EDITOR'S NOTE

In this last issue of POSHAN Abstract for 2013, we bring to you scientific updates and historical reviews that examine the issue of nutrition through lenses that span the spectrum from biological issues to the political context. These studies are global and India-based. One interesting global study finds a significant association between coverage of maternal and child health services and birth order, thus offering a possible explanation for the association between higher parity and child mortality (Sonneveldt et al., 2013). An India-based study highlights regional differences in neonatal and under-five mortality; the study highlights how several districts are on track to achieve MDG-4 while several others remain far behind (Ram et al., 2013). Using birth cohorts from 5 countries, one study reiterates the importance of maternal height and linear growth of children and another multi-country study reaffirms the role of good complementary feeding for attained linear growth (Addo et al., 2013). Two studies focus on the political context and maternal health in India. One of these identifies consistent political priorities, policy entrepreneurship and strong public health system administration as factors that shape health policy and its implementation (Smith, 2014). The other study demonstrates that evidence of gravity of the problem, civil society engagement, media, and a supportive policy environment helped maternal health emerge as a policy priority in Madhya Pradesh (Jat et al., 2013).

We wish you happy reading, and send you our warmest greetings as we move towards the new year.

Warm regards,

Dr. Rasmi Avula

About the POSHAN Abstract Digest:
In each issue, the POSHAN Abstract Digest brings to your fingertips some of the new and noteworthy studies on maternal and child nutrition. It focuses on India-specific studies and also brings to you other relevant global or regional literature with broader implications for maternal and child nutrition. The Abstract Digest is based on literature searches to identify selected studies that we think are most relevant to nutrition issues in India and to Indian programs and policies. We share with you a collection of abstracts from articles published in peer-reviewed journals; as well as selected non peer-reviewed articles by researchers in reputed academic and/or research institutions and which demonstrated rigor in their research objectives, methodology, and analysis. The abstracts in this document are reproduced in their original form from their source, and without editorial commentary about specific articles.

About POSHAN
POSHAN (*Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India*) is a 4-year initiative which aims to build evidence on effective actions for nutrition and support the use of evidence in decision-making. It is supported by the Bill & Melinda Gates Foundation and led by IFPRI in India.

IDS Institute of Development Studies

PUBLIC HEALTH FOUNDATION OF INDIA

The Institute for Development Studies, Sussex is a POSHAN partner who bring global expertise in mobilizing knowledge for development.

The Health Communication Division at the Public Health Foundation of India is a POSHAN partner who brings national level communications and advocacy experience in India.

PEER-REVIEWED LITERATURE

The changing nutrition scenario

The past seven decades have seen remarkable shifts in the nutritional scenario in India. Even up to the 1950s severe forms of malnutrition such as kwashiorkar and pellagra were endemic. As nutritionists were finding home-grown and common-sense solutions for these widespread problems, the population was burgeoning and food was scarce. The threat of widespread household food insecurity and chronic undernutrition was very real. Then came the Green Revolution. Shortages of food grains disappeared within less than a decade and India became self-sufficient in food grain production. But more insidious problems arising from this revolution were looming, and cropping patterns giving low priority to coarse grains and pulses, and monocropping led to depletion of soil nutrients and 'Green Revolution fatigue'. With improved household food security and better access to health care, clinical manifestations of severe malnutrition virtually disappeared. But the decline in chronic undernutrition and "hidden hunger" from micronutrient deficiencies was slow. On the cusp of the new century, an added factor appeared on the nutritional scene in India. With steady urban migration, upward mobility out of poverty, and an increasingly sedentary lifestyle because of improvements in technology and transport, obesity rates began to increase, resulting in a dual burden. Measured in terms of its performance in meeting its Millennium Development Goals, India has fallen short. Despite its continuing high levels of poverty and illiteracy, India has a huge demographic potential in the form of a young population. This advantage must be leveraged by investing in nutrition education, household access to nutritious diets, sanitary environment and a health-promoting lifestyle. This requires co-operation from all the stakeholders, including governments, non government organizations, scientists and the people at large.

Linking high parity and maternal and child mortality: what is the impact of lower health services coverage among higher order births?

Background: A number of data sets show that high parity births are associated with higher child mortality than low parity births. The reasons for this relationship are not clear. In this paper we investigate whether high parity is associated with lower coverage of key health interventions that might lead to increased mortality. **Methods**: We used DHS data from 10 high fertility countries to examine the relationship between parity and coverage for 8 child health intervention and 9 maternal health interventions. We also used the LiST model to estimate the effect on maternal and child mortality of the lower coverage associated with high parity births. **Results**: Our results show a significant relationship between coverage of maternal and child health services and birth order, even when controlling for poverty. The association between coverage and parity for maternal health interventions was more consistently significant across countries all countries, while for child health interventions there were fewer overall significant relationships and more variation both between and within countries. The differences in coverage between children of parity 3 and those of parity 6 are large enough to account for a 12% difference in the under-five mortality rate and a 22% difference in maternal mortality ratio in the countries studied. **Conclusions**: This study shows that coverage of key health interventions is lower for high parity children and the pattern is consistent across countries. This could be a partial explanation for the higher mortality rates associated with high parity. Actions to address this gap could help reduce the higher mortality experienced by high parity birth.

Neonatal, 1–59 month, and under-5 mortality in 597 Indian districts, 2001 to 2012: estimates from national demographic and mortality surveys

Background: India has the largest number of child deaths of any country in the world, and has wide local variation in under-5 mortality. Worldwide achievement of the UN 2015 Millennium Development Goal for under-5 mortality (MDG 4) will depend on progress in the subregions of India. We aimed to estimate neonatal, 1–59 months, and overall under-5 mortality by sex for 597 Indian districts and to assess whether India is on track to achieve MDG 4. **Methods**: We divided the 2012 UN sex-specific birth and mortality totals for India into state totals using relative birth rates and mortality from recent demographic surveys of 24 million people, and divided state totals into totals for the 597 districts using 3 million birth histories. We then

split the results into neonatal mortality and 1–59 month mortality using data for 109 000 deaths in children younger than 5 years from six national surveys. We compared results with the 2001 census for each district. **Findings**: Under-5 mortality fell at a mean rate of 3·7% (IQR 3·2–4·9) per year between 2001 and 2012. 222 (37%) of 597 districts are on track to achieve the MDG 4 of 38 deaths in children younger than 5 years per 1000 livebirths by 2015, but an equal number (222 [37%]) will achieve MDG 4 only after 2020. These 222 lagging districts are home to 41% of India's livebirths and 56% of all deaths in children younger than 5 years. More districts lag behind the relevant goal for neonatal mortality (251 [42%]) than for 1–59 month mortality (197 [33%]). Just 81 (14%) districts account for 37% of deaths in children younger than 5 years nationally. Female mortality at ages 1–59 months exceeded male mortality by 25% in 303 districts in nearly all states of India, totaling about 74 000 excess deaths in girls. **Interpretation**: At current rates of progress, MDG 4 will be met by India around 2020—by the richer states around 2015 and by the poorer states around 2023. Accelerated progress to reduce mortality during the neonatal period and at ages 1–59 months is needed in most Indian districts.

Maternal height and child growth patterns from birth to adulthood

Addo, OY, Stein, AD, Fall, CH, Gigante, DP, Guntupalli, AM, Horta, BL et al. Journal of Pediatrics, 163(2): 549–554, 2013.

http://www.jpeds.com/article/S0022-3476(13)00145-5/abstract

Objective: To examine associations between maternal height and child growth during 4 developmental periods: intrauterine, birth to age 2 years, age 2 years to mid-childhood (MC), and MC to adulthood. **Study design**: Pooled analysis of maternal height and offspring growth using 7630 mother–child pairs from 5 birth cohorts (Brazil, Guatemala, India, the Philippines, and South Africa). We used conditional height measures that control for collinearity in height across periods. We estimated associations between maternal height and offspring growth using multivariate regression models adjusted for household income, child sex, birth order, and study site. **Results**: Maternal height was associated with birth weight and with both height and conditional height at each age examined. The strongest associations with conditional heights were for adulthood and 2 years of age. A 1-cm increase in maternal height predicted a 0.024 (95% CI: 0.021-0.028) SD increase in offspring birth weight, a 0.037 (95% CI: 0.033-0.040) SD increase in conditional height at 2 years, a 0.025 (95% CI: 0.021-0.029 SD increase in conditional height in MC, and a 0.044 (95% CI: 0.040-0.048) SD increase in conditional height in adulthood. Short mothers (<150.1 cm) were more likely to have a child who was stunted at 2 years (prevalence ratio = 3.20 (95% CI: 2.80-3.60) and as an adult (prevalence ratio = 4.74, (95% CI: 4.13-5.44). There was no evidence of heterogeneity by site or sex. **Conclusion:** Maternal height influences offspring linear growth over the growing period. These influences likely include genetic and non-genetic factors, including nutrition-related intergenerational influences on growth that prevent the attainment of genetic height potential in low- and middle-income countries.

Open defecation and childhood stunting in India: an ecological analysis of new data from 112 districts

Spears, D, Ghosh, A, Cumming, O. PLOSOne, 8(9): e73784, 2013.

http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0073784&representation=PDF

Poor sanitation remains a major public health concern linked to several important health outcomes; emerging evidence indicates a link to childhood stunting. In India over half of the population defecates in the open; the prevalence of stunting remains very high. Recently published data on levels of stunting in 112 districts of India provide an opportunity to explore the relationship between levels of open defecation and stunting within this population. We conducted an ecological regression analysis to assess the association between the prevalence of open defecation and stunting after adjustment for potential confounding factors. Data from the 2011 HUNGaMA survey was used for the outcome of interest, stunting; data from the 2011 Indian Census for the same districts was used for the exposure of interest, open defecation. After adjustment for various potential confounding factors – including socio-economic status, maternal education and calorie availability – a 10 percent increase in open defecation was associated with a 0.7 percentage point increase in both stunting and severe stunting. Differences in open defecation can statistically account for 35 to 55 percent of the average difference in stunting between districts identified as low-performing and high-performing in the HUNGaMA data. In addition, using a Monte Carlo simulation, we explored the effect on statistical power of the common practice of dichotomizing continuous height data into binary stunting indicators. Our simulation showed that dichotomization of height sacrifices statistical power, suggesting that our estimate of the association between open defecation and stunting may be a lower bound. Whilst our analysis is ecological and therefore vulnerable to residual confounding, these findings use the most recently collected large-scale data from India to add to a growing body of suggestive evidence for an effect of poor sanitation on human growth. New intervention studies, currently underway, may shed more light on this important issue.

Complementary feeding and attained linear growth among 6–23-month-old children

Objective: To examine the association between complementary feeding indicators and attained linear growth at 6–23 months. **Design:** Secondary analysis of Phase V Demographic and Health Surveys data (2003–2008).Country-specific ANOVA models were used to estimate effects of three complementary feeding indicators (minimum meal frequency, minimum dietary diversity and minimum adequate diet) on length-for-age, adjusted for covariates and interactions of interest. **Setting**: Twenty-one countries (four Asian, twelve African, four from the Americas and one European). **Subjects Sample**: sizes ranging from 608 to 13 676. **Results**: Less than half the countries met minimum meal frequency and minimum dietary diversity, and only Peru had a majority of the sample receiving a minimum adequate diet. Minimum dietary diversity was the indicator most consistently associated with attained length, having significant positive effect estimates (ranging from 0·16 to 1·40 for length-for-age Z-score) in twelve out of twenty-one countries. Length-for-age declined with age in all countries, and the greatest declines in its Z-score were seen in countries (Niger, −1·9; Mali, −1·6; Democratic Republic of Congo, −1·4; Ethiopia, −1·3) where dietary diversity was persistently low or increased very little with age. **Conclusions** There is growing recognition that poor complementary feeding contributes to the characteristic negative growth trends observed in developing countries and therefore needs focused attention and its own tailored interventions. Dietary diversity has the potential to improve linear growth. Using four food groups to define minimum dietary diversity appears to capture enough information in a simplified, standard format for multi-country comparisons of the quality of complementary diets.

The challenge of meeting nutrient needs of infants and young children during the period of complementary feeding: An evolutionary perspective

Breast-fed infants and young children need complementary foods with a very high nutrient density (particularly for iron and zinc), especially at ages 6–12 mo. However, in low-income countries, their diet is usually dominated by cereal-based porridges with low nutrient density and poor mineral bioavailability. Complementary feeding diets typically fall short in iron and zinc and sometimes in other nutrients. These gaps in nutritional adequacy of infant diets have likely been a characteristic of human diets since the agricultural revolution; 10,000 y ago. Estimates of nutrient intakes before then, based on hypothetical diets of pre agricultural humans, suggest that infants had much higher intakes of key nutrients than is true today and would have been able to meet their nutrient needs from the combination of breast milk and pre masticated foods provided by their mothers. Strategies for achieving adequate nutrition for infants and young children in modern times must address the challenge of meeting nutrient needs from largely cereal-based diets.

Integrated program achieves good survival but moderate recovery rates among children with severe acute malnutrition in India

Background: At any point in time, an average 8 million Indian children suffer from severe acute malnutrition (SAM). **Objective**: This article assesses the effectiveness of an integrated model for the management of SAM (IM-SAM) in India comprising facility- and community-based care and using locally adapted protocols. **Design**: Children (n = 2740) were randomly sampled from the 44,017 children aged 6–59 mo admitted to 199 Nutrition Rehabilitation Centers in the state of Madhya Pradesh (1 January to 31 December 2010). **Results**: On admission, 2.2% of children had edema, 23.4% had medical complications, 56% were girls, 79% were in the age group 6–23 mo, and 64% belonged to scheduled tribe or scheduled caste families. Fifty-six children (2.0%) with severe congenital or pathological conditions were transferred to the district hospital. Of the 2684 program exits, 10 children (0.4%) died, 860 (32.0%) did not complete treatment (defaulted), and 1814 (67.6%) were discharged after a mean (±SD) stay of 75.8 ± 9.4 d. The mean weight gain among discharged children was 2.7 ± 1.9 g · kg body wt−1 · d−1; on discharge, 1179 (65%) of the children had recovered (weight gain ≥15% of initial weight). Conclusions: The survival rates in the IM-SAM program were very high. However, the moderate recovery rates documented seem to indicate that the protocols currently in use need to be improved.

Management of children with severe acute malnutrition in India: experience of nutrition rehabilitation centres in Uttar Pradesh, India

Objective: To assess the effectiveness of facility-based care for children with severe acute malnutrition (SAM) in Nutrition Rehabilitation Centers (NRCs). **Design**: Review of data for evaluation of effectiveness of program. **Setting**: 12 NRCs in Uttar Pradesh, India. **Participants**: Children admitted to NRCs (Jan 1, 2010 - Dec 31, 2011). **Intervention**: Detection and treatment of SAM with locally-adapted protocols. **Outcomes**: Survival, default, discharge, and recovery rates. **Results**: 54.6% of total the 1,229 children admitted were boys, 81.6% were in the age group 6-23 months old, 86% belonged to scheduled tribes, scheduled castes, or other backward castes, and 42% had edema or medical complications. Of the 1,181 program exits, 14 (1.2%) children died 657 (47.2%) children defaulted, and 610 (51.7%) children were discharged. The average (SD) weight gain was 12.1 (7.3) g/kg body weight/day and the average (SD) length of stay was 13.2 (5.6) days. 206 (46.8%) children were discharged after recovery (weight gain ≥15%) while 324 (53.2%) were discharged, non-recovered (weight gain < 15%) **Conclusions**: NRCs provide live-saving care for children with SAM; however, the protocols and therapeutic foods currently used need to be improved to ensure the full recovery of all children admitted.

Community based maternal and child health nutrition project, Uttar Pradesh: An innovative strategy focusing on "at risk" families

Research Question: Use of community based volunteers, frequently reaching and counseling a selected group of prioritized families, can make a substantial difference in improving maternal and child care practices and in reducing child undernutrition. **Setting**: Program Rural Uttar Pradesh, India. **Study Design**: A comparison of baseline and endline surveys following 4 years of community based project intervention. **Participants**: "At risk" undernutrition families comprising mothers of under twos, newlyweds, and severely undernourished children below 6 years. **Intervention**: Mapping and counseling of "at risk" families. Measuring impact on maternal-child care practices, underweight status. **Results**: Trained community mobilizers identified and counseled selected "at risk" families. Following 4 years of implementation in 907 villages of 8 blocks of four districts, significant improvement was noted in practices of early initiation of breastfeeding, feeding colostrum, timely introduction of complementary feeding, and washing the hands after defecation. Percentage of mothers exclusively breastfeeding at 6 months was only 2.1% with 78% receiving prelacteal feeds. A small increase in normal and mild malnutrition and a significant reduction of 43% in severe malnutrition was noted. **Conclusion**: Frequently counseling by accredited social health activists by focusing on selected defined "at risk" families of under twos and those with severe malnourished children could result in increasing acceptability of correct child health, feeding, and care practices and in contributing to improving nutritional status scenario.

Iodine deficiency disorders (IDD) control in India

Iodine deficiency disorders (IDD) constitute the single largest cause of preventable brain damage worldwide. Majority of consequences of IDD are invisible and irreversible but at the same time these are preventable. In India, the entire population is prone to IDD due to deficiency of iodine in the soil of the subcontinent and consequently the food derived from it. To combat the risk of IDD, salt is fortified with iodine. However, an estimated 350 million people do not consume adequately iodized salt and, therefore, are at risk for IDD. Of the 325 districts surveyed in India so far, 263 are IDD-endemic. The current household level iodized salt coverage in India is 91 per cent with 71 per cent households consuming adequately iodized salt. The IDD control goal in India was to reduce the prevalence of IDD below 10 per cent in the entire country by 2012. What is required is a "mission approach" with greater coordination amongst all stakeholders of IDD control efforts in India. Mainstreaming of IDD control in policy making, devising State specific action plans to control IDD, strict implementation of Food Safety and Standards (FSS) Act, 2006, addressing inequities in iodized salt coverage (rural-urban, socio-economic), providing iodized salt in Public Distribution System, strengthening monitoring and evaluation of IDD programme and ensuring sustainability of IDD control activities are essential to achieve sustainable elimination of IDD in India.

Massive dose Vitamin A programme in India - need for a targeted approach

The National Prophylaxis Programme against Nutritional Blindness due to vitamin A deficiency (NPPNB due to VAD) was started in 1970 with the specific aim of preventing nutritional blindness due to keratomalacia. The Programme was launched as an urgent remedial measure to combat the unacceptably high magnitude of xerophthalmic blindness in the country seen in the 1950s and 1960s. Clinical VAD has declined drastically during the last 40 years. Also, indicators of child health have shown substantial gains in different States in the country. The prevalence of severe undernutrition has come down significantly. Immunization coverage for measles and other vaccine preventable diseases has improved from 5-7 per cent in early seventies to currently 60-90 per cent, in different States. Similarly, there has been a significant improvement in the overall dietary intake of young children. There has been virtual disappearance of keratomalacia, and a sharp decline in the prevalence of Bitot spots. Prophylactic mega dose administration of vitamin A is primarily advocated because of the claim of 23 per cent reduction in childhood mortality. However, benefits on this scale have been found only in areas with rudimentary health care facilities where clinical deficiency is common, and there is substantial heterogeneity, especially with inclusion of all trials. There is an urgent need for adopting a targeted rather than universal prophylactic mega dose vitamin A supplementation in preschool children. This approach is justified on the basis of currently available evidence documenting a substantial decline in VAD prevalence, substantial heterogeneity and uncertainty about mortality effects in present era with improved health care, and resource constraints with competing priorities.

Effect of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) on malnutrition of infants in Rajasthan, India: a mixed methods study

Objectives: Analyse the effect of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), a wage-for employment policy of the Indian Government, on infant malnutrition and delineate the pathways through which MGNREGA affects infant malnutrition. **Hypothesis**: MGNREGA could reduce infant malnutrition through positive effects on household food security and infant feeding. **Method**: Mixed methods using cross-sectional study and focus group discussions conducted in Dungarpur district, Rajasthan, India. **Participants**: Infants aged 1 to, 12 months and their mothers/caregivers. Final sample 528 households with 1056 participants, response rate 89.6%. Selected households were divided into MGNREGA households and non-MGNREGA-households based on participation in MGNREGA between August-2010 and September-2011. **Outcomes**: Infant malnutrition measured using anthropometric indicators - underweight, stunting, and wasting (WHO criteria). **Results**: We included 528 households with 1,056 participants. Out of 528, 281 households took part in MGNREGA between August'10, and September'11. Prevalence of wasting was 39%, stunting 24%, and underweight 50%. Households participating in MGNREGA were less likely to have wasted infants (OR 0.57, 95% CI 0.37–0?89, p = 0.014) and less likely to have underweight infants (OR 0.48, 95% CI 0.30–0.76, p = 0.002) than non-participating households. Stunting did not differ significantly between groups. We did 11 focus group discussions with 62 mothers. Although MGNREGA reduced starvation, it did not provide the desired benefits because of lower than standard wages and delayed payments. Results from path analysis did not support existence of an effect through household food security and infant feeding, but suggested a pathway of effect through low birth-weight. **Conclusion**: Participation in MGNREGA was associated with reduced infant malnutrition possibly mediated indirectly via improved birth-weight rather than by improved infant feeding. Addressing factors such as lack of mothers' knowledge and inappropriate feeding practices, over and above the social and economic policies, is key in efforts to reduce infant malnutrition.

Political contexts and maternal health policy: insights from a comparison of south Indian states

Nearly 300,000 women die from pregnancy-related complications each year. One-fifth of these deaths occur in India. Maternal survival rose on India's national policy agenda in the mid-2000s, but responsibility for health policy and implementation in the federal system is largely devolved to the state level where priority for the issue and maternal health outcomes vary. This study investigates sources of variation in maternal health policy and implementation sub-nationally in India. The study is guided by four analytical categories drawn from policy process literature: constitutional, governing and social structures; political contexts; actors and ideas. The experiences of two south Indian states—Tamil Nadu a leader and Karnataka a relatively slow mover—are examined. Process-tracing, a case study methodology that helps to identify roles of

complex historical events in causal processes was employed to investigate the research question in each state. The study is informed by interviews with public health policy experts and service delivery professionals, observation of implementation sites and archival document analysis. Historical legacies—Tamil Nadu's non-Brahmin social movement and Karnataka's developmental disparities combined with decentralization—shape the states' political contexts, affecting variation in maternal health policy and implementation. Competition to advance consistent political priorities across regimes in Tamil Nadu offers fertile ground for policy entrepreneurship and strong public health system administration facilitates progress. Inconsistent political priorities and relatively weak public health system administration frustrate progress in Karnataka. These variations offer insights to the ways in which sub-national political and administrative contexts shape health policy and implementation.

The emergence of maternal health as a political priority in Madhya Pradesh, India: a qualitative study

Jat, TR, Deo, PR, Goicolea, I, Hurtig, AK, Sebastian, MS. BMC Pregnancy and Child Birth, 13:181, 2013.

http://www.biomedcentral.com/content/pdf/1471-2393-13-181.pdf

Background: Politics plays a critical role in agenda setting in health affairs; therefore, understanding the priorities of the political agenda in health is very important. The political priority for safe motherhood has been investigated at the national level in different countries. The objective of this study was to explore why and how maternal health became a political priority at sub-national level in the state of Madhya Pradesh in India. **Methods**: This study followed a qualitative design. Data were collected by carrying out interviews and review of documents. Semi-structured interviews were carried out with twenty respondents from four stakeholder groups: government officials, development partners, civil society and academics. Data analysis was performed using thematic analysis. The analysis was guided by Kingdon's multiple streams model. **Results**: The emergence of maternal health as a political priority in Madhya Pradesh was the result of convergence in the developments in different streams: the development of problem definition, policy generation and political change. The factors which influenced this process were: emerging evidence of the high magnitude of maternal mortality, civil society's positioning of maternal mortality as a human rights violation, increasing media coverage, supportive policy environment and launch of the National Rural Health Mission (NRHM), the availability of effective policy solutions, India's aspiration of global leadership, international influence, maternal mortality becoming a hot debate topic and political transition at the national and state levels. Most of these factors first became important at national level which then cascaded to the state level. Currently, there is a supportive policy environment in the state for maternal health backed by greater political will and increased resources. However, malnutrition and population stabilization are the competing priorities which may push maternal health off the agenda. **Conclusions**: The influence of the events and factors evolving from international and national levels significantly contributed to the development of maternal health as a priority in Madhya Pradesh. This led to several opportunities in terms of policies, guidelines and programmes for improving maternal health. These efforts were successful to some extent in improving maternal health in the state but several implementation challenges still require special attention.

Eliciting a policy response for the rising epidemic of overweight-obesity in India

Khandelwal, S, Reddy, K.S. Obesity Reviews, 14 (suppl. 2), 114-125, 2013.

http://onlinelibrary.wiley.com/doi/10.1111/obr.12097/pdf

India is experiencing multiple transitions with respect to nutrition patterns, epidemiology and demography. Along with staggering childhood undernutrition, a rapid rise in chronic diseases and their risk factors including overweight-obesity (O-O), among all sections of society, is compounding India's health challenges. We present an overview of the O-O scenario (prevalence, determinants) and profile existing initiatives to address this modifiable risk factor in India. Urgent attention from all sectors, committed resources, policy support and targeted actions are warranted to combat the dual burden of malnutrition. The health systems should be reoriented and strengthened, in addition to enabling actions in other sectors, to address prevention and control of non-communicable diseases and associated risk factors like O-O.

Food security in Asia: recent experiences, issues and challenges

Jayasuriya, S, Mudbhary, P, Broca, S. Economic Papers: A journal of applied economics and policy, 32(3): 275-288, 2013.

http://onlinelibrary.wiley.com/doi/10.1111/1759-3441.12051/pdf

After the sharp food price increases of 2007–2008 food security has once again become a major issue of global concern. When that food price spike was followed by the global financial crisis of 2008, a large increase in the number of food insecure people in Asia was widely expected. But Asian countries managed to avoid such a sharp increase in food insecurity, even though sharp price spikes have recurred since then. In this paper we show how government policy measures largely insulated consumers from severe price increases and maintained food security, but note that this success came at a price. In particular, the global food trading system was weakened, producer incentives were further distorted, and policies that may impose high long-term efficiency costs became more deeply entrenched. Major policy challenges need to

be addressed to ensure Asia's food security over the coming decades.

Cost of implementing the National Food Security Act

Sinha, D. Economic and Political Weekly, vol XLVIII (39), 2013

http://www.righttofoodindia.org/data/right_to_food_act_data/Cost_of_Implementing_the_National_Food_Security_Act.pdf

A number of independent estimates have been made of the cost of implementation of the National Food Security Bill, now an Act. However, these estimates are either based on wrong assumptions or work with numbers that are not in the public domain. The one thing that most of them share is an attempt to demonstrate that the costs will be unaffordable.

NON PEER-REVIEWED LITERATURE

Strategies for ensuring adequate nutrient intake for infants and young children during the period of complementary feeding

Dewey, KG, Vitta, BS. A&T Technical Brief, Issue 7, November 2013

http://aliveandthrive.org/sites/default/files/Insight%20Issue%207_Ensuring%20Adequate%20Nutrition.pdf

This issue examines why infants require a much higher quality diet than other members of the household, identifies nutrient gaps in typical complementary food diets, and describes strategies for achieving adequate nutrient intake among children 6-24 months old.

Has democracy reduced inequalities in child mortality? An analysis of 5 million births from 50 developing countries since 1970

Ramos, AP. Departments of Political Science and Statistics, 2013.

https://scholar.ucla.edu/antonio-ramos/files/antonio_pedro_ramos_job_paper.pdf

This paper offers the first large scale analysis of the effects of democratization on the rich poor gap in child mortality across the developing world. Theories predict that democratic institutions should help those at the bottom of the income distribution more than those at the top. Yet, previous cross-national studies on democracy and child mortality have not focused on the rich-poor gap in health outcomes. Using an unique data set with more than 5 million birth records from 50 middle and low income countries, this study is the first one to test whether those at the bottom of the income distribution benefit more from the democratic transitions than those at the top. Although the rich and poor gap in child mortality is reducing over time, this change does not seem to be driven by regime type. Yet, there is remarkable heterogeneity on the effects of democratization on health that deserves further investigation.

Rural poverty and the public distribution system

Drèze, J, Khera, R. Centre for Development Economics, Working Paper No. 235, 2013.

http://www.cdedse.org/pdf/work235.pdf

We present estimates of the impact of India's Public Distribution System on rural poverty, using National Sample Survey data for 2009-10 and official poverty lines. At the all-India level, the PDS is estimated to reduce the poverty-gap index of rural poverty by 18 to 22 per cent. The corresponding figures are much larger for states with a well-functioning PDS, e.g. 61 to 83 per cent in Tamil Nadu and 39 to 57 per cent in Chhattisgarh.

Does the community SES modify the household-level effects on child malnutrition in the Empowered Action Group (EAG) states of India?

Srivastava, A. International Institute for Population Sciences, 2013.

http://www.iussp.org/sites/default/files/event_call_for_papers/malnutrition_IUSSP_2013.pdf

Despite sustained economic growth, reduction in money metric poverty and introduction of innovative health programmes in last two decades, the reduction in child malnutrition has been sluggish in India. By 2005-06, about half of the children

continued to be malnourished with large variation across states. Though empirical research has established the household wealth and maternal characteristics as significant predictors of child malnutrition, little is known about the role of community and parental attributes in explaining child malnutrition in India. The aim of this paper is to examine the role of community and household factors in explaining malnutrition among children under five in the Empowered Action Group (EAG) states of India. The eight EAG states constitute about half of India's population and lag behind in key demographic and socioeconomic indicators. The unit data from National Family Health Survey (NFHS) 3 is used in the analyses. Bivariate analyses, concentration curves and multilevel models are used to understand the patterning and contextual effects of child malnutrition in the EAG states. The dependent variables, weight-for-age, height-for-age and weight-for-height are analysed with respect to three composite indices; community socioeconomic status (SES), household wealth and household social status. Results indicate that in EAG states half of children in poor communities and households were underweight, stunted and one fourth were wasted. The prevalence of underweight is higher among children belonging to poor households that are located in poor communities rather than those located in rich communities. The multilevel results indicate that controlling for individual characteristics community SES, household wealth and household social status were significant predictors in determining child malnutrition. The cross level interaction between community SES and household social status was significant in EAG states but not in the non EAG states. This implies that the community infrastructure and accessibility to basic health services can play a significant role in reducing child malnutrition in EAG states of India.

Performance of village health, nutrition and sanitation committee: A qualitative study from rural Wardha, Maharashtra

http://www.healthagenda.net/wp-content/uploads/2013/09/Performance-of-village-health-nutrition-and-sanitation-committee-A-qualitative-study-from-rural-Wardha-Maharashtra1.pdf

Background: The NRHM framework supports decentralized planning and monitoring up to the grass root level. Therefore, it was decided to entrust village level committees of the users group for the planning, monitoring and implementation of NRHM activities into villages of the country. **Objectives**: To study awareness regarding constitution and responsibilities among the VHNSC members; to study the current role of VHNSC in healthcare delivery at village level and preparation of village health action plan; and to understand the composition and process within VHNSC during conduct of a meeting, decision-making, resource management and conflict resolution. **Methodology**: Qualitative research methods (focus group discussion and in-depth interview) were conducted with VHNSC members during January to April 2011. The study was conducted in the selected villages of five sub-centres of PHC Anji, Wardha district of Maharashtra state. In each sub-centre, two villages were identified; one sub-centre village and another village purposively selected from among rest of the villages where the VHNSC was constituted and functional. Data was analyzed manually and transcripts were prepared using thematic analysis framework. **Results**: Awareness about VHNSC, its roles and responsibilities was highest among ANMs and AWWs. Awareness about objectives of VHNSC was highest among ANMs followed by AWWs, and least among panchayat members, ASHAs and SHG members. Most of the members were unaware of their roles and responsibilities and admitted to having received no formal training, before being made members of these committees. Regarding use of fund, majority of the VHNSC members were unaware about the areas where the funds were utilized. Most of VHNSC members said that either president or secretary decided about use of the funds without consulting other members. **Conclusion**: Capacity-building program of VHNSC members regarding rationale of VHNSC and its role in healthcare delivery should be considered towards better performance of NRHM.

Baseline Findings from the Ananya Evaluation

http://www.mathematica-mpr.com/publications/pdfs/international/ananya_baseline.pdf

The Ananya program (ananya is a Sanskrit word meaning "unique" or "unlike others") was created by the Bill & Melinda Gates Foundation (the foundation) to address some of the important family health challenges in Bihar, one of India's most populous and poorest states. Ananya started as a five-year program (2011–2015) with the long-term goals of reducing maternal, newborn, and child mortality, fertility, and undernutrition rates in Bihar. o achieve these goals, the foundation is funding a synergistic set of complementary grants focused on improving the reach, coverage, and quality of family health services in two main areas: (1) essential reproductive, maternal, newborn, and child health services and (2) diagnosis and treatment of infectious diseases, including pneumonia, diarrhea, tuberculosis, and visceral leishmaniasis. Since its inception, the program has also expanded to include additional interventions that focus on improving sanitation in Bihar and on strengthening the system for health payments, including health-related incentives for households and incentives and payments for frontline health workers.

Is community-based treatment of Severe Acute Malnutrition (SAM) at scale capable of meeting global needs?

Guerrero, S, Rogers, E. Access for All, Volume (1), 2013.
http://www.unicef.org/videoaudio/PDFs/Access_for_All_(Volume_1).pdf

In little over four decades, SAM treatment has gone from a small-scale clinical endeavour to a global public health service reaching over two million cases a year. Much of this scale-up has occurred in the last decade following the introduction of community-based SAM treatment approaches. Since the rapid-scale up of such community-based approaches, however, there have been few overarching reviews of their performance over time. This report, the first in a three part series, offers a comparative assessment of the performance and effectiveness of the model during two distinct periods of its development: from 2001-2006 when the majority of community-based treatment projects were implemented by NGOs; and from 2007-2013 when many community-based treatment programmes were integrated by ministries of health into regular health services. For each period, three components of the community-based treatment model are assessed: the capacity of treatment services to successfully cure SAM cases, their capacity to reach the highest proportion of the affected population (coverage) and their cost-effectiveness.

UPCOMING EVENTS

Distance Learning Course on "Managing Human Resources for Health"

Public Health Foundation of India (PHFI) and its constituent Indian Institutes of Public Health (IIPHs) have announced a call for applications for a Certificate Course in "Managing Human Resources for Health in India: Improving Human Resource Management in the Health Workforce". This course is being launched as part of People for Health: Advancing Human Resources for Health in India, an initiative supported by the European Union under its "Investing in People" thematic programme for development co-operation.

When: Twelve Weeks (part-time) beginning January 2014

For more information: http://www.phfi.org/our-activities/academic-programmes/distance-learning-courses/1136