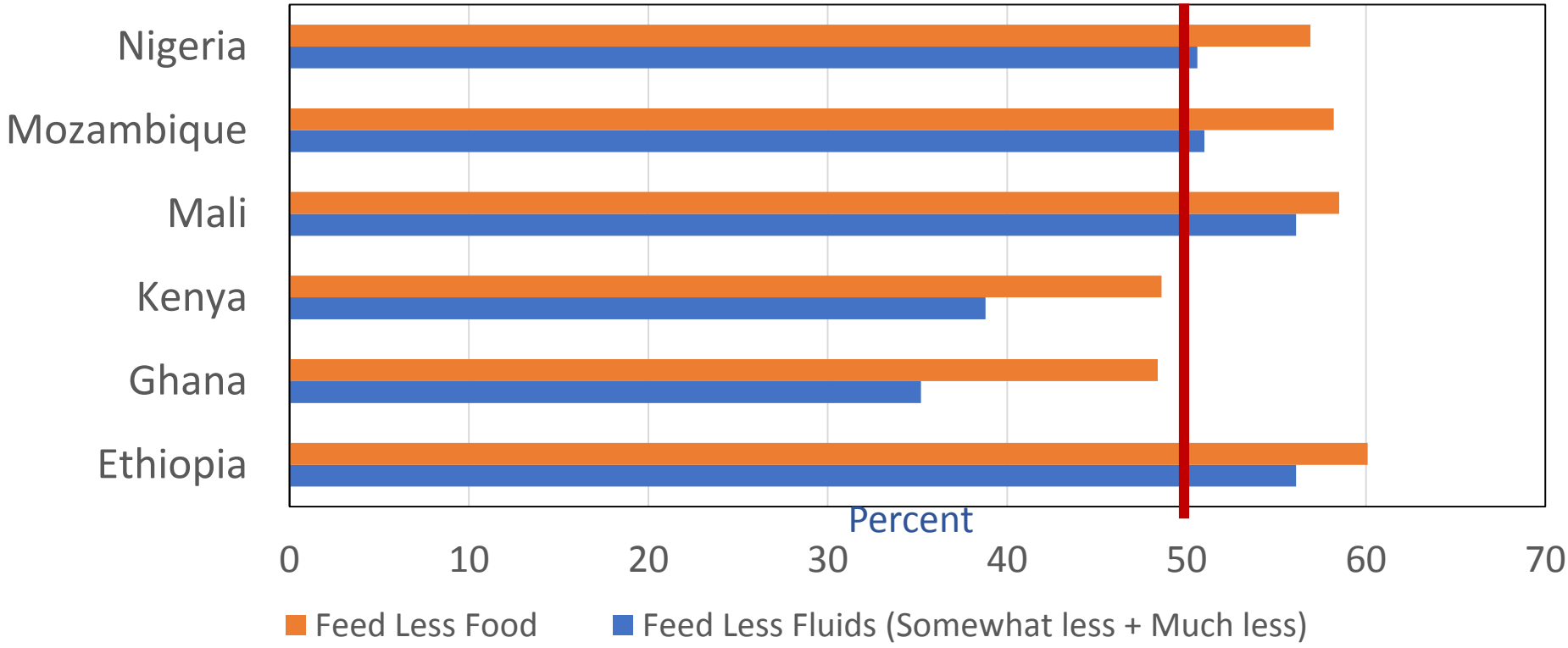
Higher risk of death

Black R et al, Lancet, 2013

Take home messages-2

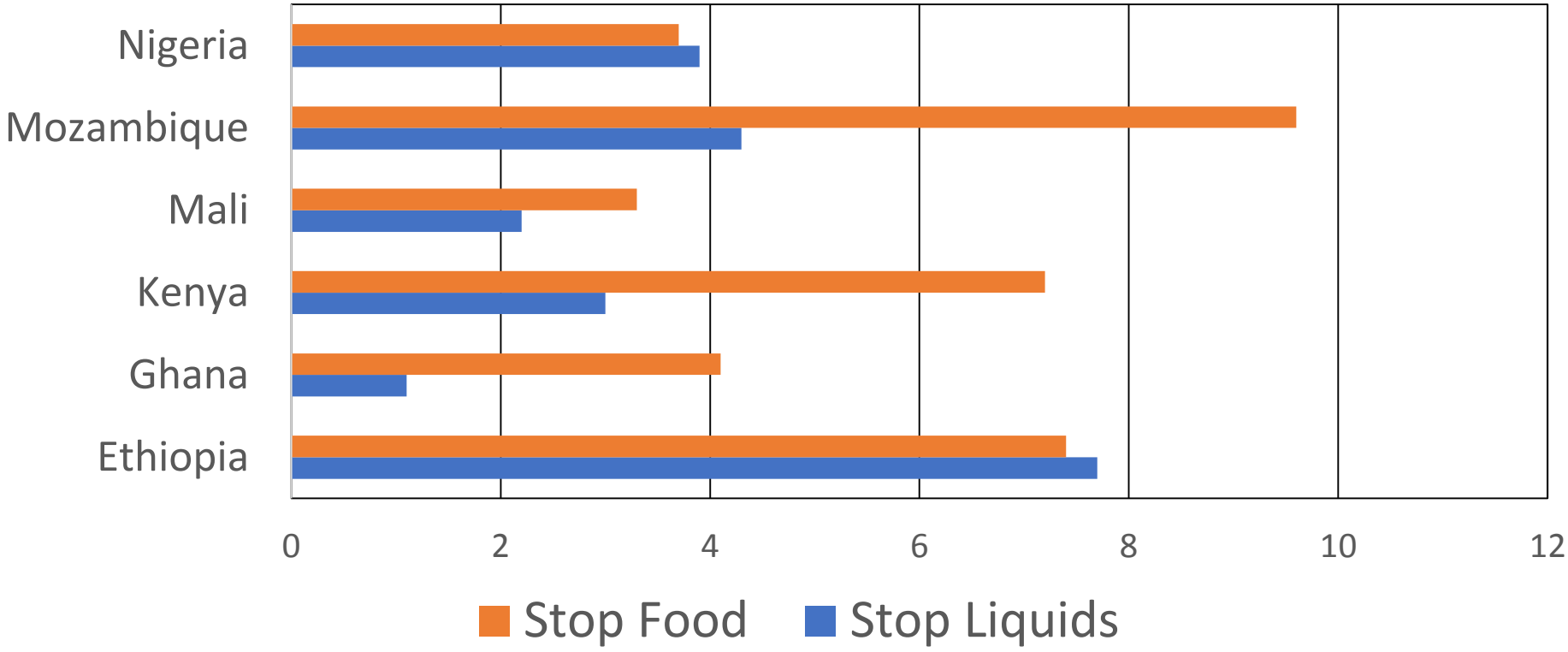
- Severely malnourished children (“the tail”) are not the only ones in danger, although they are at highest risk.
- ~80% of nutrition-related deaths occur among mildly or moderately underweight children.
- Ill and non-ill children are affected by growth faltering. Therefore, efforts are needed beyond the sick child encounters.

When sick with diarrhea, a significant proportion of children are fed less food & less fluids



Unpublished: Data from DHS Stat Compiler and based on latest available DHS data

A smaller, but not insignificant proportion STOP ALL food or fluid feeding during diarrhea illness



Unpublished: Data from DHS Stat Compiler and based on latest available DHS data

Take home messages-3

- Information on existing & effective nutrition support & IYCF behaviors and practices during and after common childhood illnesses in Africa is very limited.
- Available information suggests that nutrition support & practices during common childhood illnesses are far from optimal.
- Formative research needed to understand current behaviors & beliefs underpinning these behaviors
- Research needed to identify effective & feasible nutrition support to sick child

Percent of caretakers who discussed feeding or breastfeeding practices during illness or wellness during sick child visits

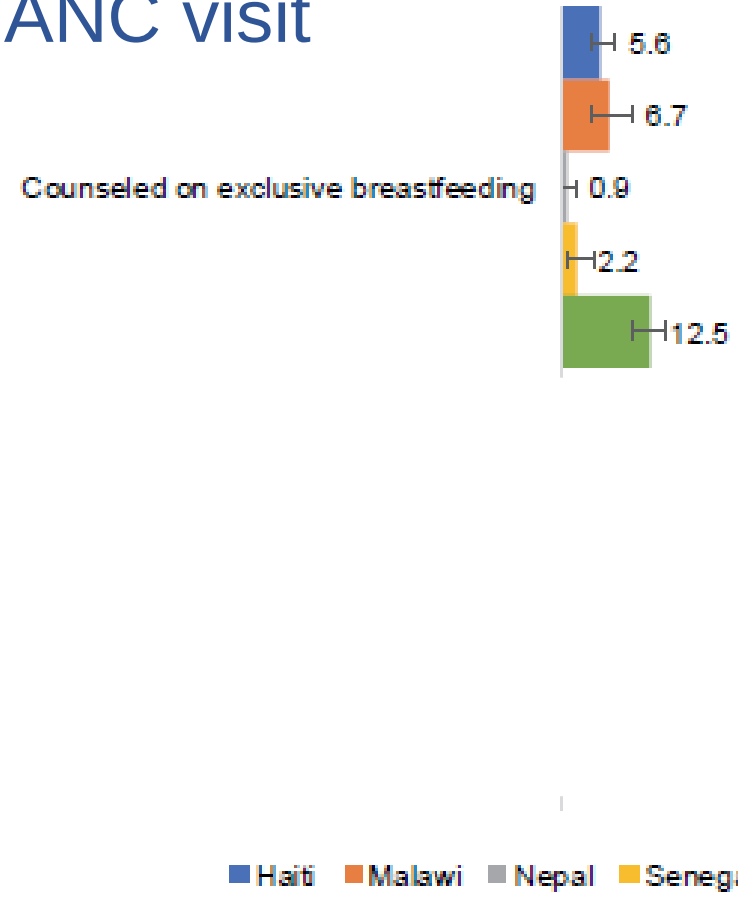
40%-85% opportunities MISSED

Why?

Time? Knowledge? Skills?
Attitude? Lack of support?
Other factors?

Facility-based nutrition readiness & delivery of maternal and child nutrition services using service provision assessment surveys, Sept 2018

Percent of women receiving breastfeeding counseling during ANC visit



90% opportunities MISSED

Why?

Time? Knowledge? Skills?
Attitude? Lack of support?
Other factors?

Facility-based nutrition readiness & delivery of maternal and child nutrition services using service provision assessment surveys, Sept 2018

Common Features of Sick Child Encounter ("the tail")

- Focus is often limited to treating the illness during the clinic encounter
- **Little or NO** nutrition counseling, plans for continuity of care (re-assessment, home follow-up & support) or helping household identify and address conditions that gave rise to repeated illness and undernutrition
- **Sick child encounter** is an **important** but **limited** opportunity to intervene

Optimal Behaviors

- Optimal feeding during and after illness is a cluster of behaviors that includes ***quantity*** of food, ***quality*** of food, ***frequency*** **of feeds,** ***duration*** of attention, and ***care***.
- **Challenges**
  - Sick children frequently reject or eat only small quantities of food offered to them.
  - Nutritional quality & quantity of normal diet often inadequate
  - Local beliefs that restrict kind & amount of liquid & foods fed to sick and recovering child

During Illness: 6-24 m of age

- Breastfeed more frequently and longer at each feed, increase fluid intake, and offer food
- Give frequent, small feeds
- Give nutrient-dense foods that are soft, varied, & the child's favorite foods
- Give mashed or soft foods if the child has trouble swallowing (do *not* dilute foods or milk)
- Feed the child slowly and patiently; encourage the child to eat but do not force

During Recovery

- Increase the amount of food after illness until the child regains weight and is growing well
- Continue to feed frequently: give an extra meal every day or snacks for at least two weeks; be responsive to the recovering child's increased hunger
- *Micronutrient supplements* also play a key role in nutrition during and after illness.

Counseling Process:
Moving from didactic to individualized counseling

Didactic → **Individualized**

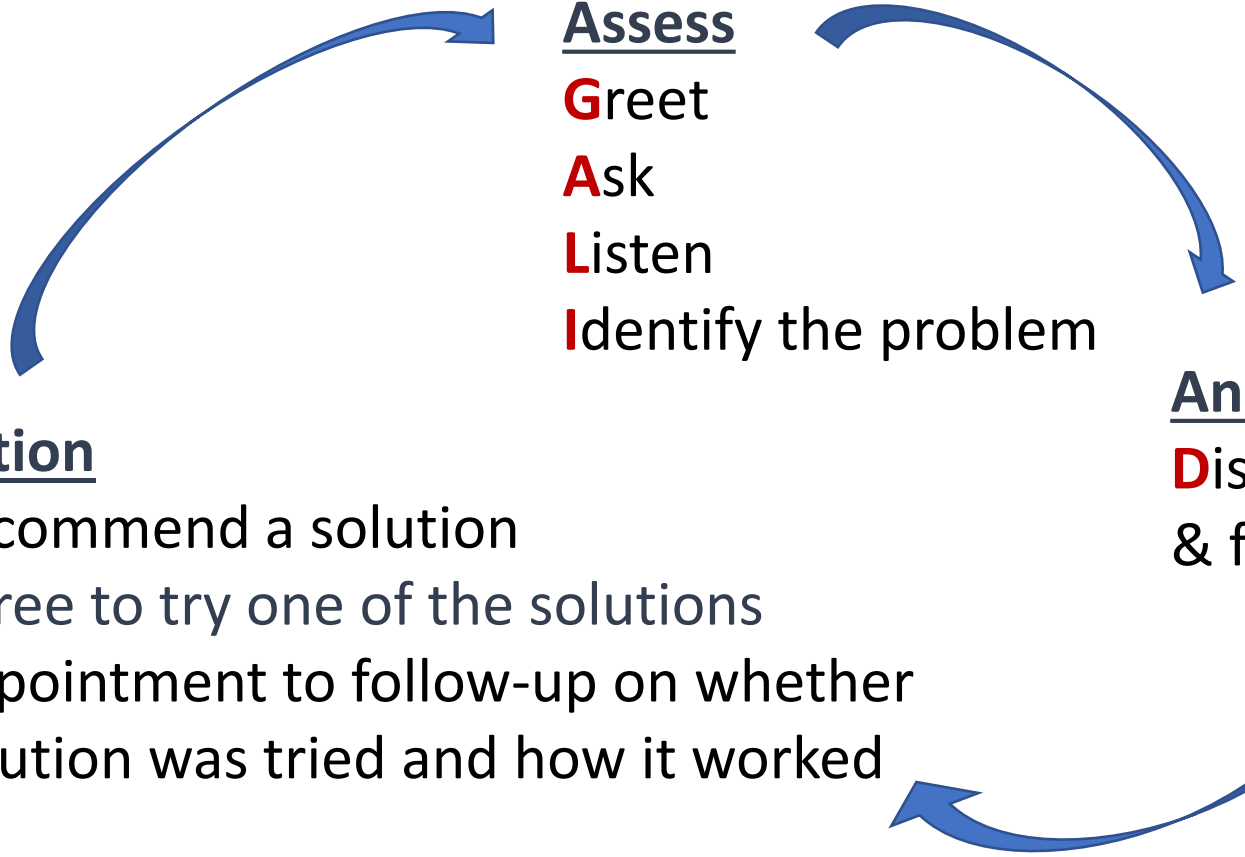
"Teaching"
One-direction
Generic messages

Interactive
Active Listening
Personalized
GALIDRAA

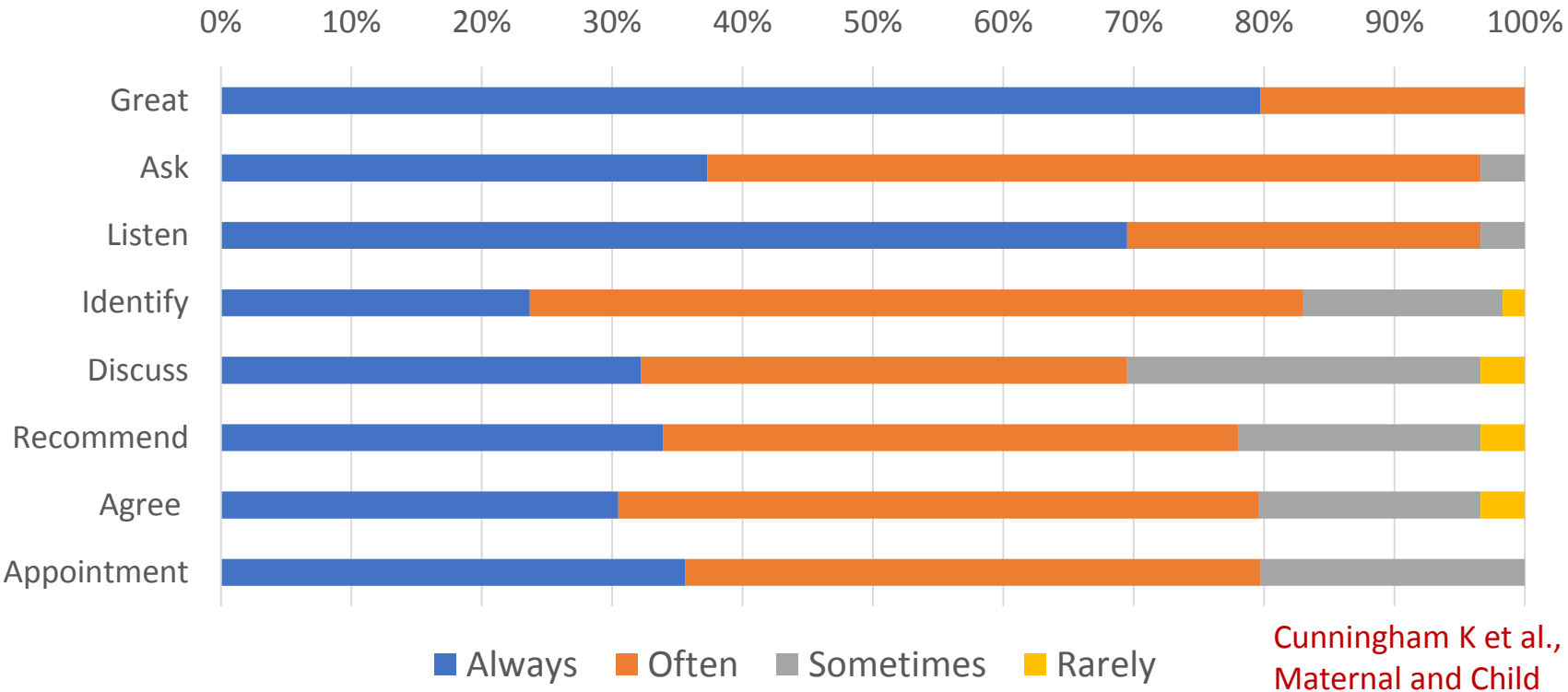
What is GALIDRAA?

Greet→**A**sk→**L**isten→**I**dentify→**D**iscuss→**R**ecommend→**A**gree→**A**ppointment

GALIDRAA and “Triple AAA” cycle



Adherence to GALIDRAA by Community Health Volunteers in Nepal two years after training



Cunningham K et al., Maternal and Child Nutrition, 2018

Take home messages-4

During Sick Child Encounter:

- Need to minimize missed opportunities (nutrition counseling, plans for continuity of care & follow-ip
- Need to optimize existing opportunities (GALIDRAA)
- Sick child encounter important but limited. Need to strengthen community linkage and preventive health & nutrition services

Nutrition intervention for the individual case: a hierarchy of intensity, by level of risk…..

Advice (key messages) – minimal or no nutritional risk

Counseling (GALIDRAA) – risk evident

Support – peers, CHWs, etc.

Follow-up – not just for illness, but for feeding/ nutrition

Referral – for severe malnutrition or other serious health problem

Adolescent-Mother-Newborn-Child Continuum of Care

Adolescent

WRA & Pregnant

Neonates

Infants & children

- ↑ iron intake
- Deworming
- LLINs for malaria
- Delayed age at first pregnancy
- Prolonged inter-pregnancy interval

- Iron+folic acid or Multiple Micronutrient supplementation
- Deworming
- IPT & LLINs for malaria
- Ca+ supplementation
- Balanced Protein-energy supplementation

- Delayed cord clamping
- Early & exclusive breast feeding (ENA)

- Counseling (ENA/EHA)
- MNPs, LNS, fortified foods
- LLINs; IPTi
- Dx & Rx of infections
- CMAM
- Zn supplementation
- VAS

Homestead Food Production, Iodine fortification, Gender Equity

WRA-Women of Reproductive Age, LLINS-long-lasting insecticide nets, IPT-Intermittent preventive treatment, MNPs-Micronutrient powders, Dx-diagnosis, Rx-Treatment, ENA-Essential Nutrition Actions, EHA-Essential Hygiene Actions

Summary

- Failure to recognize malnutrition as a risk when diagnosing & treating ill children
- Undernutrition & infection interact in a vicious cycle that can spiral downward if both conditions are not addressed.
- In most low income settings, growth faltering affects the WHOLE population of children, not just those in “the tail”.

Possible Areas for Improvement

- Minimizing missed opportunities (clinic & community, curative & preventive encounters)
- Maximizing existing opportunities (GALIDRAA, follow-up, continuity of care)
- Strengthening community linkages (beyond CHW)
- Creating demand
- Improving enabling conditions (supplies, tools, supervision)

Session Plan

- Evidence Review & Key Take Home Messages (15 min)
- Group Task 1: Attacking the "Tail" (15 min)
- Group Task 2: Attacking the "Whole" (15 min)
- Plenary (15 min)

Group Task 1 (the “tail”)

For each of the above, why do you rate them as you have?

Where are there critical leverage points, where important population health gains can be achieved by strategically increasing program effort?

To figure out how best to get real population impact, what more do you need to know about the perceptions and experiences of your intended beneficiaries?

Current Effectiveness of the Sick Child Encounter in Your Setting:

Looking for Critical Leverage Points

	Weak ← → Strong					
Health worker						
Availability	☐	☐	☐	☐	☐	☐
Competence	☐	☐	☐	☐	☐	☐
Motivation/ attitude	☐	☐	☐	☐	☐	☐
Enabling conditions						
Supplies/ commodities	☐	☐	☐	☐	☐	☐
Equipment/ facilities	☐	☐	☐	☐	☐	☐
Utilization of …						
public primary healthcare services	☐	☐	☐	☐	☐	☐
other sources of service	☐	☐	☐	☐	☐	☐
Provisions to ensure continuity of care	☐	☐	☐	☐	☐	☐

For each of the above, why do you rate them as you have?

Where are there critical leverage points, where important population health gains can be achieved by strategically increasing program effort?

To figure out how best to get real population impact, what more do you need to know about the perceptions and experiences of your intended beneficiaries?

Group Task 2 (the "whole"

Based on the above, (1) which components are adequate? inadequate?, and (2) what actions can you take that would make the most meaningful difference in providing quality preventive nutrition services at scale within current resource limits and that you can influence?

How do you rate the effectiveness of nutritional services for children who are not sick but at risk of being sick and undernourished (i.e. Preventive Nutrition Services—e.g. GMP, Vitamin A, iron, counseling on IYCF, MNPs, LNS, others)?

Demand	**Weak**					**Strong**
Community level of concern about maternal and child nutrition?						
Community understanding of link between child sickness and undernutrition?						
Community demand for preventive nutrition services?						
Community use of preventive nutrition services?						
Community use of preventive health services (immunization)?						
Supply						
Availability of community health workers and/or other community actors/influencers?						
Health worker's understanding of local beliefs about child feeding?						
Health worker's ability to individualize nutrition counseling to needs and capabilities of families?						
Competency of CHW (and/or other community actors) to provide preventive nutrition services?						
Supplies available to provide preventive nutrition services?						
Provider-community interactions						
Quality of provider-patient interactions?						
Affordability of services?						
Platforms to follow-up whether advice/counseling is acted upon?						
Other components (please list)						

Based on the above, (1) which components are adequate? inadequate?, and (2) what actions can you take that would make the most meaningful difference in providing quality preventive nutrition services at scale within current resource limits and that you can influence?