

# Mortality and Cause of Death

## Brief Comments

Global Health Metrics and Evaluation:  
Current State and Future Directions  
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# Mortality Measures for Africa

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- ▶ Child mortality through surveys and census
- ▶ ***Adult mortality***
  - Extrapolation from child mortality using models
  - Sibling history and other indirect methods from surveys
  - Census
  - Limited information from demographic surveillance
- ▶ Poor measures of adult mortality
- ▶ Limited cause of death
- ▶ Limited and problematic coverage
- ▶ Limited knowledge of uncertainty in measures

# What do we want ?

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- ▶ Nationally representative measures
  - Subnational ?
  - Small area estimates ?
- ▶ All ages
- ▶ Trends
- ▶ Cause of death
- ▶ Knowledge of uncertainty
- ▶ Validated measures
  
- ▶ Cheap
- ▶ Sustainable
- ▶ Manageable administration and logistics

# Data for Measurement and Evaluation

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- ▶ Sex, age and cause-specific mortality rates:
  - Measures of exposure
  - Counts of deaths with cause
- ▶ Accurate age
- ▶ Time series
- ▶ Representative
- ▶ Valid measures
- ▶ Knowledge of uncertainty

# Data for Intervention Design

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- ▶ Need to understand ***why and how*** people are dying and design interventions to change that
- ▶ Epidemiological measures
- ▶ Experiments and trials → understand cause and effect
- ▶ Much more intensive data requirement
- ▶ Through-time linking and repeated assessment
- ▶ Coordination with local health and policy administrations
- ▶ Interventions that acknowledge *specific local conditions*

# Recommendation

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- ▶ **Cannot create full coverage vital registration and census in Africa in foreseeable future**
  
- ▶ Alternatives:
  - Sample vital registration
  - Intensive community-based investigations = DSS
  - Surveys
  
- ▶ Combine these into hybrid sample vital registration / DSS → Sample Surveillance System (SSS)

## Recommendation ...

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- ▶ Distributed DSS-*lite* implemented on nationally representative sample of small areas
  - Accurate, **linked** measures of exposure and counts of deaths
  - Prospective monitoring to catch all births and early childhood deaths
  - Verbal autopsy
- ▶ Full DSS in a nationally representative sample of larger communities/regions
  - Full VR, migration tracking, household monitoring, etc.
  - Epidemiological measures
  - Ability to conduct experiments and trials

## Recommendation ...

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- ▶ Full 'regional' DSS can provide support for the DSS-lite in its region
- ▶ Together, these yield both 'wide' and 'deep' monitoring and evaluation
- ▶ Provides infrastructure to develop interventions and adapt them to local conditions
  
- ▶ **Builds on existing experience with:**
  - Sample vital registration
  - DSS
  - Verbal autopsy

# Need ?

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- ▶ **Sampling strategy** ← statistical theory and modeling
  - Nationally representative two-stage, region + small community sampling ?
- ▶ Testing and validating of these ideas using simulations and 'mock' applications in settings with complete data
- ▶ **Automated, locally-validated verbal autopsy**
- ▶ **Data management**
- ▶ Management principles
- ▶ Costing