INDEPTH Network

Better Health Information for Better Health Policy

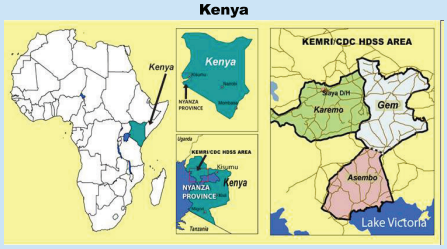
Kisumu HDSS, Kenya

Brief Introduction

The KEMRI/CDC Research and Public Health Collaboration HDSS was launched in September 2001 by the US Centers for Disease Control and Prevention (CDC) in collaboration with the Kenya Medical Research Institute (KEMRI). The Demographic Surveillance Area (DSA) is located in Rarieda and Siaya Districts, lying northeast of Lake Victoria in the Nyanza Province of Western Kenya.

- The DSA covers 384 villages with a population of approximately 204,000, and encompasses the Siaya District Hospital.
- The KEMRI/CDC HDSS serves as a complete and intensive community-based platform for the evaluation of a variety of infectious disease interventions. The HDSS provides general demographic and health information (such as population age structure and density, fertility rates, birth rates, in- and out-migrations, patterns of health care access and utilization, and the local economics of health care) as well as disease- or intervention-specific information.
- The KEMRI/CDC HDSS also initiated data collection on individual immunization status (children < 2) and self-reported HIV and marital status and history in 2007.
- Total population for 2007 (Asembo+Gem) =140,581 (male=47%; female=53%)

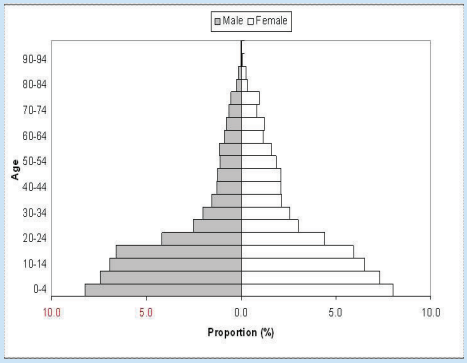
Kisumu Health and Demographic Surveillance Sytem, Kenya



Main Objective:

The main objective of the KEMRI/CDC HDSS is to provide the core research framework for cohort studies and intervention trials, and to provide all essential and timely socio-demographic/health information for the evaluation of public health interventions.

Population Pyramid, 2007



Demographic Characteristics

Crude Birth Rate (CBR)	36.8 per 1000 population
Total Fertility Rate (TFR)	5.3 per woman
Crude Death Rate (CDR)	15.9 per 1000 population
Infant Mortality	76.0 per 1000 live births
Child Mortality (1-4 years)	16.5 per 1000 children aged 1-4 years
Under Five Mortality	29.5 per 1000 live births
Rate of Natural Increase	20.9 per 1000 population
In-Migration	115.0 per 1000 population
Out-Migration	111.0 per 1000 population
Growth	24.9 per 100 population
Life Expectancy at Birth	54.3 years

Office of Kisumu HDSS

Funders/Collaborators

- CDC
- PATH
- Aeras Global TB Foundation
- EDCTP
- BMGF
- PEPFAR
- INDEPTH Network

Key Publications from HDSS Site

1. Eisele TP, Lindblade KA, Rosen DH, Odhiambo F, Slutsker L. Evaluating the completeness of demographic surveillance of children < 5 years in western Kenya: A capture-recapture approach. *American Journal for Tropical Medicine and Hygiene*.

2. **Adazu K, Lindblade KA, Rosen DH, Odhiambo F, Ofware P, Kwach J, van Eijk AM, Decock KM, Amornkul P, Karanja D, Vulule J, Slutsker L, (2005). Health and Demographics Surveillance in rural western Kenya: a platform for evaluating interventions to reduce morbidity and mortality from infectious diseases. *Am J Trop Med Hyg, 73(6):1151-1158.***

3. Van Eijk, A.M.; H. M. Bles; F. Odhiambo; J. G. Ayisi; I. E. Blokland; D. H. Rosen; L. Slutsker; K. A. Lindblade. 2006. Use of Antenatal Services and Delivery Care Among Women in Rural Western Kenya: A Community Based Survey. *Reproductive Health. 3(2).*

4. Mutuku F, Alaii J, Bayoh N, **Gimnig JE**, Vulule JM, Walker ED, Kabiru E & Hawley WA. 2006. Distribution, description, and local knowledge of larval habitats of *Anopheles gambiae* s.l. in a village in western Kenya. Am J Trop Med Hyg 74 (1): 44-53.

5. Ouma PO, Parise ME, Hamel MJ, ter Kuile FO, Otieno, K *et al.* 2006. Peter Ouma, Monica E Parise, Mary J Hamel, Feiko O ter Kuile, Kephas Otieno, John G Ayisi, Piet A Kager, Richard W Steketee, Laurence Slutsker, Anna M van Eijk. 2006. Folate supplementation and the efficacy of sulfadoxine-pyrimethamine for the treatment of uncomplicated malaria in pregnant women in Kenya; a randomized placebo controlled trial. *PLoS Clinical Trials* ,1(6):e28.

6. Mary J Hamel, Amanda Poe, Peter Bloland, Andrea McCollum, Zhiyong Zhou, Ya Ping Shi, Peter Ouma, Kephas Otieno, John Vulule, Ananias Escalante,Venkatachalam Udhayakumar, Laurence Slutsker. The consequence of dihydrofolate reductase I164L mutations in *Plasmodium falciparum* isolates. Clinical outcome of 14 Kenyan adults infected with parasites harboring the I164L mutation. *Trans Roy Soc Trop Med, in press, 2007.*

7. Kim A. Lindblade , Mary J. Hamel, Daniel R. Feikin, Frank Odhiambo , Kubaje Adazu , John Williamson , John M. Vulule,and Laurence Slutsker. 2007. **Mortality of sick children after outpatient treatment at first-level health facilities in rural western Kenya. *Tropical Medicine & International Health* 12(10):1258 –1268.**

8. Van Eijk A.M, K. Adazu, P. Ofware, J. Vulule, M Hamel and L. Slutsker. **Causes of deaths using verbal autopsy among adolescents and adults in rural western Kenya. 2008. *Tropical Medicine & International Health* 13 (10): 1 – 11.**

9. **Amornkul P, Vandenhoudt H, Nasokho P, Odhiambo F, Mwaengo D, Hightower A et al., (2009). HIV Prevalence and Associated Risk Factors among Individuals Aged 13-34 Years in Rural Western Kenya. *PLoS One (July 2009).***

10. **Thwing JI, Odero CO, Odhiambo FO, Otieno KO, Kariuki S, Ord R et al., (2009). In-vivo efficacy of amodiaquine-artesunate in children with uncomplicated Plasmodium falciparum malaria in western Kenya. *Trop Med Int Health. 2009 Mar;14(3):294-300.***