

# Measurement of Indicators in Humanitarian Emergencies

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# Overall Goal

- To documents the impact of interventions in humanitarian settings
  - Routinely
  - Measure appropriate indicators
  - Measure them well

# Barriers (1): Data Quality

Specifics of emergency settings:

- Low technical capacity
- Limited access to resources (equipment, communications, transport, IT, etc.)
- Lack of standardized methods
- Problems with access to population
- Lack of accurate population data
- Fluid situation, health events evolve rapidly
- Etc. etc.

# Barriers (2): Which Indicators?

Lack of agreement on which indicators should be measured to document what

- Sets of “core indicators” produced by various bodies (e.g., Sphere, Health Cluster, HNTS)
- Multitude of proposed indicators
- Many are non-quantifiable
- Many are difficult to measure well in emergency settings
- Program versus outcome indicators (morbidity, mortality, malnutrition)

# SPHERE Indicators Review

By Les Roberts and Trina Helderma (2009), commissioned by HNTS, based on Sphere (2004):

- circa 346 indicators total listed
- 224 (65%) non-quantifiable
- 55 (13%) have “documented link to health benefit”

## Conclusions:

- too many indicators
- most non-quantifiable
- few have evidence basis
- among quantifiable indicators, no “hierarchy” to indicate relative importance

# Core Indicators – Health Cluster

Category	#	Name of indicator	Type	Data Collection Method	Benchmarks
Health resources availability	A.1	Average population covered by functioning Health Facility (HF), by type of HF and by administrative unit	Input, proxy	HeRAMS	SPHERE standards: 10 000 for 1 Health Unit, 50 000 for 1 Health Centre, 250 000 for 1 District/Rural Hospital
	A.2	# HF with Basic Emergency Obstetric Care / 500 000 population, by administrative unit	input	HeRAMS	>= 4 BEmOC /500 000
	A.3	# HF with Comprehensive Emergency Obstetric Care / 500000 population, by administrative unit	input	HeRAMS	>= 1 CEmOC /500 000
	A.4	% of HF without stock out of a selected essential drug in 4 group of drugs, by administrative unit	input	IRA	100 %
	A.5	# of hospital beds per 10 000 population (inpatients & maternity), by administrative unit	input	HeRAMS	> 10
	A.6	% of HF with availability of clinical management of rape survivors + emergency contraception + PEP available	input	HeRAMS	100%
	A.7	# of health workforce (MD+nurse+midwife) per 10 000 population, by administrative unit (%m/f)	input	HeRAMS	> 22
	A.8	# of CHWs per 10 000, by administrative unit	input	HeRAMS	>= 10

Category	#	Name of indicator	Type	Data Collection Method	Benchmarks
Health outcomes	O.3	Prevalence of GAM	Outcome	HH survey	< 10%, Measure trends
	O.4	Prevalence of SAM			Measure trends
	O.5	% of the population in worst quintile of functioning, including those with severe or extreme difficulties in functioning		WHODAS II HH survey*	Thresholds have to be defined according to the local context and nature of the crisis. Measure trends

Category	#	Name of indicator	Type	Data Collection Method	Benchmarks
Health services' coverage	C.1	# of outpatient consultations per person per year, by administrative unit	output	HIS / EWARS	>= 1 new visit/person per year
	C.2	# of consultations per clinician per day, by administrative unit		HIS	Less than 50/ day per clinician
	C.3	Coverage of measles vaccination (6 months-15 years)		HIS, survey	> 95% in camps or urban areas > 90% in rural areas
	C.4	Coverage of DPT3 in < 1 year, by administrative unit			> 95%
	C.5	% births assisted by skilled attendant		> 90%	
	C.6	% expected deliveries by Caesarean section, by administrative unit		prospective HF based surveillance	>= 5% and <= 15%
Risk factors	R.1	# of cases or incidence rates for selected diseases relevant to the local context (cholera, measles, acute meningitis, others)	Outcome	EWARS, IRA, prospective HF based surveillance, surveys	Measure trends
	R.2	# of cases or incidence of sexual violence	Outcome	prospective HF based surveillance, surveys	Measure trends
	R.3	CFR for most common diseases	Outcome, proxy	prospective HF based surveillance	Measure trends
	R.4	Proportional mortality			Measure trends
	R.5	# of admissions to SFT and TFC			Measure trends
	R.6	Proportion/number of US GAM and SAM cases detected at OPD/IPD			Measure trends
	R.7	Proportion of people with <15L of water/day		Measure trends	
Health outcomes	O.1	CMR	outcome	HH survey	>=2x base rate OR >1/10 000 per day*
	O.2	USMR			>=2x base rate OR >2/10 000 per day*

# Barriers (3): Evidence Base

Lack of evidence of effectiveness of emergency interventions

- Low quality of data
- Inappropriate indicators measured
- Lack of published effectiveness studies
- Most of the “evidence” in “grey” literature
- Difficult to design and implement appropriate studies (sample size, comparison group, randomization, follow-up, etc.)

# What we often see in the field

- Measuring indicators that are convenient to measure rather than those most relevant
- Often measure poorly, in a non-standardized way
- Indicators measured do not provide sufficient detail about *quality* of the program
- Outcome indicators are not always measured



# Example: Essential Drugs

What are we interested in?

Drugs reach beneficiaries, are prescribed correctly, and ultimately reduce morbidity and mortality

Some of the things that can be measured:

- Quantity delivered in country, timeliness
- Availability at the health facility level
- Access of beneficiaries to health facilities (physical access, cost, etc.)
- Prescription practices, staff qualifications
- Beneficiaries in need that receive appropriate drugs
- Changes in morbidity and mortality

# Outcome Indicators: pros and cons

Mortality, malnutrition, morbidity

Pros:

- Ultimate goal and measure of intervention success
- Widely recognized as benchmarks for emergency and measures of severity (GAM, CMR)

Cons:

- Often multi-causal, difficult to attribute to specific interventions
- Often not easy to measure properly, especially when trying to document statistical change
- Better suited to evaluate “overall quality” of response rather than success of individual interventions

# Link program to outcome

- Do we always need to measure outcome?
- Not if there is a clear evidence linking program indicator to health outcome
  - e.g., measles immunization coverage
- Document both:
  - Coverage or (better) utilization
  - Quality of implementation

Need to:

- Identify interventions for which such evidence exists
- Build this evidence link for more interventions

# From Efficacy to Effectiveness

- Be clear what evidence is there and what is not
- Expect lower effect than in efficacy trials

Ex: micronutrient powders to prevent anemia

- Efficacy proven for children 6-24 mo with moderate and severe anemia
- In the field usually blanket distribution to all (incl. mild and no anemia) children 6-59 mo
- Effect even in 6-24 mo with moderate anemia is lower than that seen in efficacy trials

# Good Indicators

So, what are criteria of “good” indicators?

- Quantifiable
- Feasible to measure in emergency setting
- Standardized method of measurement available
- Relevant to intervention being evaluated
- Presents an outcome measure, or linked by evidence to outcome

# Ultimate Goal

- Know what indicators are necessary and sufficient to measure to evaluate
  - specific program
  - response as a whole
- Have valid, feasible and standardized methods to measure these indicators in emergencies – to assure data quality and comparability across time and settings