



In Search of Better Health

2013 KEMRI PUBLICATIONS

No.	PUBLICATIONS
1.	<p data-bbox="282 436 1406 506">Etyang AO, Scott JA. Medical causes of admissions to hospital among adults in Africa: a systematic review. <i>Glob Health Action</i>. 2013 Jan 8;6:1-14</p> <p data-bbox="282 541 407 573">Abstract</p> <p data-bbox="282 617 1406 720">Background: Despite the publication of several studies on the subject, there is significant uncertainty regarding the burden of disease among adults in sub-Saharan Africa (sSA).</p> <p data-bbox="282 764 1406 867">Objectives: To describe the breadth of available data regarding causes of admission to hospital, to systematically analyze the methodological quality of these studies, and to provide recommendations for future research.</p> <p data-bbox="282 911 1406 1087">Design: We performed a systematic online and hand-based search for articles describing patterns of medical illnesses in patients admitted to hospitals in sSA between 1950 and 2010. Diseases were grouped into bodily systems using International Classification of Disease (ICD) guidelines. We compared the proportions of admissions and deaths by diagnostic category using χ^2.</p> <p data-bbox="282 1131 1406 1493">Results: Thirty articles, describing 86,307 admissions and 9,695 deaths, met the inclusion criteria. The leading causes of admission were infectious and parasitic diseases (19.8%, 95% confidence interval [CI] 19.6-20.1), respiratory (16.2%, 95% CI 16.0-16.5) and circulatory (11.3%, 95% CI 11.1-11.5) illnesses. The leading causes of death were infectious and parasitic (17.1%, 95% CI 16.4-17.9), circulatory (16%, 95% CI 15.3-16.8) and digestive (16.2%, 95% CI 15.4-16.9). Circulatory diseases increased from 3.9% of all admissions in 1950-59 to 19.9% in 2000-2010 (RR 5.1, 95% CI 4.5-5.8, test for trend $p < 0.00005$). The most prevalent methodological deficiencies, present in two-thirds of studies, were failures to use standardized case definitions and ICD guidelines for classifying illnesses.</p> <p data-bbox="282 1537 1406 1749">Conclusions: Cardiovascular and infectious diseases are currently the leading causes of admissions and in-hospital deaths in sSA. Methodological deficiencies have limited the usefulness of previous studies in defining national patterns of disease in adults. As African countries pass through demographic and health transition, they need to significantly invest in clinical research capacity to provide an accurate description of the disease burden among adults for public health policy.</p> <p data-bbox="282 1793 1044 1824">PubMed link- https://pubmed.ncbi.nlm.nih.gov/23336616/</p>



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2.	<p>Satzke C, Turner P, Virolainen-Julkunen A, Adrian PV, Antonio M, Hare KM, Henao-Restrepo AM, Leach AJ, Klugman KP, Porter BD, Sá-Leão R, Scott JA, Nohynek H, O'Brien KL; WHO Pneumococcal Carriage Working Group. Standard method for detecting upper respiratory carriage of <i>Streptococcus pneumoniae</i>: updated recommendations from the World Health Organization Pneumococcal Carriage Working Group. <i>Vaccine</i>. 2013 Dec 17;32(1):165-79</p> <p>Abstract</p> <p>In 2003 the World Health Organization (WHO) convened a working group and published a set of standard methods for studies measuring nasopharyngeal carriage of <i>Streptococcus pneumoniae</i> (the pneumococcus). The working group recently reconvened under the auspices of the WHO and updated the consensus standard methods. These methods describe the collection, transport and storage of nasopharyngeal samples, as well as provide recommendations for the identification and serotyping of pneumococci using culture and non-culture based approaches. We outline the consensus position of the working group, the evidence supporting this position, areas worthy of future research, and the epidemiological role of carriage studies. Adherence to these methods will reduce variability in the conduct of pneumococcal carriage studies undertaken in the context of pneumococcal vaccine trials, implementation studies, and epidemiology studies more generally so variability in methodology does not confound the interpretation of study findings.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24331112/</p>
3.	<p>Seale AC, Blencowe H, Zaidi A, Ganatra H, Syed S, Engmann C, Newton CR, Vergnano S, Stoll BJ, Cousens SN, Lawn JE; Neonatal Infections Estimation Team. Neonatal severe bacterial infection impairment estimates in South Asia, sub-Saharan Africa, and Latin America for 2010. <i>Pediatr Res</i>. 2013 Dec;74 Suppl 1(Suppl 1):73-85.</p> <p>Abstract</p> <p>Background: Survivors of neonatal infections are at risk of neurodevelopmental impairment (NDI), a burden not previously systematically quantified and yet important for program priority setting. Systematic reviews and meta-analyses were undertaken and applied in a three-step compartmental model to estimate NDI cases after severe neonatal bacterial infection in South Asia, sub-Saharan Africa, and Latin America in neonates of >32 wk gestation (or >1,500 g).</p> <p>Methods: We estimated cases of sepsis, meningitis, pneumonia, or no severe bacterial infection from among estimated cases of possible severe bacterial infection ((pSBI) step 1). We applied respective case fatality risks ((CFRs) step 2) and the NDI risk</p>



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	<p>among survivors (step 3). For neonatal tetanus, incidence estimates were based on the estimated deaths, CFRs, and risk of subsequent NDI.</p> <p>Results: For 2010, we estimated 1.7 million (uncertainty range: 1.1-2.4 million) cases of neonatal sepsis, 200,000 (21,000-350,000) cases of meningitis, 510,000 cases (150,000-930,000) of pneumonia, and 79,000 cases (70,000-930,000) of tetanus in neonates >32 wk gestation (or >1,500 g). Among the survivors, we estimated moderate to severe NDI after neonatal meningitis in 23% (95% confidence interval: 19-26%) of survivors, 18,000 (2,700-35,000) cases, and after neonatal tetanus in 16% (6-27%), 4,700 cases (1,700-8,900).</p> <p>Conclusion: Data are lacking for impairment after neonatal sepsis and pneumonia, especially among those of >32 wk gestation. Improved recognition and treatment of pSBI will reduce neonatal mortality. Lack of follow-up data for survivors of severe bacterial infections, particularly sepsis, was striking. Given the high incidence of sepsis, even minor NDI would be of major public health importance. Prevention of neonatal infection, improved case management, and support for children with NDI are all important strategies, currently receiving limited policy attention.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24366464/</p>
4.	<p>Ngugi AK, Bottomley C, Scott JA, Mung'ala-Odera V, Bauni E, Sander JW, Kleinschmidt I, Newton CR. Incidence of convulsive epilepsy in a rural area in Kenya. <i>Epilepsia</i>. 2013 Aug;54(8):1352-9</p> <p>Abstract</p> <p>Purpose: There are only a few studies of incidence of epilepsy in low and middle income countries (LMICs). These are often small and conducted in specific age groups or areas where the prevalence of risk factors is high; therefore, these studies are not representative of the wider populations. We determined the incidence of convulsive epilepsy (CE) in a large rural population in Kenya.</p> <p>Methods: We conducted two cross-sectional surveys 5 years apart within a health and demographic surveillance system. Initially we identified residents without epilepsy who were then reexamined in the follow-up survey to determine incidence. We estimated the overall incidence of CE and incidence by age-group, sex, and by administrative location. Estimates were adjusted for attrition during case identification and for the sensitivity of the screening method.</p> <p>Key findings: In a cohort of 151,408 people, 194 developed CE over the 5 years. The minimum crude incidence rate was 37.6/100,000 persons per year (95% confidence interval (CI) 32.7-43.3) and adjusted for loss to follow-up, and the sensitivity of the</p>



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	<p>survey methodology was 77.0/100,000 persons per year (95% CI 67.7-87.4). Incidence was highest in children 6-12 years (96.1/100,000 persons per year; 95% CI 78.4-117.9), and was lowest in the 29-49 year age group (37.4/100,000 persons per year; 95% CI 25.7-54.7).</p> <p>Significance: We estimated a high incidence of convulsive epilepsy in this population. Incidence was highest early and late in life, suggesting that preventive interventions should target exposures that occur in these age groups. Incidence of focal epilepsy was more than twice that of generalized epilepsy, suggesting that etiologies that are amenable to intervention were most important in this population. It is likely that incidence is underestimated because of the early mortality of incident cases.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23750825/</p>
5.	<p>Olotu A, Fegan G, Wambua J, Nyangweso G, Awuondo KO, Leach A, Lievens M, Lebouilleux D, Njuguna P, Peshu N, Marsh K, Bejon P. Four-year efficacy of RTS,S/AS01E and its interaction with malaria exposure. <i>N Engl J Med.</i> 2013 Mar 21;368(12):1111-20.</p> <p>Abstract</p> <p>Background: The candidate malaria vaccine RTS,S/AS01E has entered phase 3 trials, but data on long-term outcomes are limited.</p> <p>Methods: For 4 years, we followed children who had been randomly assigned, at 5 to 17 months of age, to receive three doses of RTS,S/AS01E vaccine (223 children) or rabies vaccine (224 controls). The end point was clinical malaria (temperature of $\geq 37.5^{\circ}\text{C}$ and <i>Plasmodium falciparum</i> parasitemia density of >2500 parasites per cubic millimeter). Each child's exposure to malaria was estimated with the use of the distance-weighted local prevalence of malaria.</p> <p>Results: Over a period of 4 years, 118 of 223 children who received the RTS,S/AS01E vaccine and 138 of 224 of the controls had at least 1 episode of clinical malaria. Vaccine efficacies in the intention-to-treat and per-protocol analyses were 29.9% (95% confidence interval [CI], 10.3 to 45.3; $P=0.005$) and 32.1% (95% CI, 11.6 to 47.8; $P=0.004$), respectively, calculated by Cox regression. Multiple episodes were common, with 551 and 618 malarial episodes in the RTS,S/AS01E and control groups, respectively; vaccine efficacies in the intention-to-treat and per-protocol analyses were 16.8% (95% CI, -8.6 to 36.3; $P=0.18$) and 24.3% (95% CI, 1.9 to 41.6; $P=0.04$), respectively, calculated by the Andersen-Gill extension of the Cox model. For every 100 vaccinated children, 65 cases of clinical malaria were averted. Vaccine efficacy declined over time ($P=0.004$) and with increasing exposure to malaria ($P=0.001$) in the per-protocol analysis. Vaccine efficacy was 43.6% (95% CI, 15.5 to 62.3) in the first</p>



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	<p>year but was -0.4% (95% CI, -32.1 to 45.3) in the fourth year. Among children with a malaria-exposure index that was average or lower than average, the vaccine efficacy was 45.1% (95% CI, 11.3 to 66.0), but among children with a malaria-exposure index that was higher than average it was 15.9% (95% CI, -11.0 to 36.4).</p> <p>Conclusions: The efficacy of RTS,S/AS01E vaccine over the 4-year period was 16.8%. Efficacy declined over time and with increasing malaria exposure. (Funded by the PATH Malaria Vaccine Initiative and Wellcome Trust; ClinicalTrials.gov number, NCT00872963).</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23514288/</p>
6.	<p>Alegana VA, Atkinson PM, Wright JA, Kamwi R, Uusiku P, Katokele S, Snow RW, Noor AM. Estimation of malaria incidence in northern Namibia in 2009 using Bayesian conditional-autoregressive spatial-temporal models. <i>Spat Spatiotemporal Epidemiol.</i> 2013 Dec;7:25-36</p> <p>Abstract</p> <p>As malaria transmission declines, it becomes increasingly important to monitor changes in malaria incidence rather than prevalence. Here, a spatio-temporal model was used to identify constituencies with high malaria incidence to guide malaria control. Malaria cases were assembled across all age groups along with several environmental covariates. A Bayesian conditional-autoregressive model was used to model the spatial and temporal variation of incidence after adjusting for test positivity rates and health facility utilisation. Of the 144,744 malaria cases recorded in Namibia in 2009, 134,851 were suspected and 9893 were parasitologically confirmed. The mean annual incidence based on the Bayesian model predictions was 13 cases per 1000 population with the highest incidence predicted for constituencies bordering Angola and Zambia. The smoothed maps of incidence highlight trends in disease incidence. For Namibia, the 2009 maps provide a baseline for monitoring the targets of pre-elimination.</p> <p>Keywords: ACD; CAR; CPO; Conditional-autoregressive; DIC; ESRI; EVI; Environmental System Research Institute; GF; GIS; GMRF; GPS; GRUMP; Gaussian field; Gaussian markov random field; Global Rural and Urban Mapping Project; HMIS; Health Management Information System; INLA; Integrated Nested Laplace Approximation; JAXA; Japan Aerospace Exploration Agency; MAUP; MCMC; MODIS; MODERate-resolution Imaging Spectro-radiometer; Malaria; Markov Chain Monte Carlo; Ministry of Health and Social Services; MoHSS; Modifiable Areal Unit Problem; NASA; NVBDCP; Namibia; National Aeronautics and Space Administration; National Vector-Borne and Disease Control Programme; PCD; PHS; RDT; Rapid Diagnostic Test; SPA; Service Provision Assessments; Spatio-temporal;</p>



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	<p>TRMM; TSI; Tropical Rainfall Measuring Mission; WHO; World Health Organisation; ZIP; Zero-Inflated Poisson; active case detection; conditional auto-regressive; conditional predictive ordinate; deviance information criterion; enhanced vegetation index; geographic information system; global positioning system; passive case detection; public health sector; temperature suitability index.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24238079/</p>
7.	<p>Gitau EN, Kokwaro GO, Karanja H, Newton CR, Ward SA. Plasma and cerebrospinal proteomes from children with cerebral malaria differ from those of children with other encephalopathies. <i>J Infect Dis.</i> 2013 Nov 1;208(9):1494-503</p> <p>Abstract</p> <p>Clinical signs and symptoms of cerebral malaria in children are nonspecific and are seen in other common encephalopathies in malaria-endemic areas. This makes accurate diagnosis difficult in resource-poor settings. Novel malaria-specific diagnostic and prognostic methods are needed. We have used 2 proteomic strategies to identify differentially expressed proteins in plasma and cerebrospinal fluid from children with a diagnosis of cerebral malaria, compared with those with a diagnosis of malaria-slide-negative acute bacterial meningitis and other nonspecific encephalopathies. Here we report the presence of differentially expressed proteins in cerebral malaria in both plasma and cerebrospinal fluid that could be used to better understand pathogenesis and help develop more-specific diagnostic methods. In particular, we report the expression of 2 spectrin proteins that have known <i>Plasmodium falciparum</i>-binding partners involved in the stability of the infected red blood cell, suppressing further invasion and possibly enhancing the red blood cell's ability to sequester in microvasculature.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23888081/</p>
8.	<p>Borrmann S, Straimer J, Mwai L, Abdi A, Rippert A, Okombo J, Muriithi S, Sasi P, Kortok MM, Lowe B, Campino S, Assefa S, Auburn S, Manske M, Maslen G, Peshu N, Kwiatkowski DP, Marsh K, Nzila A, Clark TG. Genome-wide screen identifies new candidate genes associated with artemisinin susceptibility in <i>Plasmodium falciparum</i> in Kenya. <i>Sci Rep.</i> 2013 Nov 25;3:3318.</p> <p>Abstract</p> <p>Early identification of causal genetic variants underlying antimalarial drug resistance could provide robust epidemiological tools for timely public health interventions. Using a novel natural genetics strategy for mapping novel candidate genes we analyzed >75,000 high quality single nucleotide polymorphisms selected from high-resolution</p>



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	<p>whole-genome sequencing data in 27 isolates of <i>Plasmodium falciparum</i>. We identified genetic variants associated with susceptibility to dihydroartemisinin that implicate one region on chromosome 13, a candidate gene on chromosome 1 (PFA0220w, a UBP1 ortholog) and others (PFB0560w, PFB0630c, PFF0445w) with putative roles in protein homeostasis and stress response. There was a strong signal for positive selection on PFA0220w, but not the other candidate loci. Our results demonstrate the power of full-genome sequencing-based association studies for uncovering candidate genes that determine parasite sensitivity to artemisinins. Our study provides a unique reference for the interpretation of results from resistant infections.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24270944/</p>
9.	<p>Munywoki PK, Ohuma EO, Ngama M, Bauni E, Scott JA, Nokes DJ. Severe lower respiratory tract infection in early infancy and pneumonia hospitalizations among children, Kenya. <i>Emerg Infect Dis.</i> 2013 Feb;19(2):223-9</p> <p>Abstract</p> <p>Severe lower respiratory tract infection (LRTI) in infants caused by respiratory syncytial virus (RSV) has been associated with later pneumonia hospitalization among children. To determine risk for pneumonia after RSV hospitalization in infancy, we conducted a retrospective cohort analysis of 2,813 infants admitted to a hospital in Kenya and identified readmissions for pneumonia among this group during early childhood (<60 months of age). Incidence of readmission for pneumonia was higher for children whose first admission as infants was for LRTI and who were <3 months of age than for children who were first admitted as infants for non-LRTI, irrespective of RSV status. Incidence of readmission for pneumonia with wheeze was higher for children whose first admission involved RSV compared with those who had non-RSV LRTI. Excess pneumonia risk persisted for 2 years after the initial hospitalization. Close postdischarge follow-up of infants with LRTI, with or without RSV, could help prevent severe pneumonia later in childhood.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23347702/</p>
10.	<p>Bejon P, White MT, Olotu A, Bojang K, Lusingu JP, Salim N, Otsyula NN, Agnandji ST, Asante KP, Owusu-Agyei S, Abdulla S, Ghani AC. Efficacy of RTS,S malaria vaccines: individual-participant pooled analysis of phase 2 data. <i>Lancet Infect Dis.</i> 2013 Apr;13(4):319-27</p> <p>Abstract</p> <p>Background: The efficacy of RTS,S/AS01 as a vaccine for malaria is being tested in a phase 3 clinical trial. Early results show significant, albeit partial, protection against</p>



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	<p>clinical malaria and severe malaria. To ascertain variations in vaccine efficacy according to covariates such as transmission intensity, choice of adjuvant, age at vaccination, and bednet use, we did an individual-participant pooled analysis of phase 2 clinical data.</p> <p>Methods: We analysed data from 11 different sites in Africa, including 4453 participants. We measured heterogeneity in vaccine efficacy by estimating the interactions between covariates and vaccination in pooled multivariable Cox regression and Poisson regression analyses. Endpoints for measurement of vaccine efficacy were infection, clinical malaria, severe malaria, and death. We defined transmission intensity levels according to the estimated local parasite prevalence in children aged 2-10 years (PrP₂₋₁₀), ranging from 5% to 80%. Choice of adjuvant was either AS01 or AS02.</p> <p>Findings: Vaccine efficacy against all episodes of clinical malaria varied by transmission intensity ($p=0.001$). At low transmission (PrP₂₋₁₀ 10%) vaccine efficacy was 60% (95% CI 54 to 67), at moderate transmission (PrP₂₋₁₀ 20%) it was 41% (21 to 57), and at high transmission (PrP₂₋₁₀ 70%) the efficacy was 4% (-10 to 22). Vaccine efficacy also varied by adjuvant choice ($p<0.0001$)--eg, at low transmission (PrP₂₋₁₀ 10%), efficacy varied from 60% (95% CI 54 to 67) for AS01 to 47% (14 to 75) for AS02. Variations in efficacy by age at vaccination were of borderline significance ($p=0.038$), and bednet use and sex were not significant covariates. Vaccine efficacy (pooled across adjuvant choice and transmission intensity) varied significantly ($p<0.0001$) according to time since vaccination, from 36% efficacy (95% CI 24 to 45) at time of vaccination to 0% (-38 to 38) after 3 years.</p> <p>Interpretation: Vaccine efficacy against clinical disease was of limited duration and was not detectable 3 years after vaccination. Furthermore, efficacy fell with increasing transmission intensity. Outcomes after vaccination cannot be gauged accurately on the basis of one pooled efficacy figure. However, predictions of public-health outcomes of vaccination will need to take account of variations in efficacy by transmission intensity and by time since vaccination.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23454164/</p>
11.	<p>Murungi LM, Kamuyu G, Lowe B, Bejon P, Theisen M, Kinyanjui SM, Marsh K, Osier FH. A threshold concentration of anti-merozoite antibodies is required for protection from clinical episodes of malaria. <i>Vaccine</i>. 2013 Aug 20;31(37):3936-42</p> <p>Abstract</p> <p>Antibodies to selected <i>Plasmodium falciparum</i> merozoite antigens are often reported to be associated with protection from malaria in one epidemiological cohort, but not in</p>



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	<p>another. Here, we sought to understand this paradox by exploring the hypothesis that a threshold concentration of antibodies is necessary for protection. We analyzed data from two independent cohorts along the Kenyan coast, one in which antibodies to AMA1, MSP-2 and MSP-3 were associated with protection from malaria (Chonyi) and another in which this association was not observed (Junju). We used a malaria reference reagent to standardize antibody measurements across both cohorts, and applied statistical methods to derive the threshold concentration of antibodies against each antigen that best correlated with a reduced risk of malaria (the protective threshold), in the Chonyi cohort. We then tested whether antibodies in Junju reached the protective threshold concentrations observed in the Chonyi cohort. Except for children under 3 years, the age-matched proportions of children achieving protective threshold concentrations of antibodies against AMA1 and MSP-2 were significantly lower in Junju compared to Chonyi (Fishers exact test, $P < 0.01$). For MSP-3, this difference was significant only among 4-5 year olds. We conclude that although antibodies are commonly detected in malaria endemic populations, they may be present in concentrations that are insufficient for protection. Our results have implications for the analysis and interpretation of similar data from immuno-epidemiological studies.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23800539/</p>
12.	<p>Kariuki SM, Rockett K, Clark TG, Reyburn H, Agbenyega T, Taylor TE, Birbeck GL, Williams TN, Newton CR. The genetic risk of acute seizures in African children with falciparum malaria. <i>Epilepsia</i>. 2013 Jun;54(6):990-1001</p> <p>Abstract</p> <p>Purpose: It is unclear why some children with falciparum malaria develop acute seizures and what determines the phenotype of seizures. We sought to determine if polymorphisms of malaria candidate genes are associated with acute seizures.</p> <p>Methods: Logistic regression was used to investigate genetic associations with malaria-associated seizures (MAS) and complex MAS (repetitive, prolonged, or focal seizures) in four MalariaGEN African sites, namely: Blantyre, Malawi; Kilifi, Kenya; Kumasi, Ghana; and Muheza, Tanzania. The analysis was repeated for five inheritance models (dominant, heterozygous, recessive, additive, and general) and adjusted for potential confounders and multiple testing.</p> <p>Key findings: Complex phenotypes of seizures constituted 71% of all admissions with MAS across the sites. MAS were strongly associated with cluster of differentiation-ligand-rs3092945 in females in Kilifi ($p = 0.00068$) and interleukin (IL)-17 receptor E-rs708567 in the pooled analysis across the sites ($p = 0.00709$). Complex MAS were strongly associated with epidermal growth factor module-containing mucin-like hormone receptor (EMR)1-rs373533 in Kumasi ($p = 0.00033$), but none in the pooled</p>



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	<p>analysis. Focal MAS were strongly associated with IL-20 receptor A-rs1555498 in Muheza ($p = 0.00016$), but none in the pooled analysis. Prolonged MAS were strongly associated with complement receptor 1-rs17047660 in Kilifi ($p = 0.00121$) and glucose-6-phosphate dehydrogenase-rs1050828 in females in the pooled analysis ($p = 0.00155$). Repetitive MAS were strongly associated with EMR1-rs373533 in Kumasi ($p = 0.00003$) and cystic fibrosis transmembrane conductance receptor-rs17140229 in the pooled analysis ($p = 0.00543$). MAS with coma/cerebral malaria were strongly associated with EMR1-rs373533 in Kumasi ($p = 0.00019$) and IL10-rs3024500 in the pooled analysis across the sites ($p = 0.00064$).</p> <p>Significance: We have identified a number of genetic associations that may explain the risk of seizures in >2,000 cases admitted to hospitals with MAS across four sites in Africa. These associations differed according to phenotype of seizures and site.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23614351/</p>
13.	<p>Gona JK, Newton CR, Geere JA, Hartley S. Users' experiences of physiotherapy treatment in a semi-urban public hospital in Kenya. <i>Rural Remote Health</i>. 2013;13(3):2210. Epub 2013 Sep 5. PMID: 24007268.</p> <p>Abstract</p> <p>Introduction: Physiotherapy practice in Africa faces a number of challenges, one of which is the limited number of therapists in most public hospitals. In Africa, physiotherapy is still mainly institution based with very little community-based practice, leading to lack of access to services for a large part of the population. This study explores users' perceptions of physiotherapy, challenges faced by users, possible options for management, and determines whether current physiotherapy practice in a rural Kilifi District general hospital in Kenya facilitates future self-management of chronic conditions.</p> <p>Methods: Eight in-depth interviews, 3 focus groups discussions and 4 participant observations were conducted for data collection. All interviews and focus group discussions were recorded using a digital recorder, transcribed into the Swahili language and then translated into English. The transcriptions were imported to NVivo 9 (www.qsrinternational.com) for management and storage. Inductive data analysis was used to generate themes from the rich-text data of the transcriptions.</p> <p>Results: Many of the users perceived physiotherapy as being effective. Challenges included distance from health facilities, negative experiences with some therapists, and lack of staff and equipment. Rehabilitation options included community- and home-based programs fostering self-management of chronic conditions. Current hospital practice lacks emphasis on self-management skills for patients with chronic conditions</p>



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	<p>who can do their physiotherapy at home.</p> <p>Conclusions: Users' experiences of physiotherapy treatment in this rural hospital indicate that a host of challenges exist. In the face of these challenges, the needs of the users seemed to be compromised, especially those with chronic conditions. Rehabilitation services that are accessible and affordable would be better options in rural and low-resource settings. There is therefore need for community-based services that place emphasis on self-management of chronic conditions for fostering better health outcomes in rural communities.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24007268/</p>
14.	<p>Abubakar A, Van Baar A, Fischer R, Bomu G, Gona JK, Newton CR. Socio-cultural determinants of health-seeking behaviour on the Kenyan coast: a qualitative study. PLoS One. 2013 Nov 18;8(11):e71998</p> <p>Abstract</p> <p>Background: Severe childhood illnesses present a major public health challenge for Africa, which is aggravated by a suboptimal response to the child's health problems with reference to the health-seeking behaviour of the parents or guardians. We examined the health-seeking behaviour of parents at the Kenyan coast because understanding impediments to optimal health-seeking behaviour could greatly contribute to reducing the impact of severe illness on children's growth and development.</p> <p>Methods and results: Health-seeking behaviour, and the factors influencing this behaviour, were examined in two traditional communities. We held in-depth interviews with 53 mothers, fathers and caregivers from two rural clinics at the Kenyan Coast. Biomedical medicine (from health facilities and purchased over the counter) was found to be the most popular first point of treatment. However, traditional healing still plays a salient role in the health care within these two communities. Traditional healers were consulted for various reasons: a) attribution of causation of ill-health to supernatural sources, b) chronic illness (inability of modern medicine to cure the problem) and c) as prevention against possible ill-health. In developing an explanatory model of decision-making, we observed that this was a complex process involving consultation at various levels, with elders, but also between both parents, depending on the perceived nature and chronicity of the illness. However, it was reported that fathers were the ultimate decision makers in relation to decisions concerning where the child would be taken for treatment.</p> <p>Conclusions: Health systems need to see traditional healing as a complementary</p>



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	<p>system in order to ensure adequate access to health care. Importantly, fathers also need to be addressed in intervention and education programs.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24260094/</p>
15.	<p>Noor AM, Alegana VA, Kamwi RN, Hansford CF, Ntomwa B, Katokele S, Snow RW. Malaria control and the intensity of Plasmodium falciparum transmission in Namibia 1969-1992. PLoS One. 2013 May 7;8(5):e63350</p> <p>Abstract</p> <p>Background: Historical evidence of the levels of intervention scale up and its relationships to changing malaria risks provides important contextual information for current ambitions to eliminate malaria in various regions of Africa today.</p> <p>Methods: Community-based Plasmodium falciparum prevalence data from 3,260 geo-coded time-space locations between 1969 and 1992 were assembled from archives covering an examination of 230,174 individuals located in northern Namibia. These data were standardized the age-range 2 to less than 10 years and used within a Bayesian model-based geo-statistical framework to examine the changes of malaria risk in the years 1969, 1974, 1979, 1984 and 1989 at 5×5 km spatial resolution. This changing risk was described against rainfall seasons and the wide-scale use of indoor-residual house-spraying and mass drug administration.</p> <p>Results: Most areas of Northern Namibia experienced low intensity transmission during a ten-year period of wide-scale control activities between 1969 and 1979. As control efforts waned, flooding occurred, drug resistance emerged and the war for independence intensified the spatial extent of moderate-to-high malaria transmission expanded reaching a peak in the late 1980s.</p> <p>Conclusions: Targeting vectors and parasite in northern Namibia was likely to have successfully sustained a situation of low intensity transmission, but unraveled quickly to a peak of transmission intensity following a sequence of events by the early 1990s.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23667604/</p>
16.	<p>Okiro EA, Kazembe LN, Kabaria CW, Ligomeka J, Noor AM, Ali D, Snow RW. Childhood malaria admission rates to four hospitals in Malawi between 2000 and 2010. PLoS One. 2013 Apr 26;8(4):e62214</p> <p>Abstract</p> <p>Introduction: The last few years have witnessed rapid scaling-up of key malaria</p>



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	<p>interventions in several African countries following increases in development assistance. However, there is only limited country-specific information on the health impact of expanded coverage of these interventions.</p> <p>Methods: Paediatric admission data were assembled from 4 hospitals in Malawi reflecting different malaria ecologies. Trends in monthly clinical malaria admissions between January 2000 and December 2010 were analysed using time-series models controlling for covariates related to climate and service use to establish whether changes in admissions can be related to expanded coverage of interventions aimed at reducing malaria infection.</p> <p>Results: In 3 of 4 sites there was an increase in clinical malaria admission rates. Results from time series models indicate a significant month-to-month increase in the mean clinical malaria admission rates at two hospitals (trend $P < 0.05$). At these hospitals clinical malaria admissions had increased from 2000 by 41% to 100%. Comparison of changes in malaria risk and ITN coverage appear to correspond to a lack of disease declines over the period. Changes in intervention coverage within hospital catchments showed minimal increases in ITN coverage from <6% across all sites in 2000 to maximum of 33% at one hospital site by 2010. Additionally, malaria transmission intensity remained unchanged between 2000-2010 across all sites.</p> <p>Discussion: Despite modest increases in coverage of measures to reduce infection there has been minimal changes in paediatric clinical malaria cases in four hospitals in Malawi. Studies across Africa are increasingly showing a mixed set of impact results and it is important to assemble more data from more sites to understand the wider implications of malaria funding investment. We also caution that impact surveillance should continue in areas where intervention coverage is increasing with time, for example Malawi, as decline may become evident within a period when coverage reaches optimal levels.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23638008/</p>
17.	<p>Orwa JA, Ngeny L, Mwikwabe NM, Ondicho J, Jondiko IJ. Antimalarial and safety evaluation of extracts from <i>Toddalia asiatica</i> (L) Lam. (Rutaceae). <i>J Ethnopharmacol.</i> 2013 Jan 30;145(2):587-90</p> <p>Abstract</p> <p>Ethnopharmacological relevance: <i>Toddalia asiatica</i> (L) Lam. (Rutaceae) is a medicinal plant traditionally used in Kenya by many communities for the treatment of malaria and other ailments. All parts of the plant are claimed to have medicinal value, but the root bark in particular is believed to be more potent. Decoctions or infusions of</p>



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	<p>the roots are taken orally to treat malaria, fever and stomach ache.</p> <p>Aim of the study: To evaluate antimalarial activity of aqueous and organic extracts prepared from <i>Toddalia asiatica</i> and determine in vitro and in vivo safety of the extracts.</p> <p>Materials and methods: Aqueous, ethyl acetate, hexane and methanol extracts were obtained from <i>Toddalia asiatica</i> root bark, fruits and leaves. In vitro antiplasmodial activity was done using chloroquine-sensitive (D6) and chloroquine-resistant (W2) <i>Plasmodium falciparum</i> strains and the concentration causing 50% inhibition of radioisotope incorporation (IC(50)) was determined. In vivo assay was done by administering mice infected with <i>Plasmodium berghei</i> four consecutive daily doses of the extracts through oral route following Peters 4-Day suppressive test. The percentage suppression of parasitaemia was calculated for each dose level by comparing the parasitaemia in untreated control with those of treated mice. Quinine hydrochloride was used as positive control while double distilled water or 20% Tween-80 was used as a negative control. In vivo acute toxicity was determined in mice using standard procedures. In vitro cytotoxicity assay was carried out using actively dividing sub-confluent Vero cells.</p> <p>Results: Inhibitory concentrations of ethyl acetate extract of <i>Toddalia asiatica</i> fruits showed high activity against chloroquine resistant (W2) strains of <i>Plasmodium falciparum</i> (IC(50)=1.87 µg/ml), followed by root bark aqueous extract (IC(50)=2.43 µg/ml). Tested in vivo against <i>Plasmodium berghei</i>, the fruit ethyl acetate extract (500 mg/kg) and root bark aqueous extract (250 mg/kg) reduced malaria parasitaemia by 81.34% and 56.8% respectively. Higher doses were found to be less effective in vivo. Acute toxicity and cytotoxicity of the tested extracts, with the exception of hexane extract from the roots, showed LD(50)>1000 mg/kg and CC(50)>100 µg/ml respectively.</p> <p>Conclusions: The results obtained contribute to the validation of traditional use of <i>Toddalia asiatica</i> and provides in vivo and safety data of the plant extracts tested for the first time. Ethyl acetate extract of the fruits was active against chloroquine resistant <i>Plasmodium falciparum</i> as well as against <i>Plasmodium berghei</i>. These findings confirm the suitability of <i>Toddalia asiatica</i> as a good candidate for further tests to obtain a prototype for antimalarial medicine.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23207061/</p>
18.	Dellicour S, Desai M, Mason L, Odidi B, Aol G, Phillips-Howard PA, Laserson KF, Ter Kuile FO. Exploring risk perception and attitudes to miscarriage and congenital anomaly in rural Western Kenya. PLoS One. 2013 Nov 13;8(11):e80551



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	<p>Abstract</p> <p>Background: Understanding the socio-cultural context and perceptions of adverse pregnancy outcomes is important for informing the best approaches for public health programs. This article describes the perceptions, beliefs and health-seeking behaviours of women from rural western Kenya regarding congenital anomalies and miscarriages.</p> <p>Methods: Ten focus group discussions (FGDs) were undertaken in a rural district in western Kenya in September 2010. The FGDs included separate groups consisting of adult women of childbearing age, adolescent girls, recently pregnant women, traditional birth attendants and mothers of children with a birth defect. Participants were selected purposively. A deductive thematic framework approach using the questions from the FGD guides was used to analyse the transcripts.</p> <p>Results: There was substantial overlap between perceived causes of miscarriages and congenital anomalies and these were broadly categorized into two groups: biomedical and cultural. The biomedical causes included medications, illnesses, physical and emotional stresses, as well as hereditary causes. Cultural beliefs mostly related to the breaking of a taboo or not following cultural norms. Mothers were often stigmatised and blamed following miscarriage, or the birth of a child with a congenital anomaly. Often, women did not seek care following miscarriage unless there was a complication. Most reported that children with a congenital anomaly were neglected either because of lack of knowledge of where care could be sought or because these children brought shame to the family and were hidden from society.</p> <p>Conclusion: The local explanatory model of miscarriage and congenital anomalies covered many perceived causes within biomedical and cultural beliefs. Some of these fuelled stigmatisation and blame of the mother. Understanding of these beliefs, improving access to information about the possible causes of adverse outcomes, and greater collaboration between traditional healers and healthcare providers may help to reduce stigma and increase access to formal healthcare providers.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24236185/</p>
19.	<p>Ochwoto M, Chauhan R, Gopalakrishnan D, Chen CY, Ng'ang'a Z, Okoth F, Kioko H, Kimotho J, Kaiguri P, Kramvis A. Genotyping and molecular characterization of hepatitis B virus in liver disease patients in Kenya. <i>Infect Genet Evol.</i> 2013 Dec;20:103-10.</p> <p>Abstract</p> <p>Hepatitis B virus (HBV) genotypes are important in both the clinical manifestation of</p>



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	<p>disease and treatment response. Although Kenya belongs to the African Region (AFR-E) characterized by high mortality and hyperendemicity of HBV, there is a paucity of HBV genotyping data. The aim of this study was to molecularly characterize the basic core promoter/precore (BCP/PC) and complete surface (S) regions of HBV isolated from 61 HBsAg-positive liver disease patients attending Kenyatta National Hospital in Nairobi. HBsAg, HBeAg and viral loads were determined. HBV DNA was amplified and sequenced from 58/61 patients. In addition to the complete genome of two isolates, the BCP/PC and the complete S regions of 43 and 38 isolates, respectively were sequenced. Following phylogenetic analysis of the S region, 38 isolates clustered with subgenotype A1, whereas two isolates clustered with genotype D, one with subgenotype D1 and another as an outlier of the clade containing subgenotype D6 and the D/E recombinant. When the complete genome of the latter isolate was sequenced it clustered with D6. The majority of isolates belonged to serological subtype adw2 and only four to ayw2. Three distinct groups of subgenotype A1, distinguished by different amino acid motifs, circulate in Kenya: two in the African cluster and a monophyletic clade in the "Asian" cluster. HBeAg-negativity was a result of G1896A in genotype D isolates, whereas in subgenotype A1, the HBeAg-negativity was a result of mutations in the Kozak region (1809-1812) or precore start codon (1814-1816). Mutations at positions 1762 and 1764 occurred more frequently in HCC patients ($p < 0.05$). In conclusion, subgenotypes A1, D1 and D6 circulate in liver disease patients in Kenya, with A1 predominating.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23978387/</p>
20.	<p>Abdi AI, Carvalho TG, Wilkes JM, Doerig C. A secreted Plasmodium falciparum kinase reveals a signature motif for classification of tyrosine kinase-like kinases. <i>Microbiology (Reading)</i>. 2013 Dec;159(Pt 12):2533-2547</p> <p>Abstract</p> <p>Thorough bioinformatic and phylogenetic analyses of Plasmodium falciparum tyrosine kinase-like kinase (TKL) sequences revealed a clear evolutionary relationship of PF3D7_1121300 (thereafter called PfTKL2) to the IL-1 receptor-associated kinase (IRAK)/receptor-like kinase (RLK)/Pelle protein family. We identified a novel conserved motif that is unique to this family, as well as an insertion whose length allows distribution of its members into two distinct subfamilies, in a way that matches exactly the dichotomy between 'Tube/Tube-like kinases' (TTLKs) and 'Pelle-like kinases' (PLKs) distinguished previously on the basis of features in accessory domains. The PfTKL2 protein is expressed ubiquitously in asexual blood stages and in gametocytes, and the recombinant enzyme displays kinase activity in vitro. The protein is exported to the host erythrocyte; furthermore, in accordance with data from a previous study of the extracellular proteome of Plasmodium-infected erythrocytes, we show that PfTKL2 is secreted into the culture medium. Considering the functions of</p>



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	<p>other members of the RLK/Pelle family in immunity, and its secretion to the extracellular medium, we speculate that PFTKL2 functions may include an immunomodulatory role promoting parasite survival in the human host.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24045796/</p>
21.	<p>Kiptoo M, Brooks J, Lihana RW, Sandstrom P, Ng'ang'a Z, Kinyua J, Lagat N, Okoth F, Songok EM. HIV-1 drug resistance-associated mutations among HIV-1 infected drug-naïve antenatal clinic attendees in rural Kenya. <i>BMC Infect Dis.</i> 2013 Nov 4;13:517</p> <p>Abstract</p> <p>Background: Access to antiretroviral therapy (ART) has increased dramatically in Sub-Saharan Africa. In Kenya, 560,000 people had access to ART by the end of 2011. This scaling up of ART has raised challenges to the Kenyan health system due to emergence of drug resistant viruses among those on treatment and possible onward transmission. To counter this, and come up with an effective treatment strategy, it has become vital to determine baseline mutations associated with drug resistance among the circulating strains of HIV-1 in Kenya.</p> <p>Methods: The prevalence of mutations associated with drug resistance in HIV-1 protease (PR) and reverse transcriptase (RT) regions from 188 HIV-1 infected treatment-naïve pregnant women was investigated in Kapsabet, Nandi Hills and Kitale district hospitals of Kenya. Blood samples were collected between April 2005 and June 2006. The HIV-1 pol gene was amplified using primers for HIV-1 PR and RT and sequenced using the BigDye chemistry. The mutations were analyzed based on the IAS algorithm as well as the Stanford University HIV Drug Resistance Database.</p> <p>Results: Based on the PR and RT sequences, HIV-1 subtypes A1 (n=117, 62.2%), A2 (n=2, 1.1%), D (n=27, 14.4%), C (n=13, 6.9%), G (n=3, 1.6%), and possible recombinants (n=26, 13.8%) were detected. Mutations associated with nucleoside reverse transcriptase inhibitors (NRTI) and non-nucleoside RTI (NNRTI)-resistance were detected in 1.6% (3 of 188) and 1.1% (2 of 188), respectively. Mutations associated with PI resistance were detected in 0.5% (1 of 188) of the study population.</p> <p>Conclusion: The prevalence of drug resistance among drug-naïve pregnant women in rural North Rift, Kenya in 2006 was 3.2%. Major drug resistance mutations associated with PIs, NRTIs and NNRTIs do exist among treatment-naïve pregnant women in North Rift, Kenya. There is a need for consistent follow-up of drug-naïve individuals in this region to determine the impact of mutations on treatment outcomes.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24180455/</p>



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22.	<p>Muriu SM, Coulson T, Mbogo CM, Godfray HC. Larval density dependence in <i>Anopheles gambiae</i> s.s., the major African vector of malaria. <i>J Anim Ecol.</i> 2013 Jan;82(1):166-74</p> <p>Abstract</p> <p><i>Anopheles gambiae</i> sensu stricto is the most important vector of malaria in Africa although relatively little is known about the density-dependent processes determining its population size. Mosquito larval density was manipulated under semi-natural conditions using artificial larval breeding sites placed in the field in coastal Kenya; two experiments were conducted: one manipulating the density of a single cohort of larvae across a range of densities and the other employing fewer densities but with the treatments crossed with four treatments manipulating predator access. In the first experiment, larval survival, development rate and the size of the adult mosquito all decreased with larval density (controlling for block effects between 23% and 31% of the variance in the data could be explained by density). In the second experiment, the effects of predator manipulation were not significant, but again we observed strong density dependence in larval survival (explaining 30% of the variance). The results are compared with laboratory studies of <i>A. gambiae</i> larval competition and the few other studies conducted in the field, and the consequences for malaria control are discussed.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23163565/</p>
23.	<p>Githii S, Revathi G, Muigai A, Kariuki S. Carriage rate and serotypes of <i>Streptococcus pneumoniae</i> amongst children in Thika Hospital, Kenya. <i>Afr J Lab Med.</i> 2013 May 20;2(1):45.</p> <p>Abstract</p> <p><i>Streptococcus pneumoniae</i> is a major cause of morbidity and mortality worldwide. Rates of carriage are highest in infants and the elderly. The objectives of this study were to determine the rate of nasopharyngeal colonization by <i>S. pneumoniae</i>, and to describe the antibiotic resistant patterns and the serotypes of the carried isolates. A cross-sectional study design was used. Nasopharyngeal swabs were collected from 315 children in the months of October and November 2010 and processed to isolate <i>S. pneumoniae</i>. The isolates were serotyped by the Quellung reaction and their antibiotic susceptibilities assessed by the disc diffusion method. The overall nasopharyngeal carriage rate for <i>S. pneumoniae</i> was 17%. Seventeen serotypes were detected amongst 55 strains analysed: 6A, 23F, 19F, 13, 6B, 14A, 20, 7C, 1, 15B, 35B, 19A, 11A, 34, 5, 3 and 23A. Susceptibility testing revealed that nearly all (98%) were resistant to cotrimoxazole, 9% were resistant to penicillin and 7% to cefotaxime. Resistance to chloramphenicol and erythromycin was 2% and 4%, respectively. All isolates were</p>



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	<p>fully sensitive to tetracycline. High levels of cotrimoxazole resistance and some resistance to other antimicrobial agents commonly used in Thika District Hospital shows that there is need to revise antimicrobial policy in this region in the treatment of invasive pneumococcal infections. The frequent serotypes found in this study have previously been associated with pneumococcal infections in children. Several of these serotypes are included in the ten-valent vaccine and therefore use of this vaccine will help reduce pneumococcal infections in Thika.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/29043160/</p>
24.	<p>Kamuya DM, Theobald SJ, Munywoki PK, Koech D, Geissler WP, Molyneux SC. Evolving friendships and shifting ethical dilemmas: fieldworkers' experiences in a short term community based study in Kenya. <i>Dev World Bioeth.</i> 2013 Apr;13(1):1-9.</p> <p>Abstract</p> <p>Fieldworkers (FWs) are community members employed by research teams to support access to participants, address language barriers, and advise on culturally appropriate research conduct. The critical role that FWs play in studies, and the range of practical and ethical dilemmas associated with their involvement, is increasingly recognised. In this paper, we draw on qualitative observation and interview data collected alongside a six month basic science study which involved a team of FWs regularly visiting 47 participating households in their homes. The qualitative study documented how relationships between field workers and research participants were initiated, developed and evolved over the course of the study, the shifting dilemmas FWs faced and how they handled them. Even in this one case study, we see how the complex and evolving relationships between fieldworkers and study participants had important implications for consent processes, access to benefits and mutual understanding and trust. While the precise issues that FWs face are likely to depend on the type of research and the context in which that research is being conducted, we argue that appropriate support for field workers is a key requirement to strengthen ethical research practice and for the long term sustainability of research programmes.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23433316/</p>
25.	<p>Opiyo N, Shepperd S, Musila N, Allen E, Nyamai R, Fretheim A, English M. Comparison of alternative evidence summary and presentation formats in clinical guideline development: a mixed-method study. <i>PLoS One.</i> 2013;8(1):e55067</p> <p>Abstract</p>



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	<p>Background: Best formats for summarising and presenting evidence for use in clinical guideline development remain less well defined. We aimed to assess the effectiveness of different evidence summary formats to address this gap.</p> <p>Methods: Healthcare professionals attending a one-week Kenyan, national guideline development workshop were randomly allocated to receive evidence packaged in three different formats: systematic reviews (SRs) alone, systematic reviews with summary-of-findings tables, and 'graded-entry' formats (a 'front-end' summary and a contextually framed narrative report plus the SR). The influence of format on the proportion of correct responses to key clinical questions, the primary outcome, was assessed using a written test. The secondary outcome was a composite endpoint, measured on a 5-point scale, of the clarity of presentation and ease of locating the quality of evidence for critical neonatal outcomes. Interviews conducted within two months following completion of trial data collection explored panel members' views on the evidence summary formats and experiences with appraisal and use of research information.</p> <p>Results: 65 (93%) of 70 participants completed questions on the prespecified outcome measures. There were no differences between groups in the odds of correct responses to key clinical questions. 'Graded-entry' formats were associated with a higher mean composite score for clarity and accessibility of information about the quality of evidence for critical neonatal outcomes compared to systematic reviews alone (adjusted mean difference 0.52, 95% CI 0.06 to 0.99). There was no difference in the mean composite score between SR with SoF tables and SR alone. Findings from interviews with 16 panelists indicated that short narrative evidence reports were preferred for the improved clarity of information presentation and ease of use.</p> <p>Conclusions: Our findings suggest that 'graded-entry' evidence summary formats may improve clarity and accessibility of research evidence in clinical guideline development.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23372813/</p>
26.	<p>Lutomiah J, Bast J, Clark J, Richardson J, Yalwala S, Oullo D, Mutisya J, Mulwa F, Musila L, Khamadi S, Schnabel D, Wurapa E, Sang R. Abundance, diversity, and distribution of mosquito vectors in selected ecological regions of Kenya: public health implications. <i>J Vector Ecol.</i> 2013 Jun;38(1):134-42.</p> <p>Abstract</p> <p>The diversity of mosquito arbovirus vectors was investigated to define regional risk of arbovirus transmission in Kenya. Mosquitoes were sampled between April, 2007 and December, 2010 at thirteen sites across seven administrative provinces and ecological zones. CDC light traps were used to collect mosquitoes while human-landing</p>



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	<p>collection was conducted in five of the sites to target day-feeding <i>Aedes</i> (<i>Stegomyia</i>) species. Over 524,000 mosquitoes were collected and identified into 101 species, 30 of them known vectors of arboviruses endemic to Kenya. <i>Ae.</i> (<i>Neomelaniconion</i>) <i>mcintoshi</i> and <i>Ae.</i> (<i>Aedimorphus</i>) <i>ochraceus</i> were most abundant in Garissa in the arid northeastern province, and <i>Mansonia uniformis</i> and <i>Mn. africana</i> in semi-arid Baringo in the Rift Valley Province. <i>Ae. ochraceus</i>, <i>Mn. africana</i> and <i>Mn. uniformis</i> were also significant in Nyanza Province, while <i>Ae.</i> (<i>Neomelaniconion</i>) <i>circumluteolus</i> predominated in Budalangi, Western Province. <i>Aedes</i> (<i>Stegomyia</i>) <i>aegypti</i> was predominant in Rabai in the Coast Province but insignificant in the western and Nyanza sites. <i>Culex pipiens</i> was abundant in Rift Valley and Nyanza Provinces around the lake shores. This study highlights the potential for emergence and re-emergence of arboviral diseases among vulnerable populations. This calls for comprehensive mapping of vector distribution and abundance for planning focused vector control measures.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23701618/</p>
27.	<p>Sanders EJ, Okuku HS, Smith AD, Mwangome M, Wahome E, Fegan G, Peshu N, van der Elst EM, Price MA, McClelland RS, Graham SM. High HIV-1 incidence, correlates of HIV-1 acquisition, and high viral loads following seroconversion among MSM. <i>AIDS</i>. 2013 Jan 28;27(3):437-46</p> <p>Abstract</p> <p>Background: HIV-1 incidence estimates and correlates of HIV-1 acquisition in African MSM are largely unknown.</p> <p>Methods: Since 2005, HIV-1-uninfected men who reported sex with men and women (MSMW) or sex with men exclusively (MSME) were followed at scheduled visits for collection of behavioural and clinical examination data and plasma for HIV-1 testing. Urethral or rectal secretions were collected from symptomatic men to screen for gonorrhoea. Poisson regression methods were used to estimate adjusted incidence rate ratios to explore associations between risk factors and incident HIV-1 infection. Plasma viral loads (PVLs) were assessed over 2 years following seroconversion.</p> <p>Results: Overall HIV-1 incidence in 449 men was 8.6 [95% confidence interval (CI) 6.7-11.0] per 100 person-years. Incidence was 5.8 (95% CI 4.2-7.9) per 100 person-years among MSMW, and 35.2 (95% CI 23.8-52.1) per 100 person-years among MSME. Unprotected sex, receptive anal intercourse, exclusive sex with men, group sex, and gonorrhoea in the past 6 months were strongly associated with HIV-1 acquisition, adjusted for confounders. PVL in seroconverters was more than 4 log₁₀ copies/ml at 230 (73.4%) of 313 visits in MSMW and 153 (75.0%) of 204 visits in</p>



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	<p>MSME.</p> <p>Conclusion: HIV-1 incidence is very high among MSM in coastal Kenya, and many seroconverters maintain high PVL for up to 2 years after infection. Effective HIV-1 prevention interventions, including treatment as prevention, are urgently needed in this population.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23079811/</p>
28.	<p>Sande CJ, Mutunga MN, Medley GF, Cane PA, Nokes DJ. Group- and genotype-specific neutralizing antibody responses against respiratory syncytial virus in infants and young children with severe pneumonia. <i>J Infect Dis.</i> 2013 Feb 1;207(3):489-92</p> <p>Abstract</p> <p>The effect of genetic variation on the neutralizing antibody response to respiratory syncytial virus (RSV) is poorly understood. In this study, acute- and convalescent-phase sera were evaluated against different RSV strains. The proportion of individuals with homologous seroconversion was greater than that among individuals with heterologous seroconversion among those infected with RSV group A (50% vs 12.5%; $P = .0005$) or RSV group B (40% vs 8%; $P = .008$). Seroconversion to BA genotype or non-BA genotype test viruses was similar among individuals infected with non-BA virus (35% vs 50%; $P = .4$) or BA virus (50% vs 65%; $P = .4$). The RSV neutralizing response is group specific. The BA-associated genetic change did not confer an ability to escape neutralizing responses to previous non-BA viruses.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23175761/</p>
29.	<p>English M. Designing a theory-informed, contextually appropriate intervention strategy to improve delivery of paediatric services in Kenyan hospitals. <i>Implement Sci.</i> 2013 Mar 28;8:39</p> <p>Abstract</p> <p>Background: District hospital services in Kenya and many low-income countries should deliver proven, effective interventions that could substantially reduce child and newborn mortality. However such services are often of poor quality. Researchers have therefore been challenged to identify intervention strategies that go beyond addressing knowledge, skill, or resource inadequacies to support health systems to deliver better services at scale. An effort to develop a system-oriented intervention tailored to local needs and context and drawing on theory is described.</p>



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	<p>Methods: An intervention was designed to improve district hospital services for children based on four main strategies: a reflective process to distill root causes for the observed problems with service delivery; developing a set of possible intervention approaches to address these problems; a search of literature for theory that provided the most appropriate basis for intervention design; and repeatedly moving backwards and forwards between identified causes, proposed interventions, identified theory, and knowledge of the existing context to develop an overarching intervention that seemed feasible and likely to be acceptable and potentially sustainable.</p> <p>Results and discussion: In addition to human and resource constraints key problems included failures of relevant professionals to take responsibility for or ownership of the challenge of pediatric service delivery; inadequately prepared, poorly supported leaders of service units (mid-level managers) who are often professionally and geographically isolated and an almost complete lack of useful information for routinely monitoring or understanding service delivery practice or outcomes. A system-oriented intervention recognizing the pivotal role of leaders of service units but addressing the outer and inner setting of hospitals was designed to help shape and support an appropriate role for these professionals. It aims to foster a sense of ownership while providing the necessary understanding, knowledge, and skills for mid-level managers to work effectively with senior managers and frontline staff to improve services. The intervention will include development of an information system, feedback mechanisms, and discussion fora that promote positive change. The vehicle for such an intervention is a collaborative network partnering government and national professional associations. This case is presented to promote discussion on approaches to developing context appropriate interventions particularly in international health.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23537192/</p>
30.	<p>Christian P, Lee SE, Donahue Angel M, Adair LS, Arifeen SE, Ashorn P, Barros FC, Fall CH, Fawzi WW, Hao W, Hu G, Humphrey JH, Huybregts L, Joglekar CV, Kariuki SK, Kolsteren P, Krishnaveni GV, Liu E, Martorell R, Osrin D, Persson LA, Ramakrishnan U, Richter L, Roberfroid D, Sania A, Ter Kuile FO, Tielsch J, Victora CG, Yajnik CS, Yan H, Zeng L, Black RE. Risk of childhood undernutrition related to small-for-gestational age and preterm birth in low- and middle-income countries. <i>Int J Epidemiol.</i> 2013 Oct;42(5):1340-55</p> <p>Abstract</p> <p>Background: Low- and middle-income countries continue to experience a large burden of stunting; 148 million children were estimated to be stunted, around 30-40% of all children in 2011. In many of these countries, foetal growth restriction (FGR) is common, as is subsequent growth faltering in the first 2 years. Although there is agreement that stunting involves both prenatal and postnatal growth failure, the extent</p>



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	<p>to which FGR contributes to stunting and other indicators of nutritional status is uncertain.</p> <p>Methods: Using extant longitudinal birth cohorts (n=19) with data on birthweight, gestational age and child anthropometry (12-60 months), we estimated study-specific and pooled risk estimates of stunting, wasting and underweight by small-for-gestational age (SGA) and preterm birth.</p> <p>Results: We grouped children according to four combinations of SGA and gestational age: adequate size-for-gestational age (AGA) and preterm; SGA and term; SGA and preterm; and AGA and term (the reference group). Relative to AGA and term, the OR (95% confidence interval) for stunting associated with AGA and preterm, SGA and term, and SGA and preterm was 1.93 (1.71, 2.18), 2.43 (2.22, 2.66) and 4.51 (3.42, 5.93), respectively. A similar magnitude of risk was also observed for wasting and underweight. Low birthweight was associated with 2.5-3.5-fold higher odds of wasting, stunting and underweight. The population attributable risk for overall SGA for outcomes of childhood stunting and wasting was 20% and 30%, respectively.</p> <p>Conclusions: This analysis estimates that childhood undernutrition may have its origins in the foetal period, suggesting a need to intervene early, ideally during pregnancy, with interventions known to reduce FGR and preterm birth.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23920141/</p>
31.	<p>Ayieko P, Griffiths UK, Ndiritu M, Moisi J, Mugoya IK, Kamau T, English M, Scott JA. Assessment of health benefits and cost-effectiveness of 10-valent and 13-valent pneumococcal conjugate vaccination in Kenyan children. PLoS One. 2013 Jun 24;8(6):e67324.</p> <p>Abstract</p> <p>Background: The GAVI Alliance supported 10-valent pneumococcal conjugate vaccine (PCV10) introduction in Kenya. We estimated the cost-effectiveness of introducing either PCV10 or the 13-valent vaccine (PCV13) from a societal perspective and explored the incremental impact of including indirect vaccine effects.</p> <p>Methods: The costs and effects of pneumococcal vaccination among infants born in Kenya in 2010 were assessed using a decision analytic model comparing PCV10 or PCV13, in turn, with no vaccination. Direct vaccine effects were estimated as a reduction in the incidence of pneumococcal meningitis, sepsis, bacteraemic pneumonia and non-bacteraemic pneumonia. Pneumococcal disease incidence was extrapolated from a population-based hospital surveillance system in Kilifi and adjustments were made for variable access to care across Kenya. We used vaccine efficacy estimates</p>



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	<p>from a trial in The Gambia and accounted for serotype distribution in Kilifi. We estimated indirect vaccine protection and serotype replacement by extrapolating from the USA. Multivariable sensitivity analysis was conducted using Monte Carlo simulation. We assumed a vaccine price of US\$ 3.50 per dose.</p> <p>Findings: The annual cost of delivering PCV10 was approximately US\$14 million. We projected a 42.7% reduction in pneumococcal disease episodes leading to a US\$1.97 million reduction in treatment costs and a 6.1% reduction in childhood mortality annually. In the base case analysis, costs per discounted DALY and per death averted by PCV10, amounted to US\$ 59 (95% CI 26-103) and US\$ 1,958 (95% CI 866-3,425), respectively. PCV13 introduction improved the cost-effectiveness ratios by approximately 20% and inclusion of indirect effects improved cost-effectiveness ratios by 43-56%. The break-even prices for introduction of PCV10 and PCV13 are US\$ 0.41 and 0.51, respectively.</p> <p>Conclusions: Introducing either PCV10 or PCV13 in Kenya is highly cost-effective from a societal perspective. Indirect effects, if they occur, would significantly improve the cost-effectiveness.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23826268/</p>
32.	<p>Mwandawiro CS, Nikolay B, Kihara JH, Ozier O, Mukoko DA, Mwanje MT, Hakobyan A, Pullan RL, Brooker SJ, Njenga SM. Monitoring and evaluating the impact of national school-based deworming in Kenya: study design and baseline results. <i>Parasit Vectors</i>. 2013 Jul 5;6:198</p> <p>Abstract</p> <p>Background: An increasing number of countries in Africa and elsewhere are developing national plans for the control of neglected tropical diseases. A key component of such plans is school-based deworming (SBD) for the control of soil-transmitted helminths (STHs) and schistosomiasis. Monitoring and evaluation (M&E) of national programmes is essential to ensure they are achieving their stated aims and to evaluate when to reduce the frequency of treatment or when to halt it altogether. The article describes the M&E design of the Kenya national SBD programme and presents results from the baseline survey conducted in early 2012.</p> <p>Methods: The M&E design involves a stratified series of pre- and post-intervention, repeat cross-sectional surveys in a representative sample of 200 schools (over 20,000 children) across Kenya. Schools were sampled based on previous knowledge of STH endemicity and were proportional to population size. Stool (and where relevant urine) samples were obtained for microscopic examination and in a subset of schools; finger-prick blood samples were collected to estimate haemoglobin concentration. Descriptive</p>



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	<p>and spatial analyses were conducted. The evaluation measured both prevalence and intensity of infection.</p> <p>Results: Overall, 32.4% of children were infected with at least one STH species, with <i>Ascaris lumbricoides</i> as the most common species detected. The overall prevalence of <i>Schistosoma mansoni</i> was 2.1%, while in the Coast Province the prevalence of <i>S. haematobium</i> was 14.8%. There was marked geographical variation in the prevalence of species infection at school, district and province levels. The prevalence of hookworm infection was highest in Western Province (25.1%), while <i>A. lumbricoides</i> and <i>T. trichiura</i> prevalence was highest in the Rift Valley (27.1% and 11.9%). The lowest prevalence was observed in the Rift Valley for hookworm (3.5%), in the Coast for <i>A. lumbricoides</i> (1.0%), and in Nyanza for <i>T. trichiura</i> (3.6%). The prevalence of <i>S. mansoni</i> was most common in Western Province (4.1%).</p> <p>Conclusions: The current findings are consistent with the known spatial ecology of STH and schistosome infections and provide an important empirical basis on which to evaluate the impact of regular mass treatment through the school system in Kenya.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23829767/</p>
33.	<p>Githinji S, Kigen S, Memusi D, Nyandigisi A, Mbithi AM, Wamari A, Muturi AN, Jagoe G, Barrington J, Snow RW, Zurovac D. Reducing stock-outs of life saving malaria commodities using mobile phone text-messaging: SMS for life study in Kenya. <i>PLoS One</i>. 2013;8(1):e54066</p> <p>Abstract</p> <p>Background: Health facility stock-outs of life saving malaria medicines are common across Africa. Innovative ways of addressing this problem are urgently required. We evaluated whether SMS based reporting of stocks of artemether-lumefantrine (AL) and rapid diagnostic tests (RDT) can result in reduction of stock-outs at peripheral facilities in Kenya.</p> <p>Methods/findings: All 87 public health facilities in five Kenyan districts were included in a 26 week project. Weekly facility stock counts of four AL packs and RDTs were sent via structured incentivized SMS communication process from health workers' personal mobile phones to a web-based system accessed by district managers. The mean health facility response rate was 97% with a mean formatting error rate of 3%. Accuracy of stock count reports was 79% while accuracy of stock-out reports was 93%. District managers accessed the system 1,037 times at an average of eight times per week. The system was accessed in 82% of the study weeks. Comparing weeks 1 and 26, stock-out of one or more AL packs declined by 38 percentage-points. Total AL stock-out declined by 5 percentage-points and was eliminated by the end of the project.</p>



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	<p>Stock-out declines of individual AL packs ranged from 14 to 32 percentage-points while decline in RDT stock-outs was 24 percentage-points. District managers responded to 44% of AL and 73% of RDT stock-out signals by redistributing commodities between facilities. In comparison with national trends, stock-out declines in study areas were greater, sharper and more sustained.</p> <p>Conclusions: Use of simple SMS technology ensured high reporting rates of reasonably accurate, real-time facility stock data that were used by district managers to undertake corrective actions to reduce stock-outs. Future work on stock monitoring via SMS should focus on assessing response rates without use of incentives and demonstrating effectiveness of such interventions on a larger scale.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23349786/</p>
34.	<p>Kitsao-Wekulo P, Holding P, Taylor HG, Abubakar A, Kvalsvig J, Connolly K. Nutrition as an important mediator of the impact of background variables on outcome in middle childhood. <i>Front Hum Neurosci.</i> 2013 Oct 25;7:713.</p> <p>Abstract</p> <p>Adequate nutrition is fundamental to the development of a child's full potential. However, the extent to which malnutrition affects developmental and cognitive outcomes in the midst of co-occurring risk factors remains largely understudied. We sought to establish if the effects of nutritional status varied according to diverse background characteristics as well as to compare the relative strength of the effects of poor nutritional status on language skills, motor abilities, and cognitive functioning at school age. This cross-sectional study was conducted among school-age boys and girls resident in Kilifi District in Kenya. We hypothesized that the effects of area of residence, school attendance, household wealth, age and gender on child outcomes are experienced directly and indirectly through child nutritional status. The use of structural equation modeling (SEM) allowed the disaggregation of the total effect of the explanatory variables into direct effects (effects that go directly from one variable to another) and indirect effects. Each of the models tested for the four child outcomes had a good fit. However, the effects on verbal memory apart from being weaker than for the other outcomes, were not mediated through nutritional status. School attendance was the most influential predictor of nutritional status and child outcomes. The estimated models demonstrated the continued importance of child nutritional status at school-age.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24298246/</p>
35.	<p>Fleming E, Oremo J, O'Connor K, Odhiambo A, Ye T, Oswago S, Zeh C, Quick R, Kamb ML. The Impact of Integration of Rapid Syphilis Testing during Routine</p>



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	<p>Antenatal Services in Rural Kenya. <i>J Sex Transm Dis.</i> 2013;2013:674584</p> <p>Abstract</p> <p>We evaluated the integration of rapid syphilis tests (RSTs) and penicillin treatment kits into routine antenatal clinic (ANC) services in two rural districts in Nyanza Province, Kenya. In February 2011, nurses from 25 clinics were trained in using RSTs and documenting test results and treatment. During March 2011-February 2012, free RSTs and treatment kits were provided to clinics for use during ANC visits. We analyzed ANC registry data from eight clinics during the 12-month periods before and during RST program implementation and compared syphilis testing, diagnosis, and treatment during the two periods. Syphilis testing at first ANC visit increased from 18% (279 of 1,586 attendees) before the intervention to 70% (1,123 of 1,614 attendees) during the intervention ($P < 0.001$); 35 women (3%) tested positive during the intervention period compared with 1 (<1%) before ($P < 0.001$). Syphilis treatment was not recorded according to training recommendations; seven clinics identified 28 RST-positive women and recorded 34 treatment kits as used. Individual-level data from three high-volume clinics supported that the intervention did not negatively affect HIV test uptake. Integrating RSTs into rural ANC services increased syphilis testing and detection. Record keeping on treatment of syphilis in RST-positive women remains challenging.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/26316963/</p>
36.	<p>Angwenyi V, Kamuya D, Mwachiro D, Marsh V, Njuguna P, Molyneux S. Working with Community Health Workers as 'volunteers' in a vaccine trial: practical and ethical experiences and implications. <i>Dev World Bioeth.</i> 2013 Apr;13(1):38-47.</p> <p>Abstract</p> <p>Community engagement is increasingly emphasized in biomedical research, as a right in itself, and to strengthen ethical practice. We draw on interviews and observations to consider the practical and ethical implications of involving Community Health Workers (CHWs) as part of a community engagement strategy for a vaccine trial on the Kenyan Coast. CHWs were initially engaged as an important network to be informed about the trial. However over time, and in response to community advice, they became involved in trial information sharing and identifying potential participants; thereby taking on roles that overlapped with those of employed fieldworkers (FWs). While CHWs involvement was generally perceived as positive and appreciated, there were challenges in their relations with FWs and other community members, partly related to levels and forms of remuneration. Specifically, payment of CHWs was not as high as for FWs and was based on 'performance'. This extrinsic motivation had the potential to crowd out CHWs intrinsic motivation to perform their pre-existing community roles.</p>



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	<p>CHWs remuneration potentially also contributed to CHWs distorting trial information to encourage community members to participate; and to researchers encouraging CHWs to utilize their social connections and status to increase the numbers of people who attended information giving sessions. Individual consent processes were protected in this trial through final information sharing and consent being conducted by trained clinical staff who were not embedded in study communities. However, our experiences suggest that roles and remuneration of all front line staff and volunteers involved in trials need careful consideration from the outset, and monitoring and discussion over time.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23521823/</p>
37.	<p>Kwambai TK, Dellicour S, Desai M, Ameh CA, Person B, Achieng F, Mason L, Laserson KF, Ter Kuile FO. Perspectives of men on antenatal and delivery care service utilisation in rural western Kenya: a qualitative study. <i>BMC Pregnancy Childbirth</i>. 2013 Jun 21;13:134.</p> <p>Abstract</p> <p>Background: Poor utilisation of facility-based antenatal and delivery care services in Kenya hampers reduction of maternal mortality. Studies suggest that the participation of men in antenatal and delivery care is associated with better health care seeking behaviour, yet many reproductive health programs do not facilitate their involvement. This qualitative study conducted in rural Western Kenya, explored men's perceptions of antenatal and delivery care services and identified factors that facilitated or constrained their involvement.</p> <p>Methods: Eight focus group discussions were conducted with 68 married men between 20-65 years of age in May 2011. Participants were of the Luo ethnic group residing in Asembo, western Kenya. The area has a high HIV-prevalence and polygamy is common. A topic guide was used to guide the discussions and a thematic framework approach for data analysis.</p> <p>Results: Overall, men were positive in their views of antenatal and delivery care, as decision makers they often encouraged, some even 'forced', their wives to attend for antenatal or delivery care. Many reasons why it was beneficial to accompany their wives were provided, yet few did this in practice unless there was a clinical complication. The three main barriers relating to cultural norms identified were: 1) pregnancy support was considered a female role; and the male role that of provider; 2) negative health care worker attitudes towards men's participation, and 3) couple unfriendly antenatal and delivery unit infrastructure.</p> <p>Conclusion: Although men reported to facilitate their wives' utilisation of antenatal</p>



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	<p>and delivery care services, this does not translate to practice as adherence to antenatal-care schedules and facility based delivery is generally poor. Equally, reasons proffered why they should accompany their wives are not carried through into practice, with barriers outweighing facilitators. Recommendations to improve men involvement and potentially increase services utilisation include awareness campaigns targeting men, exploring promotion of joint HIV testing and counselling, staff training, and design of couple friendly antenatal and delivery units.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23800139/</p>
38.	<p>Agoti CN, Gitahi CW, Medley GF, Cane PA, Nokes DJ. Identification of group B respiratory syncytial viruses that lack the 60-nucleotide duplication after six consecutive epidemics of total BA dominance at coastal Kenya. <i>Influenza Other Respir Viruses</i>. 2013 Nov;7(6):1008-12.</p> <p>Abstract</p> <p>Respiratory syncytial virus BA genotype has reportedly replaced other group B genotypes worldwide. We report the observation of three group B viruses, all identical in G sequence but lacking the BA duplication, at a coastal district hospital in Kenya in early 2012. This follows a period of six consecutive respiratory syncytial virus (RSV) epidemics with 100% BA dominance among group B isolates. The new strains appear only distantly related to BA variants and to previously circulating SAB1 viruses last seen in the district in 2005, suggesting that they were circulating elsewhere undetected. These results are of relevance to an understanding of RSV persistence</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23782406/</p>
39.	<p>Sande CJ, Mutunga MN, Okiro EA, Medley GF, Cane PA, Nokes DJ. Kinetics of the neutralizing antibody response to respiratory syncytial virus infections in a birth cohort. <i>J Med Virol</i>. 2013 Nov;85(11):2020-5</p> <p>Abstract</p> <p>The kinetics of respiratory syncytial virus (RSV) neutralizing antibodies following birth, primary and secondary infections are poorly defined. The aims of the study were to measure and compare neutralizing antibody responses at different time points in a birth cohort followed-up over three RSV epidemics. Rural Kenyan children, recruited at birth between 2002 and 2003, were monitored for RSV infection over three epidemic seasons. Cord and 3-monthly sera, and acute and convalescent sera following RSV infection, were assayed in 28 children by plaque reduction neutralization test (PRNT). Relative to the neutralizing antibody titers of pre-exposure control sera (1.8 log₁₀ PRNT), antibody titers following primary infection were (i) no different in sera</p>



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	<p>collected between 0 and 0.4 months post-infection (1.9 log₁₀ PRNT, P=0.146), (ii) higher in sera collected between 0.5 and 0.9 (2.8 log₁₀ PRNT, P<0.0001), 1.0-1.9 (2.5 log₁₀ PRNT, P<0.0001), and 2.0-2.9 (2.3 log₁₀ PRNT, P<0.001) months post-infection, and (iii) no different in sera collected at between 3.0 and 3.9 months post-infection (2.0 log₁₀ PRNT, P=0.052). The early serum neutralizing response to secondary infection (3.02 log₁₀ PRNT) was significantly greater than the early primary response (1.9 log₁₀ PRNT, P<0.0001). Variation in population-level virus transmission corresponded with changes in the mean cohort-level neutralizing titers. It is concluded that following primary RSV infection the neutralizing antibody response declines to pre-infection levels rapidly (~3 months) which may facilitate repeat infection. The kinetics of the aggregate levels of acquired antibody reflect seasonal RSV occurrence, age, and infection history.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23983183/</p>
40.	<p>Kamuya DM, Marsh V, Kombe FK, Geissler PW, Molyneux SC. Engaging communities to strengthen research ethics in low-income settings: selection and perceptions of members of a network of representatives in coastal Kenya. <i>Dev World Bioeth.</i> 2013 Apr;13(1):10-20.</p> <p>Abstract</p> <p>There is wide agreement that community engagement is important for many research types and settings, often including interaction with 'representatives' of communities. There is relatively little published experience of community engagement in international research settings, with available information focusing on Community Advisory Boards or Groups (CAB/CAGs), or variants of these, where CAB/G members often advise researchers on behalf of the communities they represent. In this paper we describe a network of community members ('KEMRI Community Representatives', or 'KCRs') linked to a large multi-disciplinary research programme on the Kenyan Coast. Unlike many CAB/Gs, the intention with the KCR network has evolved to be for members to represent the geographical areas in which a diverse range of health studies are conducted through being typical of those communities. We draw on routine reports, self-administered questionnaires and interviews to: 1) document how typical KCR members are of the local communities in terms of basic characteristics, and 2) explore KCR's perceptions of their roles, and of the benefits and challenges of undertaking these roles. We conclude that this evolving network is a potentially valuable way of strengthening interactions between a research institution and a local geographic community, through contributing to meeting intrinsic ethical values such as showing respect, and instrumental values such as improving consent processes. However, there are numerous challenges involved. Other ways of interacting with members of local communities, including community leaders, and the most vulnerable groups least likely to be vocal in representative groups, have always been,</p>



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	<p>and remain, essential.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23433404/</p>
41.	<p>Nzinga J, Mbaabu L, English M. Service delivery in Kenyan district hospitals - what can we learn from literature on mid-level managers? Hum Resour Health. 2013 Feb 26;11:10</p> <p>Abstract</p> <p>Background: There is a growing emphasis on the need to tackle inadequate human resources for health (HRH) as an essential part of strengthening health systems; but the focus is mostly on macro-level issues, such as training, recruitment, skill mix and distribution. Few attempts have been made to understand the capability of health workers, their motivation and other structural and organizational aspects of systems that influence workforce performance. We have examined literature on the roles of mid-level managers to help us understand how they might influence service delivery quality in Kenyan hospitals. In the Kenyan hospital settings, these are roles that head of departments who are also clinical or nursing service providers might play.</p> <p>Methods: A computerized search strategy was run in Pub Med, Cochrane Library, Directory of Open Access Journals Social Science Research Network, Eldis, Google Scholar and Human Resources for Health web site databases using both free-text and MeSH terms from 1980 to 2011. In addition, citation searching from excluded and included articles was used and relevant unpublished literature systematically identified.</p> <p>Results and discussion: A total of 23 articles were finally included in the review from over 7000 titles and abstracts initially identified. The most widely documented roles of mid-level managers were decision-making or problem-solving, strategist or negotiator and communicator. Others included being a therapist or motivator, goal setting or articulation and mentoring or coaching. In addition to these roles, we identified important personal attributes of a good manager, which included interpersonal skills, delegation and accountability, and honesty. The majority of studies included in the review concerned the roles that mid-level managers are expected to play in times of organizational change.</p> <p>Conclusion: This review highlights the possible significance of mid-level managers in achieving delivery of high-quality services in Kenyan public hospitals and strongly suggests that approaches to strengthen this level of management will be valuable. The findings from this review should also help inform empirical studies of the roles of mid-level managers in these settings.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23442524/</p>



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42.	<p>Mwangangi JM, Muturi EJ, Muriu SM, Nzovu J, Midega JT, Mbogo C. The role of <i>Anopheles arabiensis</i> and <i>Anopheles coustani</i> in indoor and outdoor malaria transmission in Taveta District, Kenya. <i>Parasit Vectors</i>. 2013 Apr 20;6:114</p> <p>Abstract</p> <p>Background: The scaling up of malaria vector control efforts in Africa has resulted in changing the malaria vectorial systems across different ecological settings. In view of the ongoing trends in vector population dynamics, abundance, species composition and parasite infectiousness, there is a need to understand vector distribution and their contribution to malaria transmission to facilitate future planning of control strategies. We studied indoor and outdoor malaria transmission dynamics and vector population variability of <i>Anopheles</i> mosquitoes in Taveta district along the Kenyan Coast.</p> <p>Methods: <i>Anopheles</i> mosquitoes were collected indoors and outdoors in 4 ecologically different villages using CDC light traps (both indoor and outdoor) and aspiration method (day resting indoors; DRI) methods. Mosquitoes were examined for infection with <i>P. falciparum</i> sporozoites and blood feeding preferences using enzyme linked immunosorbent assay (ELISA). The <i>An. gambiae</i> and <i>An. funestus</i> complexes were identified by PCR technique to determine the sibling species composition.</p> <p>Results: A total of 4,004 <i>Anopheles</i> mosquitoes were collected consisting of 34.9% (n = 1,397) <i>An. gambiae</i> s.l., 28.1% (n = 1,124) <i>An. funestus</i> s.l., 33.5% (n = 1,340) <i>An. coustani</i> and 3.6% (n = 143) <i>An. pharoensis</i>. A total of 14,654 culicine mosquitoes were collected, mainly <i>Cx. quinquefasciatus</i>. Of the total <i>Anopheles</i> collected, 3,729 were tested for <i>P. falciparum</i> sporozoite infection. The sporozoite transmission was found to be occurring both indoors and outdoors. The overall sporozoite infectivity was 0.68% (n = 2,486) indoors and 1.29% (n = 1,243) outdoors. Indoor and outdoor sporozoite infectivity and the vectorial systems varied across the 4 ecological villages. Entomological inoculation rates for the 4 villages indicate that there was site-to-site variation. In the 4 villages, Mwarusa had the highest EIRs with <i>An. arabiensis</i>, <i>An. funestus</i> and <i>An. coustani</i> contributing to 23.91, 11.96 and 23.91 infectious bites per person per year ib/p/year respectively. In Kiwalwa and Njoro outdoor EIR was significantly higher than indoors.</p> <p>Conclusions: This study shows that malaria transmission is occurring both indoors and outdoors. The main vectors are <i>An. arabiensis</i>, <i>An. funestus</i> and <i>An. coustani</i> indoors while <i>An. coustani</i> is playing a major role in outdoor transmission. Effective malaria control programmes, should therefore include tools that target both indoor and outdoor transmission.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23601146/</p>
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43.	<p>Marsh V, Kombe F, Fitzpatrick R, Molyneux S, Parker M. Managing misaligned paternity findings in research including sickle cell disease screening in Kenya: 'consulting communities' to inform policy. Soc Sci Med. 2013 Nov;96:192-9</p> <p>Abstract</p> <p>The management of misaligned paternity findings raises important controversy worldwide. It has mainly, however, been discussed in the context of high-income countries. Genetic and genomics research, with the potential to show misaligned paternity, are becoming increasingly common in Africa. During a genomics study in Kenya, a dilemma arose over testing and sharing information on paternal sickle cell disease status. This dilemma may be paradigmatic of challenges in sharing misaligned paternity findings in many research and health care settings. Using a deliberative approach to community consultation to inform research practice, we explored residents' views on paternal testing and sharing misaligned paternity information. Between December 2009 and November 2010, 63 residents in Kilifi County were engaged in informed deliberative small group discussions, structured to support normative reflection within the groups, with purposive selection to explore diversity. Analysis was based on a modified framework analysis approach, drawing on relevant social science and bioethics literature. The methods generated in-depth individual and group reflection on morally important issues and uncovered wide diversity in views and values. Fundamental and conflicting values emerged around the importance of family interests and openness, underpinned by disagreement on the moral implications of marital infidelity and withholding truth. Wider consideration of ethical issues emerging in these debates supports locally-held reasoning that paternal sickle cell testing should not be undertaken in this context, in contrast to views that testing should be done with or without the disclosure of misaligned paternity information. The findings highlight the importance of facilitating wider testing of family members of affected children, contingent on the development and implementation of national policies for the management of this inherited disorder. Their richness also illustrates the potential for the approach adopted in this study to strengthen community consultation.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24034967/</p>
44.	<p>Njuguna HN, Cosmas L, Williamson J, Nyachieo D, Olack B, Ochieng JB, Wamola N, Oundo JO, Feikin DR, Mintz ED, Breiman RF. Use of population-based surveillance to define the high incidence of shigellosis in an urban slum in Nairobi, Kenya. PLoS One. 2013;8(3):e58437</p> <p>Abstract</p> <p>Background: Worldwide, <i>Shigella</i> causes an estimated 160 million infections and >1</p>



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	<p>million deaths annually. However, limited incidence data are available from African urban slums. We investigated the epidemiology of shigellosis and drug susceptibility patterns within a densely populated urban settlement in Nairobi, Kenya through population-based surveillance.</p> <p>Methods: Surveillance participants were interviewed in their homes every 2 weeks by community interviewers. Participants also had free access to a designated study clinic in the surveillance area where stool specimens were collected from patients with diarrhea (≥ 3 loose stools within 24 hours) or dysentery (≥ 1 stool with visible blood during previous 24 hours). We adjusted crude incidence rates for participants meeting stool collection criteria at household visits who reported visiting another clinic.</p> <p>Results: Shigella species were isolated from 262 (24%) of 1,096 stool specimens [corrected]. The overall adjusted incidence rate was 408/100,000 person years of observation (PYO) with highest rates among adults 34-49 years old (1,575/100,000 PYO). Isolates were: Shigella flexneri (64%), S. dysenteriae (11%), S. sonnei (9%), and S. boydii (5%). Over 90% of all Shigella isolates were resistant to trimethoprim-sulfamethoxazole and sulfisoxazole. Additional resistance included nalidixic acid (3%), ciprofloxacin (1%) and ceftriaxone (1%).</p> <p>Conclusion: More than 1 of every 200 persons experience shigellosis each year in this Kenyan urban slum, yielding rates similar to those in some Asian countries. Provision of safe drinking water, improved sanitation, and hygiene in urban slums are needed to reduce disease burden, in addition to development of effective Shigella vaccines.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23505506/</p>
45.	<p>Mwangangi JM, Mbogo CM, Orindi BO, Muturi EJ, Midega JT, Nzovu J, Gatakaa H, Githure J, Borgemeister C, Keating J, Beier JC. Shifts in malaria vector species composition and transmission dynamics along the Kenyan coast over the past 20 years. Malar J. 2013 Jan 8;12:13</p> <p>Abstract</p> <p>Background: Over the past 20 years, numerous studies have investigated the ecology and behaviour of malaria vectors and Plasmodium falciparum malaria transmission on the coast of Kenya. Substantial progress has been made to control vector populations and reduce high malaria prevalence and severe disease. The goal of this paper was to examine trends over the past 20 years in Anopheles species composition, density, blood-feeding behaviour, and P. falciparum sporozoite transmission along the coast of Kenya.</p> <p>Methods: Using data collected from 1990 to 2010, vector density, species</p>



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	<p>composition, blood-feeding patterns, and malaria transmission intensity was examined along the Kenyan coast. Mosquitoes were identified to species, based on morphological characteristics and DNA extracted from <i>Anopheles gambiae</i> for amplification. Using negative binomial generalized estimating equations, mosquito abundance over the period were modelled while adjusting for season. A multiple logistic regression model was used to analyse the sporozoite rates.</p> <p>Results: Results show that in some areas along the Kenyan coast, <i>Anopheles arabiensis</i> and <i>Anopheles merus</i> have replaced <i>An. gambiae sensu stricto</i> (s.s.) and <i>Anopheles funestus</i> as the major mosquito species. Further, there has been a shift from human to animal feeding for both <i>An. gambiae sensu lato</i> (s.l.) (99% to 16%) and <i>An. funestus</i> (100% to 3%), and <i>P. falciparum</i> sporozoite rates have significantly declined over the last 20 years, with the lowest sporozoite rates being observed in 2007 (0.19%) and 2008 (0.34%). There has been, on average, a significant reduction in the abundance of <i>An. gambiae s.l.</i> over the years (IRR = 0.94, 95% CI 0.90-0.98), with the density standing at low levels of an average 0.006 mosquitoes/house in the year 2010.</p> <p>Conclusion: Reductions in the densities of the major malaria vectors and a shift from human to animal feeding have contributed to the decreased burden of malaria along the Kenyan coast. Vector species composition remains heterogeneous but in many areas <i>An. arabiensis</i> has replaced <i>An. gambiae</i> as the major malaria vector. This has important implications for malaria epidemiology and control given that this vector predominately rests and feeds on humans outdoors. Strategies for vector control need to continue focusing on tools for protecting residents inside houses but additionally employ outdoor control tools because these are essential for further reducing the levels of malaria transmission.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23297732/</p>
46.	<p>Waweru E, Opwora A, Toda M, Fegan G, Edwards T, Goodman C, Molyneux S. Are Health Facility Management Committees in Kenya ready to implement financial management tasks: findings from a nationally representative survey. <i>BMC Health Serv Res.</i> 2013 Oct 10;13:404.</p> <p>Abstract</p> <p>Background: Community participation in peripheral public health facilities has in many countries focused on including community representatives in Health Facility Management Committees (HFMCs). In Kenya, HFMC roles are being expanded with the phased implementation of the Health Sector Services Fund (HSSF). Under HSSF, HFMCs manage facility funds which are dispersed directly from central level into facility bank accounts. We assessed how prepared HFMCs were to undertake this new role in advance of HSSF roll out, and considered the implications for Kenya and other</p>



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	<p>similar settings.</p> <p>Methods: Data were collected through a nationally representative sample of 248 public health centres and dispensaries in 24 districts in 2010. Data collection included surveys with in-charges (n = 248), HFMC members (n = 464) and facility users (n = 698), and record reviews. These data were supplemented by semi-structured interviews with district health managers in each district.</p> <p>Results: Some findings supported preparedness of HFMCs to take on their new roles. Most facilities had bank accounts and HFMCs which met regularly. HFMC members and in-charges generally reported positive relationships, and HFMC members expressed high levels of motivation and job satisfaction. Challenges included users' low awareness of HFMCs, lack of training and clarity in roles among HFMCs, and some indications of strained relations with in-charges. Such challenges are likely to be common to many similar settings, and are therefore important considerations for any health facility based initiatives involving HFMCs.</p> <p>Conclusion: Most HFMCs have the basic requirements to operate. However to manage their own budgets effectively and meet their allocated roles in HSSF implementation, greater emphasis is needed on financial management training, targeted supportive supervision, and greater community awareness and participation. Once new budget management roles are fully established, qualitative and quantitative research on how HFMCs are adapting to their expanded roles, especially in financial management, would be valuable in informing similar financing mechanisms in Kenya and beyond.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24107094/</p>
47.	<p>Waweru E, Opwora A, Toda M, Fegan G, Edwards T, Goodman C, Molyneux S. Are Health Facility Management Committees in Kenya ready to implement financial management tasks: findings from a nationally representative survey. <i>BMC Health Serv Res.</i> 2013 Oct 10;13:404.</p> <p>Abstract</p> <p>Background: Community participation in peripheral public health facilities has in many countries focused on including community representatives in Health Facility Management Committees (HFMCs). In Kenya, HFMC roles are being expanded with the phased implementation of the Health Sector Services Fund (HSSF). Under HSSF, HFMCs manage facility funds which are dispersed directly from central level into facility bank accounts. We assessed how prepared HFMCs were to undertake this new role in advance of HSSF roll out, and considered the implications for Kenya and other similar settings.</p>



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48.	<p>Hassan AS, Mwaringa SM, Obonyo CA, Nabwera HM, Sanders EJ, Rinke de Wit TF, Cane PA, Berkley JA. Low prevalence of transmitted HIV type 1 drug resistance among antiretroviral-naïve adults in a rural HIV clinic in Kenya. <i>AIDS Res Hum Retroviruses</i>. 2013 Jan;29(1):129-35.</p> <p>Abstract</p> <p>Low levels of HIV-1 transmitted drug resistance (TDR) have previously been reported from many parts of sub-Saharan Africa (sSA). However, recent data, mostly from urban settings, suggest an increase in the prevalence of HIV-1 TDR. Our objective was to determine the prevalence of TDR mutations among HIV-1-infected, antiretroviral (ARV)-naïve adults enrolling for care in a rural HIV clinic in Kenya. Two cross-sectional studies were carried out between July 2008 and June 2010. Plasma samples from ARV-naïve adults (>15 years old) at the time of registering for care after HIV diagnosis and before starting ARVs were used. A portion of the pol subgenomic region of the virus containing the protease and part of the reverse transcriptase genes was amplified and sequenced. TDR mutations were identified and interpreted using the Stanford HIV drug resistance database and the WHO list for surveillance of drug</p>



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	<p>resistance strains. Overall, samples from 182 ARV-naive adults [mean age (95% CI): 34.9 (33.3-36.4) years] were successfully amplified and sequenced. Two TDR mutations to nucleoside reverse transcriptase inhibitors [n=1 (T215D)] and protease inhibitors [n=1 (M46L)] were identified, giving an overall TDR prevalence of 1.1% (95% CI: 0.1-3.9). Despite reports of an increase in the prevalence of HIV-1 TDR in some urban settings in sSA, we report a prevalence of HIV-1 TDR of less than 5% at a rural HIV clinic in coastal Kenya. Continued broader surveillance is needed to monitor the extent of TDR in sSA.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/22900472/</p>
49.	<p>Van der Elst EM, Mbogua J, Operario D, Mutua G, Kuo C, Mugo P, Kanungi J, Singh S, Haberer J, Priddy F, Sanders EJ. High acceptability of HIV pre-exposure prophylaxis but challenges in adherence and use: qualitative insights from a phase I trial of intermittent and daily PrEP in at-risk populations in Kenya. <i>AIDS Behav.</i> 2013 Jul;17(6):2162-72</p> <p>Abstract</p> <p>This paper used qualitative methods to explore experiences of men who have sex with men and female sex workers in Nairobi and Mtwapa, Kenya, who used oral pre-exposure prophylaxis (PrEP) for HIV prevention as part of a four-month trial of safety, acceptability and adherence. Fifty-one of 72 volunteers who took part in a randomized, placebo-controlled, blinded trial that compared daily and intermittent dosage of PrEP underwent qualitative assessments after completing the trial. Analyses identified three themes: (i) acceptability of PrEP was high, i.e. side effects were experienced early in the study but diminished over time, however characteristics of pills could improve comfort and use; (ii) social impacts such as stigma, rumors, and relationship difficulties due to being perceived as HIV positive were prevalent; (iii) adherence was challenged by complexities of daily life, in particular post-coital dosing adherence suffered from alcohol use around time of sex, mobile populations, and transactional sex work. These themes resonated across dosing regimens and gender, and while most participants favored the intermittent dosing schedule, those in the intermittent group noted particular challenges in adhering to the post-coital dose. Culturally appropriate and consistent counseling addressing these issues may be critical for PrEP effectiveness.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23080358/</p>
50.	<p>Marsh V, Kombe F, Fitzpatrick R, Williams TN, Parker M, Molyneux S. Consulting communities on feedback of genetic findings in international health research: sharing sickle cell disease and carrier information in coastal Kenya. <i>BMC Med Ethics.</i> 2013 Oct 14;14:41.</p>



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Abstract

Background: International health research in malaria-endemic settings may include screening for sickle cell disease, given the relationship between this important genetic condition and resistance to malaria, generating questions about whether and how findings should be disclosed. The literature on disclosing genetic findings in the context of research highlights the role of community consultation in understanding and balancing ethically important issues from participants' perspectives, including social forms of benefit and harm, and the influence of access to care. To inform research practice locally, and contribute to policy more widely, this study aimed to explore the views of local residents in Kilifi County in coastal Kenya on how researchers should manage study-generated information on sickle cell disease and carrier status.

Methods: Between June 2010 and July 2011, we consulted 62 purposively selected Kilifi residents on how researchers should manage study-generated sickle cell disease findings. Methods drew on a series of deliberative informed small group discussions. Data were analysed thematically, using charts, to describe participants' perceptions of the importance of disclosing findings, including reasoning, difference and underlying values. Themes were derived from the underlying research questions and from issues emerging from discussions. Data interpretation drew on relevant areas of social science and bioethics literature.

Results: Perceived health and social benefits generated strong support for disclosing findings on sickle cell disease, but the balance of social benefits and harms was less clear for sickle cell trait. Many forms of health and social benefits and harms of information-sharing were identified, with important underlying values related to family interests and the importance of openness. The influence of micro and macro level contextual features and prioritization of values led to marked diversity of opinion.

Conclusions: The approach demonstrates a high ethical importance in many malaria endemic low-to-middle income country settings of disclosing sickle cell disease findings generated during research, alongside provision of effective care and locally-informed counselling. Since these services are central to the benefits of disclosure, health researchers whose studies include screening for sickle cell disease should actively promote the development of health policy and services for this condition in situations of unmet need, including through the prior development of collaborative partnerships with government health managers and providers. Community consultation can importantly enrich ethical debate on research practice where in-depth exploration of informed views and the potential for difference are taken into account.

PubMed link- <https://pubmed.ncbi.nlm.nih.gov/24125465/>



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51. Zurovac D, Otieno G, Kigen S, Mbithi AM, Muturi A, Snow RW, Nyandigisi A. Ownership and use of mobile phones among health workers, caregivers of sick children and adult patients in Kenya: cross-sectional national survey. *Global Health*. 2013 May 14;9:20

Abstract

Background: The rapid growth in mobile phone penetration and use of Short Message Service (SMS) has been seen as a potential solution to improve medical and public health practice in Africa. Several studies have shown effectiveness of SMS interventions to improve health workers' practices, patients' adherence to medications and availability of health facility commodities. To inform policy makers about the feasibility of facility-based SMS interventions, the coverage data on mobile phone ownership and SMS use among health workers and patients are needed.

Methods: In 2012, a national, cross-sectional, cluster sample survey was undertaken at 172 public health facilities in Kenya. Outpatient health workers and caregivers of sick children and adult patients were interviewed. The main outcomes were personal ownership of mobile phones and use of SMS among phone owners. The predictors analysis examined factors influencing phone ownership and SMS use.

Results: The analysis included 219 health workers and 1,177 patients' respondents (767 caregivers and 410 adult patients). All health workers possessed personal mobile phones and 98.6% used SMS. Among patients' respondents, 61.2% owned phones and 71.4% of phone owners used SMS. The phone ownership and SMS use was similar between caregivers of sick children and adult patients. The respondents who were male, more educated, literate and living in urban area were significantly more likely to own the phone and use SMS. The youngest respondents were less likely to own phones, however when the phones were owned, younger age groups were more likely to use SMS. Respondents living in wealthier areas were more likely to own phones; however when phones are owned no significant association between the poverty and SMS use was observed.

Conclusions: Mobile phone ownership and SMS use is ubiquitous among Kenyan health workers in the public sector. Among patients they serve the coverage in phone ownership and SMS use is lower and disparities exist with respect to gender, age, education, literacy, urbanization and poverty. Some of the disparities on SMS use can be addressed through the modalities of mHealth interventions and enhanced implementation processes while further growth in mobile phone penetration is needed to reduce the ownership gap.

PubMed link- <https://pubmed.ncbi.nlm.nih.gov/23672301/>



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52.	<p>Mulupi S, Kirigia D, Chuma J. Community perceptions of health insurance and their preferred design features: implications for the design of universal health coverage reforms in Kenya. <i>BMC Health Serv Res.</i> 2013 Nov 12;13:474.</p> <p>Abstract</p> <p>Background: Health insurance is currently being considered as a mechanism for promoting progress to universal health coverage (UHC) in many African countries. The concept of health insurance is relatively new in Africa, it is hardly well understood and remains unclear how it will function in countries where the majority of the population work outside the formal sector. Kenya has been considering introducing a national health insurance scheme (NHIS) since 2004. Progress has been slow, but commitment to achieve UHC through a NHIS remains. This study contributes to this process by exploring communities' understanding and perceptions of health insurance and their preferred designs features. Communities are the major beneficiaries of UHC reforms. Kenyans should understand the implications of health financing reforms and their preferred design features considered to ensure acceptability and sustainability.</p> <p>Methods: Data presented in this paper are part of a study that explored feasibility of health insurance in Kenya. Data collection methods included a cross-sectional household survey (n = 594 households) and focus group discussions (n = 16).</p> <p>Results: About half of the household survey respondents had at least one member in a health insurance scheme. There was high awareness of health insurance schemes but limited knowledge of how health insurance functions as well as understanding of key concepts related to income and risk cross-subsidization. Wide dissatisfaction with the public health system was reported. However, the government was the most preferred and trusted agency for collecting revenue as part of a NHIS. People preferred a comprehensive benefit package that included inpatient and outpatient care with no co-payments. Affordability of premiums, timing of contributions and the extent to which population needs would be met under a contributory scheme were major issues of concern for a NHIS design. Possibilities of funding health care through tax instead of NHIS were raised and preferred by the majority.</p> <p>Conclusion: This study provides important information on community understanding and perceptions of health insurance. As Kenya continues to prepare for UHC, it is important that communities are educated and engaged to ensure that the NHIS is acceptable to the population it serves.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24219335/</p>
53.	<p>Ochomo EO, Bayoh NM, Walker ED, Abongo BO, Ombok MO, Ouma C, Githeko AK, Vulule J, Yan G, Gimnig JE. The efficacy of long-lasting nets with declining</p>



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	<p>physical integrity may be compromised in areas with high levels of pyrethroid resistance. Malar J. 2013 Oct 24;12:368.</p> <p>Abstract</p> <p>Background: Long-lasting insecticide-treated mosquito nets (LLINs) are a primary malaria prevention strategy in sub-Saharan Africa. However, emergence of insecticide resistance threatens the effectiveness of LLINs.</p> <p>Methods: Cross-sectional surveys of LLINs were conducted in houses of seven and four villages in Gem and Bungoma Districts in western Kenya, respectively. Condition (number and area of holes in the nets), number and species of mosquitoes resting inside them, and insecticidal activity of nets were quantified. Mosquitoes collected inside nets were allowed to lay eggs and progeny tested for susceptibility to deltamethrin and permethrin, pyrethroids commonly deployed in LLINs in western Kenya.</p> <p>Results: In Gem, 83.3% of nets were less than three years old and 32.4% had at least one hole of any size; while in Bungoma, 92% were less than three years old and 48% had at least one hole. No anopheline and five Culex spp. mosquitoes were found resting inside nets in Gem regardless of the number and size of holes, while 552 Anopheles gambiae s.l., five Anopheles funestus s.l. and 137 Culex spp. were in nets in Bungoma. The number of mosquitoes resting inside nets increased with hole areas >50 cm in Bungoma. In WHO resistance assays, f1 offspring of samples collected in nets in Bungoma were 94 and 65% resistant to deltamethrin and permethrin, respectively. Nets from Bungoma retained strong activity against a susceptible laboratory strain, but not against f1 offspring of field-collected An. gambiae s.s. All An. gambiae s.s. samples collected in nets were homozygous for the kdr genotype L1014S.</p> <p>Conclusions: In areas with pyrethroid resistant vectors, LLINs with modest hole areas permit mosquito entry and feeding, providing little protection against the vectors. LLIN formulations develop large holes within three years of use, diminishing their presupposed lifetime effectiveness.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24156715/</p>
54.	<p>Molyneux S, Njue M, Boga M, Akello L, Olupot-Olupot P, Engoru C, Kiguli S, Maitland K. 'The words will pass with the blowing wind': staff and parent views of the deferred consent process, with prior assent, used in an emergency fluids trial in two African hospitals. PLoS One. 2013;8(2):e54894</p> <p>Abstract</p> <p>Objective: To document and explore the views and experiences of key stakeholders</p>



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	<p>regarding the consent procedures of an emergency research clinical trial examining immediate fluid resuscitation strategies, and to discuss the implications for similar trials in future.</p> <p>Methods: A social science sub-study of the FEAST (Fluid Expansion As Supportive Therapy) trial. Interviews were held with trial team members (n = 30), health workers (n = 15) and parents (n = 51) from two purposively selected hospitals in Soroti, Uganda, and Kilifi, Kenya.</p> <p>Findings: Overall, deferred consent with prior assent was seen by staff and parents as having the potential to protect the interests of both patients and researchers, and to avoid delays in starting treatment. An important challenge is that the validity of verbal assent is undermined when inadequate initial information is poorly understood. This concern needs to be balanced against the possibility that full prior consent on admission potentially causes harm through introducing delays. Full prior consent also potentially imposes worries on parents that clinicians are uncertain about how to proceed and that clinicians want to absolve themselves of any responsibility for the child's outcome (some parents' interpretation of the need for signed consent). Voluntariness is clearly compromised for both verbal assent and full prior consent in a context of such vulnerability and stress. Further challenges in obtaining verbal assent were: what to do in the absence of the household decision-maker (often the father); and how medical staff handle parents not giving a clear agreement or refusal.</p> <p>Conclusion: While the challenges identified are faced in all research in low-income settings, they are magnified for emergency trials by the urgency of decision making and treatment needs. Consent options will need to be tailored to particular studies and settings, and might best be informed by consultation with staff members and community representatives using a deliberative approach.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23408950/</p>
55.	<p>Wafula F, Molyneux C, Mackintosh M, Goodman C. Protecting the public or setting the bar too high? Understanding the causes and consequences of regulatory actions of front-line regulators and specialized drug shop operators in Kenya. <i>Soc Sci Med.</i> 2013 Nov;97(100):220-7.</p> <p>Abstract</p> <p>Garlic (<i>Allium sativum</i> L. fam. Alliaceae) is one of the most researched and best-selling herbal products on the market. For centuries it was used as a traditional remedy for most health-related disorders. Also, it is widely used as a food ingredient--spice and aphrodisiac. Garlic's properties result from a combination of variety biologically active</p>



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	<p>substances which all together are responsible for its curative effect. The compounds contained in garlic synergistically influence each other so that they can have different effects. The active ingredients of garlic include enzymes (e.g. alliinase), sulfur-containing compounds such as alliin and compounds produced enzymatically from alliin (e.g. allicin). There is a lot of variation among garlic products sold for medicinal purposes. The concentration of Allicin (main active ingredient) and the source of garlic's distinctive odor depend on processing method. Allicin is unstable, and changes into a different chemicals rather quickly. It's documented that products obtained even without allicin such as aged garlic extract (AGE), have a clear and significant biological effect in immune system improvement, treatment of cardiovascular diseases, cancer, liver and other areas. Some products have a coating (enteric coating) to protect them against attack by stomach acids. Clinically, garlic has been evaluated for a number of purposes, including treatment of hypertension, hypercholesterolemia, diabetes, rheumatoid arthritis, cold or the prevention of atherosclerosis and the development of tumors. Many available publications indicates possible antibacterial, anti-hypertensive and anti-thrombotic properties of garlic. Due to the chemical complexity of garlic and the use of different processing methods we obtain formulations with varying degrees of efficacy and safety.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24964572/</p>
56.	<p>van der Elst EM, Gichuru E, Omar A, Kanungi J, Duby Z, Midoun M, Shangani S, Graham SM, Smith AD, Sanders EJ, Operario D. Experiences of Kenyan healthcare workers providing services to men who have sex with men: qualitative findings from a sensitivity training programme. J Int AIDS Soc. 2013 Dec 2;16 Suppl 3(4Suppl 3):18741</p> <p>Abstract</p> <p>Introduction: Men who have sex with men (MSM) in Kenya are at high risk for HIV and may experience prejudiced treatment in health settings due to stigma. An on-line computer-facilitated MSM sensitivity programme was conducted to educate healthcare workers (HCWs) about the health issues and needs of MSM patients.</p> <p>Methods: Seventy-four HCWs from 49 ART-providing health facilities in the Kenyan Coast were recruited through purposive sampling to undergo a two-day MSM sensitivity training. We conducted eight focus group discussions (FGDs) with programme participants prior to and three months after completing the training programme. Discussions aimed to characterize HCWs' challenges in serving MSM patients and impacts of programme participation on HCWs' personal attitudes and professional capacities.</p> <p>Results: Before participating in the training programme, HCWs described secondary</p>



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	<p>stigma, lack of professional education about MSM, and personal and social prejudices as barriers to serving MSM clients. After completing the programme, HCWs expressed greater acknowledgement of MSM patients in their clinics, endorsed the need to treat MSM patients with high professional standards and demonstrated sophisticated awareness of the social and behavioural risks for HIV among MSM.</p> <p>Conclusions: Findings provide support for this approach to improving health services for MSM patients. Further efforts are needed to broaden the reach of this training in other areas, address identified barriers to HCW participation and evaluate programme effects on patient and HCW outcomes using rigorous methodology.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24321109/</p>
57.	<p>Okello G, Jones C, Bonareri M, Ndegwa SN, McHaro C, Kengo J, Kinyua K, Dubeck MM, Halliday KE, Jukes MC, Molyneux S, Brooker SJ. Challenges for consent and community engagement in the conduct of cluster randomized trial among school children in low income settings: experiences from Kenya. <i>Trials</i>. 2013 May 16;14:142.</p> <p>Abstract</p> <p>Background: There are a number of practical and ethical issues raised in school-based health research, particularly those related to obtaining consent from parents and assent from children. One approach to developing, strengthening, and supporting appropriate consent and assent processes is through community engagement. To date, much of the literature on community engagement in biomedical research has concentrated on community- or hospital-based research, with little documentation, if any, of community engagement in school-based health research. In this paper we discuss our experiences of consent, assent and community engagement in implementing a large school-based cluster randomized trial in rural Kenya.</p> <p>Methods: Data collected as part of a qualitative study investigating the acceptability of the main trial, focus group discussions with field staff, observations of practice and authors' experiences are used to: 1) highlight the challenges faced in obtaining assent/consent; and 2) strategies taken to try to both protect participant rights (including to refuse and to withdraw) and ensure the success of the trial.</p> <p>Results: Early meetings with national, district and local level stakeholders were important in establishing their co-operation and support for the project. Despite this support, both practical and ethical challenges were encountered during consenting and assenting procedures. Our strategy for addressing these challenges focused on improving communication and understanding of the trial, and maintaining dialogue</p>



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	<p>with all the relevant stakeholders throughout the study period.</p> <p>Conclusions: A range of stakeholders within and beyond schools play a key role in school based health trials. Community entry and information dissemination strategies need careful planning from the outset, and with on-going consultation and feedback mechanisms established in order to identify and address concerns as they arise. We believe our experiences, and the ethical and practical issues and dilemmas encountered, will be of interest for others planning to conduct school-based research in Africa.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23680181/</p>
58.	<p>Kedenge SV, Kangwana BP, Waweru EW, Nyandigisi AJ, Pandit J, Brooker SJ, Snow RW, Goodman CA. Understanding the impact of subsidizing artemisinin-based combination therapies (ACTs) in the retail sector--results from focus group discussions in rural Kenya. PLoS One. 2013;8(1):e54371</p> <p>Abstract</p> <p>Background: There is considerable interest in the potential of private sector subsidies to increase availability and affordability of artemisinin-based combination therapies (ACTs) for malaria treatment. A cluster randomized trial of such subsidies was conducted in 3 districts in Kenya, comprising provision of subsidized packs of paediatric ACT to retail outlets, training of retail staff, and community awareness activities. The results demonstrated a substantial increase in ACT availability and coverage, though patient counselling and adherence were suboptimal. We conducted a qualitative study in order to understand why these successes and limitations occurred.</p> <p>Methodology/principal findings: Eighteen focus group discussions were conducted, 9 with retailers and 9 with caregivers, to document experiences with the intervention. Respondents were positive about intervention components, praising the focused retailer training, affordable pricing, strong promotional activities, dispensing job aids, and consumer friendly packaging, which are likely to have contributed to the positive access and coverage outcomes observed. However, many retailers still did not stock ACT, due to insufficient supplies, lack of capital and staff turnover. Advice to caregivers was poor due to insufficient time, and poor recall of instructions. Adherence by caregivers to dosing guidelines was sub-optimal, because of a wish to save tablets for other episodes, doses being required at night, stopping treatment when the child felt better, and the number and bitter taste of the tablets. Caregivers used a number of strategies to obtain paediatric ACT for older age groups.</p> <p>Conclusions/significance: This study has highlighted that important components of a successful ACT subsidy intervention are regular retailer training, affordable pricing, a reliable supply chain and community mobilization emphasizing patient adherence and</p>



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	<p>when to seek further care.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23342143/</p>
59.	<p>Oria PA, Arunga G, Lebo E, Wong JM, Emukule G, Muthoka P, Otieno N, Mutonga D, Breiman RF, Katz MA. Assessing parents' knowledge and attitudes towards seasonal influenza vaccination of children before and after a seasonal influenza vaccination effectiveness study in low-income urban and rural Kenya, 2010-2011. BMC Public Health. 2013 Apr 25;13:391.</p> <p>Abstract</p> <p>Background: Influenza vaccine is rarely used in Kenya, and little is known about attitudes towards the vaccine. From June-September 2010, free seasonal influenza vaccine was offered to children between 6 months and 10 years old in two Population-Based Infectious Disease Surveillance (PBIDS) sites. This survey assessed attitudes about influenza, uptake of the vaccine and experiences with childhood influenza vaccination.</p> <p>Methods: We administered a questionnaire and held focus group discussions with parents of children of enrollment age in the two sites before and after first year of the vaccine campaign. For pre-vaccination focus group discussions, we randomly selected mothers and fathers who had an eligible child from the PBIDS database to participate. For the post-vaccination focus group discussions we stratified parents whose children were eligible for vaccination into fully vaccinated, partially vaccinated and non-vaccinated groups.</p> <p>Results: Overall, 5284 and 5755 people completed pre and post-vaccination questionnaires, respectively, in Kibera and Lwak. From pre-vaccination questionnaire results, among parents who were planning on vaccinating their children, 2219 (77.6%) in Kibera and 1780 (89.6%) in Lwak said the main reason was to protect the children from seasonal influenza. In the pre-vaccination discussions, no parent had heard of the seasonal influenza vaccine. At the end of the vaccine campaign, of 18,652 eligible children, 5,817 (31.2%) were fully vaccinated, 2,073 (11.1%) were partially vaccinated and, 10,762 (57.7%) were not vaccinated. In focus group discussions, parents who declined vaccine were concerned about vaccine safety or believed seasonal influenza illness was not severe enough to warrant vaccination. Parents who declined the vaccine were mainly too busy [251(25%) in Kibera and 95 (10.5%) in Lwak], or their child was away during the vaccination period [199(19.8%) in Kibera; 94(10.4%) in Lwak].</p> <p>Conclusion: If influenza vaccine were to be introduced more broadly in Kenya, effective health messaging will be needed on vaccine side effects and frequency and</p>



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	<p>potential severity of influenza infection.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23617891/</p>
60.	<p>Kitsao-Wekulo PK, Holding PA, Taylor HG, Kvalsvig JD, Connolly KJ. Determinants of variability in motor performance in middle childhood: a cross-sectional study of balance and motor co-ordination skills. <i>BMC Psychol.</i> 2013 Dec 17;1(1):29</p> <p>Abstract</p> <p>Background: Physical activity is a key component of exploration and development. Poor motor proficiency, by limiting participation in physical and social activities, can therefore contribute to poor psychological and social development. The current study examined the correlates of motor performance in a setting where no locally validated measures of motor skills previously existed. The development of an appropriate assessment schedule is important to avoid the potential misclassification of children's motor performance.</p> <p>Methods: A cross-sectional study was conducted among a predominantly rural population. Boys (N = 148) and girls (N = 160) aged between 8 and 11 years were randomly selected from five schools within Kilifi District in Kenya. Four tests of static and dynamic balance and four tests of motor coordination and manual dexterity were developed through a 4-step systematic adaptation procedure. Independent samples t-tests, correlational, univariate and regression analyses were applied to examine associations between background variables and motor scores.</p> <p>Results: The battery of tests demonstrated acceptable reliability and validity. Variability in motor performance was significantly associated with a number of background characteristics measured at the child, (gender, nutritional status and school exposure) household (household resources) and neighbourhood levels (area of residence). The strongest effect sizes were related to nutritional status and school exposure.</p> <p>Conclusions: The current study provides preliminary evidence of motor performance from a typically developing rural population within an age range that has not been previously studied. As well as being culturally appropriate, the developed tests were reliable, valid and sensitive to biological and environmental correlates. Further, the use of composite scores seems to strengthen the magnitude of differences seen among groups.</p>



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	<p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/25566377/</p>
61.	<p>Kwena ZA, Camlin CS, Shisanya CA, Mwanzo I, Bukusi EA. Short-term mobility and the risk of HIV infection among married couples in the fishing communities along Lake Victoria, Kenya. PLoS One. 2013;8(1):e54523</p> <p>Abstract</p> <p>Objective: Mobility has long been associated with high HIV prevalence. We sought to assess sex differences in the relationship between mobility and risk for HIV infection among married couples in the fishing communities.</p> <p>Methods: We conducted 1090 gender-matched interviews and rapid HIV testing with 545 couples proportionally representing all the different sizes of the fish-landing beaches in Kisumu County. We contacted a random sample of fishermen as our index participants and asked them to enroll in the study together with their spouses. The consenting couples were separated into different private rooms for concurrent interviews and thereafter reunited for couple rapid HIV counselling and testing. In addition to socio-economic and behavioural data, we collected information on overnight travels and divided couples in 4 groups as follows both partners not mobile, both partners mobile, only woman mobile, and only man mobile. Other than descriptive statistics, we used X(2) and U tests to compare groups of variables and multivariate logistic regression to measure association between mobility and HIV infection.</p> <p>Results: We found significant differences in the number of trips women travelled in the preceding month (mean 4.6, SD 7.1) compared to men (mean 3.3, SD 4.9; $p < 0.01$) and when the women did travel, they were more likely to spend more days away from home than their male partners (mean 5.2 [SD 7.2] versus 3.4 SD 5.6; $p = 0.01$). With an HIV prevalence of 22.7% in women compared to 20.9% among men, mobile women who had non-mobile spouses had 2.1 times the likelihood of HIV infection compared to individuals in couples where both partners were non-mobile.</p> <p>Conclusion: The mobility of fishermen's spouses is associated with HIV infection that is not evident among fishermen themselves. Therefore, interventions in this community could be a combination of sex-specific programming that targets women and combined programming for couples.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23336005/</p>
62.	<p>Abubakar A, Holding P, Van Baar A, Newton CR, Van de Vijver FJ, Espy KA. The</p>



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	<p>performance of children prenatally exposed to HIV on the A-not-B task in Kilifi, Kenya: a preliminary study. <i>Int J Environ Res Public Health</i>. 2013 Sep 4;10(9):4132-42</p> <p>Abstract</p> <p>The aim of the study was to investigate early executive functioning in young children from 6-35 months of age. The study involved 319 randomly selected children from the community, 17 HIV exposed but uninfected children and 31 HIV infected ARV-naive children. A variation of the A-not-B task was used. While there were no group differences in total correct, perseverative errors, nor maximum error run, a significant percentage of children were unable to complete the task as a consequence of the children becoming overtly distressed or refusing to continue. In a multivariate analysis we observed that the significant predictors of non-completion were HIV exposure (both infected and exposed) and being under 24 months of age. These patterns of results indicate that future work with a broader array of tasks need to look at the association of HIV and EF tasks and potential contribution of factors such as emotion regulation, persistence and motivation on performance on EF tasks.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/24008985/</p>
63.	<p>Okombo J, Kiara SM, Abdirahman A, Mwai L, Ohuma E, Borrmann S, Nzila A, Ward S. Antimalarial activity of isoquine against Kenyan Plasmodium falciparum clinical isolates and association with polymorphisms in pfert and pfmdr1 genes. <i>J Antimicrob Chemother</i>. 2013 Apr; 68 (4):786-8.</p> <p>Abstract</p> <p>Background: The use of amodiaquine in prophylaxis is associated with serious toxicity, resulting from its metabolic conversion into a reactive quinone-imine metabolite by the hepatic cytochrome P450. To circumvent this toxicity, several amodiaquine analogues that lack the potential to form a quinone-imine derivative, while retaining antimalarial activity, have been designed. Isoquine is one of these promising molecules that has already reached Phase I clinical trials in humans.</p> <p>Methods: We analysed the in vitro activity of isoquine against 62 Plasmodium falciparum isolates collected in Kenya and the association of this activity with polymorphisms in pfert and pfmdr1 genes.</p> <p>Results: The median concentration of isoquine that inhibited 50% of parasite growth (IC₅₀) was 9 nM, compared with 56 nM chloroquine, 8 nM amodiaquine, 10 nM desethylamodiaquine, 69 nM lumefantrine and 1 nM dihydroartemisinin. Isoquine</p>



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	<p>activity was correlated with polymorphisms in pfert at codon 76, but not in pfmdr1 at codon 86.</p> <p>Conclusions: The high activity of isoquine against field isolates, including chloroquine-resistant isolates, with IC50 <10 nM, warrants its further development as an antimalarial.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23169890/</p>
64.	<p>Mpinga EK, Kandolo T, Verloo H, Bukonda NK, Kandala NB, Chastonay P. Traditional/alternative medicines and the right to health: Key elements for a Convention on global health. <i>Health Hum Rights</i>. 2013 Jun 14;15 (1):E44-57. PMID: 25006089.</p> <p>Abstract</p> <p>Little has been done to investigate and promote the importance of non-conventional medicines (NCMs) in the realization of the right to health, yet all over the world people regularly resort to NCMs to secure healing or to prevent or mitigate the occurrence of a wide range of morbidities. This study aims to elucidate the theoretical framework of the role of NCMs in realizing the right to health, to identify the potential manifestations and causes of violations of the right to health in their practice, and to propose the practice of NCMs that could be included in a Framework Convention on Global Health. We use both the documentary analysis and the violation of rights approaches. Through a non-directive review of the literature, we have tried to clarify the concepts and uniqueness of NCMs. We have also tried to unveil the challenges facing NCMs in a context where conventional medicines assume extensive power. The human rights approach has enabled us to bring to light the potential challenges to the rights of the various stakeholders that NCMs create. We argue that NCMs can contribute to realizing the right to health through their availability, accessibility, acceptability, and relative quality. The Framework Convention on Global Health could contribute to the effective realization of this right by integrating basic principles to ensure the recognition, protection, promotion, and conservation of NCMs-at least of those NCMs that have shown evidence of efficacy-as well as catalyzing increased international cooperation in this area.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/25006089/</p>
65.	<p>Madiega PA, Jones G, Prince RJ, Geissler PW. 'She's my sister-in-law, my visitor, my friend' -- challenges of staff identity in home follow-up in an HIV trial in Western Kenya. <i>Dev World Bioeth</i>. 2013 Apr;13 (1):21-9.</p>



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	<p>Abstract</p> <p>Identities ascribed to research staff in face-to-face encounters with participants have been raised as key ethical challenge in transnational health research. 'Misattributed' identities that do not just deviate from researchers' self-image, but obscure unequivocal aspects of researcher identity - e.g. that they are researchers - are a case of such ethical problem. Yet, the reasonable expectation of unconcealed identity can conflict with another ethical premise: confidentiality; this poses challenges to staff visiting participants at home. We explore these around a case study of 'follow-up' staff, observed during an ethnographic study of a Kenyan HIV 'trial community', which included participant observation, conversations, and interviews with staff (n = 79) and participants (n = 89). We found that because of the need to maintain confidentiality and because of some suspicions towards researchers, research staff drew upon alternative identities - presenting themselves to non-participants as relatives or friends, rather than as researchers. Several staff experienced this as necessary but uncomfortable. Simultaneously, staff and participants forged close relations in line with their fictional identities, which however also posed challenges because they entailed personal responsibilities that were difficult to live up to, due to limited resources, and the trial's limited duration. Similar challenges may arise in transnational HIV treatment programmes and should be explored further in that context.</p> <p>PubMed link- https://pubmed.ncbi.nlm.nih.gov/23521821/</p>
66.	<p>Gikonyo C, Kamuya D, Mbete B, Njuguna P, Olotu A, Bejon P, Marsh V, Molyneux S. Feedback of research findings for vaccine trials: experiences from two malaria vaccine trials involving healthy children on the Kenyan Coast. <i>Dev World Bioeth.</i> 2013 Apr; 13 (1):48-56.</p> <p>Abstract</p> <p>Internationally, calls for feedback of findings to be made an 'ethical imperative' or mandatory have been met with both strong support and opposition. Challenges include differences in issues by type of study and context, disentangling between aggregate and individual study results, and inadequate empirical evidence on which to draw. In this paper we present data from observations and interviews with key stakeholders involved in feeding back aggregate study findings for two Phase II malaria vaccine trials among children under the age of 5 years old on the Kenyan Coast. In our setting, feeding back of aggregate findings was an appreciated set of activities. The inclusion of individual results was important from the point of view of both participants and researchers, to reassure participants of trial safety, and to ensure that positive results were not over-interpreted and that individual level issues around blinding and control were clarified. Feedback sessions also offered an opportunity to re-evaluate and re-negotiate trial</p>



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relationships and benefits, with potentially important implications for perceptions of and involvement in follow-up work for the trials and in future research. We found that feedback of findings is a complex but key step in a continuing set of social interactions between community members and research staff (particularly field staff who work at the interface with communities), and among community members themselves; a step which needs careful planning from the outset. We agree with others that individual and aggregate results need to be considered separately, and that for individual results, both the nature and value of the information, and the context, including social relationships, need to be taken into account.

PubMed link- <https://pubmed.ncbi.nlm.nih.gov/23433355/>