TRAINING FOR IMPROVED PRACTICE:
Public Health and Nutrition in Emergencies

Surveys in Complex Humanitarian Emergencies:

Interpretation and Critique

- UNICEF Core Corporate Commitments Training In collaboration with:

Feinstein International Famine Center, Tufts University

Mailman School of Public Health, Columbia University

International Emergency and Refugee Health Branch, Centers for Disease Control

Interpretation and Critique

- Assessing the methods
- Assessing/interpreting the overall study

Methods: Principles of data collection

- Define sampling universe
- Sample from this universe:
  - Representative
- Use survey sampling method
- Ensure accurate estimate: sampling, case definition, number of clusters
- Ensure precise estimate: sample size, number of clusters and number per cluster
- Analyze and interpret to define actions

Can I believe it?

Potential methodological problems

- For surveys:
  - Where was the sampling frame derived from and was it adjusted for recent displacement?
  - Was it a random or probability sample using a recognized method?
  - Did everyone have an equal probability of selection?
  - Who was left out (selection bias) ?
  - What was the sample size and was it appropriate?
  - Was the geographical coverage good?
    - How does it relate to catchment area of program?
  - Were the (case) definitions clear and standardized and piloted?
  - How was age determined?
  - Are confidence limits reported and derived correctly?

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Unadjusted	1
	Adjusted for recent changes	2
Accuracy:	Convenience	1
Sampling method	Population –based, probability	2
Precision: Sample size	Small	1
	Appropriate (justified)	2
Geographical coverage	Small	1
	Appropriate for conclusions	2
Case definitions and indicators/indices	Not defined	1
	Standardized and piloted, calendar of events for age	2
Confidence limits	Not reported	1
	Appropriate for methods	2

The Overall Study

- **Objectives not clearly stated or unrealistic**
- ***Methodological problems***
- **Conclusions not based on data**
  - **Over-interpretation of data**
    - **cross-sectional causality**
  - **Generalizing beyond the sample**
  - **Not consistent with science and previous reports / literature**
  - **Advocacy over science: politics**
- **Limitations not stated**
- **Recommendations not based on best practice**

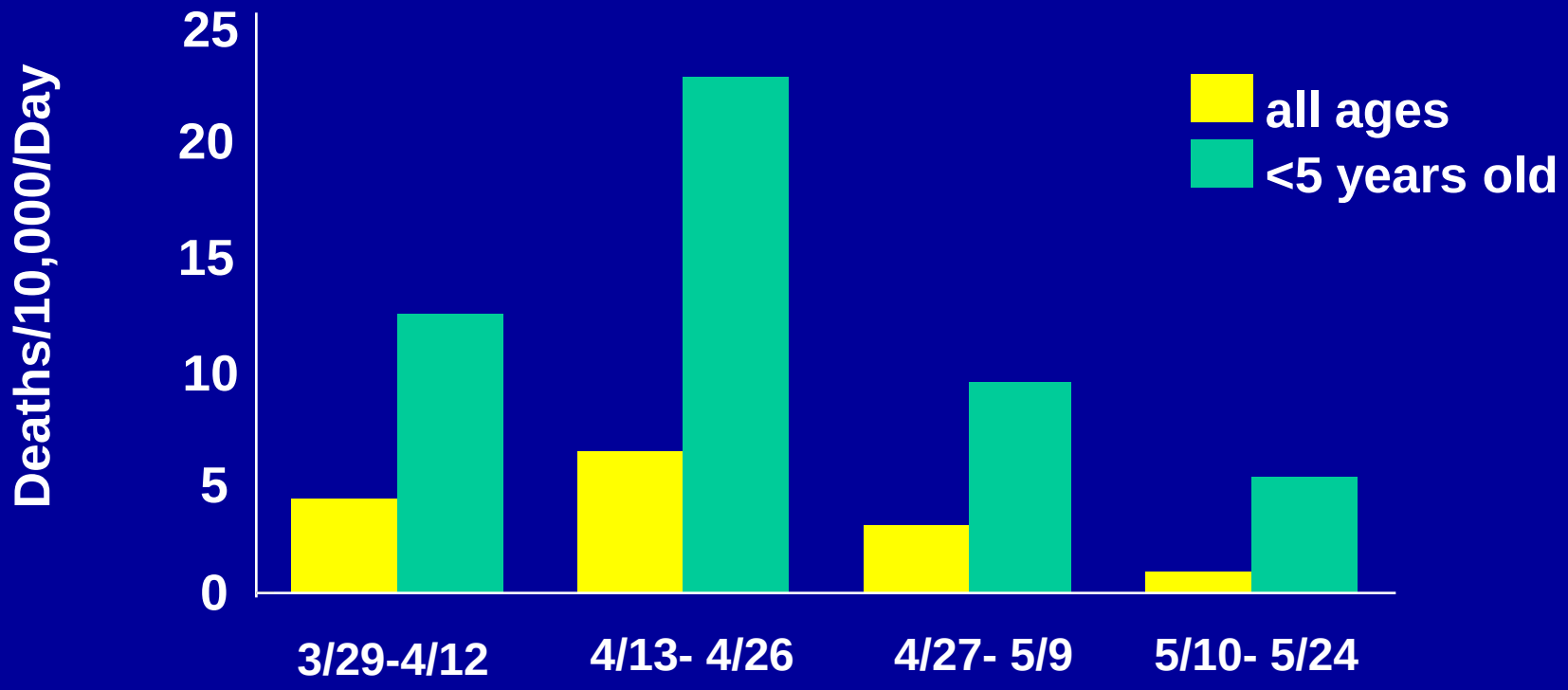
Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic	1
	Clear	2
Conclusions (1):	Over-interpretation	1
	Appropriate for data	2
Conclusions (2):	Not consistent with science	1
	Consistent	2
Limitations	Not stated	1
	All stated	2
Recommendations	Not based on data/best practice	1
	Consistent with best practice	2

But……..The Big 3 Buts

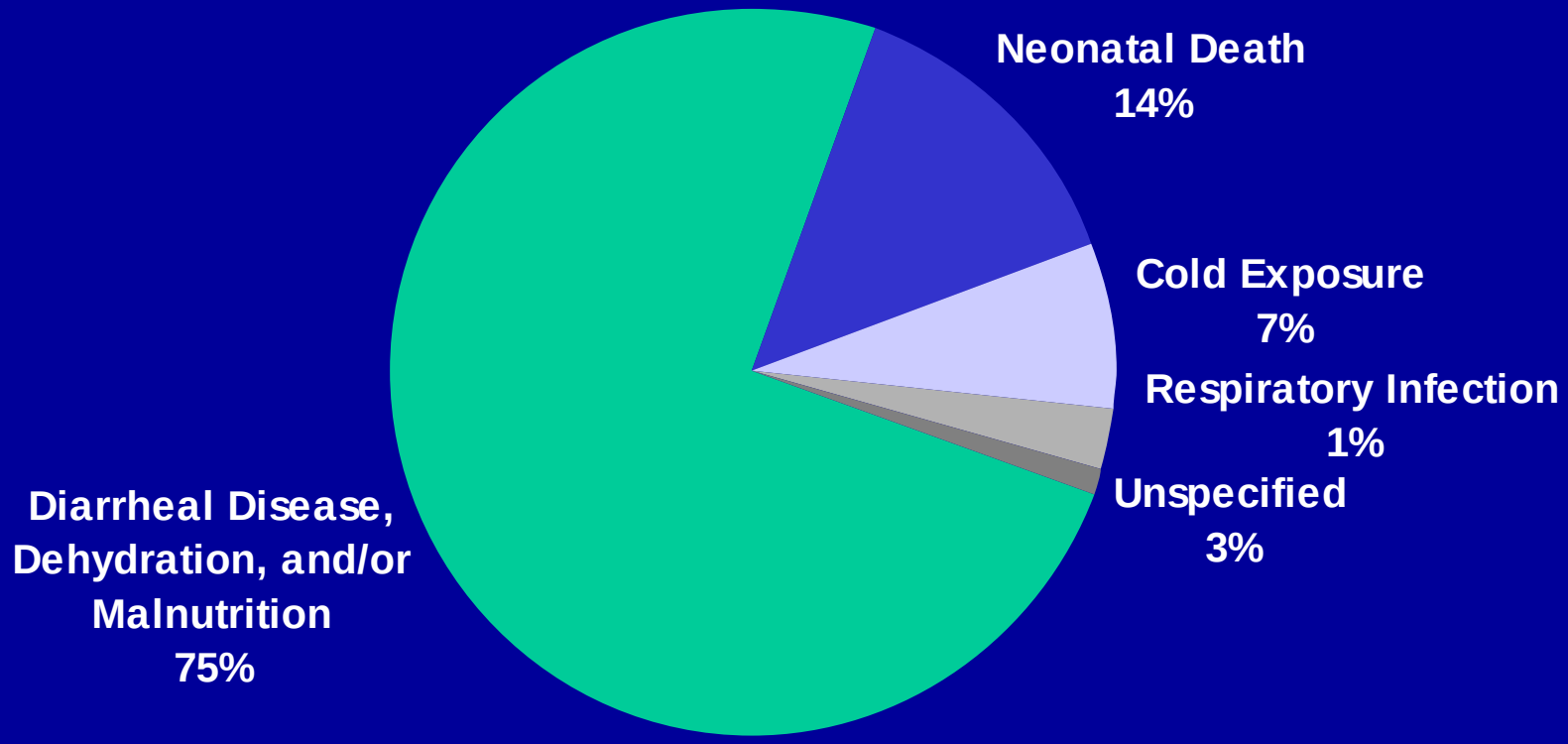
- Does it make sense with what you've seen?
- Does it fit in with the history and context?
- Does it make sense to the people living there?

Daily Crude and Under-5 Mortality Rates Kurdish Refugees, 1991



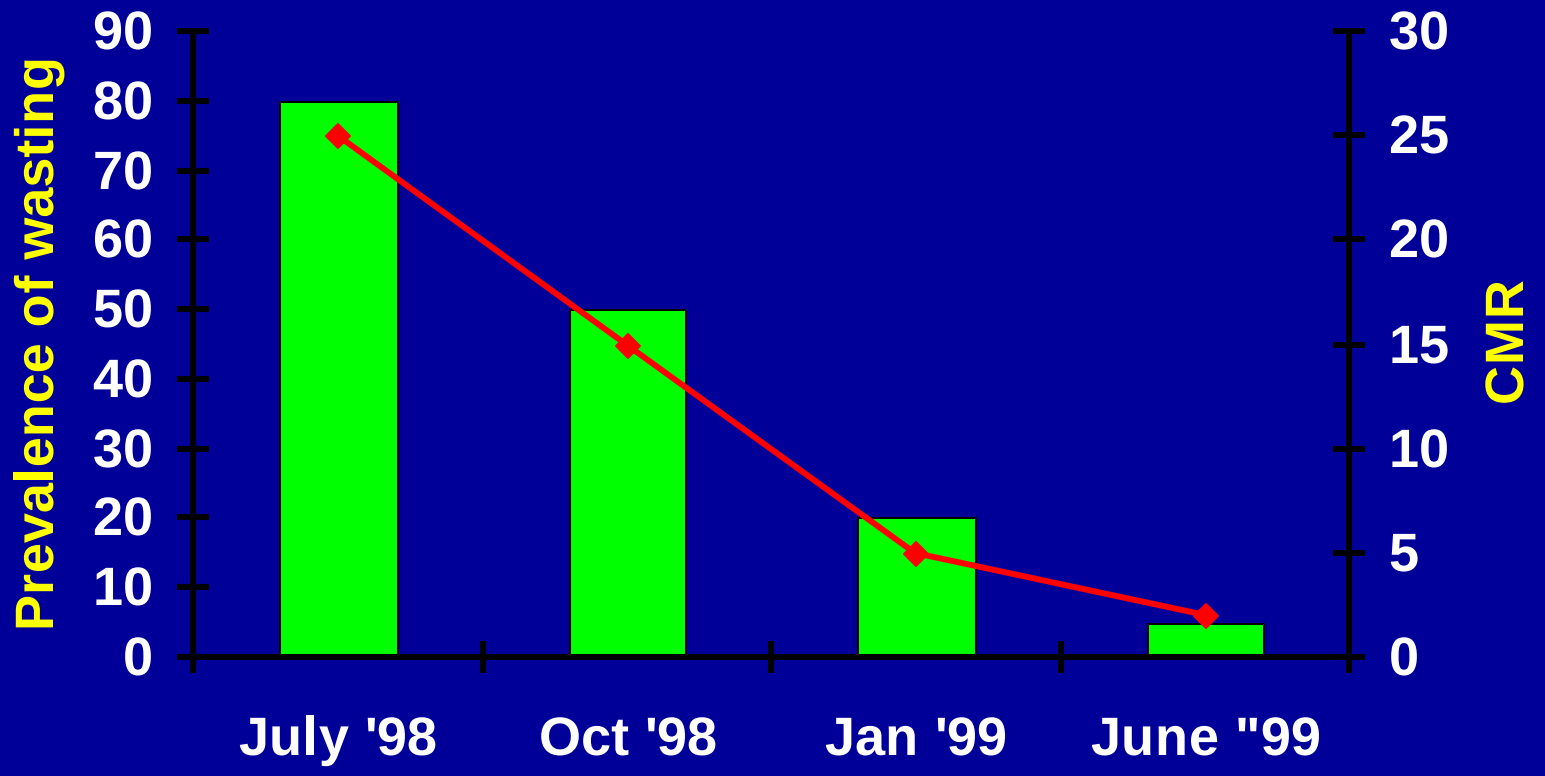
Source: CDC. MMWR, 1991;40:443-6.

Causes of Death of Kurdish Refugees April-May, 1991



Source: R. Yip and T.W. Sharp, Acute Malnutrition and High Childhood Mortality Related to Diarrhea: Lessons from the 1991 Kurdish Refugee Crisis. JAMA, Aug.4,1993;270(No. 5):589.

Malnutrition and mortality, Ajiep, southern Sudan, 1998-9



Source: ACC/SCN

The ultimate test: was it worth doing?

- Are the recommendations useful?
- Could they have been made without the study?

Ethiopian Famine - 2000

Background: Ethiopia

- 1997-2000: drought in Horn of Africa
- 2000: WFP estimated 10 million people ‘at risk’ of starvation in Ethiopia
- April 2000: NGOs began food aid and feeding programs in Somali region
- July 2000: no epidemiological data but claim that famine was averted


Jiddah
NUBIA
DESERT
Red Sea
ERITREA
Khartoum
Asmara
Sana'a
YEMEN
Al Ḥudaydah
Wad Madanī
SUDAN
Mek'elē
Gonder
Desē
Addis Ababa
Dirē Dawa
SOMALIA
ETHIOPIA
Uélé
Isiro
Arua
Soroti
Baydhabo
Mount Kenya
5199 m
(17,057 ft)
Mogadishu
UGANDA
Masaka
Kampala
Equator
Jamaame
Nairobi
Lake Victoria
Bukavu
Kigali
KENYA
Kilimanjaro 5895 m (19,341 ft)

Objectives

- **Overall:**
  - **To gather data for program planning**
- **Specific:**
  - **To estimate famine-related mortality rates and identify causes of death**
  - **To estimate malnutrition prevalence rates**

Methods

- Two-stage cluster survey design
- 1994 census as sampling frame
- 2 villages excluded due to insecurity
- 1st stage: 30 clusters chosen by PPS
- 2nd stage: households chosen by EPI methods

Methods: Retrospective Mortality

- Household members as of December 9, 1999
- Household members classified as alive or dead
- Deaths from Dec 1999 to July 2000:
  - Cause of death
  - Month of death
  - Age at death

Methods: Malnutrition

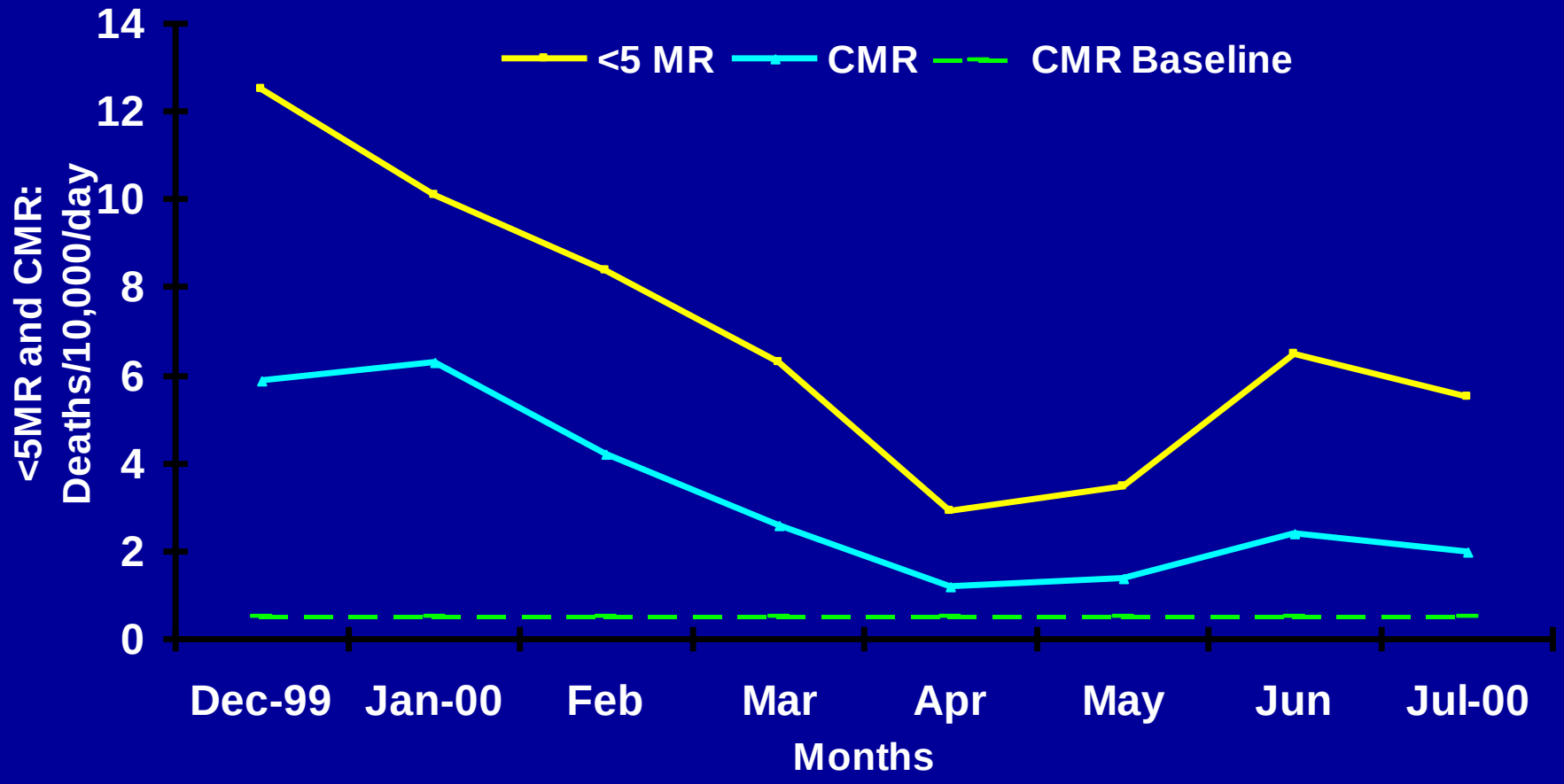
- **Children 6 months - 4 years**
  - **NCHS/WHO/CDC reference**
  - **Weight for height Z scores**

- **Adults 18-59 years**
  - **Body mass index (BMI)**
  - **WHO classification**
  - **Correction for body shape using sitting height / standing height ratio**

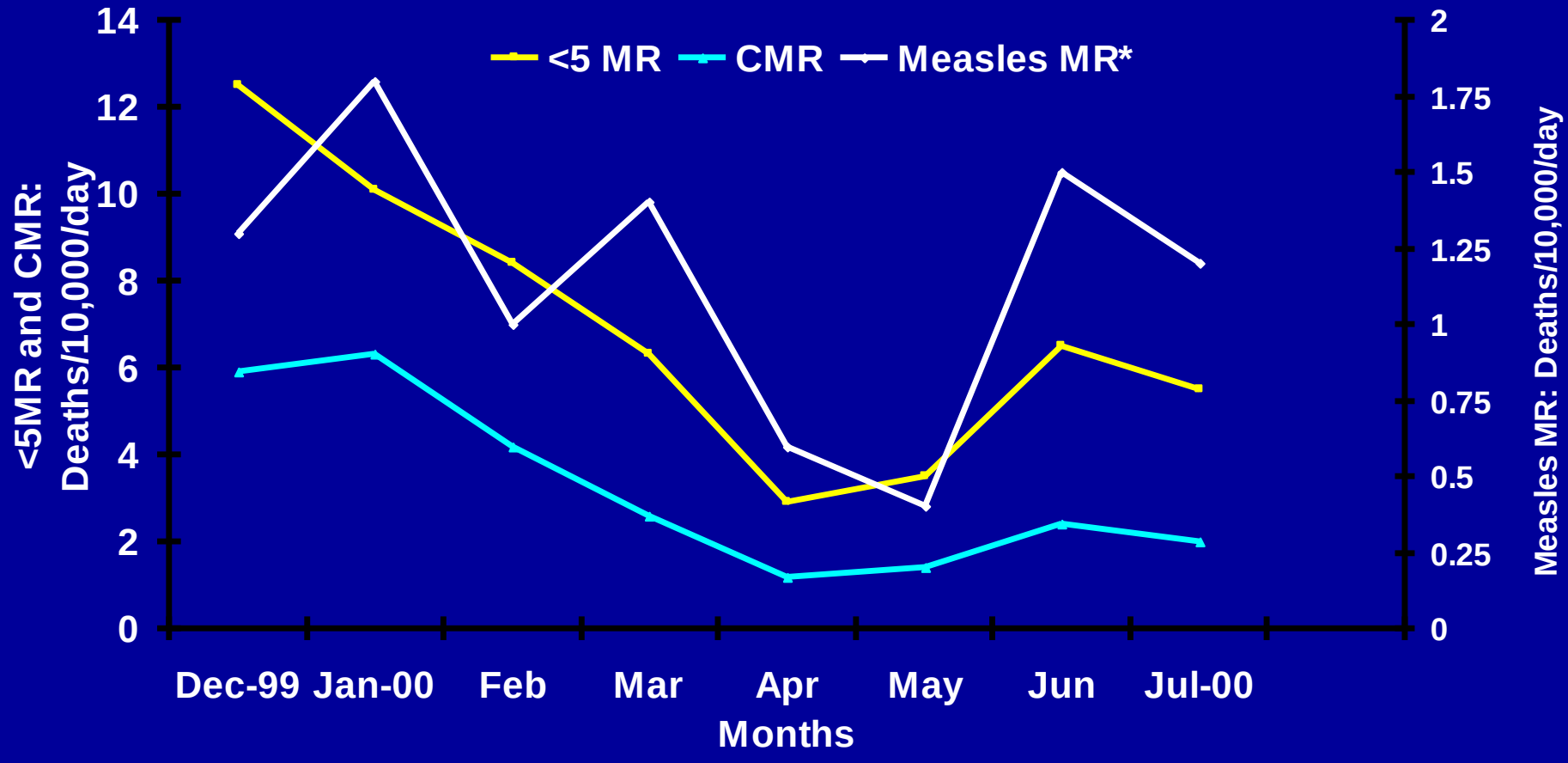
Results

- 595 households comprising 4,032 people in 24 villages
- 346 (58.2%) households displaced
- Mean household size: 6.4 people
- 293 deaths:
  - 159 (54.3%) < 5 years
  - CMR: 3.1 /10,000/day (95% CI: 2.4-3.8)
  - < 5 MR: 6.7 /10,000/day (95% CI: 5.3-8.0)

Mortality Trends, Gode District, Ethiopia, December 1999 - July 2000

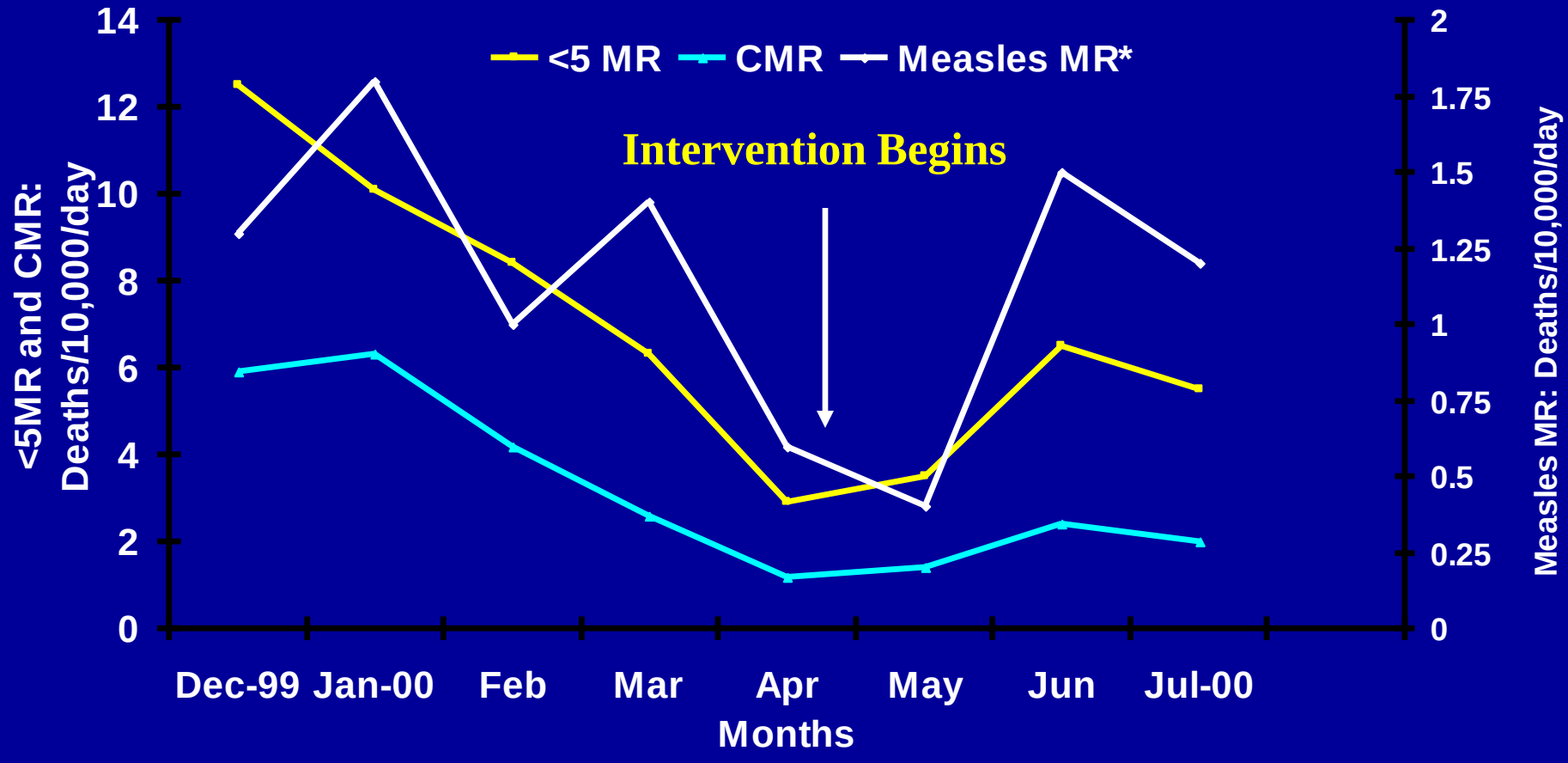


Mortality Trends, Gode District, Ethiopia, December 1999 - July 2000



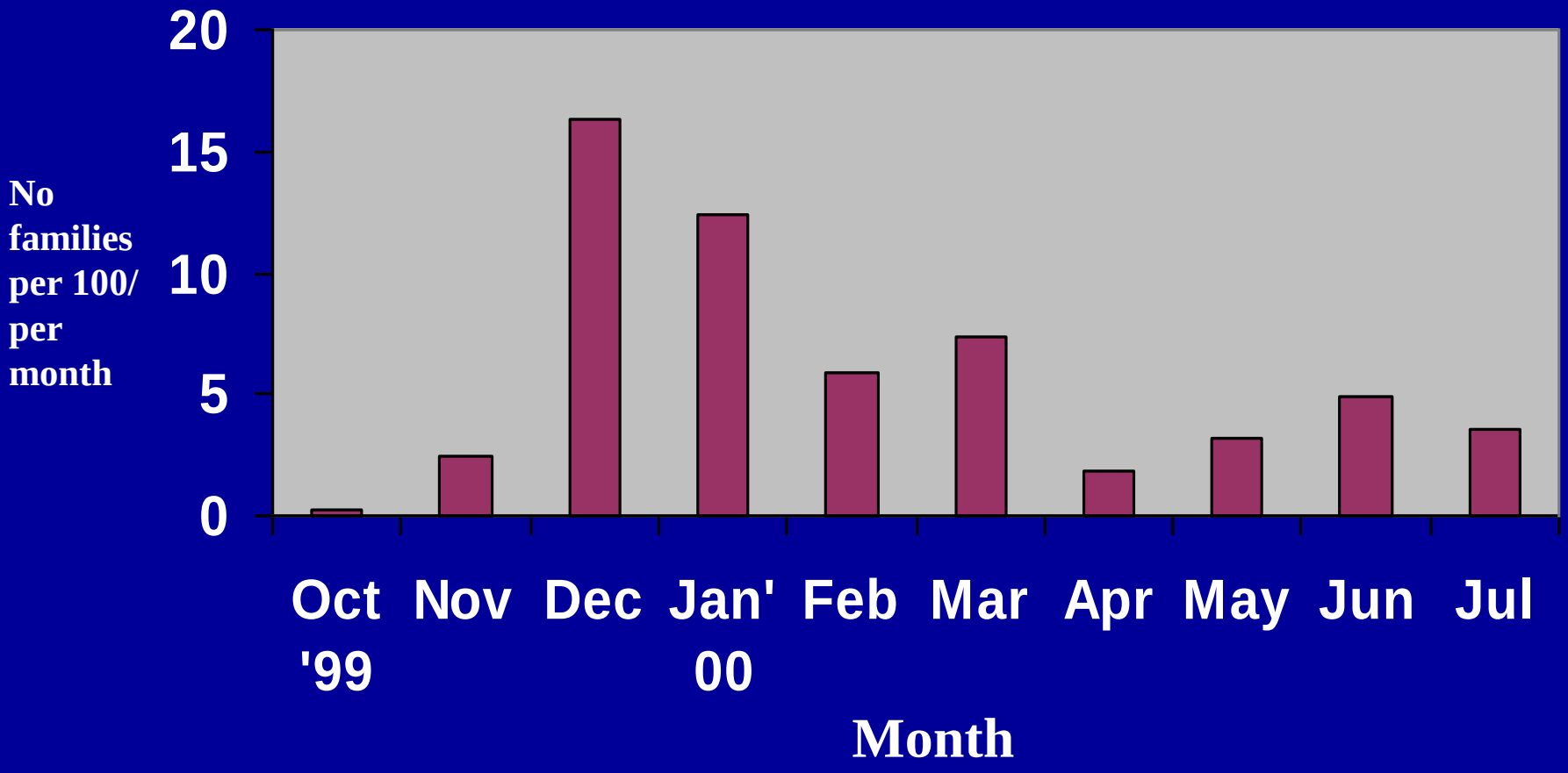
* Measles MR: per 10,000 < 14 yrs

Mortality Trends, Gode District, Ethiopia, December 1999 - July 2000



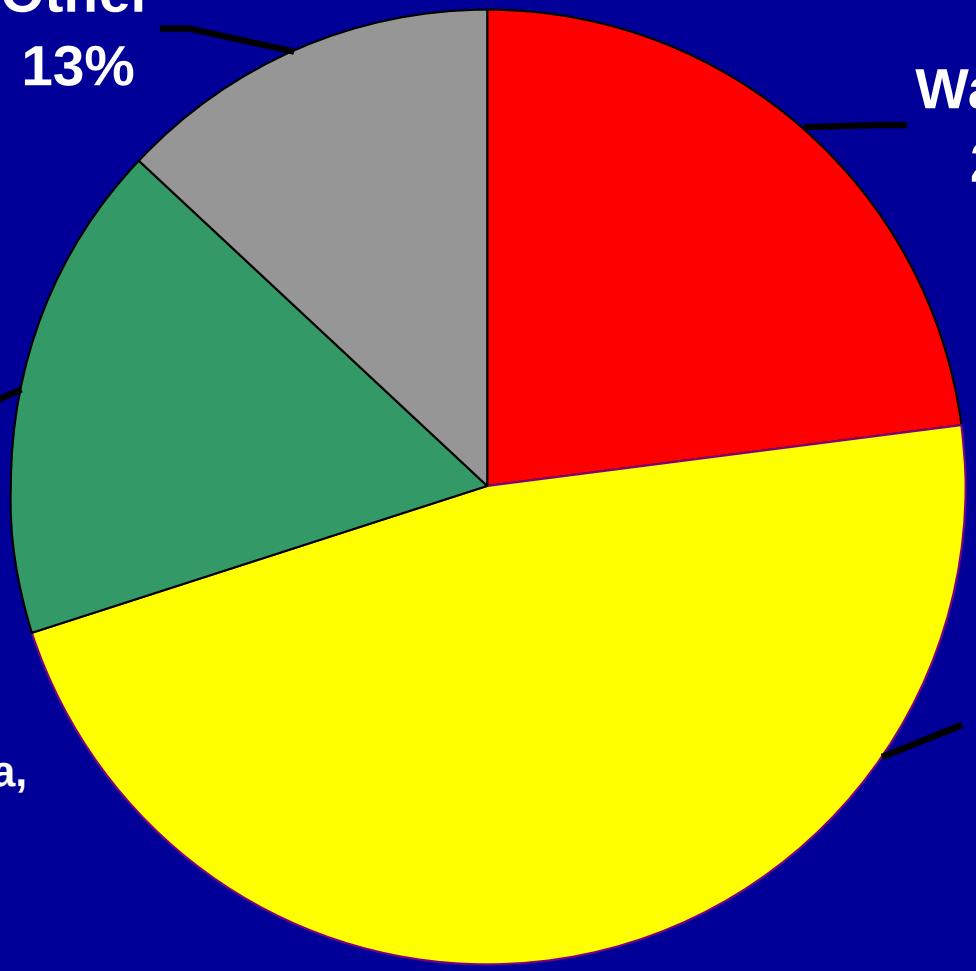
* Measles MR: per 10,000 < 14 yrs

Displacement by Month, Gode District, Ethiopia, October 1999-July 2000



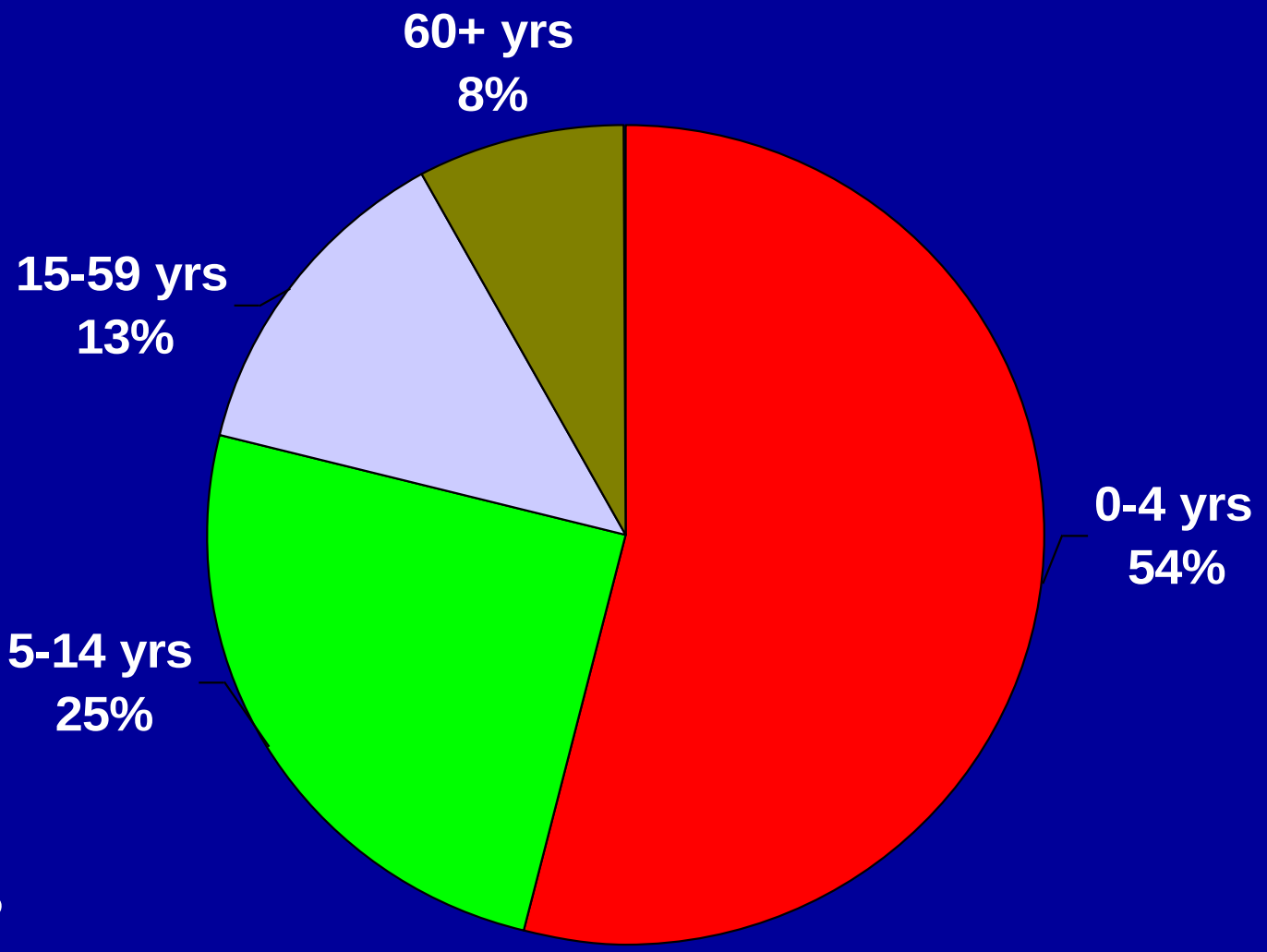
N= 346 families

Causes of Death, All Ages, Gode District, Ethiopia, December 1999 - July 2000



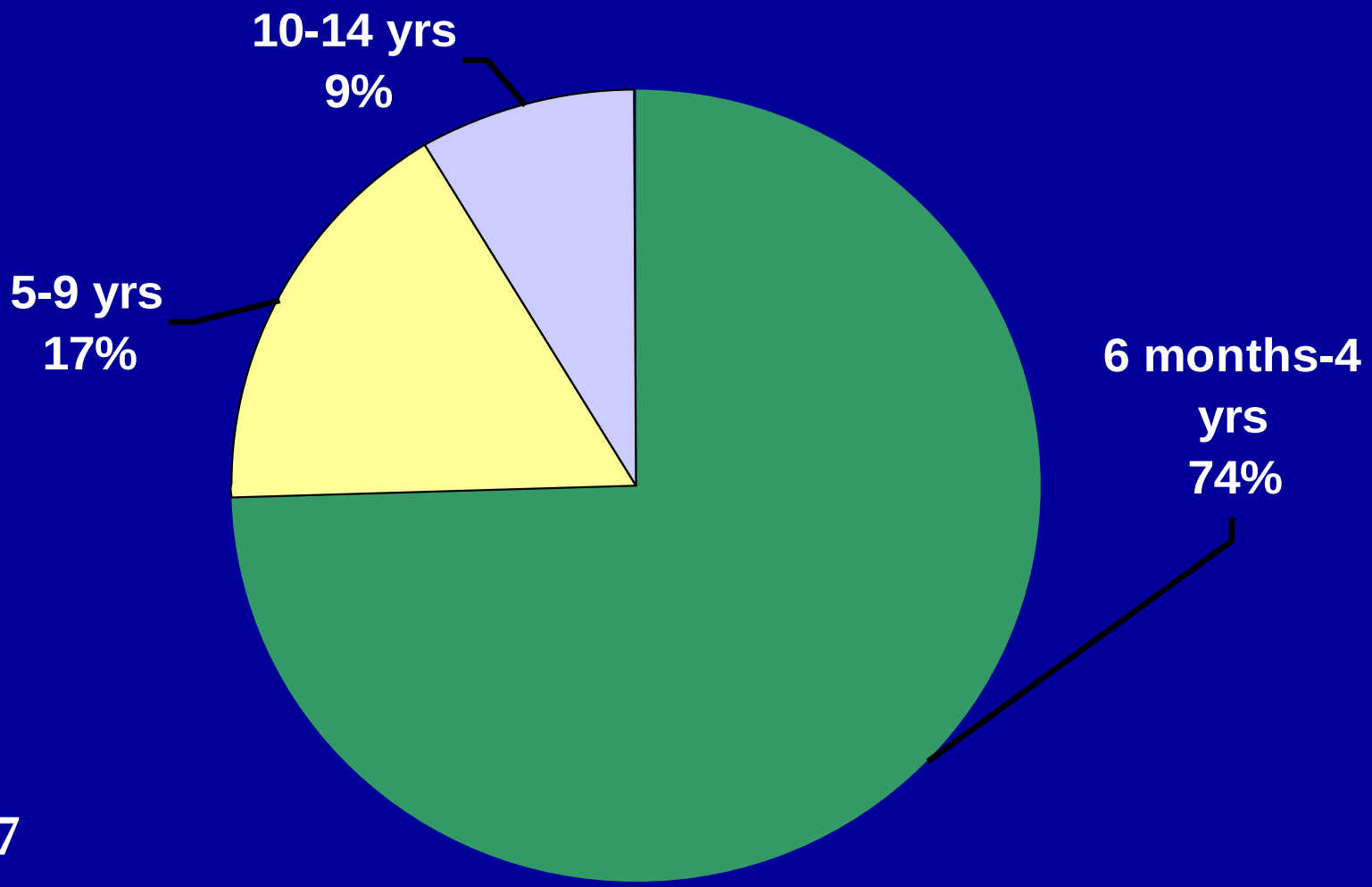
* ID includes:
Measles, Diarrhea,
ARI and Malaria
(N=293)

Age Distribution for Mortality, Gode District, Ethiopia, December 1999- July 2000



N=293

Age Distribution for Measles Mortality, Gode District, Ethiopia, December 1999 - July 2000



N=47

Wasting Prevalence Rates
Among Children 6 months- 4 years (N=867)

W/H Category	Prevalence (%)	95% CI
Moderate **< -2 Z ≥ -3 Z scores**	**23.4**	19.7-27.0
Severe **< -3 Z scores**	**5.7**	4.1-7.3
Total **< -2 Z scores**	**29.1**	24.7-33.4

Adult Under-nutrition Prevalence Rates (N=625)

BMI Category Kg/M²	Unadjusted Men % (95% CI)	Adjusted Men % (95% CI)	Unadjusted Women % (95% CI)	Adjusted Women % (95% CI)
BMI < 18.5	61.5 (53.1-69.9)	28.6 (19.6-36.7)	44.5 (38.5-50.6)	20.6 (15.8-25.4)
BMI < 16.0	14.4 (9.1-19.7)	2.9 (0.1-5.6)	11.0 (8.1-13.9)	2.7 (1.4-4.0)

Limitations

- Recall bias
- Selection bias
- Cause of death

Conclusions

- Mortality high and sustained
- Intervention delayed and inadequate
- Wasting and infectious diseases major causes of death

Conclusions

- Measles important in children 6 months-4 years and 5-14 years
- Prevalence of wasting high among children
- Adult undernutrition decreased by adjusting BMI

Recommendations

- Assess situation rapidly
- Implement proven interventions
- Vaccinate children 5-14 years of age for measles
- Assess nutritional status of adults

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Unadjusted	1
	Adjusted for recent changes	2
Accuracy:	Convenience	1
Sampling method	Population –based, probability	2
Precision: Sample size	Small	1
	Appropriate (justified)	2
Geographical coverage	Small	1
	Appropriate for conclusions	2
Case definitions and indicators/indices	Not defined	1
	Standardized and piloted, calendar of events for age	2
Confidence limits	Not reported	1
	Appropriate for methods	2

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	1994 census adjusted for recent changes with food and military	2
Accuracy: Sampling method		
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	1994 census adjusted for recent changes with food and military	2
Accuracy: Sampling method	Population –based, probability 2 stage 30 cluster survey, 3 refusals and 43 fewer houses	2
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	1994 census adjusted for recent changes with food and military	2
Accuracy: Sampling method	Population –based, probability 2 stage 30 cluster survey, 3 refusals and 43 fewer houses	2
Precision: Sample size	Appropriate (justified) 768 <5s calculated, 867 measured DE included for nut and MRs	2
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

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Precision: Sample size	Appropriate (justified) 768 <5s calculated, 867 measured DE included for nut and MRs	2
Geographical coverage	District: Appropriate for conclusions except extrapolations	1.5
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

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Case definitions and indicators/indices	Standardized and piloted, calendar of events for age, back-translated, W/H z-score, adj BMI, more details required	1.5
Confidence limits		

Evaluation of methods

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Case definitions and indicators/indices	Standardized and piloted, calendar of events for age, back-translated, W/H z-score, adj BMI, more details required	1.5
Confidence limits	Appropriate for methods: C sample	2 11/12

Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic	1
	Clear	2
Conclusions (1):	Over-interpretation	1
	Appropriate for data	2
Conclusions (2):	Not consistent with science	1
	Consistent	2
Limitations	Not stated	1
	All stated	2
Recommendations	Not based on data/best practice	1
	Consistent with best practice	2

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):		
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Delayed and inadequate response; too little emphasis on PH contribution to wasting and MR but over-interpretation: MR estimated beyond coverage of survey area but placed in discussion and some evidence given from other sources; Cross-sectional causality	1
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

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Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Delayed and inadequate response; too little emphasis on PH contribution to wasting and MR but over-interpretation: MR estimated beyond coverage of survey area but placed in discussion and some evidence given from other sources	1
Conclusions (2):	Consistent with literature: method for adjusting BMI-relatively new for emergencies but partially documented by Norgan et al	2
Limitations		
Recommendations		

Interpretation

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Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Delayed and inadequate response; too little emphasis on PH contribution to wasting and MR but over-interpretation: MR estimated beyond coverage of survey area but placed in discussion and some evidence given from other sources	1
Conclusions (2):	Consistent with literature: method for adjusting BMI-relatively new for emergencies but partially documented by Norgan et al	2
Limitations	All stated: selection, recall bias, verbal reports, misclassification, LATE	1
Recommendations		

Interpretation

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Conclusions (2):	Consistent with literature: method for adjusting BMI-relatively new for emergencies but partially documented by Norgan et al	2
Limitations	All stated: selection, recall bias, verbal reports, misclassification, LATE	1
Recommendations	Consistent with best practice/ based on data: measles up to 12 yrs, analyze nutrition and mortality, assess adults, further research, coordination, rapid response	2 8/10

But……..The Big 3 Buts

- Does it make sense with what you've seen?
  - Yes
- Does it fit in with the history and context?
  - Yes
- Does it make sense to the people living there?
  - Yes although aid agency staff at time denied

The ultimate test: was it worth doing?

- Are the recommendations useful?
  - Yes especially for advocacy and lessons learned but LATE
- Could they have been made without the study?
  - Yes to some extent-most in published guidelines except adult undernutrition

Other surveys

- 83 surveys collected during 1999-2000
- Using similar criteria only 6 surveys passed
- 16 MUAC convenience surveys:
  - Median GAM: 32.2% < 12.5 cms
- 67 population based:
  - Median GAM: 12.0% < -2 Z-scores W/H / oedema

Somalia Case Study

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Unadjusted	1
	Adjusted for recent changes	2
Accuracy:	Convenience	1
Sampling method	Population –based, probability	2
Precision: Sample size	Small	1
	Appropriate (justified)	2
Geographical coverage	Small	1
	Appropriate for conclusions	2
Case definitions and indicators/indices	Not defined	1
	Standardized and piloted, calendar of events for age	2
Confidence limits	Not reported	1
	Appropriate for methods	2

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Baidoa: changed frequently, initial population 21-40,000, later reduced to IDPs. Afgoi: 35,000. ? source	1
Accuracy: Sampling method		
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Baidoa: changed frequently, initial population 21-40,000, later reduced to IDPs. Afgoi: 35,000. ? source	1
Accuracy: Sampling method	Population –based: limited access Modified 2 stage: 7*7 (B) and 19*8 (A), 2nd stage of sampling-centre chosen	1
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

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Accuracy: Sampling method	Population –based: limited access Modified 2 stage: 7*7 (B) and 19*8 (A), 2nd stage of sampling-centre chosen	1
Precision: Sample size	Small and calculations not given Baidoa: 47 houses, Afgoi: 152 houses DE not included for MRs, approx. 4	1
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

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Sampling frame	Baidoa: changed frequently, initial population 21-40,000, later reduced to IDPs. Afgoi: 35,000. ? source	1
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Precision: Sample size	Small and calculations not given Baidoa: 47 houses, Afgoi: 152 houses DE not included for MRs, approx. 4	1
Geographical coverage	9 towns then reduced to IDP camps in Baidoa and town of Afgoi including 1 IDP camp, NOT CENTRAL SOMALIA	1
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

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Case definitions and indicators/indices	No details given on standardization, piloting or translation, age determination, question asked to any adult if not there, maternal death??, malnutrition not assessed, denominator of MR	1

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Case definitions and indicators/indices	No details given on standardization, piloting or translation, age determination, question asked to any adult if not there, maternal death??, malnutrition not assessed, denominator of MR	1
Confidence limits	Taylor series, assume simple random sample	1/ 6/12

Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic	1
	Clear	2
Conclusions (1):	Over-interpretation	1
	Appropriate for data	2
Conclusions (2):	Not consistent with science	1
	Consistent	2
Limitations	Not stated	1
	All stated	2
Recommendations	Not based on data/best practice	1
	Consistent with best practice	2

Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic: assess MRs, major COD and RFs in displaced and resident pops of CENTRAL SOMALIA	1
Conclusions (1):		
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic: assess MRs, major COD and RFs in displaced and resident pops of CENTRAL SOMALIA	1
Conclusions (1):	Over-interpretation: highest MR for civilian pop; 16.8/ 10,000/day, association with displacement, malnutrition no longer big cause of death, MRs not improving month before	1
Conclusions (2):		
Limitations		
Recommendations		

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Conclusions (2):	Not consistent with other data- see Collins: decreasing bodies but adult mal, Branca: mean z-score –1.4 among 0-23 months, MR double that of Manoncourt in Merca, ?political	1
Limitations		
Recommendations		

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Conclusions (2):	Not consistent with other data- see Collins: decreasing bodies but adult mal, Branca: mean z-score –1.4 among 0-23 months, MR double that of Manoncourt in Merca, ?political	1
Limitations	Stated: selection, not recall, instrument, late assessment	1
Recommendations		

Interpretation

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Objectives	Unclear/unrealistic: assess MRs, major COD and RFs in displaced and resident pops of CENTRAL SOMALIA	1
Conclusions (1):	Over-interpretation: highest MR for civilian pop; 16.8/ 10,000/day, association with displacement, malnutrition no longer big cause of death (contradicted in results), MRs not improving month before	1
Conclusions (2):	Not consistent with other data- see Collins: decreasing bodies but adult mal, Branca: mean z-score –1.4 among 0-23 months, MR double that of Manoncourt in Merca, ?political	1
Limitations	Stated: selection, not recall, instrument, late assessment	1
Recommendations	Consistent with best practice, malaria not assessed, nutrition in children and adults	1.5 5.5/10

But……..The Big 3 Buts

- **Does it make sense with what you've seen?**
  - **???? Short time 5 days Baidoa and 2 days Afgoi**
- **Does it fit in with the history and context?**
  - **No, worst was over, large amounts food aid and falling price grain on market**
- **Does it make sense to the people living there?**
  - **?, Certainly not to aid workers resident-see letter from Collins, used to justify military intervention and increase food aid etc**

The ultimate test: was it worth doing?

- Are the recommendations useful?
  - Yes but……
- Could they have been made without the study?
  - Yes and unintended negative consequences

North Korea Case Study

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Unadjusted	1
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Accuracy:	Convenience	1
Sampling method	Population –based, probability	2
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Geographical coverage	Small	1
	Appropriate for conclusions	2
Case definitions and indicators/indices	Not defined	1
	Standardized and piloted, calendar of events for age	2
Confidence limits	Not reported	1
	Appropriate for methods	2

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Not possible as highly mobile group 18 of 57 sites sampled, 3 sites excluded later	1
Accuracy: Sampling method		
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Not possible as highly mobile group 18 of 57 sites sampled, 3 sites excluded later	1
Accuracy: Sampling method	Convenience: all migrants at some sites, one per day at others, sampling of non-migrants done through dependent, secondary source, medical supplies as incentives, ?confidential :fear and selection bias (non-response not >5%), ?representative, men>women	1
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Not possible as highly mobile group 18 of 57 sites sampled, 3 sites excluded later	1
Accuracy: Sampling method	Convenience: all migrants at some sites, one per day at others, sampling of non-migrants done through dependent, secondary source	1
Precision: Sample size	440 or 1782 probably low given the analysis but no calculation done in advance	1
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

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Sampling frame	Not possible as highly mobile group 18 of 57 sites sampled, 3 sites excluded later	1
Accuracy: Sampling method	Convenience: all migrants at some sites, one per day at others, sampling of non-migrants done through dependent, secondary source	1
Precision: Sample size	440 or 1782 probably low given the analysis but no calculation done in advance	1
Geographical coverage	78% from North Hamkyong province of Nth Korea	1
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Not possible as highly mobile group 18 of 57 sites sampled, 3 sites excluded later	1
Accuracy: Sampling method	Convenience: all migrants at some sites, one per day at others, sampling of non-migrants done through dependent, secondary source	1
Precision: Sample size	440 or 1782 probably low given the analysis but no calculation done in advance	1
Geographical coverage	78% from North Hamkyong province of Nth Korea	1
Case definitions and indicators/indices	Some details given on standardization, piloting and translation, none on age determination, internal displacement and households and food security complex and over-simplified, long recall period, question about gov GFR	1.5
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Not possible as highly mobile group 18 of 57 sites sampled, 3 sites excluded later	1
Accuracy: Sampling method	Convenience: all migrants at some sites, one per day at others, sampling of non-migrants done through dependent, secondary source	1
Precision: Sample size	440 or 1782 probably low given the analysis but no calculation done in advance	1
Geographical coverage	78% from North Hamkyong province of Nth Korea	1
Case definitions and indicators/indices	Some details given on standardization, piloting and translation, none on age determination, internal displacement and households and food security complex and over-simplified	1.5
Confidence limits	Not done but stat comparisons made	1 6.5/12

Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic	1
	Clear	2
Conclusions (1):	Over-interpretation	1
	Appropriate for data	2
Conclusions (2):	Not consistent with science	1
	Consistent	2
Limitations	Not stated	1
	All stated	2
Recommendations	Not based on data/best practice	1
	Consistent with best practice	2

Interpretation

Characteristic	Assessment	Points
Objectives	Clear but not realistic: mortality trends in NTH KOREA since 1995	1.5
Conclusions (1):		
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear but not realistic: mortality trends in NTH KOREA since 1995	1.5
Conclusions (1):	Over-interpretation: many caveats but still extrapolates to 245,000 deaths in province	1.5
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear but not realistic: mortality trends in NTH KOREA since 1995	1.5
Conclusions (1):	Over-interpretation: many caveats but still extrapolates to 245,000 deaths in province	1.5
Conclusions (2):	Consistent: distress migration, excess MR in older children, decreased HH size, migrants and non-migrants similar MR, raised MRs, possible food security crisis	1.5
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear but not realistic: mortality trends in NTH KOREA since 1995	1.5
Conclusions (1):	Over-interpretation: many caveats but still extrapolates to 245,000 deaths in province	1.5
Conclusions (2):	Consistent: distress migration, decreased HH size, raised MRs, possible food security crisis	1.5
Limitations	All stated: recall, response, selection, correlations, generalizability	1
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear but not realistic: mortality trends in NTH KOREA since 1995	1.5
Conclusions (1):	Over-interpretation: many caveats but still extrapolates to 245,000 deaths in province	1.5
Conclusions (2):	Consistent: distress migration, decreased HH size, raised MRs, possible food security crisis	1.5
Limitations	All stated: recall, response, selection, correlations, generalizability	1
Recommendations	None: ? advocacy	1.5 7/10

But……..The Big 3 Buts

- **Does it make sense with what you've seen?**
  - **???? Couldn't go, little verifiable info**
- **Does it fit in with the history and context?**
  - **Yes, 3 year drought and economic problems**
- **Does it make sense to the people living there?**
  - **????? Couldn't go, little verifiable info**

The ultimate test: was it worth doing?

- Are the recommendations useful?
  - None: advocacy
- Could they have been made without the study?
  - Not entirely

Afghanistan Case Study

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	Unadjusted	1
	Adjusted for recent changes	2
Accuracy:	Convenience	1
Sampling method	Population –based, probability	2
Precision: Sample size	Small	1
	Appropriate (justified)	2
Geographical coverage	Small	1
	Appropriate for conclusions	2
Case definitions and indicators/indices	Not defined	1
	Standardized and piloted, calendar of events for age	2
Confidence limits	Not reported	1
	Appropriate for methods	2

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	All villages in Kohistan district under Taliban control with >20 households, NIDS and adjusted after discussion with leaders	1.5
Accuracy: Sampling method		
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	All villages in Kohistan district under Taliban control with >20 households, NIDS and adjusted after discussion with leaders	1.5
Accuracy: Sampling method	Population-based, probability sample 2 stage 30 cluster survey, 6/50 villages excluded, 19 non-participating households	2
Precision: Sample size		
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	All villages in Kohistan district under Taliban control with >20 households, NIDS and adjusted after discussion with leaders	1.5
Accuracy: Sampling method	Population-based, probability sample 2 stage 30 cluster survey, 6/50 villages excluded, 19 non-participating households	2
Precision: Sample size	Appropriate and justified 392 required and 708 measured DE given for nut and MRs	2
Geographical coverage		
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	All villages in Kohistan district under Taliban control with >20 households, NIDS and adjusted after discussion with leaders	1.5
Accuracy: Sampling method	Population-based, probability sample 2 stage 30 cluster survey, 6/50 villages excluded, 19 non-participating households	2
Precision: Sample size	Appropriate and justified 392 required and 708 measured DE given for nut and MRs	2
Geographical coverage	Appropriate for conclusions at district level	2
Case definitions and indicators/indices		
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	All villages in Kohistan district under Taliban control with >20 households, NIDS and adjusted after discussion with leaders	1.5
Accuracy: Sampling method	Population-based, probability sample 2 stage 30 cluster survey, 6/50 villages excluded, 19 non-participating households	2
Precision: Sample size	Appropriate and justified *392 required (?low)* and 708 measured DE given for nut and MRs	2
Geographical coverage	Appropriate for conclusions at district level	2
Case definitions and indicators/indices	Standardized and piloted, calendar of events for age, back-translated, W/H z-score, more details required on COD, scurvy assessed clinically and new CS, livestock loss assessment, other category of COD, wild food-?baseline	1
Confidence limits		

Evaluation of methods

Characteristic	Assessment	Points
Sampling frame	All villages in Kohistan district under Taliban control with >20 households, NIDS and adjusted after discussion with leaders	1.5
Accuracy: Sampling method	Population-based, probability sample 2 stage 30 cluster survey, 6/50 villages excluded, 19 non-participating households	2
Precision: Sample size	Appropriate and justified 392 required and 708 measured DE given for nut and MRs	2
Geographical coverage	Appropriate for conclusions at district level, “may be indicative of h and n status in other parts..”	2
Case definitions and indicators/indices	Standardized and piloted, calendar of events for age, back-translated, W/H z-score, more details required on COD, scurvy assessed clinically	1
Confidence limits	Appropriate for methods: C sample	2 10.5/12

Interpretation

Characteristic	Assessment	Points
Objectives	Unclear/unrealistic	1
	Clear	2
Conclusions (1):	Over-interpretation	1
	Appropriate for data	2
Conclusions (2):	Not consistent with science	1
	Consistent	2
Limitations	Not stated	1
	All stated	2
Recommendations	Not based on data/best practice	1
	Consistent with best practice	2

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):		
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Appropriate for data: humanitarian emergency, diarrhoea, measles, ARI and scurvy major COD, chronic food shortage and food security-over-emphasis on food?	1.5
Conclusions (2):		
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Appropriate for data mostly: humanitarian emergency, diarrhoea, measles, ARI and scurvy major COD, chronic food shortage,	1.5
Conclusions (2):	Consistent with literature on acute malnutrition as a lagging indicator of food insecurity; other surveys showing relatively low prevalence of wasting but high MRs, MDD, and stunting, scurvy as COD not well documented, measles and NIDS	1.5
Limitations		
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Appropriate for data: humanitarian emergency, diarrhoea, measles, ARI and scurvy major COD	1.5
Conclusions (2):	Consistent with literature on acute malnutrition as a lagging indicator of food insecurity; other surveys showing relatively low prevalence of wasting but high MRs, MDD, and stunting, scurvy as COD not well documented	1.5
Limitations	All stated: selection, recall bias, verbal reports, misclassification, no biochemistry	1.5
Recommendations		

Interpretation

Characteristic	Assessment	Points
Objectives	Clear: prevalence malnutrition, MRs and causes of death	2
Conclusions (1):	Appropriate for data: humanitarian emergency, diarrhoea, measles, ARI and scurvy major COD	1.5
Conclusions (2):	Consistent with literature on acute malnutrition as a lagging indicator of food insecurity; other surveys showing relatively low prevalence of wasting but high MRs, MDD, and stunting, scurvy as COD not well documented	1.5
Limitations	All stated: selection, recall bias, verbal reports, misclassification, no biochemistry	1.5
Recommendations	Consistent with best practice: measles up to 15 yrs, vitamin A, WES, GFR emphasized too much, humanitarian space	1.5 8/10

But……..The Big 3 Buts

- **Does it make sense with what you've seen?**
  - **Yes, surveyors knew area well**
- **Does it fit in with the history and context?**
  - **Yes, 3 year drought, food security and economic problems**
- **Does it make sense to the people living there?**
  - **?????**

The ultimate test: was it worth doing?

- Are the recommendations useful?
  - Yes
- Could they have been made without the study?
  - To some extent