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1. **CHILD HEALTH CARE**

1. Insecurities of 'Roaming Working Children' Case Study of Kolkata. *Anwesha Paul (Das).* *Economic & Political Weekly. Vol. 49. Issue 1, 2014;*

An exploratory study of children who live on the street without any contact with their families or those who are "roaming working children" looks at the relationships that these children share with the people around them and the insecurities in these relationships. The children develop "friendships" with complete strangers which influence their lifestyles and decision-making processes. Interestingly, they are more comfortable seeking the protection of drug dealers and family members who live on the street than of the police and NGO workers.

**Keywords**: Working children; Insecurities


The segment of the life span that extends from the age of 6-12 years is referred to as school age. Children in the age group of 0-15 years constitute 40% of the total population that is nearly about 700 million children. 6-12 year of children contribute around 25% of the population. These children are vulnerable to get infections and need to be protected, cared for and educated.

**Keywords**: Mother’s knowledge; Child health care; KAP survey


Pregnancy is a unique experience in every woman’s life. The thought of a growing foetus in the mother’s womb indeed is nature’s way of expressing the attributes of the motherhood. With emphasis on “one child family norms”, it is all the more necessary that each wanted conception should successfully end in the birth of a viable healthy baby. Although pregnancy is a physiological condition, every pregnancy is at risk as the woman who is in the course of otherwise normal pregnancy may develop unexplained severe complication. High risk varies in degree from gravid to gravid at any stage of pregnancy. All pregnancies or deliveries are potentially at risk.
There are some factors that can be present before a woman becomes pregnant; these can cause a high risk pregnancy. Risk factors for a high risk pregnancy can include young or old maternal age, being overweight or under weight, having had problems in previous pregnancies and pre-existing health condition such as high blood pressure diabetes or HIV.

**Keywords:** Pregnancy; Reproductive child health;

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A study to assess knowledge, attitude and practices towards prevention of acute respiratory tract infections among the mothers of under-five children. Acute respiratory tract infection (ARI) in children, less than five year old, is the leading cause of childhood mortality in the world. WHO has estimated that the annual number of ARI related deaths in this age group was 2.1 million, accounting for about 20% of all childhood deaths.

**Keywords:** ARI; Child health care; Infections; Children-under five year

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Birth and immediate postpartum period pose many challenges for the newborn. The neonatal mortality rates are high in India, whereas the breastfeeding rates are still low. Hence, need exists for a simple and easily applicable intervention, which may counter these challenges. The present study was undertaken to evaluate the effects of very early skin-to-skin contact (SSC), in term babies with their mothers, on success of breastfeeding and neonatal well-being. Randomized control trial conducted over 2 years’ period in a tertiary care hospital. Healthy babies delivered
normally were included. Very early SSC between mothers and their newborns was initiated in the study group. We studied effective suckling (using modified infant breastfeeding assessment tool [IBFAT]), breastfeeding status at 6 weeks, maternal satisfaction, thermal regulation, baby’s weight and morbidity. T-test, Pearson Chi-square test and non-parametric Mann-Whitney test were used through relevant Windows SPSS software version 16.0. We observed that SSC contributed to better suckling competence as measured by IBFAT score ($P < 0.0001$). More babies in the SSC group were exclusively breastfed at first follow-up visit ($P = 0.002$) and at 6 weeks ($P < 0.0001$). SSC led to higher maternal satisfaction rates, better temperature gain in immediate post-partum period, lesser weight loss was at discharge and at first follow-up (all $P < 0.0001$) and lesser morbidity than the study group ($P = 0.006$). Very early SSC is an effective intervention that improves baby’s suckling competence, maternal satisfaction, breastfeeding rates and temperature control and weight patterns.

**Keywords:** Breastfeeding, Maternal satisfaction, Skin-to-skin contact, Temperature regulation


Considering the commitment and investment of Nepal to reduce maternal and child mortality, understanding service utilization and factors associated with a child and maternal health services is important. This study was examined the factors associated with utilization of maternal and child health services in Kapilvastu District of Nepal. A cross-sectional study was conducted in 2010 by interviewing 190 mothers having children of aged 12-23 months using the standardized questionnaire. Immunization status (97.4%) and vitamin A supplementation (98.4%) was high. However, initiation of breastfeeding within an hour of birth was low (45.3%) and 63.2% had practiced exclusive breastfeeding. Majority (69.5%) of respondents delivered their child at home and 39.5% sought assistance from health workers. The mothers who did not have any education, mothers from Dalit/Janjati and the Terai origin were less likely to deliver at the health facility and to seek the assistance of health workers during childbirth. The immunization program coverage was high, whereas maternal health service utilization remained poor. Interventions that focus on mothers from Dalit/Janjati group and with lower education are likely to increase utilization of maternal health services.
Keywords: Antenatal care, Breastfeeding, Cross sectional survey, Delivery services, Immunization, Vitamin A


Maternal mortality ratio (MMR) is an indicator of effectiveness of health care facilities for women of child bearing age group. Andaman and Nicobar (A&N) group of islands are unique as they are situated 1200 km from the mainland India. Healthcare delivery for the islands is exclusively provided and controlled by only one authority, Directorate of Health Services, A&N Islands. GB Pant Hospital, Port Blair is the only referral hospital with round the clock specialists and surgical services. To estimate the MMR in A&N islands from 2001 to 2010, and study the causes of maternal mortality. Data for the estimation of MMR were collected from office of Registrar of Births and Deaths, Hospital and Peripheral Health Centres. Case records of maternal deaths in GB Pant Hospital were reviewed to study the causes of death. Statistical analysis used: Proportions and Ratios. Results: Ten years average MMR for the entire island was 85.42. Analysis of 30 maternal deaths in GB Pant Hospital showed that 63.3% were due to direct obstetric causes (eclampsia 30%, hemorrhage 23.33%, sepsis 6.66%, and 3.33% amniotic fluid embolism). Of the indirect causes, anemia was the commonest (16.66%). Conclusions: The MMR of A&N islands is much lower than the national average of 250. Direct obstetric causes accounted for more than half of maternal deaths 63.33%.

Keywords: Maternal health, MMR, obstetrics deaths


Between 1997 and 2009, a number of key malaria control interventions were implemented in the Kilombero and Ulanga Districts in south central Tanzania to increase insecticide-treated nets (ITN) coverage and improve access to effective malaria treatment. In this study we estimated the contribution of these interventions to observed decreases
in child mortality. The local Health and Demographic Surveillance Site (HDSS) provided monthly estimates of child mortality rates (age 1 to 5 years) expressed as cases per 1000 person-years (c/1000py) between 1997 and 2009. We conducted a time series analysis of child mortality rates and explored the contribution of rainfall and household food security. We used Poisson regression with linear and segmented effects to explore the impact of malaria control interventions on mortality. Child mortality rates decreased by 42.5% from 14.6 c/1000py in 1997 to 8.4 c/1000py in 2009. Analyses revealed the complexity of child mortality patterns and a strong association with rainfall and food security. All malaria control interventions were associated with decreases in child mortality, accounting for the effect of rainfall and food security. Reaching the fourth Millennium Development Goal will require the contribution of many health interventions, as well as more general improvements in socio-environmental and nutritional conditions. Distinguishing between the effects of these multiple factors is difficult and represents a major challenge in assessing the effect of routine interventions. However, this study suggests that credible estimates can be obtained when high-quality data on the most important factors are available over a sufficiently long time period.

Key words: Malaria; child mortality; malaria control interventions; rainfall; food security; mortality impact


Data from West Africa indicate that a small thymus at birth and at 6 months of age is a strong and independent risk factor for infection-related mortality up to 24 and 36 months of age, respectively. We investigated the association between thymus size (thymic index, TI) in infancy and subsequent infant and child survival in a contemporary South Asian population. The study focused on the follow-up of a randomized trial of prenatal nutritional interventions in rural Bangladesh, with TI measured longitudinally in infancy (at birth and weeks 8, 24 and 52 of age) and accurate recording of mortality up to 5 years of age. A total of 3267 infants were born into the Maternal and Infant Nutrition Interventions, Matlab study; data on TI were available for 1168 infants at birth, increasing to 2094 infants by 52 weeks of age. TI in relation to body size was largest at birth, decreasing through infancy. For infants with at least one measure of TI available, there were a total of 99 deaths up to the age of 5 years. No association was observed between TI and subsequent mortality when TI was measured at birth. However, an association with mortality was observed with TI at 8 weeks of age [odds ratio (OR) for change in mortality risk associated with 1 standard deviation change in TI: all deaths: OR = 0.64, 95% confidence interval (CI) 0.41, 0.98; P = 0.038; and infection-related deaths
only: OR = 0.32, 95% CI 0.14, 0.74; \( P = 0.008 \). For TI when measured at 24 and 52 weeks of age, the numbers of infection-related deaths were too few (3 and 1, respectively) for any meaningful association to be observed. These results confirm that thymus size in early infancy predicts subsequent survival in a lower mortality setting than West Africa. The absence of an effect at birth and its appearance at 8 weeks of age suggests early postnatal influences such as breast milk trophic factors.

**Key words**: Immune function; nutrition; pregnancy; thymus

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While in the wake of the recent Food Security Act, considerable attention has been paid to the Distribution of food grains to large sections of the population at affordable prices, attention now needs to turn to policy interventions to improve child health and to preventing the transmission of ill health from the mother to her children.

**Keywords**: Child health ; India

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Violence against women may have an impact on infant and child mortality. We aimed to determine whether domestic violence is a risk factor for infant and child death. Eighty infant and child deaths (under 5 years of age) were identified from a central register of a comprehensive community health programme in rural southern India; controls were matched for age, gender and street of residence. Domestic violence during the lifetime (OR 2.63, 95% CI 1.39–4.99), which was severe (OR 4.00, 95% CI 2.02–7.94) and during pregnancy (OR 5.69, 95% CI 2.03–15. 93) and father's
smoking status (OR 3.81, 95% CI 1.92–7.55) were significantly related to infant and child death while immunization being completed for age (OR 0.04, 95% CI 0.01–0.19) and having at least one boy child in the family (OR 0.29, 95% CI 0.14–0.59) were protective. These variables remained statistically significantly associated with outcome after adjusting for other determinants using conditional logistic regression. There is evidence for an association between domestic violence in mothers, and infant and child death.

**Keywords:** Child mortality; Infant mortality; Domestic violence; India-southern

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Spine of the child has unique anatomy and growth potential to grow to adult size. Tuberculosis (TB) spine results in bone loss as well as disturbed growth potential, hence spinal deformities may progress as the child grows. The growth potential is also disturbed when the disease focus is surgically intervened. Surgery is indicated for complications such as deformity, neurological deficit, instability, huge abscess, diagnostic dilemma and in suspected drug resistance to mycobacterium tuberculosis. The child on antitubercular treatment needs to be periodically evaluated for weight gain and drug dosages need to be adjusted accordingly. The severe progressive kyphotic deformity should be surgically corrected. Mild to moderate cases should be followed up until maturity to observe progression/improvement of spinal deformity. The surgical correction of kyphotic deformity in active disease is less hazardous than in a healed kyphosis. The internal kyphectomy by extra pleural approach allows adequate removal of internal salient in paraplegic patients with healed kyphotic deformity.

**Key words:** Kyphus correction, pediatric tuberculosis, osteoarticular tuberculosis, tuberculosis of spine

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2. **DISEASES**

In recent decades, the overall incidence of respiratory diseases has grown manifold due to overcrowding and urbanization, high levels of pollution, tobacco smoking and the HIV epidemic. Up to one-third of patients, over the age of 5 years, attending primary health care (PHC) settings seek health care for respiratory problems1. Most of the patients present themselves with similar symptoms. Improper diagnosis, including TB, unnecessarily costly treatment prescriptions and inefficient referral of patients in the absence of clearly defined referral criteria have compromised on the quality of care. Antibiotics are prescribed for more than two-thirds of the patients with respiratory symptoms and in some settings > 85% (refs 2 and 3). There are no global management recommendations for patients aged 5 years and above with respiratory symptoms at any level of health infrastructure, with the exception of TB. Thus, standardization of case-management of respiratory diseases is needed to improve the quality and efficiency of respiratory care within PHC.

**Keywords:** Respiratory diseases; India; Health care services.

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One of the most significant challenges of modern bioinformatics is in the development of computational tools to understand and treat diseases like cancer. So far, a variety of methods have been explored for identifying candidate cancer genes. Since protein interactions carry out most biological processes, we propose an algorithm for identifying cancer genes from graph centrality values of the human protein–protein interaction network. The precision and accuracy of the results obtained while applying the method on actual protein–protein interaction data assert that it can be used as an effective model to identify novel cancer proteins.

**Keywords:** Biological networks; cancer gene identification; graph centrality; network characteristics; protein–protein interaction.

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Dengue fever has become a serious public health hazard as compared to malaria because of the speed with which it is spreading and the escalating seriousness of its complications. Dengue is an escalating public health problem in
different parts of India, especially in Kerala. In Kerala dengue incidence is high in Thiruvananthapuram, Thrissur, Kannur, Kottayam, Ernakulam, Malappuram and Kozikode.

**Keywords:** Dengue fever; Disease; Health care; Disease prevention.

16. **Diarrhoeal diseases and the global health agenda: measuring and changing priority.**


   We investigate priority setting and the global health agenda by analysing the control of diarrhoeal diseases (CDD). CDD was one of the ‘twin engines’ of the 1980s’ child survival movement, but now has a low priority on the global health agenda, even though diarrhoeal diseases still claim around 1.5 million children annually. In this article, we develop a framework and four indicators of priority to measure CDD’s overall prominence on the global health agenda over the last three decades: trends in treatment coverage, changes in perceived priority, changes in financial support and institutional involvement and bibliographic trends. We find that CDD’s priority is now one-sixth to one-third of its level in 1985. We then use political analysis to suggest strategies for reframing CDD as an issue and promoting its priority on the global health agenda.

   **Key words:** Priority setting; global health policy; diarrhoeal diseases


   According to Cancer Fact sheet Feb. 2009, cancer is currently the cause of 13% of all deaths worldwide, with an estimated 12 million deaths in 2030. There are numerous side effects of chemotherapy, among which most of the patients suffer from the common side effects such as loss of appetite, nausea, vomiting, mouth ulcers and throat sores, heartburn, fatigue, hair loss, constipation, diarrhea, numbness in hands and feet, dry skin and memory loss.

   **Keywords:** Chemotherapy; Cancer; Disease; Health care

Diabetes is growing at an alarming rate all over the world particularly in India. It is estimated that there are currently 25 million diabetic patients in India. WHO (World Health Organization) has projected that this number would increase to 4.4% by the year 2030.

Keywords: Diabetes; Disease; Health care


Investigate priority setting and the global health agenda by analysing the control of diarrhoeal diseases (CDD). CDD was one of the ‘twin engines’ of the 1980s’ child survival movement, but now has a low priority on the global health agenda, even though diarrhoeal diseases still claim around 1.5 million children annually. In this article, we develop a framework and four indicators of priority to measure CDD’s overall prominence on the global health agenda over the last three decades: trends in treatment coverage, changes in perceived priority, changes in financial support and institutional involvement and bibliographic trends. We find that CDD’s priority is now one-sixth to one-third of its level in 1985. We then use political analysis to suggest strategies for reframing CDD as an issue and promoting its priority on the global health agenda.

Key words: Priority setting; global health policy; diarrhoeal diseases


Breast and cervical cancers are two major cancers among Indian women. Analysis of trends would help in planning and organization of programs for control of these cancers. The objective of the following study is to compute risk of breast and cervical cancers using updated data from different cancer registries of India and study of its trends. Data on incidence rates of breast and cervical cancer were obtained from six major cancer registries of India for the years 1982-2008 and from the recently initiated cancer registries, North Eastern Registries of India with a total of 21
registries. Annual percent change in incidence and risk in terms of one in number of women likely to develop cancer was estimated for both the cancers in various registries. The annual percentage change in incidence ranged from 0.46 to 2.56 and −1.14 to −3.4 for breast and cervical cancers respectively. Trends were significant for both cancers in the registries of Chennai, Bangalore, Mumbai and Delhi except Barshi and Bhopal. North East region showed decrease in risk for breast and cervical cancers whereas increasing trend was observed in Imphal (West) and for cervical cancer in Silchar. North Eastern region recorded decline in the incidence of breast cancer which is contrary to the observation in other registries, which showed increase in breast cancer and decline in cervical cancer incidences.

**Keywords:** Breast cancer, Cancer in India, Cancer incidence, Cervical cancer

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This study uses data from the World Health Organization’s Study on Global Ageing and Adult Health (SAGE) to examine patterns of hypertension prevalence, awareness, treatment and control for people aged 50 years and over in China, Ghana, India, Mexico, the Russian Federation and South Africa. The SAGE sample comprises of 35 125 people aged 50 years and older, selected randomly. Hypertension was defined as ≥140 mmHg (systolic blood pressure) or ≥90 mmHg (diastolic blood pressure) or by currently taking antihypertensives. Control of hypertension was defined as blood pressure below 140/90 mmHg on treatment. A person was defined as aware if he/she was hypertensive and self-reported the condition. Prevalence rates in all countries are broadly comparable to those of developed countries (52.9%; range 32.3% in India to 77.9% in South Africa). Hypertension was associated with overweight/obesity and was more common in women, those in the lowest wealth quintile and in heavy alcohol consumers. Awareness was found to be low for all countries, albeit with substantial national variations (48.3%; range 23.3% in Ghana to 72.1% in the Russian Federation). This was also the case for control (10.2%; range 4.1% in Ghana to 14.1% India) and treatment efficacy (26.3%; range 17.4% in the Russian Federation to 55.2% in India). Awareness was associated with increasing age, being female and being overweight or obese. Effective control of hypertension was more likely in older people, women and in the richest quintile. Obesity was associated with poorer control. The high rates of hypertension in low- and middle-income countries are striking. Levels of treatment and
control are inadequate despite half those sampled being aware of their condition. Since cardiovascular disease is by far the largest cause of years of life lost in these settings, these findings emphasize the need for new approaches towards control of this major risk factor.

**Key words:** Hypertension; older people; risk factors; developing countries

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Ethnic health inequalities are substantial. One explanation relates to socioeconomic differences between groups. However, socioeconomic variables need to be comparable across ethnic groups as measures of socioeconomic position (SEP) and indicators of health outcomes. We linked self-reported SEP and ethnicity data on 4.65 million individuals from the 2001 Scottish Census to hospital admission and mortality data for cardiovascular disease (CVD). We examined the direction, strength and linearity of association between eight individual, household and area socioeconomic measures and CVD in 10 ethnic groups and the impact of SEP adjustment. There was wide socioeconomic variation between groups. All eight measures showed consistent, positive associations with CVD in White populations, as did educational qualification in non-White ethnic groups. For other SEP measures, associations tended to be consistent with those of White groups though there were one or two exceptions in each non-White group. Multiple SEP adjustment had little effect on relative risk of CVD for most groups. Where it did, the effect varied in direction and magnitude (for example increasing adjusted risk by 23% in Indian men but attenuating it by 11% among Pakistani women). Across groups, SEP measures were inconsistently associated with CVD hospitalization or death, with effect size and direction of effect after adjustment varying across ethnic groups. We recommend that researchers systematically explore the effect of their choice of SEP indicators, using standard multivariate methods where appropriate, to demonstrate their cross-ethnic group validity as potential confounding variables for the specific groups and outcomes of interest.

**Key words:** Cohort studies; Scotland; epidemiology; ethnic groups; cardiovascular diseases

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Observationally lower testosterone is associated with an unhealthier cardiovascular (CVD) risk profile, but this association is open to confounding and reverse causality. The authors examined the association of testosterone with well-established cardiovascular disease (CVD) risk factors (blood pressure, low-density lipoprotein (LDL) cholesterol, high-density lipoprotein (HDL) cholesterol and fasting glucose) and the Framingham score using a Mendelian randomization analysis with a separate-sample instrumental variable estimator. To minimize reverse causality, a genetic score predicting testosterone was developed in 289 young Chinese men from Hong Kong, based on three selected testosterone-related single nucleotide polymorphisms (rs10046, rs1008805 and rs1256031). Multivariable censored and linear regressions were used to examine the association of genetically predicted testosterone levels with CVD risk factors and Framingham score among 4212 older Chinese men from the Guangzhou Biobank Cohort Study. Predicted testosterone was unrelated to systolic blood pressure [−0.11 mmHg, 95% confidence interval (CI) −0.70 to 0.48], diastolic blood pressure (0.04 mmHg, 95% CI −0.27 to 0.36), fasting glucose (0.02 mmol/l, 95% CI −0.02 to 0.06) or Framingham score (0.02, 95% CI −0.0001 to 0.03) but associated with higher LDL-cholesterol (0.02 mmol/l, 95% CI 0.01 to 0.04) and lower HDL-cholesterol (−0.01 mmol/l, 95% CI −0.02 to −0.001), after adjustment for potential confounders (age, education, smoking status, use of alcohol and body mass index). Our findings did not corroborate observed protective effects of testosterone on cardiovascular risk factors or risk of ischaemic heart disease among men, but raises the possibility that higher testosterone may be associated with an unhealthier lipid profile.

**Keywords:** Mendelian randomization; testosterone; cardiovascular disease; risk factors; cholesterol


In children being taller is associated with higher blood pressure (BP), but few studies have divided height into its components: trunk and leg length. We examined the associations of total height, trunk length and leg length with systolic BP (SBP), diastolic BP (DBP) and pulse pressure (PP) at early childhood and mid-childhood visits, as well as
change between the two visits. We obtained five measures of SBP and DBP at the early childhood visit (N = 1153, follow-up rate = 54%) and at the mid-childhood visit (N = 1086, follow-up rate = 51%) respectively, in Project Viva, a US cohort study. We measured total height and sitting height (a measure of trunk length that includes head and neck) and calculated leg length as the difference between the two. Using mixed models, we adjusted the cross-sectional analyses for leg length when trunk length was the exposure of interest, and vice versa. We also adjusted for maternal race/ethnicity, child age, sex, overall adiposity and BP measurement conditions. At the mid-childhood visit, total height was positively associated with SBP [0.34 (0.24; 0.45) mmHg/cm] but not with DBP [0.07 (−0.003; 0.15)]. In models examining trunk and leg length separately, each was positively associated with SBP [0.72 (0.52; 0.92) and 0.33 (0.16; 0.49) respectively]. In a fully adjusted model with both leg and trunk length, only trunk length remained associated with BP. For a given leg length, a 1-cm increment in trunk length was associated with a 0.63-mmHg (0.42; 0.83) higher SBP and a 0.17-mmHg (0.02; 0.31) higher DBP. For a given trunk length, however, the associations of leg length with SBP [0.13 (−0.03; 0.30)] and with DBP [0.002 (−0.11; 0.12)] were null. These patterns were similar at the early childhood visit. Children with greater trunk lengths have higher BPs, perhaps because of the additional pressure needed to overcome gravity to perfuse the brain.

Key words: Leg length; trunk length; blood pressure; child; longitudinal studies.


Chronic diseases account for a substantial proportion of deaths in the South-East Asia Region, ranging from 34% in Timor-Leste to 79% in Maldives. Fuelled by the epidemiological shift towards noncommunicable diseases, the burden
of chronic conditions is steadily increasing. Care structures for chronic diseases in most of these countries focus only on certain conditions and are often oriented towards episodic illnesses. An opportunity exists for holistic, country-driven applications of the World Health Organization Innovative Care for Chronic Conditions framework to improve quality of care for chronic conditions in the region.

**Key words:** Chronic disease, chronic disease management, non communicable diseases, South-East Asia


Slum-resettlement communities are increasingly adopting urban lifestyles. The aim of this study was to assess the prevalence and identify correlates of hypertension among residents aged 20–59 years of a slum-resettlement colony. A community-based cross-sectional study was done from 2010 to 2012 in NandNagri, a slum-resettlement area in east Delhi. 310 participants aged 20–59 years were enrolled through multistage systematic random sampling. Each study subject was interviewed and examined for raised blood pressure; data on risk factors including smoking, alcohol intake, physical activity and salt consumption were also collected. Data were analysed by use of univariate and multivariate regression. The overall prevalence of hypertension was 17.4% and 35% participants were prehypertensive. On multiple logistic regression, age 40–49 years ($P = 0.020$) and 50–59 years ($P = 0.012$), clerical/professional occupation ($P = 0.004$), abnormal waist circumference (≥90 cm in males and ≥ 80 cm in females; $P = 0.001$), positive family history of hypertension in both parents ($P = 0.013$) and above average daily salt intake ($P = 0.000$) were significantly associated with hypertension. These findings indicate that hypertension is a significant health problem in the study population. Many study participants diagnosed with pre hypertension are at risk of developing hypertension, thus immediate public health interventions are indicated.

**Key words:** Hypertension, predictors, prevalence, slum resettlement area
Cancer is not a notifiable disease in India. The Indian Council of Medical Research (ICMR) initiated the National Cancer Registry Programme in 1982 to measure the burden and pattern of cancer in India. However, no data were available from the northeastern region till 2001 when a WHO-sponsored, ICMR project showed a relatively high frequency of microscopically diagnosed cases of cancer in the region. A population-based cancer registry was established in January 2003 in Guwahati to cover the Kamrup Urban district in the northeastern region of India. We report the data generated in the first 6 years of the registry (2003–08).

Information on cancer was obtained by voluntary participation of different sources including major hospitals, diagnostic centres, state referral board and birth and death registry centres within the registry area. A total of 6608 cases were registered during the 6-year period (1 January 2003–31 December 2008); 3927 were men and 2681 women. The age-adjusted incidence rates were 167.9 per 100,000 among men and 133.8 per 100,000 among women. The oesophagus was the leading site of cancer among men, comprising 18.3% of all cancers with an age-adjusted rate of 30.7 per 100,000. Among women, the breast followed by the cervix uteri were the leading sites of cancer. These two cancers comprised 30% of all cancers among women. Tobacco-related cancers accounted for 58.2% of cancers among men and 26.9% of cancers among women. The patterns observed from the analysis of data from the cancer registry at Guwahati provide comprehensive information on occurrence of cancer and can be valuable for planning cancer control programmes in the region.

**Keywords**: Cancer; India; Population-based evidence; Public health; Disease

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**3. DRUGS & DRUG ABUSE**


Persons who have an alcohol use disorder commonly suffer from other disorders at the same time. Often this is referred to as “dual disorder” and as “couple trouble” because the combined effects are usually worse than either condition alone. Alcohol abuse/dependence and depression are common co-morbid conditions. The most frequent co-morbid condition is alcohol plus tobacco addiction, which has also been linked to depression. As many as 80% of
alcoholics smoke, compared with about 30% in the general population. One recent study reported that 50% of women and 33% of males with a history of alcohol use disorders have at least one other psychiatric disorder.

**Keywords:** Alcohol; Drugs; Depression; Drugs addiction

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Addiction to alcohol is a complex problem determined by multiple factors including psychological and physiological components. Stress is considered a major contributor to initiation and the continuation of alcohol use as well as to replace. This study was done to evaluate the effectiveness of aerobic exercise on stress among alcohol dependents in selected de-addiction centers in Tamil Nadu. The quasi experimental, non equivalent control group pre-test post test design was adopted and the alcohol dependents from AMK in Modiakad and Dhanvanthri hospital in Tirunelveli were chosen for the study. In experimental group the mean score on level of stress in alcohol dependents was 27.93 in pre test and 19.4 in post test. The paired ‘t’ value was 13.53 which is significant at p,0.05. Hence the hypothesis (H1) is accepted.

**Keywords:** Drugs; Alcohol dependents; Drug abuse; Aerobics exercise

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Tobacco use among school children and adolescents is an increasing problem world-wide, particularly in the developing countries. A cross-sectional observational study was carried out in six co-educational high schools in Kolkata, West Bengal among 526 students of 15-19 years to determine the prevalence of smoking and to find out any difference among the smokers and non-smokers regarding factors related to family relations, peer group and personal characteristics. The overall rate of smoking was found to be 29.6%, mean age of initiation of smoking was earlier in males. Among smokers 75% students started smoking by 15 years. Smoking of father and peer group, family conflict and pornography addiction were found to have significant association with smoking of students. Early school health based interventions addressing these factors might help in effectively tackling this problem.

Study to investigate tobacco and alcohol consumption as risk indicators for missing teeth in late middle-aged Danes. In all, 1,517 Copenhagen Aging and Midlife Biobank (CAMB) participants received a clinical oral examination that included number of teeth. Information on smoking, drinking, and various covariates was obtained using self-administered, structured questionnaires. Descriptive statistics and logistic regression (dependent variable: 6+ vs. <6 missing teeth) were used to investigate smoking and drinking in relation to missing teeth. Current smokers, persons who currently or previously smoked >15 tobacco units/day, and persons who had smoked for 27+ years had elevated mean scores of missing teeth and associated odds ratios (OR) compared with never smokers. Relative to nondrinkers, alcohol consumption was associated with reduced odds of missing 6+ teeth. Our findings suggest that smoking is positively associated, while alcoholic beverage consumption is inversely related to tooth loss in middle-aged Danes.

*Keywords:* smoking, drinking, tooth loss, middle-aged

4. **Environmental Health**


Steel industries are particularly hazardous places of work. The reality is that over 200 people a year lose their lives at work. In addition, around 1.50,000 nonfatal injuries are reported each year, and an estimated pen in highly unusual or exceptional circumstances that never occurs in any workplace. The reason for conducting the study was to evaluate the effectiveness of structured teaching programme on health hazards and preventive measures among steel industrial workers. This quasi-experimental study was conducted among 60 steel industrial workers from selected steel industries at Bangalore. Sample were selected through non probability purposive sampling manner and STP was conducted for period of 4 weeks that aimed to in all workers (p<0.05) which was reflected in the post test. In the pre –
test 56 participants had inadequate knowledge, 4 participants had moderate knowledge and no one had adequate knowledge.

Keywords: Health hazards; Industrial workers; Labourer; Health care; Environmental health


Noise exposure among vulnerable groups, such as children, is an area of major concern. A comprehensive study among Austrian children observed that children in the noisier areas had manifested psycho-physiological changes. Resting systolic blood pressure and urinary cortisol were raised. Elevated heart rate to a stressor (reading test), and higher perceived stress symptoms were also observed.(34) In another study, children exposed to higher noise levels had different physiological parameters, viz., high blood pressure and low heart rate, when compared with those in quieter areas.(35) Children exposed to aircraft and road traffic noise had impaired cognition such as reading comprehension, recall, and reported annoyance.(36) Early hearing impairment in children is a grave consequence of continuous exposure to noise. High impact loud sounds can cause more damage. Toys and fireworks are the major sources of such damaging sounds.

Keywords: Pollution; Noise; Health hazards; Environmental health; India-urban; Public health action.


This study was carried out among workers from an open-cast iron ore mine in South Goa with an objective to assess morbidity among these workers. Investigations were carried out at the Occupational Health Service Clinic of the mining company. Nearly 0.6% workers had pneumoconiosis, 3.2% had abnormal spirometry findings, 38.16% had hearing loss and 27.7% had defective vision respectively. The prevalence of other chronic diseases were as follows: diabetes 5.1%, hypertension 8.3%, dyslipidemia 37.5% and polycythemia 12.7% respectively. Since the findings were
not compared with the pre-placement records and as most of the workers are young with duration of exposures <10 years, relationship cannot be definitely determined. The study findings are suggesting an association between the occupation in mining with pneumoconiosis, compromised lung function and hearing loss. However for the other finding further analytical studies are required to see for any association. Airborne respirable dust survey and noise monitoring studies also need to be carried out.

**Keywords:** Iron ore mining, Noise induced hearing loss, Pneumoconiosis

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### 5. FOOD & NUTRITION


This article re-estimates the prevalence of child malnutrition among the under-five age group in eight north-east states using the composite index of anthropometric failure method as proposed by P Svedberg, using the National Family Health Survey-3 data. These data show that in the north-east only about 35% of children under-five are underweight. However, results using the CIAF method indicate a substantially higher malnutrition level of 56%, and evidence of wide interstate differentials by socio-economic and demographic indicators.

**Keywords:** Malnutrition; Child nutrition; North-east; India

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### 6. HEALTH CARE


This paper presents a model for the daily planning of health care services carried out at patients’ homes by staff members of a home care company. The planning takes into account individual service requirements of the patients, individual qualifications of the staff and possible interdependencies between different service operations. Interdependencies of services can include, for example, a temporal separation of two services as is required if drugs
have to be administered a certain time before providing a meal. Other services like handling a disabled patient may require two staff members working together at a patient's home. The time preferences of patients are included in terms of given time windows. In this paper, we propose a planning approach for the described problem, which can be used for optimizing economical and service oriented measures of performance. A mathematical model formulation is proposed together with a powerful heuristic based on a sophisticated solution representation.

**Keywords**: Health care; Home health care;


Healthy and nutritionally sound adolescents reflect the country’s potential human resources. The country’s future greatly depends on them. The health and well being of the youth is of great concern because they are the future pillars of the country. India has an edge over many other countries as its adolescent population forms 22.8% or one-thirds of the world’s 230 million adolescent population (Census, 2001).

**Keywords**: Overweight; Adolescents; Health care


This paper presents a model for the daily planning of health care services carried out at patients' homes by staff members of a home care company. The planning takes into account individual service requirements of the patients, individual qualifications of the staff and possible interdependencies between different service operations. Interdependencies of services can include, for example, a temporal separation of two services as is required if drugs have to be administered a certain time before providing a meal. Other services like handling a disabled patient may require two staff members working together at a patient’s home. The time preferences of patients are included in terms of given time windows. In this paper, we propose a planning approach for the described problem, which can be used for optimizing economical and service oriented measures of performance. A mathematical model formulation is proposed together with a powerful heuristic based on a sophisticated solution representation.

Study to assess the self care knowledge on bronchial asthma patients admitted in government Headquarters Hospital, Erode District, with a view to prepare a health education pamphlet.

Keywords: Asthma; Health care; Disease

7. Health Economics


China’s ongoing new health reform aims to reduce individual out-of-pocket (OOP) payments for healthcare services. The aim of this article is to analyse the impact of this reform and to draw policy implications. Data are retrieved from the relevant government publications. Polynomial regression models are used to predict future health expenditures. An extensive sensitivity analysis is conducted to investigate the ratios of OOP payments to the total health expenditures (THEs) and to the disposable personal income (DPI) for 2009–11 under different scenarios of cost projections and personal income distributions. Both quantitative and qualitative analyses are carried out to draw conclusions. The ratios of OOP payments to THE and DPI vary significantly across scenarios tested. Only if all committed government investments and social health expenditure are realized can China’s new health reform reduce both ratios and achieve its target goals. In particular, the ratio of OOP payments to DPI can also be significantly reduced by improving income distribution. Due to the complicated interplay among different cost components in health expenditures, these two ratios may not change in the same direction, indicating that both need to be examined when evaluating the reform. The new health reform in China aims to alleviate the high OOP payments for healthcare services, but it has not yet been able to reduce both OOP-to-THE and OOP-to-DPI ratios simultaneously. Major reasons include (1) inability of local governments to fulfil their responsible investments due to health finance decentralization and uneven economic development in China and (2) a serious cost inflation in health expenditures coupled with a low level of income distribution. It is suggested that the central government should bear more financial
responsibility and assist local governments to fully invest, and should improve individual incomes, in particular for the poor.

**Key words:** Out-of-pocket payments; China’s new health reform; government investment income distribution; health finance decentralization

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Much of the existing literature on the financial protection of health insurance focuses on the impact of insurance status on total out-of-pocket expenditure on all sorts of care sought, regardless of whether the insured patients use their health insurance cards. Using Vietnam’s 2006 Household Living Standard Survey data and an appropriate multivariate regression model, this article assesses the influence of Vietnam’s three health insurance schemes on out-of-pocket expenditures with and without controlling for the actual use of the health insurance card when seeking outpatient care. Vietnam’s experience suggests that insurance provides some financial protection, provided that insurance benefits are actually accessed. Compared with private fee-paying patients, the use of the insurance card reduces out-of-pocket expenditures, on average, by as much as 50–56%. In contrast, failure to control for the use of the health insurance card reduces the financial protection of insurance to 26–37%. However, the financial protection benefits afforded by Vietnam’s insurance schemes are distributed rather inequitably. Insurance reduces out-of-pocket expenditures by as much as 71–75% for contacts at the major state hospitals, as compared with 26–38% for contacts at the community health centres. The overall financial protection provided by insurance is also found to be larger for the higher-income individuals than the middle- and low-income individuals. Efforts to ensure that all enrollees receive equitable and good-quality health services according to the benefits package appear warranted. Improving the quality of care provided by the community health centres—the main access point for medical care for many enrollees with health insurance for the poor coverage—and a more effective referral system may also be a cost-effective way of channelling outpatient service contact to the lower-level health facilities, away from the overcrowded higher-level health facilities.

**Key words:** Health insurance; out-of-pocket expenditures; Vietnam

The healthcare sector was one of the few sectors of the US economy that created new positions in spite of the recent economic downturn. Economic contractions are associated with worsening morbidity and mortality, declining private health insurance coverage, and budgetary pressure on public health programs. This study examines the causes of healthcare employment growth and workforce composition in the US and evaluates the labor market’s impact on healthcare spending and health outcomes. Data are collected for 50 states and the District of Columbia from 1999–2009. Labor market and healthcare workforce data are obtained from the Bureau of Labor Statistics. Mortality and health status data are collected from the Centers for Disease Control and Prevention’s Vital Statistics program and Behavioral Risk Factor Surveillance System. Healthcare spending data are derived from the Centers for Medicare and Medicaid Services. Dynamic panel data regression models, with instrumental variables, are used to examine the effect of the labor market on healthcare spending, morbidity, and mortality. Regression analysis is also performed to model the effects of healthcare spending on the healthcare workforce composition. All statistical tests are based on a two-sided $\alpha$ significance of $p < .05$. Analyses are performed with STATA and SAS. The labor force participation rate shows a more robust effect on healthcare spending, morbidity, and mortality than the unemployment rate. Study results also show that declining labor force participation negatively impacts overall health status ($p < .01$), and mortality for males ($p < .05$) and females ($p < .001$), aged 16–64. Further, the Medicaid and Medicare spending share increases as labor force participation declines ($p < .001$); whereas, the private healthcare spending share decreases ($p < .001$). Public and private healthcare spending also has a differing effect on healthcare occupational employment per 100,000 people. Private healthcare spending positively impacts primary care physician employment ($p < .001$); whereas, Medicare spending drives up employment of physician assistants, registered nurses, and personal care attendants ($p < .001$). Medicaid and Medicare spending has a negative effect on surgeon employment ($p < .05$); the effect of private healthcare spending is positive but not statistically significant. Labor force participation, as opposed to unemployment, is a better proxy for measuring the effect of the economic environment on healthcare spending and health outcomes. Further, during economic contractions, Medicaid and Medicare’s share of overall healthcare spending increases with meaningful effects on the configuration of state healthcare workforces and subsequently, provision of care for populations at-risk for worsening morbidity and mortality.

**Keywords** Labor market; Unemployment; Labor force participation; Medicaid; Medicare; Health
Outcomes; Healthcare spending.


This empirical study investigates the factors affecting the awareness and the utilization of preventive care among the elderly in Taiwan. We use data obtained from the 2005 National Health Interview Survey. A recursive bivariate probit model is adopted to analyze the factors affecting the awareness and the utilization of preventive care. The probability of awareness of free preventive care under the National Health Insurance is higher for those who are younger, Mainlanders, have received more education, have a spouse, exercise regularly, have better self-rated health status, and have chronic diseases; the probability of awareness is lower for those who are aborigines and who live in the south and the east. Awareness of preventive care services, having a spouse, living alone, having better health status, and the existence of chronic diseases increase the probability of preventive care utilization; working reduces the probability of preventive care utilization. Our result supports the views in Arrow (Am Econ Rev 53(5):941–973, 1963) that health information is an important factor determining the demand for medical care. Policymakers may enhance such preventive care service utilization by increasing the awareness of such services among the elderly.

**Keywords** Preventive care service · Awareness · National Health Insurance; Recursive bivariate probit


In this paper we explore convergence of real per capita output and health expenses across the Indian States. The new panel convergence methodology, developed by Phillips and Sul (Econometrica 75:1771–1855, 2007), is employed. The empirical findings suggest that these States form distinct convergent clubs, exhibiting considerable
heterogeneity in the underlying growth and health expenses factors. These findings should help policy makers in designing appropriate growth-oriented and/or health sector programs and setting priorities in their implementation.

**Keywords** Growth convergence · Health expenses convergence · Indian States · Logt test

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Yemen is a low-middle-income country where more than half of the population live in rural areas and lack access to the most basic health care. At US$40 per capita, Yemen’s annual total health expenditure (THE) is among the lowest worldwide. This study analyses the preconditions and options for implementing basic social health protection in Yemen. It reveals a four-tiered healthcare system characterised by high geographic and financial access barriers mainly for the poor. Out-of-pocket payments constitute 55% of THE, and cost-sharing exemption schemes are not well organised. Resource-allocation practices are inequitable because about 30% of THE gets spent on treatment abroad for a small number of patients, mainly from better-off families. Against the background of a lack of social health protection, a series of small-scale and often informal solidarity schemes have developed, and a number of public and private companies have set up health benefit schemes for their employees. Employment-based schemes usually provide reasonable health care at an average annual cost of YR44 000 (US$200) per employee. In contrast, civil servants contribute to a mandatory health-insurance scheme without receiving any additional health benefits in return. A number of options for initiating a pathway towards a universal health-insurance system are discussed.

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**KEY WORDS:** health financing; health insurance; community health care; health sector reform;

Yemen; Middle East

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46. **Financing India’s Quest for Universal Health.** Somil Nagpal. *Yojana,* February 2014; 4p.
The increased commitment to strengthen the magnitude of public health spending, and the initial lessons from the current generation of UHC programs, together augur well, with great potential to catapult forward India’s march toward Universal Health Coverage.

**Keywords:** India; Public health; Health expenditure

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Expending coverage to a large number of Indians is a desirable policy goal with the potential of improving health and lowering financial hardships faced by millions of Indians. Effective implementation of large-scale public insurance requires navigating a complex set of coverage and organizational issues pertaining to the roles of the public and private sectors in health, primary care versus hospital care and enabling the provision of healthcare services to the rural population.

**Keywords:** Health policy; Health care; India.

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**8. HEALTH EDUCATION**


This study is directed to evaluate how well the present baccalaureates nursing program enhances the competency in use of computer among baccalaureate nursing students and enable them to meet the challenges of present and future technological perspectives of nursing profession. Irrespective of nature of job, the nursing professionals need to use computer. Today a nurse cannot function without operating machines, Whether limited hours of computer classes in baccalaureate nursing program will help the students to use the computer well in work place? Are we preparing technologically competent undergraduates? The study was carried out to answer the above questions.

**Keywords:** Nursing professionals; Computer literacy;

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Developing an effective health care delivery system and ensuring universal access to health care immensely depend on the status of the medical education system and the nature of medical manpower it produces. The quality of human resource produced by the country’s medical education system is determined by the appropriate government support in terms of policy framing, funding and regulatory mechanisms. The common criticisms against the present medical curriculum are that it fails to inculcate appropriate skills and competence among learners to serve the community effectively. Developing a societal need-based and feasible medical education system is a challenging task. We will look into three documents, all published by different government agencies under directives of the Government of India with the objective of reforming the medical education system in the country.

**Keywords:** Medical education; Education reforms; Quality of Education

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50. **Teaching healthcare management to medical students: An early experience.**


Public health services throughout the country are managed by healthcare professionals. However, our present-day medical education does not prepare students to undertake these supervisory and managerial responsibilities. Their lack of preparation results in poor quality of patient care and service and suboptimal use of valuable resources. We introduced medical graduates to concepts of healthcare management and collected their feedback to assess if they find this knowledge relevant and useful. Concepts of healthcare management relevant to healthcare professionals such as hospital set-up, hospital support services, quality in healthcare, evidence-based care, managed healthcare, etc. were introduced in a series of lectures during the postgraduate orientation programme at our institution. Student feedback was collected through a questionnaire with items rated on the Likert scale as well as through a few open-ended questions. Data was analyzed for probability of responses on a binomial scale. Students perceived the course material to be useful and agreed that training in leadership and management skills should be part of their medical education. Seventy per cent felt that such training should be imparted during the period of internship. Current medical education should prepare healthcare professionals to be able to deal with the intricacies of healthcare delivery systems in addition to their clinical skills. Training in healthcare management relevant to the needs of healthcare professionals should be integrated into the medical curriculum.


Keywords: Health care; Medical education; public health services

51. Research-oriented medical education for graduate medical students.


In most parts of the world, medical education is predominantly geared to create service personnel for medical and health services. Training in research is ignored, which is a major handicap for students who are motivated to do research. The main objective of this study was to develop, for such students, a cost-effective ‘in-study’ research training module that could be adopted even by medical colleges, which have a modest research infrastructure, in different regions of India. Short-duration workshops on the clinical and laboratory medicine research methods including clinical protocol development were held in different parts of India to facilitate participation of students from various regions. Nine workshops covering the entire country were conducted between July 2010 and December 2011. Participation was voluntary and by invitation only to the recipients of the Indian Council of Medical Research–Short-term Studentship programme (ICMRSTS), which was taken as an index of students’ research motivation. Faculty was drawn from the medical institutions in the region. All expenses on students, including their travel, and that of the faculty were borne by the academy. Impact of the workshop was judged by the performance of the participants in pre- and post-workshop tests with multiple-choice questions (MCQs) containing the same set of questions. There was no negative marking. Anonymous student feedback was obtained using a questionnaire. Forty-one per cent of the 1009 invited students attended the workshops. These workshops had a positive impact on the participants. Only 20% students could pass and just 2.3% scored >80% marks in the pre-workshop test. There was a three-fold increase in the pass percentage and over 20% of the participants scored >80% marks (A grade) in the post-workshop test. The difference between the pre- and postworkshop performance was statistically significant at all the centres. In the feedback from participants, the workshop received an average rating of 8.1 on a scale of 1 to 10. This cost-effective, ‘in-study’ module of short-duration ‘mobile’ workshops can be used to educate graduate medical students in basic research procedures employed in clinical and laboratory medicine research. The module is suitable for resource-strapped developing nations.

Keywords: Medical education; Medical professionals; Education
9. KNOWLEDGE ATTITUDE AND PRACTICE


Mental health professionals have varied attitudes and views regarding informed consent and confidentiality protections in psychiatric research and clinical care. The present study was designed to understand the knowledge and views of mental health professionals (MHPs) regarding informed consent and confidentiality protection practices. Mental health professionals (n=121) who were members of the Delhi Psychiatric Society, were invited to participate in this questionnaire-based study of their knowledge and attitudes regarding informed consent and confidentiality. Half of them expressed willingness to discuss participation and gave initial oral consent (n=62); of these, 31 gave written informed consent to participate and completed the questionnaires. The questionnaires included both forced choice (yes / no / do not know) and open-ended questions. Questionnaires content reflected prominent guidelines on informed consent and confidentiality protection. Attitudes of the majority of the participants towards informed consent and confidentiality were in line with ethical principles and guidelines. All expressed the opinion that confidentiality should generally be respected and that if confidentiality was breached, there could be mistrust of the professional by the patient/participant. The mean knowledge scores regarding informed consent and confidentiality were 8.55 ± 1.46 and 8.16 ± 1.29, respectively. The participating mental health professionals appeared to have adequate knowledge of basic ethical guidelines concerning informed consent and confidentiality. Most respondents were aware of ethical issues in research. Given the small sample size and low response rate, the significance of the quantitative analysis must be regarded with modesty, and qualitative analysis of open-ended questions may be more valuable for development of future research. Increased efforts to involve mental health professionals in research on ethical concerns pertinent to their work must be made, and the actual practices of these professionals with regard to ethical guidelines need to be studied.

Keywords: Confidentiality - ethical guidelines - informed consent - mental health professionals - mental health research
10. MENTAL HEALTH


High maternal pre-pregnancy body mass index (BMI) is associated with increased risk of offspring attention deficit hyperactivity disorder (ADHD). However, the role of unmeasured familial confounding for this association remains unclear. We conducted a population-based cohort study via linkage of Swedish national and regional registers to investigate maternal pre-pregnancy BMI (underweight: BMI <18.5; overweight: 25≤ BMI <30; obesity: BMI ≥30) in relation to offspring ADHD. We followed 673 632 individuals born in Sweden between 1992 and 2000, with prospectively collected information on maternal pre-pregnancy BMI, until they received an ADHD diagnosis or ADHD medication, death, emigration or 31 December 2009. Hazard ratios (HRs) were estimated by Cox proportional hazards models. Stratified Cox proportional hazards models were applied to data on full siblings to control for unmeasured familial confounding. At the population level, pre-pregnancy overweight/obesity was associated with increased risk of offspring ADHD (HR_{overweight} = 1.23, 95% CI = 1.18–1.27, \( P = 0.01 \); HR_{obesity} = 1.64, 95% CI = 1.57–1.73, \( P = 0.01 \)), after adjustment for measured covariates. In full sibling comparisons, however, previously observed associations no longer remained (HR_{overweight} = 0.98, 95% CI = 0.83–1.16, \( P = 0.82 \); HR_{obesity} = 1.15, 95% CI = 0.85–1.56, \( P = 0.38 \)). The results suggested that the association between maternal pre-pregnancy overweight/obesity and offspring ADHD could be ascribed to unmeasured familial confounding.

*Key words: ADHD; maternal BMI; prenatal; confounding; sibling comparison*

The objectives of this study were to examine the independent and dependent associations of maternal and paternal age and risk of offspring autism spectrum disorders (ASD), with and without intellectual disability (ID). The sample consisted of 417,303 Swedish children born 1984–2003. ASD case status (N = 4746) was ascertained using national and regional registers. Smoothing splines in generalized additive models were used to estimate associations of parental age with ASD. Whereas advancing parental age increased the risk of child ASD, maternal age effects were non-linear and paternal age effects were linear. Compared with mothers at the median age 29 years, those <29 had similar risk, whereas risk increased after age 30, with an odds ratio (OR) of 1.75 [95% (CI): 1.63–1.89] at ages 40–45. For fathers, compared with the median age of 32 years, the OR for ages 55–59 was 1.39 (1.29–1.50). The risk of ASD was greater for older mothers as compared with older fathers. For example, mothers aged 40–45 (≥97.2th percentile) had an estimated 18.63 (95% CI: 17.25–20.01) ASD cases per 1000 births, whereas fathers aged 55–59 (≥99.7th percentile) had 16.35 (95% CI: 15.11–17.58) ASD cases per 1000 births. In analyses stratified by coparental age, increased risk due to advancing parental age was evident only with mothers ≤35 years. In contrast, advancing maternal age increased risk regardless of paternal age. Advancing parental age was more strongly associated with ASD with ID, compared with ASD without ID. We confirm prior findings that advancing parental age increases risk of ASD, particularly for ASD with ID, in a manner dependent on co-parental age. Although recent attention has emphasized the effects of older fathers on ASD risk, an increase of \( n \) years in maternal age has greater implications for ASD risk than a similar increase in paternal age.

**Key words:** Autism spectrum disorders; intellectual disability; risk factors; parental age

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### 11. POPULATION DEVELOPMENT & DEMOGRAPHY


To analyze associations in late midlife between sex, age, education and social class, and the Big Five personality traits; to analyze associations between personality traits and cognitive ability in late midlife; and to evaluate how these associations are influenced by demographic factors. The study sample comprised 5,397 late midlife participants from
three cohorts who had completed the NEO Five-Factor Inventory (NEO-FFI) and a measure of cognitive ability. Associations were demonstrated between the five NEO-FFI personality traits, and all included demographic factors. Cognitive ability and years of education correlated with several NEO-FFI personality traits in analyses adjusting for demographic variables. Cohort differences were observed for Extraversion and Openness. Robust sex, educational, and social class differences in personality may contribute to late midlife social gradients in health and early aging. Demographic factors did not fully explain correlations between personality and cognitive ability or cohort differences in personality.

**Keywords**: NEO-FFI, demographic factors, personality, I-S-T 2000 R, cognitive ability


The aim of the article is to analyze associations between sex, age, education, and social class and cognitive ability in late midlife and to evaluate differences in cognitive ability among the three Copenhagen Aging and Midlife Biobank (CAMB) cohorts. The sample comprised 5,417 CAMB participants from three cohorts with scores on the Intelligenz-Struktur-Test 2000 R (I-S-T 2000 R). Independent associations of cognitive ability with age, sex, education, and occupational social class were observed. Particularly, strong associations with cognitive ability were obtained for school education, and consistent sex differences were observed with higher cognitive ability in men. Differences in cognitive ability among the three cohorts were small and primarily reflected demographic differences. Late-midlife cognitive ability is associated with a number of demographic factors, and demographic differences may contribute to individual differences in health and early aging. In analyses of cognitive ability, the three CAMB cohorts can be combined provided the relevant demographic variables are included as covariates.

**Keywords**: I-S-T 2000 R, demographic factors, cognitive ability, CAMB

12. PUBLIC HEALTH/COMMUNITY HEALTH

This article explores the first international effort by the League of Nations Health Organization (LNHO) to standardize the study of the effects of the economic crisis of the 1930s on health. Instead of analysing this effort with the benefit of hindsight, this article takes into account the actors’ perspectives and, therefore, it relies on the documents produced by the LNHO and public health experts of the 1930s, as well as on the historical scholarship on this subject. This article shows that, despite the declining death rates in Europe and in the US during the crisis, the LNHO considered that death rates concealed a more subtle effect of the crisis on health; hence, they launched a project aimed at making the effect visible. It describes the LNHO programme and the guidelines and methods set out by the organization in 1932 to observe this subtle effect through sociomedical investigations. The results of these surveys are summarized and the article discusses how the eugenic arguments used to explain them were not accepted by the LNHO. The article also shows how some members of the LNHO considered the results of the sociomedical surveys inconclusive and questioned the usefulness of socioeconomic indicators; in so doing, they raised concerns about the intervention of the LNHO in national matters and about the risks of crossing the established limits between science and politics. This article shows that an historical analysis, which takes into account the points of view of the actors involved, illuminates the factors that led the LNHO to conclude that mortality rates were the best method for measuring the effects of the economic crisis on health and that, as they were declining, the Great Depression was not having any deleterious effect on public health.

Key words: History; international health; economic crisis; public health


As global deliberations on scale and scope of post 2015 development agenda are taking shape and transition from present set of millennium development goals (MDGs) to a new set of sustainable development goals are being deliberated, public health advocates are increasingly articulating views on outcomes, contents and modalities to
achieve the same within larger frame of transformational shifts. The high level panel constituted by the Secretary General of United Nations in its report has listed ensuring healthy lives as one of the illustrative goals. It is really good to note that all health related outcomes are clubbed in one (welcome departure from earlier three health MDGs). Also inclusion of neglected tropical diseases and priority non-communicable diseases is also very much timely. Universal Health Coverage and all that goes within its rubric is seen as a major delivery framework to achieve goals.

**Keywords:** Public health; MDGs;

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Commercial interests pose a serious challenge for universalizing health-care. This is because ‘for-profit’ health care privileges individual responsibility and choice over principles of social solidarity. This fundamentally opposing tendency raises ethical dilemmas for designing a health service that is universal and equitable. It is an inadequate to merely state the need for regulating the private sector, the key questions relate to what must be done and how to do it. This paper identifies the challenges to regulating the private health services in India. It argues that regulation has been fragmented and largely driven by the center. Given the diversity of the private sector and health being a state subject regulating this sector is fraught with the technical and socio-political factors.

**Keywords:** Conflicting interests; Private sector; Regulation

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This paper presents a possible framework for designing a public health cadre in the present context, with lessons from health services development of the last six decades. Three major gaps that the public health cadre is meant to bridge have been identified. These are capacities within the system to address the technical requirements; administrative/managerial dimensions; and the social determinants of health. Therefore, it argues that the cadre must
not only have a techno-managerial structure, but also create a specific sub-cadre for the social determinants of health.

**Keywords:** Multi-disciplinary teams, Public health cadre; Social determinants cadre; Sub-cadres

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**61. Community Based Monitoring Under National Rural Health Mission in Maharashtra: Status at Primary Health Centers**


This study compares the implementation of community-based monitoring (CBM) in 45 primary health centers (PHCs) in the pilot phase in Maharashtra with the equal number of randomly selected PHCs not implementing CBM (non-CBM) from the same districts. Information was collected by teams from Community Medicine Departments by visiting selected PHCs. Establishment of monitoring committees and training of medical officers (MOs) had been completed as required but only 36.36% MOs were trained. Only 43.18% MOs received the facility report card. Most of the MOs (90.90%) attended Jansunwai and opined that it had increased community awareness and the barriers between the people and PHC staff were broken. There was no difference in fund utilization and meetings of Rugna Kalyan Samittees. Percentage of Institutional deliveries and women receiving Janani Suraksha Yojana benefits among home deliveries was more in the non-CBM group of PHCs.

**Keywords:** Community based monitoring, National Rural Health Mission, Primary health centers

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The relative income–health hypothesis postulates that income distribution is an important determinant of population health, but the age and sex patterns of this association are not well known. We tested the relative income–health hypothesis using panel data collected for 21 developed countries over 30 years. Net of trends in gross domestic product per head and unobserved period and country factors, income inequality measured by the Gini index is positively associated with the mortality of males and females at ages 1–14 and 15–49, and with the mortality of females at ages 65–89 albeit less strongly than for the younger age groups. These findings suggest that policies to decrease income inequality may improve health, especially that of children and young-to-middle-
aged men and women. The mechanisms behind the income inequality–mortality association remain unknown and should be the focus of future research.

**Keywords:** Public health; Developing countries; Income inequality; Population health.


Using data from the Indian National Family Health Surveys (1992–93, 1998–99, 2005–06), this study examined how the relationship between household wealth and child health evolved during a time of significant economic change in India. The main predictor was an innovative measure of household wealth that captures changes in wealth over time. Discrete-time logistic models (with community fixed effects) were used to examine mortality and malnutrition outcomes: infant, child, and under-5 mortality; stunting, wasting, and being underweight. Analysis was conducted at the national, urban/rural, and regional levels, separately for boys and girls. The results indicate that the relationship between household wealth and under-5 mortality weakened over time but this result was dominated by infant mortality. The relationship between wealth and child mortality stayed strong for girls. The relationship between household wealth and malnutrition became stronger over time for boys and particularly for girls, in urban and (especially) rural areas.

**Keywords:** Household wealth; Child health; India


The past decade has taught us to expect as-yet-unknown health challenges and that strong APSED/IHR (2005) mechanisms will be pivotal to preparedness and response. Perhaps, therefore, the most significant known threat is the current constrained resourcing of APSED/IHR (2005) implementation. Continued advocacy and resource mobilization for implementation is critical; we must not miss the opportunity to build on the strong foundations laid for regional public health security.

**Keywords:** Public Health; Diseases; Public health security
65. Challenges of ensuring public health: Assessing the past, Charging the future. 

The start the process, the government must publish the vaccine under consideration. Stake holders (patient groups, health professionals, academic institutions, industry producing the vaccine, trade unions and international organizations like the WHO and GAVI) can then register their interest. Public participation is of essence here.

**Keywords:** Public health; Vaccine; WHO; GAVI


Choice of health-care services depends on patients’ characteristics and the features of health-care facilities available. In Nepal, a significant proportion of health care is provided through the private sector, despite the introduction of free essential health care for all citizens in 2008. We sought to determine whether people chose private or public facilities in the first instance for acute health problems. Also assessed the reasons for their choice. A cross-sectional survey was done by use of a questionnaire administered to 400 household heads in Jhapa district, Nepal. 272 (68%) respondents sought treatment from public health-care facilities in the first instance. On adjusted analysis, illiterate people were more likely to choose public facilities than people with higher secondary education (OR 5.47, P = 0.002). Similarly, lower-caste and religious-minority respondents were more likely to choose public facilities than disadvantaged janajati (OR 2.33, P = 0.01). Among respondents who used public facilities, 174 (64.0%) and 109 (40.0%) stated that that their choice was based on financial accessibility and physical accessibility, respectively. Among respondents who used private facilities, 65 (50.7%) and 54 (42.1%) said their choice was based on adequacy of resources/services and health-care delivery, respectively. A substantial portion of respondents used public health-care facilities in the first instance, mainly because of financial and physical accessibility rather than adequacy
of resources or better health-care delivery. These results may indicate a positive impact of removal of user fees for public health-care facilities in Nepal, especially for impoverished people.

**Keywords:** Choice, health-care facilities, Nepal, user fee

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### 13. STATUS OF WOMEN

**67. Sexual violence in India: addressing gaps between policy and implementation.**


The savage Delhi rape of 16 December 2012 was instrumental in generating the Verma Report that framed policies for amending the Criminal Laws related to sexual violence, professionalizing forensic/medical examination of victims, and sensitizing the police, electorate and the educational sectors. Unfortunately, even after a year, the Indian Home Ministry has abysmally failed to implement most recommendations, even underutilizing budgetary allocations. This article addresses gaps in governance systems and offers solutions to the problem of sexual violence in India.

**Key words:** Rape; violence against women; gender; policy implementation; health sector reform; Millennium Development Goals.

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### 14. YOGA & PHYSICAL FITNESS

**68. Yoga and Anxiety level of neurotic patients.**


Health care in the modern systems. Organized health services in India provide only 10% of the medical care and another 10% is provided by qualified physicians in towns and cities. The balance is split between home medical care and indigenous practitioners. Awareness of the traditional Indian system of medicine has been increasing. People are aware that indigenous medicine is economical and easily available. Government of India has been committed to the
promotion and development of the indigenous medical system along with modern medicine. Traditional medicine still
remains the only source of care for many people in the developing countries like India.

**Keywords:** Yoga; Anxiety; Neurotic patients.