

A Profile of Webuye Health and Demographic Surveillance System in Western Kenya

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Introduction

The Webuye HDSS was established in 2007 as one of the activities of Moi University VLIR-UOS Health Sciences Project. The WHDSS site is a natural progression of Moi University's Community Based Education and Service (COBES) programme in which the students learn in the community while providing service. The site is used for teaching and research by the College of Health Sciences.

The Health & Demographic Surveillance Area (HDSA) is located in Webuye Division in Bungoma East District, Western province. The area lies between latitude 0°45'0"N and 0°30'0"N of the Equator and longitude 34°40'0"E and 34°45'0"E of the Greenwich meridian. The area covers approximately 120Km². It includes both rural and semi-urban areas. The area has a population of 73,000 individuals in approximately 13,000 households in 6 sub-locations. Farming is the main economic activity with sugar cane as the main cash crop. Maize is also grown for subsistence, alongside beans, millet and sorghum. Small scale dairy farming is widely practiced, as well as poultry keeping. A paper factory and chemical processing plant are located in the adjacent area. The living standards are generally low and social amenities like clean water, sanitation and electricity are not available to the majority of the residents.

Objectives

1. Document demographic and socioeconomic information
2. Determine prevalence and distribution of health conditions.
3. Assess nutritional status of special groups including under 5 years, pregnant women, elderly, orphans and HIV infected individuals.
4. Determine the risk factors for non-communicable and communicable diseases.
5. Evaluate the impact of health conditions on the community
6. Undertake interdisciplinary research in socio-economic and environmental determinants of health
7. Provide an environment for population health research
8. Strengthen the translation of research results into public health action

Funders

1. Moi University – Kenya
2. *Vlaamse Interuniversitair Raad* – University Development Cooperation (Belgium)
3. Duke University - USA

Demographic Characteristics

Crude Birth Rate (CBR)	18 per 1000 persons
Total Fertility Rate (TFR)	82 Per 1000 women (15-44)
Crude Death Rate (CDR)	4 Per 1000 persons
Infant Mortality	16.7 Per 1000 live births

Under Five Mortality	60.7 Per 1000 live births
In-migration	11.3 Per 1000 persons
Out-migration	28.3 Per 1000 persons

Priority Research Areas

1. Chronic non-communicable diseases
2. Malaria
3. Tuberculosis and other infectious diseases
4. Nutrition
5. HIV/AIDS and other STIs
6. Water and sanitation/environmental health.
7. Maternal and Child Health
8. Health Informatics

Collaborators

1. Ghent University - Belgium
2. Academic Model Providing Access To Healthcare (AMPATH) - Kenya
3. Webuye District Hospital - Kenya
4. Ministry of Health – Kenya
5. Ministry of Public Health and Sanitation - Kenya
6. Department of Civil Registration – Kenya
7. Duke Global Health Institute – USA

Key Publications

1. Diana Menya, Wilson K. Aruasa, Isaac Wanjala and Andrew Obala. Malaria vectors present and breeding in urban areas in the highlands of Western Kenya. *Kenya J. Health Sci.* 2011; 1:57-62
2. Andrew A. Obala, Helen L. Kutima, Fabian O. Esamai and John H. Ouma. Sulfadoxine-Pyrimethamine in treatment of malaria in fringe transmission buffer between endemic and epidemic malaria in Western Kenya. *Kenya J. Health Sci.* 2011; 1:63-70
3. Nathan Smith, Andrew Obala, Chrispinus Simiyu, Diana Menya, Barasa Otsyula and Wendy Prudhomme O'Meara. Accessibility, affordability and availability of antimalarials in a rural district in Kenya after implementation of a national subsidy scheme. *Malaria Journal.* 2011;10:316
4. Andrew A. Obala, Helen L. Kutima, Ann W. Mwangi, Chrispinus Simiyu, Barasa O. Khwa-Otsyula and John H. Ouma. The population density and infectivity of *Anopheles gambiae* (Diptera: Culicidae) in a sugarcane growing area of Western Kenya. (In Press)

5. Andria Rusk, Nathan Smith, Diana Menya, Andrew Obala, Chrispinus Simiyu, Barasa Khwa-Otsyula, Wendy O'Meara. Does anti-malarial drug knowledge predict anti-malarial dispensing practice in drug outlets? A survey of medicine retailers in western Kenya. *Malaria Journal* 2012, 11:263