The Nairobi Urban Health and Demographic Surveillance System:

A platform for monitoring health outcomes

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Promoting the wellbeing of Africans through policy relevant research on population and health
Outline

- Demographic surveillance systems (DSS)
- The Nairobi Urban Health and Demographic Surveillance System (NUHDSS)
- Behavioural risk factor surveillance in NUHDSS
- Future prospects
Demographic Surveillance Systems (1)

- Defined geographical area
- Enumeration census
- Follow up – variable interval
- Core demographic events (birth, death, migration)
- Additional data on:
  - Health (morbidity, vaccination, cause of death, health care utilisation…)
  - Socio economic (marriage, education, livelihoods…)
- Excellent platform for nested studies
  - Sampling frame
  - Intermediate and final outcomes
Demographic Surveillance Systems (2)

- Why DSS?

Coverage of death registration, 1995 onwards, WHO 2003
Demographic Surveillance Systems (3)

INDEPTH Network

39 sites in 19 countries
26 sites in Africa
11 sites in Asia
1 site in Oceania
1 site in Latin America

Countries with Demographic Surveillance System (DSS)
Field Sites participating in the INDEPTH Network

Source: www.indepth-network.org

DSS are addressing a health information gap in countries without vital registration systems and where health care utilization is low
## Comparison of a DSS and other data sources – an example of the NUHDSS

<table>
<thead>
<tr>
<th>Data source</th>
<th>Population</th>
<th>Time line</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NUHDSS</strong></td>
<td>~60,000</td>
<td><img src="image" alt="NUHDSS Timeline" /></td>
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<tr>
<td></td>
<td>Morbidity survey</td>
<td></td>
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<td></td>
<td>Livelihood survey</td>
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<td></td>
<td>Risk factor panel survey</td>
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<tr>
<td></td>
<td>Cohort studies</td>
<td></td>
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<tr>
<td><strong>Census</strong></td>
<td>Total population</td>
<td></td>
</tr>
<tr>
<td><strong>DHS</strong></td>
<td>Sample of total population</td>
<td></td>
</tr>
<tr>
<td><strong>HMIS</strong></td>
<td>Only health services users</td>
<td></td>
</tr>
</tbody>
</table>

*Comparison of data collection methods and time frames for NUHDSS, Census, DHS, and HMIS.*

The Nairobi Urban Health and Demographic Surveillance System (1)

- Run by the African Population and Health Research Centre (APHRC)
- 25 International Research Staff (15 PhD. and 10 MA/MSc. holders)
  - Multi-disciplinary team (Demography, Development Economics, Epidemiology, Social Statistics, Biostatistics, Health Economics, Sociology, Socio-linguistics, Anthropology, Public Health, Education Policy/Planning)
- 11 Administration and support staff
- 46 permanent field staff and data entry clerks
- More information www.aphrc.org
The Nairobi Urban Health and Demographic Surveillance System (NUHDSS)

- One of three urban-based DSS sites
- Focus on urban poor – covers two slum settlements
- Baseline census in August 2003
- Follow-up since January 2003
- Updates every four months
- ~60000 people in ~22000 households
- Total area ~0.92 Km²
Nairobi Urban Health and Demographic Surveillance System (3)

Some indicators:

- Mortality – 12.5% from NCD
- DALYs – 17.9% from NCD
- Morbidity – Self reported morbidity among 50+ years population:
  - Diabetes 3.4%
  - Hypertension 9.6%
  - CHD 2.6%
- Low levels of health care utilization hence estimates expected to be higher
Nairobi Urban Health and Demographic Surveillance System (4)

Studies Nested on NUHDSS

- Characterization of the HIV epidemic among the urban poor
- Urbanisation, Poverty and Health Dynamics over the life course (children, adolescents, mothers, older people)
- Burden of disease studies
- Access to emergency obstetric care
- Assessment of behavioural and physiological risk factors for CVD
  Etc
Assessment of behavioral ..... risk factors for CVD

- Planned data collection on risk factors for CVD as part of wider study on perceived and real CVD risk
- Data on both behavioral and physiological risk factors among the 18+ years population
- Module for validation of reported behavior
- Data to be linked with existing data on contextual factors
- Data to be linked with that on wellbeing of older people (50+) which includes self-reported morbidity
- Cause-of-death data available
Behavioural risk factor surveillance in DSS sites

Potential:

- Longitudinal studies on trends in behavioural risk factors
- Studies linking behaviour with contextual factors
- Associations with behaviour and intermediate outcomes (morbidity) and final outcomes (mortality)
- Impact evaluation of interventions aimed at behaviour change
Future prospects

• Expansion of cross-sectional surveys to longitudinal follow-up studies or panel surveys

• Integration of simplified module on behavioral risk factor surveillance in routine DSS activities in the NUHDSS and other DSS sites

• Intervention studies for lifestyle changes
YY4
Deaths notified/recorded during regular household visits (deleted)
yyazoume, 08/11/2006
Thank you for your attention!
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