moderating effects between household SES and three forms of social capital—network ties to health providers, network ties to teachers, and ties to bridging organizations—such that the effect of household SES on child underweight was buffered by social capital.

**Interpretation:** Social capital is not only an important factor for the improvement of child health, it can also play an important role in mitigating socioeconomic disparities in child underweight. In particular, social connections to health providers and teachers might benefit households by increasing knowledge about better feeding practices and disease prevention or by connecting families to medical care and supplementary feeding programs. In addition, membership in bridging organizations may facilitate access to useful information for raising a child as well as improve the economic situation of the household, thereby providing access to food and other household necessities.

**Funding:** This study was supported by the Population Research Training grant (T32 HD007168) and the Population Research Infrastructure Program (R24 HD050924) awarded to the Carolina Population Center, and the Canadian Institutes of Health Research.

**Abstract #:** *01SEDH032*

## Feasibility of using world health organization standard verbal autopsy to assess causes of neonatal and post-neonatal death in Enugu Nigeria

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**Background:** The study aims were to assess the feasibility verbal autopsy (VA) interviews to identify causes of neonatal and post-neonatal mortality in a community-based setting in Enugu Nigeria. The following were assessed 1) adaptability of the World Health Organization (WHO) standard VA tool to regional language, Igbo 2) logistical implementation of the interviews and 3) cultural acceptability of the tool. This study was nested under the Healthy Beginning Initiative (HBI) a randomized control trial that examined the uptake of HIV testing during pregnancy when conducted during a baby shower. Participants who experienced neonatal and post-neonatal death after enrollment into the study were identified. VA interviews were conducted with parents or close relatives who provided care to the deceased using the WHO VA questionnaires. Interviews were conducted in Igbo language, Pidgin, English per participant preference. Interviews were conducted in June and August 2014. A total of 30 neonatal and post-neonatal deaths were assessed. Data collection issues: 1) field workers skipping questions during interviews resulted in missing data necessary to identify probable causes 2) caregivers inability to remember events due to time lapse before interview. Logistical constraints included: 1) time to complete the interview 2) lack of a private place to conduct the interview 3) inadequate transportation networks 4) study participant relocated. Barriers to cultural acceptability included 1) conflict with religious beliefs 2) presence of additional person and 3) problems with the adaptability of the WHO survey were primarily related to some concepts not adequately translated into Igbo. Positives of using VA: 1) causes of some infant deaths assessed 2) participants with history infant loss identified. Solutions for addressing some of the difficulties in implementation include: 1) Field workers should use VA questionnaire to guide the interview and form completion before interview ends 2) review of interview data within a few days after completion by supervisor completion. Logistics: 1) establishment of a central location where interviewees can meet 3) transportation stipend to defray travel cost for participant 4) understanding of terrain and road conditions of communities for interviews that need to be conducted closer to a participants' residence Follow-up interviews can be conducted by telephone. Cultural awareness: 1) prior conversation with primary caregiver or interviewee, detailing the purpose of the verbal autopsy prior to interview, this conversation may help improve trust and guide who would be present with primary caregiver/ relative responder during the interview 2) separate interviews if several caregivers are willing to provide information and then analyzed together to determine if discrepancies in answers exist 3) consulting traditional medicine practitioners on local terms for some illnesses. W.H.O standard verbal autopsy questionnaire may be feasible in Enugu Nigeria, if problems and solutions identified in the pilot study are taken into consideration.

**Abstract #:** *01SEDH033*

## Do health programs contribute to security of a society? A historical metanalysis

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**Background:** Establishment of a causal link between health and security in a society is problematic. Creating a secure environment clearly facilitates access to health services, but the reverse linkage is not confirmed. In insecure situations, such as civil resistance campaigns, health interventions applied to improve security are often a component of a multi-factorial effort, and the specific progress attributable solely to health programs is murky. Health interventions may stabilize a society indirectly, through economic progress, or in a non-linear relationship that can be optimized.

**Methods:** As a proxy for 'security', the authors have performed an open-source meta-analysis of the NAVCO 2.0 database of civil resistance campaigns, assembled by Chenoweth and Stephan. (Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict — E Chenoweth and M J Stephan, Columbia U Press, 2011.) The database of 323 civil resistance campaigns over a recent 87-year period worldwide showed that 'non-violent' campaigns were more successful and more broadly-based in society than 'violent' campaigns. Even when nonviolent campaigns failed, society was more stable and peaceful (better "security") than in the aftermath of a violent campaign. We used a series of online search techniques to examine each campaign for a health component (provision of care, improved access to care).

**Findings:** Using Chenoweth and Stephan's judgments of campaign success, we found that having a health component was rarely documented, and the lessons learned were also unlikely to be available. In those campaigns where a health component could be determined, there was an association with the ultimate success of the campaign.

**Interpretation:** Even though we determined association, not causation, we believe that any link - or no link - between health and resultant stability and security is notable. Huge resources in personnel, equipment, and funding are directed toward health programs under the banner of better mutual security. We believe that our technique merits additional research efforts, and can yield new insights for better health programs in unstable environments.

**Funding:** none.

**Abstract #:** *01SEDH034*

## Pediatric facial fractures in South Africa

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**Background:** There are few published papers describing the epidemiology of facial fractures in South Africa, and there is only one published study in pediatric patients. An understanding of the etiologies and distribution of facial fractures in specific population will allow for appropriate preventions and clinical managements. The aim of the present study was to retrospectively determine the distribution of facial fractures in children who presented to a pediatric trauma unit.
**Methods:** This study retrospectively reviewed all medical records in a major metropolitan pediatric hospital in Cape Town, South Africa from September 2006 through May 2014. Inclusion criteria were children aged under the age of 13 with facial fractures. Fractures were assessed through head computed tomography (CT) scans. Patient's age, sex, cause of injury, general condition, existence of concomitant injuries, location of fractures, type of interventions and length of stay were recorded and analyzed. This study was approved by the Institutional Review Board of University of California, Los Angeles and the Hospital Research Review Committee of Red Cross War Memorial Children's Hospital.
**Findings:** Fifty-three male and 37 female patients were included in the study. Motor vehicle collisions (MVC) were the most common cause of facial fractures (56.3%). One-hundred-thirty facial fractures were presented on CT scans. The most common fractures in this study were mandible (43.1%). Comparing unrestrained MVC (UMVC) patients with those of other etiologies (OE), there was an increase in the average number of fractures (OE: 1.1, UMVC:1.9; $P < 0.0001$), the average length of stay (OE: 4 days, UMVC: 9 days; $P=0.002$), and the probabilities of sustaining concomitant injuries (OE: 31.0%, UMVC: 68.8%) and requiring an operation (OE: 42.3%, UMVC: 81.3%).
**Interpretation:** The demographic profile of the cohort was consistent with other reports that more male than female children sustain facial fractures and that the mandible is the most common site in children. This study also establishes motor vehicle accidents as the most common etiology of facial fractures in South Africa. Lastly, it demonstrates an increase in the complexity of facial injuries in unrestrained MVAs, suggesting the need for public awareness campaigns to install restraint devices in automobiles in South Africa.
**Funding:** UCLA Short-Term Training Program and UCLA Center for World Health.
**Abstract #:** *01SEDH035*

## Evaluating intimate partner violence and response system in leon, Nicaragua: Perspectives from survivors and stakeholders

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**Background:** Five out of 10 married women in Nicaragua have experienced physical or sexual abuse at some point during their marriage (Ellsberg et al., 1999). Surveys collected by 360 women in the department of León indicate that 52% of these women have experienced physical violence by a current or former spouse (Ellsberg et al. 2001). Despite passing Law 779 addressing violence against women in June 2012, access to services for women experiencing violence is limited. To continue addressing intimate partner violence (IPV) in the department of León, researchers recruited residents throughout León to participate in a study assessing community needs in relation to IPV.
**Methods:** A qualitative study consisting of 9 focus groups was held: 3 stakeholder groups, 3 groups of women living in urban areas, and 3 groups of women living in rural areas. Each focus group contained 4-7 participants, totalling 50 participants. There were 15 stakeholders, 20 rural women, and 15 urban participants. Focus groups were moderated by 2 researchers using semi-structured guides and lasted 60-100 minutes each. Various stakeholder participants were identified by the research team while other participants were recruited through snowball sampling, where researchers asked stakeholders to identify other potential participants for stakeholder and women groups. Stakeholders could be male or female; had to be 18-years of age or older; and must be working directly with IPV-related issues. While stakeholder focus groups were conducted in the city of León, the participants represented both urban and rural communities. The remaining 6 focus groups were conducted with adult women participants who are residents of León, and who experienced IPV personally or who knew someone who had experienced IPV. Female-only groups were a priority as the majority of victims of IPV are women, and because it is recognized that gender inequality is a risk factor of IPV (WHO, 2005; Ellsberg, 2006). Urban groups were facilitated within secure areas in the city of Leon, while rural groups took place in enclosed common spaces in the individual communities. Focus groups were transcribed and coded for major themes using ATLAS Ti software.
**Findings:** Qualitative analyses revealed two overarching themes: access to appropriate services and adequate human resources to address intimate partner violence.The study was approved by the ethics board committee at UNAN and UCLA; all participants gave verbal consent to participate.
**Interpretation:** Limitations of the study were that participants self-selected to participate in the study. Overall, stakeholders, working in both private and public sectors, cited lack of properly trained human resources to respond to IPV. Family and peer support were important for women seeking help. Urban and rural focus groups desired more mental health and safe community areas as ways of helping women experiencing IPV.
**Funding:** Minimal funding was gathered through an online campaign.
**Abstract #:** *01SEDH036*

## Determinants of neonatal mortality in Suriname: preliminary findings from a perinatal and infant mortality survey

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**Background:** Neonatal deaths are considered a good indicator of newborn health and care. Neonatal mortality in Suriname is considered to be high in comparison to more developed countries and other countries in the region. Prematuritas, perinatal asphyxia, sepsis/infection and congenital malformations are considered major determinants of neonatal mortality. Insight in these determinants can lead to the development and implementation of preventive strategies in order to reduce mortality.
**Methods:** All newborns in the multi-ethnic society of Suriname between September 2010 and December 2012 were included in the Perinatal and Infant Mortality Survey in Suriname (POPZiS). Preliminary data were analyzed (5371 live births). Crude associations between potential determinants and neonatal mortality were tested using the $\chi 2$-test. Logistic regression models were computed to assess independent determinants of neonatal deaths and were expressed as odds ratios (OR) with 95% confidence intervals [95% CI].
**Findings:** Sixty-nine infants died during the neonatal period (neonatal mortality rate 12.9‰). These infants were more often boys