

INTERNATIONAL SYMPOSIUM ON COHORT AND LONGITUDINAL STUDIES IN LOW AND MIDDLE INCOME COUNTRIES

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Symposium Abstracts

Relating early childhood to adult outcomes: Evidence from the Cebu longitudinal health and nutrition survey (CLHNS)

Linda Adair

The CLHNS was originally designed as a study of factors influencing birth outcomes, and of determinants and consequences of infant feeding patterns. In 1983-84, this community-based study recruited pregnant women from urban and rural sites in Metro Cebu, Philippines, and has followed the mothers and infants for the past 30 years. While not originally designed to be a study of long term outcomes, it has proved quite valuable for relating early childhood to adult outcomes owing to its detailed and comprehensive community, household, and individual data spanning 3 decades. We have shown important relationships of maternal nutritional status during pregnancy, birth outcomes, and early child growth with young adult health and disease (weight status, blood pressure, glucose metabolism, inflammation, lipids, mental health) as well as human capital outcomes (intellectual development, school attainment, employment) and reproductive outcomes, including birth and infant outcomes in the next generation. Results emphasize the importance of the “first 1000 days” as a key period for healthy development: in particular, early child stunting is strongly related to lower IQ scores, poorer school attainment, and reduced likelihood of employment in the formal wage sector in adulthood.

Challenges in harmonization of development measures among the COHORTS studies

Linda Adair

The COHORTS collaboration (Consortium for Health Orientated Research in Transitional Societies) was motivated by the relative scarcity in low and middle income countries of birth cohort studies with follow-up into adulthood, and the desire to see whether the long term effects of pre- and early postnatal undernutrition on development of adult health and human capital were similar in these settings compared to those reported for high income populations. The 5 studies united in COHORTS are highly diverse: they are in 5 different regions (Brazil, Guatemala, India, The Philippines, and South Africa); represent different levels of socioeconomic development and prevalence of nutritional and chronic disease risk; were designed to address different research questions; and collected different measures at different times. Nonetheless, we were able to identify many commonalities among the studies and were able to pool the longitudinal data to address a wide range of research questions related on the developmental origins of adult disease. Challenges for harmonizing the data included: (1) Identifying common indicators across all sites, based on availability of directly comparable measures and international standards or reference data, or well established clinical cutpoints (eg. WHO Z-scores to represent weight and height or the WHO definition of hypertension); (2) Alternate ways to capture the common concepts, regardless of differences in measurement (e.g. body composition measured using anthropometry, impedance, or DXA, or socioeconomic status measured by income, occupation, or assets) (3) handling highly site-specific variables (e.g. race/ethnicity in Brazil, the community-based intervention design of the Guatemala study). Despite these challenges, we were able to develop appropriate analytic strategies and identify many important relationships common to all sites.

Parental perceptions and educational attainment

Tahir Andrabi

Perceived child ability is an important element of the rate of return to education. Using the LEAPS Household Panel from rural Pakistan, we examine the effect of parental perceptions of child intelligence of children age 5-15 in Round 1: 2004 on educational outcomes on the same children in Round 5: 2011.

We find that perceived intelligence rankings of their children by both educated and uneducated mothers is highly correlated with (independently conducted) test scores, enrollment and educational expenditures contemporaneously. Perceptions also predict enrollment and grade attainment for girls as well as boys seven years hence. The result holds after controlling for initial enrollment, baseline test scores and other covariates. We discuss the mechanisms through which perceptions may play out and also discuss the likelihood of being married as a function of perceptions.

Adolescent Health in Viet Nam: transitions to cigarette smoking among Chililab adolescents and youth

Robert Wm Blum, Huan He, Linh Cu Le

Background: The Chi Linh Health and Demographic Surveillance System (Chililab HDSS) was established in 2003 focused on adolescents and youth. It is based in Chi Linh District, Hai Duong Province in the North of Viet Nam between Hanoi, the country's capital, and Hai Phong, Viet Nam's largest harbor. Chililab provides longitudinal data on demographic and adolescent health issues and concerns as well as protective factors. In addition to the routine demographic data collection there are three adolescent health modules; and to date three waves of module 1 have been collected approximately each three years apart (from 2006 to 2013) while there have been two waves of modules two and three. The present report is based on two waves of data from module 1 on behaviors and background of youth. Sample: The analytic sample is merged from time 1 (n=9587) and time 2 (n=10, 123) resulting in an analytic sample of 9589. Results: Smoking prevalence among adolescent and youth females was too low to allow for analysis (<5%). Between time 1 and 2, 6.3% of male adolescents became current users and an additional 11.6% reported having "tried" tobacco. Conversely, 1.8% had transitioned to non-smoker status from current use. The presentation will explore factors associated with transitions into use and cessation.

Understanding risk and resilience at different points in childhood: Some lessons from Young Lives

Jo Boyden and Abhijeet Singh

Risks have varying salience, and offer different possibilities of recovery, at different ages. In this presentation, we highlight first the conceptual understanding of risk in the child development literature and discuss how longitudinal data is invaluable for understanding these life-course effects. We discuss, in particular, evidence on resilience and on the age-specific nature of risks with recourse to evidence from three themes of research from Young Lives: 1) stunting, catch-up growth and the impacts of malnutrition; 2) the divergence of learning outcomes within and across countries over the educational trajectory of children; and 3) gender bias in various domains over the age trajectory of children. We will conclude that effective program design necessarily needs to engage with the age-specific nature of risk especially with relation to which domain(s) to intervene in, for whom, and when; while this is already the case to some extent for ECD, it is not uniformly so across the age trajectory till young adulthood. Moreover, we wish to highlight that whereas early prevention is most desirable, and perhaps most cost effective, even in domains previously considered unmalleable beyond specific ages, there may be substantial scope for recovery.

Socioeconomic inequality in child wellbeing outcomes in Chile

David Bravo, Jere Behrman and Sergio Urzua

Research from the United States shows that gaps in early cognitive and non-cognitive ability appear early in the life cycle. Little is known about this important question for developing countries. This study provides new evidence of sharp differences in cognitive and non-cognitive abilities by socioeconomic status in early childhood for Chile. This research relies on ELPI (Encuesta Longitudinal de la Primera Infancia), a nationally representative Survey (taken from the registry of births) of about 18,000 children born between 2006 and 2011. Two waves of the panel have been developed until now (2010 and 2012) and a third wave will come in 2015.

Enhancing nutrition security via India's National Food Security Act: Using an axe instead of a scalpel?

Sonalde Desai

In September 2013, India passed a historic National Food Security Act. This paper examines the potential impact of one of the central pillars of this act – expansion on Public Distribution System (PDS) – on child nutrition. Using data from India Human Development Survey of 2011-12 this paper shows that access to subsidized grains via PDS is not related to improved child nutrition. Since PDS is targeted at poor households, selectivity into program participation is addressed through longitudinal data. Results suggest that household food security via subsidized

cereal delivery may be less relevant to child nutrition than interventions directly targeted at children. This paper relies on the India Human Development Survey (IHDS), a nationally representative survey of over 41,000 households interviewed in 2004-5 and 2011-12. This is a multi-topic, multi-purpose household survey which includes information on children, including on child anthropometry and learning outcomes.

Challenges in the measurement of Early Childhood Development and cognitive assessments in Colombia

Emla Fitzsimons

Measuring cognitive development in early infancy and childhood can be particularly challenging. ‘Gold standard’ assessments can be extremely costly and burdensome to implement. There is a need for assessing how shorter measures, which are easier and less costly to implement, as well as being universally applicable, compare to the gold standard. Another question is whether advances in technology, such as brain scanning, revolutionise this field?

Evaluating Ghana’s Livelihood Empowerment against Poverty (LEAP) Program

Sudhanshu Handa

This presentation will address the challenges of evaluating a large scale national social program. Designing rigorous evaluations in this context is complex because of the need to respect existing program implementation plans and to manage sensitivities around using control groups. In Ghana, an IE was designed at a moment when the programme had already reached 60,000 beneficiaries. Though continued scale-up was occurring, the government was not amenable to using a ‘delayed entry’ control group for fear of political backlash from the possible perception that ‘people were deliberately withheld benefits for a study’. During this period, the University of Ghana (UG) was about to launch a major national panel survey. UG agreed to incorporate 600 future LEAP beneficiaries into their sample and enumerate them using their already designed questionnaire and survey protocols. A ‘matched’ comparison group was subsequently built from the UG national household survey, and both the matched comparison and LEAP groups were re-interviewed after 24-months to construct a longitudinal propensity score matching evaluation estimator. The LEAP evaluation is thus an interesting case study of how an ongoing or pre-existing data collection initiative was harnessed to build a rigorous IE of a national programme.

Innovations in Measurement from the US Add Health Study

Kathleen Mullan Harris

Add Health (The National Longitudinal Study of Adolescent to Adult Health) is an ongoing longitudinal study of a nationally representative sample of more than 20,000 adolescents in grades 7-12 in the US in 1994-95 who have been followed through adolescence and their transition to adulthood with four in-home interviews, with a fifth interview planned in 2015 when the cohort will be moving through their 30s. Add Health was designed by a nation-wide team of multidisciplinary investigators from the social, behavioral, and biomedical sciences. The original purpose of the study was to understand the causes of health and health behavior with special emphasis on the role of social context. To achieve this scientific goal, Add Health sampled the multiple environments in which young people live their lives, including the family, peers, school, neighborhood, community, and relationship dyads, and provides independent and direct measurement of these multifaceted environments over time. As the Add Health cohort transitioned into adulthood, research objectives turned to understanding the social, behavioral, and biological linkages in health across the early life course and into adulthood. The Add Health design included measurement of the biological domain in understanding health and well-being and has collected an array of biomarkers across interview waves to understand biological processes that operate in multiple biophysical systems during key developmental stages of the life course. This presentation will highlight these two innovative aspects of the Add Health design in its collection of environmental and biological data and the potential for research on the social, behavioral, and biological linkages in health across the life course.

Challenges in measuring life events among adolescents

Paul C. Hewitt

Obtaining accurate and reliable measures of the timing and order of major events or transitions is critical for understanding the trajectory of adolescent lives and the causal relationships that may exist between transitions. The difficulty of obtaining good quality data is particularly relevant in developing country settings where exact

dates of birth are often unknown, the year and month of transitions are often not salient, and where certain behaviors are of a sensitive nature. Using data from two rounds of the Malawi Schooling and Adolescent Survey (MSAS), a cohort study conducted by the Population Council since 2007, this presentation examines the consistency of retrospective reporting of three key adolescent life events: sexual initiation, school leaving, and marriage. Findings are presented on the consistency of reporting within and across two rounds of data collection. The data indicate substantial inconsistency in reporting of event sequences and highlight the difficulties in measuring transitions to adulthood in sub-Saharan Africa with survey data. Based on published work and analyses conducted by: Barbara S. Mensch, Erica Soler-Hampejsek, Christine Kelly, Paul C. Hewett, and Monica J. Grant.

The interface between research and policy: Experience from South Korea

Eunju Jung

The National Youth Policy Institute was originally established in 1989, in accordance with the “Youth Nurture Law”. It was created as a part of the National Research Council for Economics, Humanities and Social Science responsible to the Prime Minister. Research projects of the institute are required to include policy and societal dimensions in their work plans and to strengthen their dissemination and science-policy interface activities. Open and transparent communication between scientists and policy makers and other stakeholders have become more common-place in South Korea. Related research and cases will be shared at the conference.

Impact of baseline inequality on youth transitions in education, health, and employment in South Africa: Evidence from the Cape Area Panel Study

David Lam

The Cape Area Panel Study (CAPS) is a longitudinal study of young people in Cape Town, South Africa. It is a collaborative project of the University of Cape Town and the University of Michigan, with major funding from the U.S. National Institutes of Health. The study began with 4,752 respondents aged 14-22 in 2002, drawn from all population groups and geographic areas in Cape Town. CAPS collects data on a wide range of socio-economic, demographic, education, and health variables, with a strong focus on the causes and consequences of inequality. Five waves of data have been collected, the most recent in 2009. A key feature of CAPS was a Literacy and Numeracy Evaluation (LNE) administered in Wave 1. Combining the LNE scores with data on baseline socio-economic variables, CAPS can be used to analyze the impact of baseline inequality in cognitive ability and economic conditions on subsequent outcomes in education, health, and employment. There is enormous baseline inequality in literacy and numeracy – black students in grades 8 and 9 in 2002 had an average LNE score that was 0.7 standard deviations below the average score of white students in the same grades. Per capita household income for white students was almost ten times that of black students. Not surprisingly, this baseline inequality has a large effect on subsequent school performance and on many other outcomes. Only 27% of black students in grades 8 and 9 successfully advanced three grades in the following three years, compared to 82% of white students, with baseline LNE scores being one of the best predictors of subsequent grade repetition. Young people with baseline disadvantages in school performance and family resources are much less likely to complete secondary school and enter post-secondary education, transitions that are very important in South Africa’s challenging labor market. They are also less likely to make successful transitions into the labor market, with longer durations of unemployment after leaving school. An important lesson from CAPS is that the adolescent years are a critical period in which inequality in educational opportunities and family resources begin to manifest themselves as inequality of the next generation.

Individual and socio-familial risk and protective factors in two generations of the Mauritian Joint Child Health Project

Susan E. Luczak, Cyril Dalais, Adrian Raine, Peter H. Venables, F. Schulsinger, and S.A. Mednick.

The Joint Child Health Project is a longitudinal study that has followed a 1969-1970 birth cohort of 1,795 individuals from the island of Mauritius (a middle-income east African nation) since 1972. All children born in two towns during a one-year period were recruited into the study, with 100% participation. At 3 years old, participants and their parents were assessed on home environment and demographic variables, and children were tested on cognitive measures, psychophysiological reactivity, temperament, and behaviour, and completed a medical exam. An intervention was conducted with 100 controls enrolled in regular preschool and 100 cases enrolled in enriched preschool (in terms of nutrition, physical activity, and cognitive stimulation). The

full cohort was re-assessed at age 11 years on similar constructs as were measured at age 3 years. Primary outcomes assessed in adulthood include schizotypy, aggressive/criminal behavior, and substance use. Results have shown that fearfulness, low stimulation seeking, and psychosocial adversity at age 3 are predictive of cognitive deficits and aggressive behavior in mid-childhood, which in turn are associated with the development of schizotypal features, criminal behavior, and alcohol problems in adulthood. The preschool intervention was particularly effective in children who were malnourished at age 3 years at reducing hyperactivity, aggressive behavior, and schizotypal features in adolescence and early adulthood. The offspring of the original cohort have also been assessed at ages 3-5 and/or 8-13 years on similar measures as were assessed in their parents at ages 3 and 11 years. An intervention of omega-3 dietary supplement was given to 100 offspring, with 100 matched controls receiving placebo doses. The current assessment phase is assessing original participants, spouses, and offspring to better understand intergenerational transmission of psychopathology, with particular focus on drinking and smoking. Preliminary analyses indicate cohort differences in substance use, particularly for females. Future directions of the project will seek to investigate drinking and smoking trajectories, medical conditions including diabetes and alcohol-related diseases, and cognitive functioning over the lifespan. This project has been funded by World Health Organization, Danish State Department, Danish International Development Agency, Mental Health Foundation (UK), Medical Research Council (UK), Medical Research Foundation (UK), Leverhulme Trust (UK), Ford Foundation (US), Scottish Rite (US), US National Institutes of Health (K02MH01114, K08AA14265, R01AA10206, R01AA18179, R01HD42259, R01RR13642), and the Mauritian Ministry of Health.

Literacy and the transition to adulthood in rural Malawi

Barbara S. Mensch, Stephanie Psaki, Erica Soler-Hampejsek

Whether young people who have attended primary school in sub-Saharan Africa retain basic literacy skills after leaving school remains largely unknown. The effect of those skills on the timing of transitions to adult roles is also not well documented. Using longitudinal data from a sample of over 1,700 Malawian adolescents aged 14-17 who were attending standards (grades) 4-8 when first interviewed in 2007 and re-interviewed yearly until 2011, we investigate the loss of reading skills and the association between literacy and early marriage and childbearing. Inability to acquire and retain reading skills may compromise the demographic outcomes that are predicted to accompany expanded schooling attainment in poor settings, and early transitions to marriage and childbearing may affect retention of academic skills. In this presentation we will address four questions:

1. Do adolescents in rural Malawi acquire and retain basic literacy skills?
2. Is there a gender difference in acquisition and retention of literacy skills?
3. What are the implications, if any, of early marriage and childbearing for literacy skills?
4. What is the association, if any, between literacy skills and the timing of marriage and childbearing?

Using Surveybe to improve the collection of panel data: Lessons from Kagera Tanzania

Respichius D. Mitti

This talk will discuss some practical aspects of electronic data collection in large scale panel surveys, drawing on our experiences from conducting dozens of panel surveys. The focus will be on improving the quality of child-related data through the use of the powerful survey software package 'Surveybe'. It starts by discussing how pre-populating rosters with data from previous rounds can facilitate linking the IDs of household members across rounds. It will show various other possibilities that are opened up by the use of computers in the field, such as the automatic creation of sub-rosters for children, the in-field validation of children's ages and anthropometric measurements, the automation of routing and other features that have the potential to greatly improve data quality.

Analysis of early predictors of educational inequalities in the Child Health Project's longitudinal cohort Mauritius

Christian Morabito

International organizations, along with workers from various disciplines, argue that inequalities in children's education are associated with conditions, prior to school entry. This study uses data from the Joint Child Health Project Mauritius longitudinal cohort, composed by 1795 children tested on a number of demographic, socio-economic and educational outcomes from 1970's up to today, and examines whether 1) inequalities in early cognitive development are associated with post-natal conditions; 2) whether the association between early factors and cognitive development is still relevant at the end of the primary school cycle; 3) inequalities tend to

increase or decrease over time; 4) inequalities in school performances are associated with early factors and cognitive development. The findings are generally, but not entirely in line with international studies in developing countries. Inequalities in cognitive development are observed at age 3, and these are significantly associated with socio-economic status of the father (but not of the mother), malnutrition and temperament during tests. The associations persist when cognitive abilities are tested at age 11, with inequalities increasing in relation to both parents' SES. A significant association between early predictors and educational inequalities is found, when considering school performances measured through the Mauritius national primary education examination (the CPE) at age 11, which highly correlates with cognitive tests at the same age.

Why does comparative, mixed methods, research matter?

Virginia Morrow

Qualitative research and mixed-methods approaches add value to longitudinal research design. Including a qualitative component in longitudinal studies is important for a number of reasons: first, it can show how associations between variables work; second, it helps to identify questions for surveys and can thus inform survey design, with the latter in turn informing the next round of qualitative research; third, qualitative data enables deeper understanding and explanation of processes beyond survey findings; fourth, qualitative research enables children to express themselves in their own words; and finally, it allows researchers to link children's individual biographies to children's development and broader societal processes. The two components, qualitative and quantitative, complement each other. Survey data illustrate the scale of phenomena, while the qualitative component adds depth to the study. As the case of the Young Lives study demonstrates, qualitative research is rigorous scientific. Further, aspects of daily life that matter for children are highlighted in the qualitative research, such as violence, including corporal punishment at school and domestic violence, Female Genital Cutting (FGM), the ways in which children combine multiple activities such as work, leisure and being with friends, and the importance of the physical environment

Can nutrition-sensitive social protection interventions affect children's nutritional status and development? Longitudinal evidence from a randomized experiment in Bangladesh

Shalini Roy

Given growing evidence on the long-term importance of early childhood nutrition – particularly before the age of two years – there is widespread interest in making social protection interventions “nutrition-sensitive.” Evidence from developing countries (mostly from Latin America) tends to show that direct transfers to poor households reduce household poverty and improve household food security, but have limited effects on child nutrition. Little rigorous evidence exists from such interventions in South Asia (which is on average poorer and more undernourished than Latin America), and little is known about what types of transfers may most effectively improve child nutrition. The Transfer Modality Research Initiative (TMRI) study was designed to assess the relative effectiveness of several transfer modalities in improving child nutrition in Bangladesh – comparing cash and food transfers, with or without nutrition training. The study was designed by WFP-Bangladesh and IFPRI as a randomized controlled trial in the North and South of Bangladesh. In both zones, very poor rural households with a child aged 0-24 months were randomly assigned to one of five intervention arms: (1) Control – no intervention, (2) Food only – rice, lentils, fortified oil worth 1500 Taka (about \$20), (3) Cash only – 1500 Taka, (4) ½ Food, ½ Cash – half the food ration and 750 Taka, (5) Cash with Nutrition Training (behavior change communication on infant and young child feeding) in the North, -OR- Food with Nutrition Training in the South. The intervention was implemented for 2 years, from June 2012 to May 2014. Monthly transfers were well implemented, and trainings were intensive and of high quality. Data were collected using a longitudinal design. In April 2012, a baseline was collected on 2500 households in the North and 2500 households in the South (500 from each intervention arm). A midline was collected in July 2013, after about 12 months of implementation. An endline was collected in April 2014, just before the final transfers were made. All sample households therefore had at least one child aged 0-24 months at baseline and 24-48 months at endline. Endline data became available for analysis in August 2014. Preliminary results show that all transfer modalities improved household food security, but that the modalities incorporating nutrition training caused significantly larger improvements. Young children's dietary diversity was also significantly greater in the treatment arms that received a transfer with training than those that received the transfer alone: in the North, relative to cash only, cash+training significantly increased children's consumption of legumes, leafy greens, fruit, meat, fish, eggs, and dairy; in the South, relative to food only, food+training significantly increased children's consumption of legumes, leafy

greens, fruit, fish, and eggs. Moreover, using several alternate age groupings of children, there is very preliminary (though consistent) evidence that only the cash+training intervention arm caused significant increases in children's height for age (by about 0.2 standard deviations) and significant reductions in stunting (by about 6 to 9 percentage points). Initial findings indicate that direct transfers to poor households can improve child nutrition, but are most effective when accompanied by high quality nutrition training. Analysis is proceeding on potential mechanisms for the different effects of the intervention arms, particularly on what underlies greater improvements from nutrition training (e.g., changes in knowledge, changes in preferences, changes in women's status, etc). Moreover, a follow-up round of data will be collected starting in October 2014 that will directly measure early childhood development among children ages 2.5-4 years, as well as their stimulation environment.

Risk and Resilience for Child Health and Development: Analysis from the Jamaican Birth Cohort Studies

Maureen Samms-Vaughan

Jamaica has undertaken two comprehensive birth cohort studies. The first, the Jamaican Perinatal Mortality and Morbidity Survey, began in 1986 and had follow-up contacts at ages 6 weeks, 11-12 years, 15-16 years and 20-21 years. The second study (JAKIDS) began 25 years later in 2011 and had follow-up contacts at 7-9 months and 18-24 months. This paper reports on the use of the 1986 study (JAKIDS) to identify risk and protective factors for a variety of child outcomes including child health, child academic performance and child behaviour. The 2011 study, building on the experience gained from the 1986 study, reports on risk and protective factors for early child development outcomes. The preliminary use of the 1986 study for studies on resilience for child development outcomes will also be discussed.

Translating Research from Cohort Studies into Policy: the case of Jamaica

Maureen Samms-Vaughan

Jamaica has undertaken three longitudinal studies in childhood, two birth cohort studies and one commencing at age six years and ending at age 9 years. The studies have contributed to policy and programme development in the areas of maternal and child health, particularly interventions to reduce maternal, perinatal and neonatal mortality and morbidity. The studies have also resulted in policy and programme development to improve later child health and nutrition, development and behaviour, with particular focus on parenting, early childhood development, screening and early intervention and violence reduction. This paper discusses the policy and programme outcomes and identifies those aspects of the study management and methodology, as well as other factors that resulted in translation to policy and programme development.

Innovating HDSS for greater efficiency in generating population-based data in low and middle income countries

Osman Sankoh

INDEPTH is an international network for the demographic evaluation of populations and their health in low- and middle-income countries (LMICs). The member health and demographic surveillance system (HDSS) sites in 20 LMICs in Africa, Asia and the Pacific, currently record and monitor health, population and social dynamics in defined populations including migration, pregnancies, births, deaths and their causes and contexts in large sentinel populations of about 80,000 people each. The HDSS sites, mostly located close to district hospitals, also provide broader research platforms for conducting nested research studies and programme/policy evaluations, including clinical trials, drug and vaccines safety and effectiveness studies, cohort studies, behavioural studies, health systems' effectiveness, and morbidity surveillance. INDEPTH's innovation, i-INNOVATE, proposes a fully integrated sentinel data platform capable of timely delivery of high quality cause and pathogen-specific mortality and morbidity data, using a dynamic cohort surveillance design building on established HDSS methodology. This proposal capitalises on the ability to longitudinally document approximately four million person-years of individual surveillance each year across HDSS sites. Thus the Network provides an immediate foundation for the critical innovations needed to achieve the morbidity and etiologic surveillance components of the i-INNOVATE platform. This foundation will be enhanced by including morbidity surveillance at both household and health facility levels. We envisage household-based cohort studies including a novel household illness notification system, in addition to operational and data linkages with health facilities, complemented by advanced quality assured clinical and laboratory investigations and expertise.

When children become adults – lessons from the INCAP longitudinal study on migration and attrition

Aryeh D Stein

All cohort studies suffer from attrition, which can result from death, migration away from the study area, participant unwillingness to continue to participate in study activities, or other reasons. Attrition affects study power by reducing the number of individuals under active follow-up. It can also lead to estimates of association that are biased and do not represent the associations that would be seen in the whole cohort, if the reasons for attrition are related to study exposures or study outcomes. Studies of children, and especially birth cohort studies in low and middle-income studies, are especially vulnerable to attrition. This presentation describes the experiences of the INCAP Nutrition Supplementation Trial Cohort (INSTC) with respect to attrition. The cohort consists of the 2392 children who were enrolled in a supplementation trial conducted between 1969 and 1977 in 4 villages in eastern Guatemala. All children <7 y of age at study launch (n=933), and all births during the period of the study (n=1459), were enrolled. Among other activities, follow-up of the cohort was conducted in 2003-4, at which time intensive attempts were made to ascertain the vital status and whereabouts of all cohort members. No information could be obtained on 102 individuals (4%) despite intensive efforts, while 272 (11%) were known to have died and 163 (7%) had left Guatemala. Among the 1855 presumed to be alive and living in Guatemala, 1570 (85%) were successfully contacted, 26 years after the end of the original study. Attrition was not random. Paradoxically, risk of death was higher among the younger cohorts, because those recruited in 1969 had already survived their period of highest mortality risk. Domestic and overseas migration both varied across the four villages (and hence varied across treatment groups), and failure to establish contact was highest amongst domestic migrants. Improvements in infant health and the increasingly global economy would suggest that modern cohorts are likely to experience lower attrition from mortality, but even higher attrition from migration, than this cohort experienced. Care needs to be taken to ensure redundancies in information sources to facilitate tracking, and to envisage and plan for data collection that does not require a physical presence. Other concerns reflect the increased maturity of the cohort – as they transition from infancy through childhood, adolescence and adulthood, they can and should be considered as agents in their own right – and as they reach legal maturity, of course, they become, or decline to become, cohort participants without further need for parental permission. Engaging the cohort actively is likely to enhance retention.

CIFF's experience in fostering research for policy and practitioners

Nalini Tarakeshwar

The Children's Investment Fund Foundation is an independent, philanthropic organisation based in the UK that aims to demonstrably improve the lives of children in developing countries by achieving large-scale, sustainable impact. We place significant emphasis on programme evaluation and support research that can have a tangible impact on programme and policy level decisions. This presentation will focus on basic principles we adopt in making research and evaluation relevant to the needs of practitioners and policy makers and discuss cases where we have succeeded or failed to achieve change.

The comparability challenge: Lessons from cross-national research in developed countries

Jane Waldfogel

This presentation will briefly summarize cross-national research on socioeconomic status and child development that I have carried out across four comparable developed countries (US, UK, Canada, and Australia), discussing challenges and drawing out lessons for future cross-national research in developing countries. Specific challenges include: measurement of socioeconomic status; measurement of child outcomes; and measurement of key inputs into child health and development.

