

*Results:* FluZone functions include:

1. Screen calls by non-clinical staff against an agreed protocol, triage (Clinical, Laboratory and Epidemiology) calls by clinical staff commensurate with the latest algorithm re testing and antiviral treatment, and then handover Probable and Confirmed Cases to dedicated Clinical Staff.
2. Facilitate the multidisciplinary management of Enquiries, Cases, Contacts and Situations based on a continuously updated protocol of conditioned actions and enabling direct data entry by the laboratories.
3. Provide a real-time tabular and geographical dashboard of all Possible, Probable, Confirmed and Discarded Cases locally, regionally and nationally.

The combination of an advanced query facility on the rich data set captured and time and spatial visualisation methods in FluZone, has provided a powerful tool for improved case management, quick contact tracing and advanced epidemiological analyses.

*Conclusion:* The system has performed well at peak times with over 350 concurrent users with minimal training. FluZone has demonstrably contributed to the containment phase of the pandemic supporting the delivery of the nationally agreed approach to management of cases and contacts and the capture of high quality local, regional and national epidemiological data in real time to inform future planning of the national response.

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**Economic burden of health care at household level: Examination of out-of-pocket expenditure on sexual and reproductive health care**

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*Background:* In Ethiopia although public health care is provided at normally low prices and for free to those that do not afford to pay, the health care consumers are still required to make considerable amount of out-of-pocket expenditures (OOPE) for various reasons. NHA 2004 has showed that 33.9% accounts for households as financing agents on reproductive health care. However, out-of-pocket expenditure remains poorly visible in resource tracking efforts.

*Methods:* Study area: Butajira Demographic Surveillance site Study time: From October 2007 to March 2008 Study was done by collecting household level expenditures made for financing sexual and reproductive health care.

Study design: cross-sectional study

Sampling technique: simple random sampling using single population mean formula

Sample size: 370 Households

Data entry and analysis: by statistical package software, using central tendency measurement tools, regression analysis

*Results:* Total annual gross out-of-pocket expenditure showed ETB 85,900.90 (\$9357.40) with ETB 282.57 (\$ 30.78) per each household.

72.4% of the expenditure spent on pregnancy related services; where as 27.6% spent for FP and other sexual and reproductive health care services.

6.5% of the total OOPE as percentage of the annual household expenditure is spent for sexual and reproductive health care.

The net health service expenditure has a 64.08% gap from the gross OOPE.

The study assessed the difference on the direct and indirect costs incurred on different intervention components.

Out-of-pocket expenditure has a regressive distributional impact and poor and very poor people are expected to pay more.

These expenses were covered from regular income which can lead to catastrophic household economic crises.

*Conclusion:* Out-of-pocket expenditure has a regressive distributional impact and poor and very poor people are expected to pay more.

These expenses were covered from regular income which can lead to catastrophic household economic crises.

*Recommendation:* Other alternative health care financing mechanisms like community based health insurance, social insurance; and other community based organizations should be part of the process.

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**Testing the effectiveness of dengue vector control interventions**

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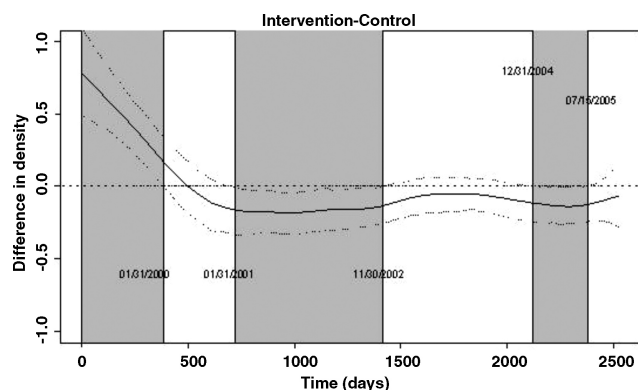
*Background:* Community-based strategies to dengue vector control have been implemented in different countries worldwide, but there is a need for more evidence on their effectiveness. We present an application of a semiparametric mixed model to evaluate the result obtained through intersectoral coordination and community empowerment in one study carried out during six years in Playa Municipality, Cuba.

*Methods:* A longitudinal assessment comparing one intervention and one control area was conducted. The intervention encompasses two main stages separated by two dengue outbreaks. The first stage, focused on strengthening intersectoral coordination, was initiated in January 2000. In August 2003 a complementary strategy, focused on community empowerment was initiated in half of the intervention

area. In the control area, routine dengue control activities continued without additional input. We used entomologic surveillance data from January 1999 to December 2005 to assess the effectiveness. We computed the Breteau indices (BI, number of positive container per 100 premises) per area and the 95% confidence interval for the difference between the BIs at each time point. A semiparametric mixed model to capture the evolution in time of *Ae. Aegypti* larval densities was fitted.

**Results:** The Figure shows the fitted models for the differences in *Ae. aegypti* larvae densities between areas. The BIs in the control area had the lowest values before starting the intervention. This was reversed one year after the launch of the intersectoral activities for dengue control in the intervention area. In spite of spraying actions carried out during the intensive campaign that started in January 2002 in all areas, the differences in BIs between intervention and control areas remain significant until December 2002. Although for the next two years no differences were observed, they become significant again in December 2004, which corresponds with the implementation of the complementary community-based vector control strategy in the intervention area.

**Conclusion:** The model fitted allowed us to identified monotonous trends over time and reversal trends at particular moments. The confidence bands indicate sections with significant differences between areas. Our data augment the evidence that intersectoral coordination and community empowerment strategy to *Ae. Aegypti* control is effective.



**Figure.** Fitted models and confidence bands for the differences in *Aedes aegypti* larvae densities between areas. Playa municipal, Havana, 1999-2005.

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**Age at sexual initiation and its determinants among youths in NE Ethiopia**

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**Background:** For behavioral as well as physiological reasons, early sexual debut increases young peoples' risk for infection with HIV and other STIs. It is crucial to understand the determinants of early sexual initiation in a broader context for designing and implementing effective interventions targeting youth.

**Objective:** The objective of the study was to determine the median age at first sexual intercourse and the determinants of sexual initiation among rural and urban youths (age 15–24 years).

**Methods:** A comparative cross sectional study was conducted between, March 1–15, 2008, in Dessie town and Dessie Zuria Woreda. To draw a total sample of size 1294 (647 urban and 647 rural), a multistage cluster sampling was used. Bivariate and multivariate analyses were employed. Moreover, Kaplan Meier survival analysis was used.

**Results:** About half, 51.3% of the youths have ever had sex. Rural youths initiate sexual intercourse at lower age than their urban counterparts with mean ( $\pm$ SD) (16.49+2.11) for rural and (17.18+2.32) for urban youths. The hazard ratio for sexual initiation was significant (AHR [95% CI] =1.45 [1.19, 2.55]). Multivariate analysis showed that factors like female by gender, chewing Khat, drinking alcohol, viewing pornographic materials and less connectedness with parents were independent predictors of early sexual initiation.

**Conclusion:** Early sexual initiation prevails more in rural than urban youths. Delaying sexual debut can be achieved through well designed sexual education programs at earlier life. Strengthening the norm of virginity should be advocated. Equally, ways to access condoms and other contraceptives especially to rural youths should be sought for those who already initiate sexual intercourse.

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**World Rabies Day Campaign: Evaluating a global initiative**

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**Background:** World Rabies Day (WRD) is the only worldwide event of its kind. To evaluate the 2007 and 2008 initiatives, the authors utilized the CDC evaluation framework.

**Methods:** Process measures from the campaign implementation were captured, and outcome measures were tracked using data from three sources: web traffic, feedback survey, and media monitoring. Evaluation of the inaugural WRD resulted in recommendations for the second year evaluation. A modified survey was constructed and translated into four languages. During both years, the survey was distributed via the WRD listserv, advertised by partners, and remained open for several months.

**Results:** After redesigning the evaluation strategy and survey design, the WRD team received more completed surveys in year two (259 vs. 98). Respondents indicated that the WRD website is a useful resource, and larger events were significantly more likely to utilize these resources ( $p < 0.001$ ). In 2008, WRD reached 15% more countries (from 74 to 85) and again educated millions. Seven types of events were analyzed: commemorations, conferences/symposiums, educational outreach, fun runs, concerts, parades, animal