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A REVIEW OF HEALTH OF CHILDREN IN INDIA

THE FIRST THOUSAND DAYS OF LIFE

terre des hommes
Help for Children in Distress

ACTION FOR GLOBAL HEALTH
FULL FUNDING • STRONG SYSTEMS • FAIR ACCESS

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01 PREFACE

The health status of a child starts with the health status of the pregnant mother. The first thousand days of a child – meaning from conception up to the first two years of life - nutrition and basic health care are very crucial for the survival and the physical and mental development of a child. Continuous lack of food and micronutrients result into stunting and retarded mental development. If inadequate nutrition is not provided during this early time period, resulting handicaps last a lifetime and are not reversible. In combination with unclean drinking water, lack of hygiene, poor sanitation systems, and poor ventilation in households children are highly vulnerable to infections due to a weak immune system. Finally many children die of preventable diseases like diarrhoea or pneumonia. Nevertheless the status of the woman and the family plays a vital role for the well-being of the next generation.

The health indicators of India show a very diverse picture. Whereas in some states the child mortality and morbidity rates are low in others they are shocking high. Especially the lower class and castes and ethnic groups are highhly affected. These indicators show that only an elite group of people benefits from the booming economy in India whereas the mass population is forgotten.

The present review of child health in India focusses on four vulnerable states in India (Maharashtra, Madhya Pradesh, Chattisgarh and Jharkhand) after giving an overview of national health schemes in India and achievements of civil society organisations. It closes with concluding remarks and recommendations for the Indian government as well as for non-governmental organisations.

Key messages of this review will be presented during the World Health Summit in Berlin, from 23rd until 26th October 2011. Furthermore, it serves for information for our Indian partners as well as for partners in other countries. We hope this review can contribute to get more people concerned and advocate for the most vulernable group of people – our children.

This review has been prepared through a literature review by Tathapi Trust Pune, an Indian based documentation and research center. It has involved various key informants and non-governmental organisations. It was supported and coordinated by Action for Global Health Germany, an European advocacy network on global health, and terre des hommes Germany, an international child-rights based organisation supporting children in distress.

We would like to thank all interviewees for giving their insights of newborn and child health in India. In particular we would like to thank our partners in India, who gave substantial support for making this study possible.

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01 INTRODUCTION

India is one of the world's fastest growing economies, with a growth rate of more than 7.4%[1] for the last 10 consecutive years. Most of the recent impetus in growth has come from the buoyant service sector with backing from manufacturing. However, the agricultural sector has not broken out of its 2 percent growth rate. The majority – i.e. 60 per cent – of the Indian population depend upon the agricultural sector for their livelihood, and the low returns in this sector have caused financial distress to farmers in many parts of the country. This exposes the highly unequal nature of economic growth and the increasing divide among those few who have been able to benefit from the recent growth story and the majority who have not. The country has also not been able to show the same robustness with regards to growth in social status and well being,as revealed in Human Development indicators (United Nations Organisation 2010).

Growing Impoverisation: As professor Utsa Patnaik, India's top economist on agriculture, has pointed out, ***"In the course of the last five years (1998 to 2003), the population of the Republic of India has been sliding down towards sharply lowered levels of per capita food grains absorption, levels so low in particular years that they have not been seen for the last half century. Between the early 1990s when economic reforms began, and at present, taking three-year averages, the annual absorption of food grains per head has come down from 177 kg to 155 kg Such low absorption levels were last seen in the initial years of World War II - from where they had fallen further still. Again, after some recovery, the very first few years after Independence half a century ago and the food crisis of the mid-1960s, are comparable to present average absorption levels".***

In fact, as we write this document there is a raging controversy over the poverty line being reported widely in the Indian Press. On the 19th of September 2011 the Planning Commission stated in the Supreme Court that 25 Indian Rupees (Rs) for rural and 32 Rs in urban areas were 'adequate' per day for Indian to get 1,200 calories of food, health care and education (reported in the Indian newspaper DNA 22nd September 2011) and therefore, those who earned this amount and more were not to be considered as poor. Whereas, members of the Planning Commission themselves earn a salary of about 120,000 Rs a month plus perks, thus showing us the level of divide.

India attained Independence in 1947. Ever since, the government has, repeatedly articulated its responsibility to reduce poverty and provide good health to its citizens. It has expressed its intentions through many 5-year plans. The first plan was written in line with constitutional directives to build policy towards ensuring, among other things, "that the citizens, men and women equally, have the right to an adequate means of livelihood" (Planning Commission Archives). Today too, the first volume of the 11th Plan is titled 'Inclusive Growth' and states

"our ultimate objective is to achieve broad based improvement in the living standards of all our people […] we also need to ensure that growth is widely spread so that its benefits, in terms of income and employment, are adequately shared by the poor and weaker sections of our society, especially the Scheduled Castes (SCs) and the Scheduled Tribes (STs), Other Backward Classes (OBCs) and minorities" **(The 11th Plan introduction chapter)**.

Ambitious systems, programmes and schemes have been drawn up to alleviate poverty and promote the goal of universal health care. There have been large gains in health status since Independence. Life expectancy has gone up from 36 years in 195 to 66.8 years in 2009 (SRS 2011). Infant mortality is down from 146 per 1000 in 1951 to 50 per 1000 in 2009. The crude birth rate has been reduced from 36.9 in 1970 to 24.8 in 2003, and the crude death rate from 14.9 to 8.7 in the same period. One

image ©Tathapi Trust

of the reasons for these gains has been the development of an impressively vast, three-tiered system of rural health infrastructure, with sub-centres, Primary Health Centres, and Community Health Centres. Immunisation as a means of controlling communicable diseases has made a major contribution to these gains; success stories include the eradication of small pox, the near elimination of leprosy, and the extraordinary social mobilisation for polio eradication. Improvements in determinants such as water supply and sanitation have also helped achievements. However, these aggregate achievement figures mask the differences between states, within states, urban-rural, and between social castes and communities. The best health indicators are those of the state of Kerala. These are comparable to middle developed countries around the world[2]. On the other hand states such as Uttar Pradesh Madhya Pradesh and Orissa are almost at the level of Sub-Saharan Africa. This is also true of the remote areas of an economically advanced state like Maharashtra. Clearly a country like India, with its knowledge base, its administrative and institutional strengths, and its growth potential, is capable of much higher levels of achievement.

The achievements, not being uniform have reached only the richer sections of society. Since the poor carry the larger burden of disease, it would be logical for resources and energies to be focussed on the health needs of the poor. However a study[3] by the National Council for Applied Economic Research (NCAER) reveals that ***"The richest 20 per cent enjoy three times the share of public subsidy for health compared with the poorest***

1 *Subir Gokarn &Gunjan Gulati India: Country Growth Analysis*

2 *Lahariya Chandrakant, Paul, Vinod K., Burden, Differentials, and Causes of Child deaths in India, Indian Journal of Pediatrics 77:1312-1321, (2010)*

3 *As quoted in the India Health Report, Rajiv Mishra, Rachel Chatterjee and SujataRao, (2003)*

quintile. The poorest 20 per cent of Indians have more than double the mortality rates, and under nourishment levels of the richest 20 percent. The poor suffer disproportionately more from diseases such as malaria and tuberculosis. On average they spend 12 per cent of their incomes on health care compared to the 2 per cent spent by the rich."

Liberalisation of the Economy: India embarked on a re-structuring and liberalisation of its economy in the 1980s, which was formalised and accelerated with World Bank assistance after 1991. Since then it has increased its integration into global markets and now faces not only the ups but also the downs; today, internal protection is almost absent. Reform of the health sector followed. Health expenditure was now targeted at selected parts of the population. The health needs of the vast majority took a back seat while the 'need' to re-structur the economy meant that family planning, immunisation and selective disease programmes like HIV-AIDS acquired an even more central position than before. Both financial and human resources were directed towards these programmes. Maternity services, malaria and tuberculosis lost their national importance. As a result we have seen a resurgence of malaria and tuberculosis, with other communicable diseases such as leptospirosis and dengue also surfacing.

In July 2011, the inflation rate in India was reported to be 8.43 percent. The inflation rate refers to a general rise in prices measured against a standard level of purchasing power. This has hovered above 8% for the last 10 years, reaching over 16% in 2010. Thus falling purchasing power has been a continuous state of affairs.

Moreover it is the case that the cost of drugs has risen more than 300% after India signed the World Trade Organisation treaty on Indian Patents Regime (IPR) in 1995. Price control is now virtually absent, even for drugs used to treat tuberculosis, malaria, diarrhoea and hypertension.

Interestingly, since the 1990s, the industrial pollution load has also gone up 4 times, and its vehicular load 8 times. Pollution is rarely recorded as a cause of death. It gets translated into long term ailments like asthma, cancer or heart ailments.

Therefore, despite the stated intention of providing universal health care, this has not become reality. The main reason has been that India has one of the lowest health budgets in the world. Public spending on health was 0·94% of the gross domestic product (GDP) in 2004–05, amongst the lowest in the world. Instead it has allowed a large and thriving private health sector to expand almost without regulation. This sector is not guided by national health goals, but by profit.

Thus it is that India today bears a double burden with regard to diseases. On one hand about 1.44 million children below the age of one die every year[4], due to a combination of diarrhoea, dysentery and malnutrition. Acute respiratory infections are also a killer of young children, and are attributed to indoor pollution. On the other hand, diseases like AIDS, cancer, respiratory disorders, diabetes, and heart problems – considered diseases of affluence – are also rapidly gaining ground.

4 *Lahariya Chandrakant, Paul Vinod K., Burden, Differentials, and Causes of child deaths in India, Indian Journal of Pediatrics 77:1312-1321, (2010)*

02 METHODOLOGY

This document has been prepared through a literature review of the status in health morbidity and mortality for children under the age of two in the country. In addition, we have selected four states – Maharashtra, Madhya Pradesh, Chhattisgarh and Jharkhand – to portray the differences in context and achievement. We have also included the experiences of Non Governmental Organisations (NGOs) working in child health; particularly terre des hommes (tdh) NGO partners working in these states. Where disaggregated data for children under two was not available we have relied on data for children under age 5.

Interviews were conducted with key informants:

1. Sister Joelle,
   Chetna Bharati, District Chatra, Jharkhand
2. Dr. Satish Gogulwar
   Amhi Amchya Arogyasathi, District Gadchiroli, Maharashtra
3. Dr. Shantilal Kothari
   Academy of Nutritional Sciences, Nagpur, Maharashtra
4. National Institute for Women Children and Youth Development, Dindoshi, Nagpur, Maharashtra
5. SudhanshuShekhar
   Madhya Pradesh Voluntary Health Association of India, Indore, Madhya Pradesh

The Surveys referred to: The *District Level Household and Facility Survey* is one of the largest ever demographic and health surveys carried out in India, with a sample size of about 700,000 households covering all the districts of the country. The Ministry of Health and Family Welfare (MoHFW), Government of India, initiated the District Level Household Surveys (DLHS) in 1997 to provide district level estimates on health indicators to assist policy makers and program administrators in decentralized planning, monitoring and evaluation.

The National Family Health Survey (NFHS-3) is the third in a series of national surveys; earlier NFHS surveys were carried out in 1992-93 (NFHS-1) and 1998-99 (NFHS-2). All three surveys were conducted under the stewardship of the Ministry of Health and Family Welfare, Government of India, with the International Institute for *Population Sciences*, Mumbai, serving as the nodal agency. Apart from conducting a Population Census and monitoring the implementation of Registration of Births and Deaths Act in the country. The Office of the Registrar General, India under the Ministry of Home Affairs, gives estimates on fertility and mortality using the *Sample Registration System* (SRS). The SRS is the largest demographic sample survey in the country to, among other indicators, provide direct estimates of maternal mortality through a nationally representativesample. Verbal Autopsy instruments are administered for the deaths reportedunder the SRS on a regular basis to yield a cause-specific mortality profile in the country.

03 HEALTH SERVICES IN INDIA

Structure: The health services sector in India comprises both public and private health services. Within this multiple system, allopathy, ayurveda, homeopathy, unani, siddha and traditional health practices exist alongside each other. Allopathy is dominant, as even practitioners within non-allopathic systems primarily practice allopathy.

The public sector ownership is the shared responsibility between the Central government, the states, and municipal and panchayat local governments. In addition, there are public facilities for selected occupational groups like the Employees State Insurance Scheme, defence, Central Government Health Scheme, railways, post and telegraph and mines. The Centre takes the lead in financing some public health activities through centrally sponsored programmes. The states are responsible for programme implementation and service delivery.

Private sector ownership is both - for-profit, and not-for profit. The former can be individually or partnership owned clinics, nursing homes, diagnostic centres etc. It can also include corporate ownership or be based on a co-operative model. Privately owned not-for-profit health services are usually trusts or societies, i.e. NGOs. Again, these could range from teaching hospitals, hospitals and nursing homes, clinics and dispensaries to diagnostic facilities.

Historical Perspective: The colonial period set the background for public health in India. Initially the health of the British armed forces and personnel in India was the primary concern. The large epidemics that took place gave form to public health service delivery and institutions, as well as research. The Bhore committee, appointed in pre-independence days, made historic recommendations based on two principles. One, health care was the responsibility of the state. And two, health care should be made available irrespective of peoples' capacity to pay. The focus was on primary, rural health care, on prevention and the linking of health care with overall development. However, this was not taken up at all, even though the Government of India officially accepted the recommendations. So, while many advances were made after Independence, such as advanced research institutions, medical colleges and tertiary care institutions, this led to a more urban centred, technology based (i.e. bio-medical approach), doctor-centred, hierarchical/top-down, curative approach to health care. By the 1970s, alongside international developments such as the barefoot doctors of China, and the signing of the Alma Ata in 1978, there was some rethinking. Health infrastructures in rural areas improved with the setting up of Primary Health Centres (PHC) and the recruitment of village workers. By then, however, the 'large population' myth had taken over. 'Family Planning' became a focus. The primary tasks of village level workers became family planning 'targets', malaria control, immunisation etc and hence, once again the implementation of vertical programmes.

The population policy programme created a perspective of development linking large populations with the consumption of resources. This perspective did great damage, not only by physically engaging trained personnel and money in the sterilisation programme, but by ignoring all other health needs of local populations. For example in Maharashtra, PHCs services rendered for delivery are 72% while for sterilizations it is 93%[5]. Community health, prevention and general curative services took a back seat. As a result people rely on the private sector.

Present Situation: The private sector today provides more than 80% of health services. This is in a country where a significant percentage of the population do not have enough resources to meet their food needs. In fact, if looked at in terms of health expenditure, public expenditure (i.e. government expenditure) totals 20.3%, whereas private expenditure (i.e. what households pay,

Table 1: Shortfall in Health Personnel - All India

For the Existing Infrastructure	Required (R)	Sanctioned (S)	In Position (P)	Vacant (S-P)	Shortfall (R-P)
Multipurpose Workers (Female)/ ANM at Sub-Centres and PHCs	167657	162772	149695	13126 (8.06%)	18318 (10.93%)
Health Workers (Male)/MPWs (M) at Sub-Centres	144998	94924	65511	29437 (31.01%)	74721 (51.53%)
Health Assistants (Female)/ LHV at PHCs	22669	19874	17107	2781 (13.99%)	5941 (26.21%)
Health Assistants (Male) at PHCs	22669	24207	18223	5984 (24.72%)	7169 (31.62%)
Doctors at PHCs	22669	27927	22273	5801 (20.77%)	1793 (7.91%)
Total Specialists at CHCs	15640	9071	3979	4681 (51.60%)	9413 (60.19%)
Radiographers at CHCs	3910	2400	1782	620 (25.83%)	1330 (34.02%)
Pharmacists at PHCs and CHCs	26579	22816	18419	4445 (19.48%)	4389 (16.51%)
Lab Technician at PHCs and CHCs	26579	15143	12351	2792 (18.44%)	9509 (35.78%)

Note: For calculating the overall percentages of vacancy and shortfall, the States/UTs for which the human resources position is not available, have been excluded. Also, the shortfall in India has been derived by adding State-wide shortfall figures of, but ignoring the existing surplus in some of the States.
Source: Bulletin of Rural Health Statistics in India, Special Revised Edition, MOHFW, CoI. (2006).

what businesses put in for their workers, and what NGOs contribute) totals 77.4% and external support totals 0.11% of the total health expenditure in India[6]. What people pay to access health care totals 72% of all health expenditure in India, and this is mostly for curative care services. It is no wonder then that the third highest cause of the current epidemic of farmer suicides (in Maharashtra) is indebtedness due to illness costs[7].

In addition, the practically unregulated private sector is fed by the large numbers of doctors churned out by medical colleges (50,000 MBBS graduates per year), 80% of whom practice in the private sector. Thus we have a picture where profit dominates over health needs.

In addition, there is a significant brain, drain where doctors trained cheaply in India serve populations in the USA and Europe. In a reply in Indian Parliament, health minister Ghulam Nabi Azad recently said that over 3000

5 *Tathapi Presentation to the Paul Hunt Taskforce on Maternal Mortality, (2005)*

6 *National Health Accounts, Table 1.1: Total Health Expenditure in India, (2001-02)*

7 *Tata Institute of Social Sciences*

Indian doctors have migrated overseas in the last three years. So India just doesn't have enough doctors. There are only 6,130,000 physicians in the country, against a requirement for 13,300,000 – a staggering shorfall of just over 50%, according to the World Health Statistics 2010 report. The table above shows the shortfall in health personnel in categories (extracted from the 11th plan vision document, Government of India).

The WHO report on Health Workforce in India has this to say. ***"Evidence suggests that for the most part, formally trained and qualified doctors in rural areas are available mainly through the government's public health system. A comparison of these public sector doctors available in the rural PHCs and CHCs in the public health system in different states, with the total numbers of doctors reveals sharp contrasts. The ratio of rural doctors to the total rural population is far less than the ratio of total doctors to total population."***

About nursing staff it continues, ***"It is estimated that only about 40% of the nearly 1.4 million registered nurses are currently active in the country because of low recruitment, migration, attrition and drop-outs due to poor working conditions." (GOI, NCMH, 2005)*** Besides permanent migration, temporary migration may also have a profound and underestimated impact on the Indian nursing workforce[8]. Temporary migration is not recognised as shortage, and therefore unseen.

In many states and regions, public health care systems in rural areas are in shambles. Extreme inequalities and disparities persist both in terms of access to healthcare as well as health outcomes. This large disparity across India places the burden on the poor, and especially on women, scheduled castes, and tribes. Inequity is also reflected in the availability of public resources between the advanced and less developed States.

Urbanisation: Poor agricultural productivity has led to increase in the number of urban poor. As per the 2001 census, 42.6 million people lived in urban slums spread over 640 towns and cities. This number is growing. Though the coverage of health and family welfare services in urban areas is much better than in rural areas, lack of water and sanitation and the high population density in slums lead to rapid spread of infections

Peoples' experiences of health services: Voices of TdH Partners

"We have had to fight to activate the health services. No official came to the area where we work. They only give beautiful reports without visiting'

Sr Joel, Jharkhand

"In Maharashtra more than 40% of its population live in urban areas, of which almost half live in slums. There is no real health service that reaches out to people in urban slums. In a city like Nagpur we found the neo natal mortality rate to be 37% or per 100.000 births?? This shows that the health services is actually non-existent.'

Dr Gogulwar, Nagpur

The ANM never visited the villages regularly. We started a series of dialogues within the community; let them know about what services should be available to them. Then they conducted dialogues with the ANM and other officials. Now visits are regular and the services have improved. People should participate and monitor. They too have a right to speak, not just blindly follow a programme.

VHAI, Madhya Pradesh

These settlements have high incidences of vector-borne diseases, asthma, tuberculosis, malaria, coronary heart diseases, diabetes, etc. Poor housing conditions, exposure to heat and cold, air and water pollution, and occupational hazards add to the environmental risks for the poor. Thus, even though there is a concentration of health care facilities in urban areas, the urban poor lack access; initiatives in the country to date have been limited and fragmented. The table presented here (3.1) shows that though urban indicators for children and pregnant women are less than rural indicators, they are nonetheless high.

Table 2.: Urban Rural Health Indicators

	Crude Birth Rate (per 1000)	Crude Death Rate (per 1000)	IMR (per 1000 live birth)	Prevalence of Anaemia among Children 16-15 months (%)	Prevalence of Anaemia among Pregnant Women (%)
Urban	19.1	6.0	4.0	72.7	54.6
Rural	25.6	8.1	6.4	81.2	59.0
Total	23.8	7.6	5.8	79.2	57.9

Source: Ministry of Health and Family Welfare (MOHFW, 2006) and NFHS-3, IIPS (2006-06)

National Programmes

The main national programmes are the Reproductive and Child Health Programme (RCH), the National Rural Health Mission (NRHM) and the Integrated Child Development Services (ICDS). Another significant programme the Janani Suraksha Yojana (JSY), is part of the NRHM, which is a cash transfer to promote deliveries in institutions. India has not achieved more than 55%[9] in any of the priority interventions for reproductive health, child health and nutrition. In their paper, Ramani and Malvankar discuss the fact that the managerial aspects of implementing programmes are very low. Planning, an understanding of key concepts, and recording of child deaths, as implemented by officials from the Indian Administrative Service (IAS) cadre are not strong enough to ensure results. Even simple interventions require good management skills.

Some of the main schemes are detailed here.

Integrated Child Development Scheme (ICDS)

ICDS has grown to be one of the world's largest programmes for early childhood development, with more than 6000 operational projects, 1 million Anganwadi Centres, and supplementary nutrition provided to more than 70 million children (in the age group 0-6 years) and 14 million pregnant and lactating mothers. Yet the decline in child malnutrition has been very slow over the last 15 years[10]. Many evaluations show that the ICDS has not been successful in providing services to pregnant women and under-3s, as in practice it focuses on children between the ages of 3 to 6 years.

Both national surveys (NHFS-3) as well as local organisations (Chetna Bharati, VHAI MP, Dr Kothari, Nagpur) are reporting that malnutrition has gone up. This is even happening in places where the ICDS has been in existence for many years.

However, the ICDS is not to be dismissed; its greatest strength lies in the large workforce of anganwadi workers available and its physical presence (anganwadi centres) in urban and rural areas as nodal points for implementing programmes.

8 *Michael Hawkes, Mary Kolenko, Michelle Shockness and Krishna Diwaker, Nursing brain drain from India, Human Resources for Health, 7:5 doi:10.1186/1478-4491-7-5, (2009)*

9 *Paul Vinod Kumar, Sachdev Harshpal Singh, Mavalankar Dileep, RamachandranPrema, SankarmariJeeva, Bhandari Nita, SreenivasVishnubhatia, SundaramanThiagarajan, GovilDipti, Osrin David, Kirkwood Betty*

10 *Kaveri Gill, A Primary Evaluation of Service Deliveryunder the National Rural Health Mission (NRHM):Findings from a Study inAndhra Pradesh, Uttar Pradesh, Bihar and Rajasthan, Working Paper 1/2009 – PEO Planning Commission of India, (May 2009)*

Integrated Child Development Scheme (ICDS)

Launched on 2nd October 1975, the ICDS Scheme is now one of the world's largest and most unique programmes for early childhood development. ICDS is the foremost symbol of India's commitment to her children – India's response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the other.

1. Objectives:
to improve the nutritional and health status of children in the age-group 0-6 years:

i. to lay the foundation for proper psychological, physical and social development of the child;
ii. to reduce the incidence of mortality, morbidity, malnutrition and school dropout;
iii. to achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and
iv. to enhance the capability of the mother to look after the normal health and nutritional needs of her child through proper nutrition and health education.

2. Services:
The above objectives are sought to be achieved through a package of services comprising:

i. supplementary nutrition,
ii. immunization,
iii. health check-ups,
iv. referral services,
v. pre-school non-formal education and
vi. nutrition & health education.

Major objectives of NRHM include the following

i. to raise public spending on health, with improvements in community financing and risk pooling;
ii. to provide access to primary healthcare services for the rural poor, with universal access for women and children;
iii. to see a concomitant reduction in IMR / MMR / TFR;
iv. to prevent and control communicable and non-communicable diseases; and
v. To revitalize local health traditions.

The strategies employed by NRHM are

a. The skilled Birth Attendant and Emergency Obstetric Care
b. Home Based New Born care
c. Sick Newborn Units
d. Integrated Management of Neo Natal and Childhood Illnesses (IMNCI)
e. Strengthening Immunisation services
f. Setting up Nutritional rehabilitation centres.

National Rural Health Mission (NRHM)

As a part of its socially progressive Common Minimum Programme, the UPA Government launched the National Rural Health Mission (NRHM) in 2005. It aimed to undertake an 'architectural correction' of the public health system to enable it to effectively absorb increased expenditure in order to provide accessible, affordable and accountable primary health care services to poor households in remote parts of rural India. The plan was to develop health systems in eighteen 'focus' states with relatively poor health indicators, mostly the Empowered Action Group (EAG) states of the central north Indian belt and the northeast region of the country. NRHM is the largest primary health care programme being run in any single country.

Visible manifestations of this 'architectural correction' include the provision of a flexible financial pool for innovative and need-based decentralized utilisation of funds at state level, alongside provisos for planning and management at district level. Furthermore, they include the appointment of female health activists (ASHAs) and

Foto ©tdh India

PRIs, such as village health and sanitation committees (VHSCs), as a means of fostering partnerships between the community and peripheral health staff to achieve desired outcomes[10]. The training of more than 700,000 Accredited Social Health Activists (ASHA) to be able to achieve the goal of one trained worker for every 1000 members of the population is also commendable. However, there is criticism regarding the quality of training and the ability of the ASHA to deal with child mortality symptoms[11].

The main achievement of the NRHM has been the large scale increase in the availability of funding. Community based monitoring and proactive roles of Village Health and Sanitation committees and Rogi Kalyan Samitis (Patients Welfare committees) have somewhat restored the confidence of the community in the public health system. The report on community based monitoring of health services in Maharashtra show an increase in the use of public health services, some quite significant. In the Thane district, for example, the outpatient department of the PHC has registered an increase from 767 to 1028 per month[12]. Community based monitoring includes filling out health report cards (of the availability of government services, by trained village health committee members), public hearings of grievances, networking of civil society organisations, state level dialogues, and increased media coverage of conditions in public health systems which in turn lead to action for improvement.

11 *Chandrakant Lahariya, Rajesh Khanna and Deoki Nandan, Indian Journal of Pediatrics, Volume 77, (March 2010)*

12 *SATHI Pune, State Nodal NGO, Community Based Monitoring of Health Services under MHRM, Maharashtra, India*

RCH Phase II programme was launched on 1st April 2005

Salient features of RCH - II Programme:

- Adoption of Sector-wide approach which effectively extends the programme reach beyond the RCH to the entire Family Welfare sector.
- Building State ownership by involving states and UTs from the outset in the development of the programme.
- Decentralization through development of District and State level need based plans.
- Flexible programming with a view to moving away from prescriptive scheme-based micro planning and instead allowing States to develop need based work plans with freedom to decide upon programme inputs.
- Capacity building at district, state and central levels to ensure improved programme implementation. In particular, the emphasis is on strengthening financial management systems and monitoring and evaluating capabilities at different levels.
- Adoption of the logical frame works as a program management tool to support an outcome-driven approach.
- Performance based funding to ensure adherence to programme objectives, reward good performance and support weak performers through enhanced technical performance.
- Pool financing by the development partners to simplify and rationalise the process of assessing external assistance.
- Convergence, both inter sectoral as well as intra sectoral to optimize utilization of resources as well as infra structural facilities.

Source: MOHFW 2011

The Reproductive and Child Health Programme

In India, the Reproductive and Child Health Programme aims at providing at least three antenatal check-ups which should include a weight and blood pressure check, abdominal examination, immunization against tetanus, iron and folic acid prophylaxis, as well as anaemia management[13]. This is to ensure that problems that women could encounter during pregnancy are avoided thus saving mortality and morbidity for both the mother and the child.

The second phase of the RCH programme i.e. RCH II commenced on 1st April 2005, the five year file 2010. The main objective of the programme is to bring about a change in three main critical health indicators, i.e., to reduce the total fertility rate, infant mortality rate and maternal mortality rate with a view to realizing the outcomes envisioned in the Millennium Development Goals, the National Population Policy 2000, the Tenth Plan Document, the National Health Policy 2002and Vision 2020 India.

Each activity is planned and reported separately; there does not seem to be a continuous service from mother to child care even within the NRHM and RCH II programmes. If the government is to reach its intended MDG goal of a decline in IMR by the expected 6.74 percent (the current rate of decline being 1.9 per cent per annum), a major shift in political resolve will be required. This will require a greater focus on prevention programmes; the breast feeding promotion programme, for example, will need to be launched and implemented within the NRHM.

Insurance

The formal employment sector has been able to benefit from the existing health insurance schemes in the country. Besides, the private companies, the two major schemes are the Central Government Health Insurance Scheme and Employee State Insurance Scheme which provide insurance to workers and their families. The first is for central government employees and the second for all those working in establishments with more than 10 workers. However, India's insurance-based social protection programmes are yet to make any impact on the un-organised sector. The Universal Health Insurance Scheme and the Yashashvini were non starters. The very large informal sector which constituted 86 per cent

Table 3: State-wise Innovations under NRHM

For Safe motherhood	
Birth Waiting Rooms	Andhra Pradesh
Janani Surakha Vahini	Karnataka
Janani Express Yojana	Madhya Pradesh
Mamta Friendly Hospital Initiatives	New Delhi
Saubhgyawati Scheme	Uttar Pradesh
Ayushmati, Vandemateram Schemes	West Bengal
For infant and child survival	
Ankur Project	Maharashtra
Bal Shakti Yojana	Madhya Pradesh
Panchamrit Campaign	Rajasthan
Kano Parbo Na	West Bengal

The Kangaroo Mother Care model is to prevent hypothermia in low birth weight and pre-term babies. The infant is placed between the mother's breast in direct skin contact, given exclusive breastfeeding and discharged home early. Babies receive Kangaroo Mother Care in the Neo natal ICU in some hospitals such as KEM Mumbai, and tested as part of home based care in Vadu, Pune, results in reducing duration of hospital stay, morbidity & mortality in these very low birth weight babies.

Breast milk bank for sick and abandoned babies Dr Fernandes, a government doctor, promoted Asia's first human milk bank at LokmanyaTilak Municipal General Hospital (LTMGH) in Sion, Mumbai. She created a record of sorts by collecting 924 litres of milk from "mother donors" Fernandez, who has made it a mission to promote breast feeding, cites scientific data on how human milk given to a pre-term baby on a ventilator prevents diabetes, asthma and other allergies'.

of all workers (about 393.2 million) in 2004-05 is an impediment to implementation and expansion.

Health Insurance for the Poor: *Rashtriya Swasthya Bima Yojana* (RSBY): This is a central scheme also assisted by the German Development Cooperation. This is for persons under the poverty line, and provides cashless coverage of all eligible health services, provision of Smart Card, provision of pre and post hospitalization expenses and a transport allowance of Rs.100 per visit. Within the NHRM, some states such as Andhra Pradesh and Rajasthan are now attempting schemes to provide treatment of major ailments requiring hospitalisation and surgery. But although they do include a provision for protecting against congenital anomalies in young children and in pregnancy related complications, we still do not know how beneficial this has been to children under age two.

NGO Initiatives: Many NGOs such as the Comprehensive Rural Health Programme – Jamkhed, the Comprehensive Rural Health Project in Mandhwa, Maharashtra, the SEWA in Bharuch Gujarat, the RUHSA,

13 *Ministry of Health and Family Welfare, 2005 as quoted in the NFHS-3 document (2008)*

in Vellore Tamil Nadu, SEARCH, Gadchiroli Maharashtra, Vivekananda Girijana SevaSamiti, Karnataka, the Comprehensive Labour Welfare scheme and United Planters Association of Southern India, Idukki and the Raigarh Ambhikapur Health Association have shown that community models based on village health workers work very efficiently, are cost effective and provide first level care quickly. These programmes train and rely on village health workers to identify and provide first level care within the community itself. Thus more than 4/5th of morbidity are taken care of within the community itself. It creates a model of self-reliance and outreach to even remote communities.

It is on the basis of these models that the PHC system of the government and the appointment of the village health worker (i.e. the multi-purpose worker and within the present NRHM, the ASHA) is based. Specifically in the context of neo-natal deaths, there are three programmes that NGOs have pioneered (see boxes) that need mentioning.

In the field of child nutrition Bharat Gyan Vigyan Samiti's 100 block plan has results in improving the nutritional status of children. Here children are weighed once every 6 months, and the level of malnutrition is charted. Trained health activists visit families of children at risk regularly to ensure adequate feeding practices, utilization of services and optimal disease prevention and management strategies. The central activity in the entire programme is training the activists to be able to analyze the child's ill health in its social setting and be able to enter into a dialogue with the mother to suggest optimal practices instead of merely prescribing as advice a standardized set of do's and don'ts. In addition, there are innumerable initiatives by local, regional and national organisations to prepare and test recipes for ready to use foods, or hot meals, and supplements to combat malnutrition in young children and pregnant women. These are prepared and delivered with the help of local women self help groups.

The ANKUR project:

This is a model of Home Based Neo natal care to prevent deaths in the first 28 days of life. The project involved replicating the effort of SEARCH in seven NGOs throughout different parts of Maharashtra, in tribal, rural and urban slum areas. Traditional birth attendants, the family (mother and grandmother of the neonate), and the health worker were promoted as four pillars of home based newborn care. These workers provided antenatal health education, attended deliveries, took care of newborns at the time of delivery, followed up newborns for their first 28 days and intervened if needed.

image ©Tathapi Trust

04 WHY DO CHILDREN GET SICK OR DIE?

The test of the morality of a society is what it does for its children.
Dietrich Bonhoeffer (1906 - 1945)

The Determinants of Child Health

During pregnancy and the first two years of a child's life (first 1,000 days from conception), nutrition and basic health care are crucial for a child's physical and mental development. Various factors result in the high morbidity and mortality of children we see in India today. Infant mortality and morbidity is particularly high. It is disturbing that though child health programs have been implemented in India for a long time, repeated health surveys have found poor coverage of interventions[14].

Research on intergenerational factors that might also predispose a child to increased health adversity remains limited. However, to put it simply, we know that poor maternal health is a pre cursor to poor child health.

a. Maternal Health

The poor status of maternal health itself is unavoidably linked to the gender disparities that pervade all aspects of life in India. These have been well documented: the low socio economic status of women, the high levels of under-nourishment and anaemia, the double work burden, low levels of education, the low availability of secure working conditions, violence, the falling sex ratio and so on.

a. 1) Maternal Mortality Ratio

This low status of women, poverty, and the lack of good health services add up to the unacceptably high rates of maternal mortality (MMR: 212 per 100,000 live births, SRS, June 2011) we see right across India today. Madhya Pradesh accounts for 379 maternal deaths per 100,000 live births and rates third in maternal mortality nation-wide. For Jharkhand it is 261, whilst Maharashtra is reported to be close to the MDG goal i.e. 104.

a. 2) Maternal stunting and under nutrition

The average Indian child gets a rather poor start in life. Even before birth, he or she is heading for disaster due to poor ante-natal care and maternal under-nutrition. This is a key indicator of maternal health, and has a direct influence on the chances of wholesome life for the children born to such mothers. Rates of maternal malnutrition are among the worst worldwide. These are reflected as low body mass index as well as widespread micro-nutrient deficiencies such as iron and iodine. Interventions directed directly to such micro- nutrient deficiencies have been shown to significantly reduce both maternal mortality as well as infant mortality. Maternal malnutrition is associated with foetal malnutrition. Low birth weight has been shown to be associated with poor maternal intake of green leafy vegetables and relatively high maternal energy expenditure and work load[15]. In the Lonkheda sub centre in the Nandurbar district of Maharashtra, researchers found the average weight of mothers calculated before pregnancy to be 39 kgs. Low body weight is itself a risk factor in pregnancy.

Besides under nutrition /malnutrition, maternal height can be a useful marker for characterizing intergenerational linkages in health because adult height reflects the mother's health stock accumulated through the course of her life, especially the social and environmental exposures in her early childhood. In other words, a mother's social and nutritional environment during early life is a critical determinant of the subsequent outcome of her children's health. In a large, nationally representative survey[16] of children younger than 5 years in India, an inverse association between maternal height and child mortality was found. ***"Short maternal height has been shown to be a risk factor for low birth weight and intrauterine growth retardation. Low birth weight, meanwhile,***

image ©Tathapi Trust

has been shown to be associated with subsequent risk of mortality and anaemia, stunting, wasting and underweight". The study suggests that this may be of higher critical value than even nutrition during pregnancy. Talking about the effects of maternal height on a child, it is reported[17] that even a 1 cm increase in maternal height could decrease the risk of child mortality by 2%, and the risk of the child being underweight by 3%.Thus we find that over the last three decades, there has not been any significant improvement in the maternal factors responsible for low birth weight in children[18].

a. 3) Ante-natal care

Antenatal care (ANC) refers to pregnancy-related health care, which is usually provided by a doctor, an ANM, or another health professional. Ideally, antenatal care should monitor a pregnancy for signs of complications, detect and treat pre-existing and concurrent problems within pregnancy, and provide advice and counselling on preventive care, diet during pregnancy, delivery care, postnatal care, and related issues. The pregnancy-related health problems most commonly reported (NHFS 3) are excessive fatigue (48 percent) and swelling of the legs, body, or face (25 percent). Ten

14 *LahariyaChandrakant, Khanna Rajesh, NandanDeoki, Primary Health care and Child Survival In India, Indian Journal of Pediatrics, Volume 77, (March 2010)*

15 *Dharmalingam A et al, Nutritional status of Mothers and Low Birth Weight in India, Maternal and Child Health Journal, (2010)*

16 *Subramanian, S.V., Akerson, Leland K, Davey Smith, George, John, Neetu A., Association of Maternal Height with child Mortality, Anthropometric Failure, and Anemia in India. (Reprinted) JAMA, Vol 301, No 16, (April 22/29 2009)*

17 *Quoted by The Indian Express, April 24, 2009 Indian-American researchers at the Harvard School of Public Health (HSPH) April 22-29 issue of the American Medical Association journal*

18 *Ramachandran, Prema, Nutrition and Child Survival in India, Indian, Indian Journal of Pediatrics 77, (2010)*

Table 4: Maternal and Child Health Related Indicators

Proportion (%) of mothers who had:[a]	1998-99 (NFHS-2)	2005-06 (NFHS-3)
No tetanus immunization during pregnancy	33	n/a
No antenatal check up	34	23
No iron or folic supplement	42	n/a
No assistance from health professionals at delivery	58	52

Source: National Family Health Survey 1998-99. 2005-6

percent of mothers had convulsions that were not from fever and 9 percent reported night blindness. Full ANC requires that a nurse visits a hamlet and physically performs a check-up of pregnant women at least three times during her pregnancy.

Existing ANC services leave much to be desired. The table presented here reports that about 1/3rd of all mothers do not receive a tetanus injection, an important protection against infection. More than 1/4th do not receive a single ante-natal check-up, and a majority of deliveries take place without trained assistance. Most of the time, the ANC is reduced to dispensing iron-folic acid (IFA) tablets and a tetanus injection. Even this (i.e. if women took the 100 IFA tablets) would make a significant difference to the health of the mother and child. The NFHS-3 reports that the number of anaemic pregnant women increased by eight percentage points since the last survey, now totalling 57.9%. Naturally the numbers of infants between 6 an 35 months who are underweight also increased to a whopping 79.2 per cent since the last survey.

In addition, at many sub centres there are no facilities for ANC – such as privacy, feotoscopes, blood pressure apparatus etc. Similarly, we see ANC clinics in Vidarbha (Maharashtra) being held in the house of the Patil (or chief), thus barring access to lower caste and tribal women (reported by Asmita Institute, Yavatmal in the CEDAW monitoring exercise 2004).

a. 4) Delivery

According to DLHS 2006, almost 52.3 percent of deliveries take place at home, of which only 5.7 percent are conducted by trained personnel. What is significant is that a third of deliveries in urban areas are home deliveries. Institutional deliveries in rural areas have increased from 40.9% (2002-04) to 47% (2007-08) as a result of NRHM. Most significant are the increases in hitherto low performing States – MP (66.4%), Rajasthan (50.2%), Bihar (47.3%), Orissa (43.8%). 49.7% of mothers throughout India receive post-natal care within two weeks of delivery, whereby this is true for 41.7 per cent in rural areas and 69.7 per cent in urban areas. Only 13.3 percent of all mothers received financial assistance for delivery under the Janani Surakhsha Yojana. In Chhattisgarh and Jharkhand it is reported that the money is lost to middlemen who arrange for transport.

a. 5) Maternal Age at Marriage

Marriage before the age of 18 years is quite common. Anita Raj in an analysis of the NHFS-3 data reports[19] that the majority of births to women married before the age of 24 were to mothers under the age of 18 years. Forty per cent were to mothers married before the age of 16, and 4.2% were to mothers married before the age of 13'. The mothers' age at the time of birth was also less than 18 for 19.2% of women who married below the age of 18. Ante natal care was less likely for mothers married as minors compared to those married at majority age. Additionally, compared to those married as adults, mothers married as minors were more likely to have no formal education, reside in a rural setting, live in poverty, have low Body Mass Index (BMI), and be Hindu.

One in ten children under 5 born to young mothers has experienced an acute respiratory infection in the past two weeks, whilst a similar proportion have suffered from diarrhoea. Almost half of the sample was described

as stunted or under weight, with about one in six reported as wasting. Seven per cent of children born in the past five years had died, with the majority of these deaths occurring in the first year after birth. Low birth weight infants constituted almost a quarter of births for young mothers.

The study concludes that the malnutrition indicators for children of mothers married as minors are worse than for the children of those married as majors, not just for reasons of socioeconomic vulnerabilities or of maternal malnutrition. However, the lack of autonomy, and being controlled by husbands and in-laws, may lead to a lack of ability to negotiate for adequate nutrition for their children, perhaps in the context of their own limited access to food.

a. 6) Violence against Women

Violence against women is a common everyday occurrence. Domestic violence in particular, has become a culturally accepted phenomenon. It knows no boundaries of religion, region, caste or class. It is a 'common', 'daily', 'widespread' affair. It is also a 'most endemic' form of violence resulting in untold physical and psychological harm and suffering to women. In turn, women have culturally accepted violence as normal, and as a woman's fate. Sexual abuse, gynaecological problems, menstrual difficulties, contraceptive side-effects, miscarriages, stillbirths and potentially life threatening clandestine abortions or childbirth are considered normal and women bear them silenly. It is known that battering increases during and after pregnancy. Most often it is the abdomen that is targeted (see box for case report, NIWCYD, TdH partner, Nagpur).

Battering during pregnancy may cause injury to the mother, premature labour, miscarriage and birth of premature or low-birth weight babies with reduced chances of survival. Battering could also increase if the child born is a girl - despite the scientific fact that the male sperm determines the sex of a child. Again, very often the woman is reluctant to have an abortion, but is pressurised into it by her family, by growing social and economic pressures and by existing population stabilisation policies. Physical violence within marriage increases the risk of experiencing foetal, infant and early childhood mortality. An analysis of NFHS-3 data shows that women who faced violence experienced higher peri natal and neo natal mortality. Overall, a 68% higher risk of infant mortality is associated with women who faced violence compared to the 'no violence group[20, 21])

Case Report
Address: Umared
Place of delivery: Ghuksi
Date of delivery: 26/07/2007
Type: home based
Person attending delivery: mother
Cause of Neo-natal Death: Still born
Sex of child: male

History
Physical abuse and beating by husband.
Two previous natural abortions.
Woman was hit on the abdominal area.
The foetus had turned black at the time of birth.

Notes
ANC done, but did not receive any health education. Being from another village, she came to the place of delivery (mother's house) on day of delivery.

Maternal Health: States under review

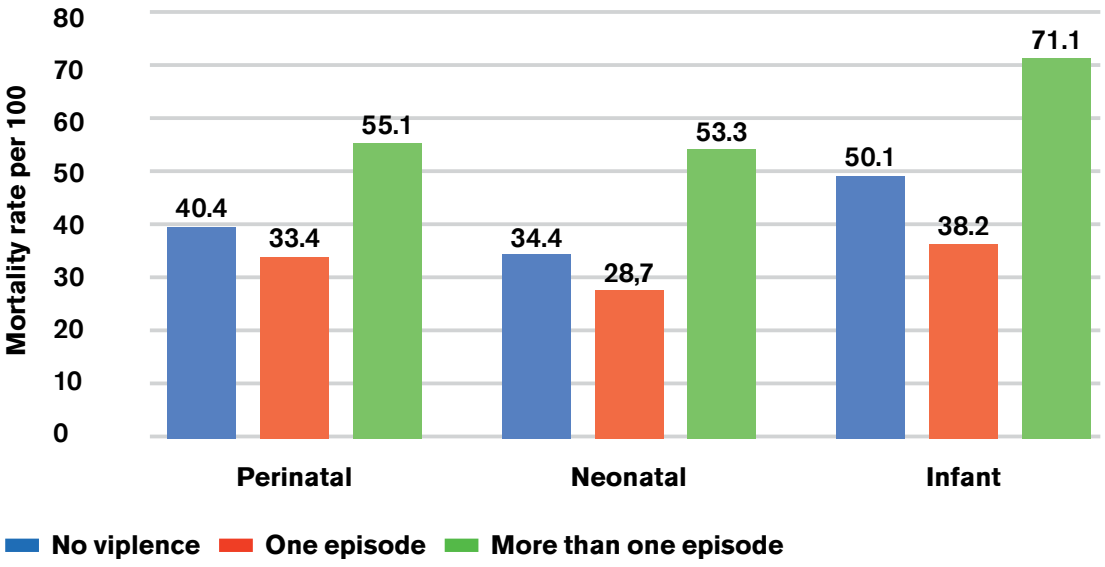
The highest percentage of women marrying before the age of 18 live in Jharkhand (60%), Madhya Pradesh (58%) and Chhattisgarh (51%). In these states, the number of men marrying before the age of 18 is also high. More than 90 per cent of women in Maharashtra receive antenatal care, whereas in Jharkhand this is the case for only 40.6 per cent of women. 11.3% of women in Chhattisgarh and 20.3% of women in Madhya Pradesh did not receive any care during pregnancy.

19 *Raj, Anita., The effect of o maternal child marriage on morbidity and mortality of children under 5 in India: cross sectional study of a nationally representative sample, BMJ 2010;340:b4258 doi:10.1136 bmj b4258*

20 *Population Council, Policy Brief on Health consequences of violence within marriage: Need for strengthening the health sector response, (August 2010)*

21 *Koenig Michael A, et al, Domestic violence and early child mortality in rural India: evidence from prospective data, International Journal of Epidemiology 2010:39:825-833*

Table 5



Perinatal, neonatal and infant mortality rates (per 1000) by violence exposure. 'Asterisk' indicates rate sigaificantly different from the 'no violence rate' at the 5% level

Across India, women do not straight forwardly consume IFA tablets, but have to be persuaded to do so. The problem is worse in the central India states and among tribal communities. Reports from organisations working in these places suggest that even if a woman receives an ANC check-up and IFA tablets, very often she will not take them. Locally available iron supplementations are necessary, and many organisations have developed syrups (Jharkhand) or powders (Maharashtra) from locally available foods to combat anaemia. This is important as the proportion of thin women is one of the highest in the country at 43 per cent for Chhattisgarh and Jharkhand. While anaemia is widely prevalent across all Indian states, in Jharkhand more than 2/3rds of all women are anaemic.

While more than 2/3rds of women were assisted by a trained person during delivery in Maharashtra, this figure drops to 27.8% in Jharkhand, 32.7% in Madhya Pradesh and 41.6% in Chhattisgarh (2006, NHFS). These figures have, however, gone up with the NRHM focus on institutional deliveries. However, we see much disparity among states. Similarly, with many implications for the health of a new born child, only 58.7% in Maharashtra, 17% in Jharkhand, 28.5% in Madhya Pradesh, and 28.4% in Chhattisgarh received any post-natal check-up within two days of birth.

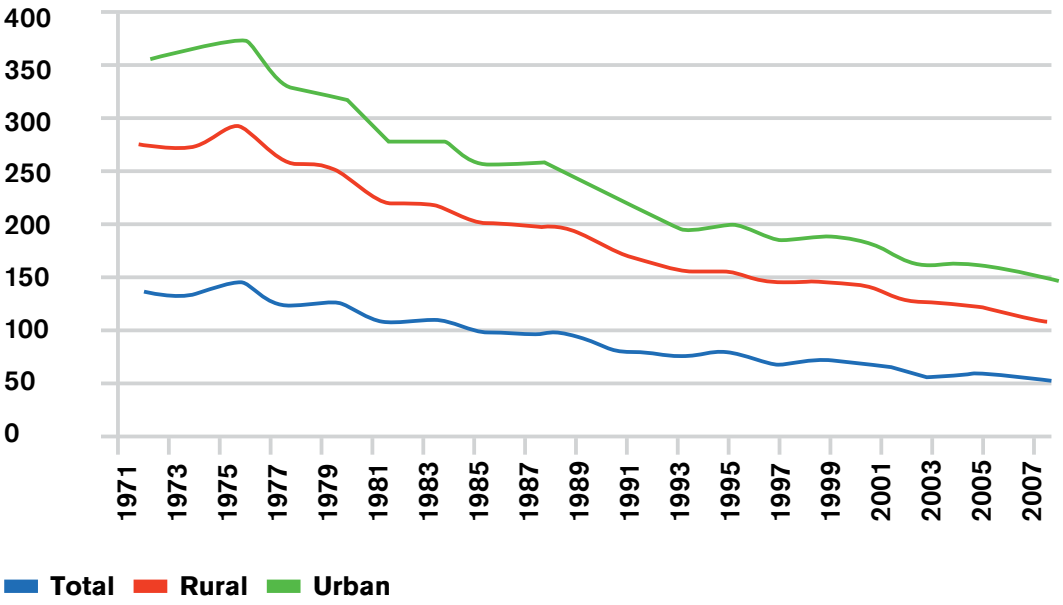
b. Child Related

b. 1) Infant Mortality Rate (IMR)

As in most other countries, the infant mortality rates in India have declined over the past 50 years, from 150 /1000 live births in the late 1950s to 50/1000[22] today. Nonetheless, the absolute levels of infant and child mortality are still too high. IMRs for male and female children are 52/1000 and 55/1000 live births respectively. The IMR for urban areas is 36/1000 and for rural areas 58/1000 live births. However, the system of collecting data has been questioned by NGOs who found rates in their project areas much higher than official data[23].

"I have my doubts about government stated IMR figures. When we studied infant deaths in 2000 we found that 80% of deaths were not being recorded. To date the health department is not able to record deaths in a systematic way. There is some recording by anganwadis, but that too is an underestimation. If there is a child death, it is followed by an investigation, and that increases the work of the anganwadi worker. Therefore, they prefer not to record it. Recording of births is better, but not of deaths. When we started our programme here in 2001, we found that neo natal deaths alone totalled 72, and after our interventions in 2006

Table 6



reached 36. And this is only neo natal deaths, not IMR". (Dr Gogulwar, tdh Partner, based in tribal, rural Gadchiroli district)

A study by C. Lahariya et al. estimates that "26.2 million births and 1.84 million under-5 deaths occurred in India in 2007. About 78% (1.44 million) of these deaths occurred in the first year of life (infants) including 943,000 in the neonatal period (0-27 days). As a result neo natal deaths account for 65% of infant and 52% of all under-5 deaths. Further 760,000 or 81% of neonatal deaths are estimated to have occurred within the first week of life. In summary, this review suggests that almost 4/5ths of child deaths occur during infancy. Likewise, 2/3rd of infant or half of all child deaths occur during the neonatal period. This trend is also borne out by other studies.

However, the programme focus so far has suffered from structural gaps, focussing on post neo-natal deaths, when neo-natal mortality accounts for 2/3rds of all infant mortality.

In the Gadchiroli study[24] it was seen that home-based neonatal care reduced IMR in the intervention villages from 72.8/1000 live births (in 1995-96) to a radical 31.1 (in 2001-03). In the control area the figures for the same years were 89.4 and 75.8/1000 live births. Therefore, in view of the potential, the disturbing factor is the slow progress the country is making on this front.

Though the rate of decline in IMR peaked in the 1980s, this has slowed down post 1991. In the last few years it has picked up again; however, the overall rate is only a slow increase.

In addition, it is seen that 80% of deaths occurred in 10 of the 35 Indian states and union territoris[25].

Table 7: Timing of under-5 child death

Age completed	Under-5 child death
Day 1	20 %
Day 3	25 %
Day 7	37 %
Day 28	50 %
1 year	75 %
5 years	100 %

Source: extrapolated from data from ICMR study (2008)

22 *SRS, (2011)*

23 *Abhay Bang, M H Reddy, M D Deshmukh, Child Mortality in Maharashtra, Economic and Political Weekly December 7, (2002)*

24 *Bang Abhay et al, Neonatal and Infant Mortality in the Ten Years (1993-2003) of the Gadchiroli Field Trial: Effect of Home-Based Neonatal Care, Journal of Perinatology, 25:S92-S107, (2005)*

25 *ChandrakantLahariya&Vinod K. Paul, Burden, Differentials, and Causes of Child Deaths in India, Indian J Pediatrics, 77:1312–1321 DOI 10.1007/s12098-010-0185-z symposium on child survival-iii, (2010)*

In our programme villages, child survival has improved steadily over the years. The infant mortality rate has from 86 / 1000 live births to the current 29.5 / 1000 live births, which is significantly lower than the current rate for rural Chhattisgarh which is at 59/1000 live births (SRS Bulletin, October 2009, Rural IMR). We have achieved this through sustained efforts in various aspects of maternal and child health.
The improved reach of antenatal services has enabled us to prevent malaria in pregnant women, thus increasing the birth weight of newborns. In 2009, we were able to get birth weights of 88% of newborns, and 80% of them weighed over 2.5 kg. Antenatal services have also enabled us to detect those with risk factors that can be addressed during pregnancy (like severe anaemia or pregnancy induced hypertension), and also those who need to deliver in an institution (e.g. abnormal presentation; rheumatic heart disease; multiple pregnancy).
The steep fall in the neonatal mortality rate has been the result of improved care provided to newborns at the community level and early identification and treatment of illnesses; as well as prompt referral to a facility when required. All our health workers, as well the TBAs we work with know the importance of warmth and breastfeeding in newborn care. Postnatal visits are made for the first ten days by the village health worker, who checks whether the baby is feeding well, and looks for signs of infection. Ensuring a clean delivery, as well as improved cord care, has reduced the incidence of neo natal sepsis.

Results of Our Work, downloaded from Jan Swasthya Sahyog Peoples' Health Support Group website, Chhattisgarh

b. 2) Perinatal and Neon-Natal care

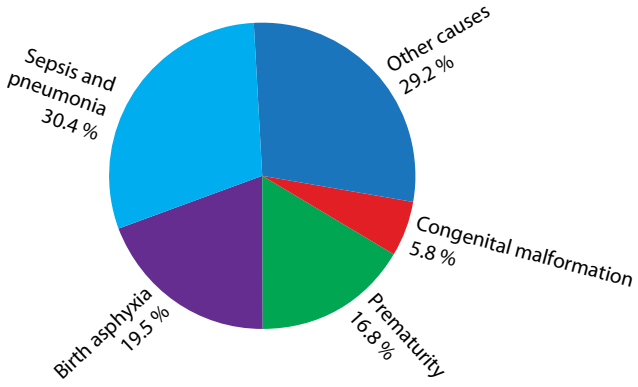
As we know the risk of a child dying is highest in the first month of life. Safe child birth and neo natal care are essential for reducing neo natal mortality. The main causes of death for newborns are in many cases preventable and manageable by skilled workers in community settings (low birth weight, simple infection); however when illness sets in, such as in the case of hypothermia, infection and respiratory distress, a higher level of skill and a facility-based setting is required. It is estimated that 12% of births are pre-term and also need emergency care.

Under the NRHM, the Janani Suraksha Yojana has led to a rapid increase in institutional deliveries; however the recommended stay of 48 hours could not be ensured, so there is no significant difference in neo-natal mortality. Yet it has also led to an increased amount of newborn care, especially for sick newborns. While the organizations we interviewed have all reported an increase in institutional deliveries, in Nagpur it was reported that children were now more prone to hospital infections. This was creating discontent among those who sent their families to institutions for delivery. It was also reported that in case of death in a hospital, the health personnel at village level, i.e., the ASHA, or the anganwadi workers often bore the brunt of the anger (reported in interview with Dr Gogulwar).

Only now is emphasis being placed upon community-based newborn care through Integrated Management of Newborn and Childhood Illness (IMNCI) and home-based newborn care, where ASHAs identify and refer sick newborns to a facility for follow-up care. However, developing the necessary skilled workforce necessary to manage early childhood diseases remains a great challenge.

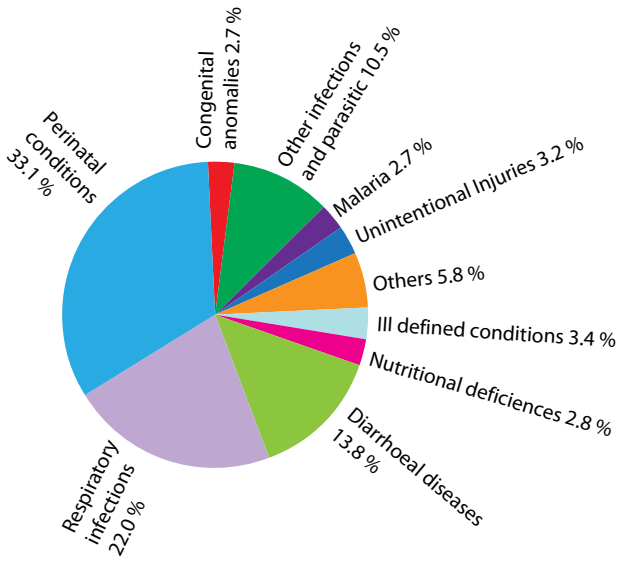
Several states have started establishing Sick Newborn Intensive Care Units (SNCU) with the assistance of UNICEF and the Norwegian Government, but the management of these units needs considerable strengthening, which would include skilled staff in place. Recently (2003) the WHO and UNICEF have jointly prepared guidelines for the treatment of childhood diseases, i.e. the Integrated Management of Childhood Illnesses. The Indian version (2009) developed by the departments of Health and Women and Child Development is known as the Integrated Management of Neonatal and Childhood Illnesses. This is a skill-based training programme. It is a component of the World Bank funded Reproductive and Child Health

Table 8: Causes of Neo-natal deaths in India, 2010



Source: Arora NK. The INCLEN Trust, New Delhi, 2010

Table 9: Top Ten causes of child death in India, RGI, 2009



II and is being implemented through a joint effort of UNICEF, the NRHM, the Government of India and six other partners.

The present status of Facility Based Newborn Care is as follows:

- Just 40.7% of births occur in institutions and post-natal care is provided to only 36.4% of live births (NFHS 2005-06).
- The NHRI (Neonatal Health Research Initiative by India Clen) in 24 centres throughout the country, suggested that only 1/3rd of the district hospitals and less than 20% of the CHCs/PHCs provide Essential Newborn Care Services.
- Health care facilities with newborn care staff and a medical officer trained in newborn care are available at 86.8% of District Hospitals, 86.0% of all First Referral Units (FRU), and 76.1% of all CHCs (DLHS - Facility Survey, 2006).
- Organisations working in India help provide technical solutions. The work of Jan SwasthyaSahyog in Chhattisgarh, and the work of SEARCH in Gadchiroli Maharashtra, have yielded dramatic results in home based care, and have also trained members of the community itself. This evidence is supported both by research as well as by the programmes implemented. There is a need to compare the hospital based solutions with those that are based in the community to ensure that long lasting, cheaper solutions are found. Only then will the gains be sustainable in the long run.

b. 3) Post Neo natal Deaths

India still accounts for the largest number of under-5 child deaths in any single country. The greatest number of deaths occur in the large and populated northern Indian states of Uttar Pradesh, Madhya Pradesh, Bihar, and Rajasthan. In Madhya Pradesh, the total number of under-5 deaths is more than twice the number of annual under-5 deaths in Maharashtra, which has the same annual birth cohort. Therefore, the large number of children being born does not explain the high number of under-5 deaths; India, in fact, has a higher under-5 mortality rate compared even to Indonesia, Brazil, China and Sri Lanka.

The major causes of death among children under-5 are shown in the diagramme alongside. However, there are few systematic and organised mechanisms for identifying and classifying the causes of death for children under 5 in India.

Gross inequities in child survival have been reported by many surveys (SRS, NFHS). Deaths are higher in

image ©MPVHA

We work with children under the age of 3 to prevent malnutrition and preventable diseases among dalit and primitive tribes Birhor and Baiga in Jharkhand. In 10 villages, out of 196 children under the age of 3 years, we found malnutrition in –

Grade 1	69 children
Grade 2	30 children
Grade 3	18 children
Grade 4	12 children

These are nomadic tribes that have traditionally depended on the forest. Now there are no forests left. Malnourishment is severe and mortality is high not just for children but for adults too.

tdh Partner, Sr. Joel, Chetna Bharati, Jharkhand

rural areas, among girls in the post – neonatal period, children of scheduled castes and tribes and children in the poorest 20% of the population. Macro data (NHFS-3) reports that children living in urban and peri-urban areas have better survival indicators than children in rural areas. Urban Christians in India have the best survival rates of all sub-groups. However, the experiences of NGO partners working on the field show that surveys may not reveal the entire true picture. Just as the experience of Chetna Bharati in Jharkhand shows us (see box), Dr Gogulwar, Tdh Partner narrates his experience of the urban slums of Nagpur where they found deaths and morbidities among the urban poor to be as high as among tribal Gadchiroli.

The high under-5 mortality and morbidity rate is due to low dietary intake, infections and poor access to health care.

b. 4) Immunisation

Immunisation is one of the most cost-effective interventions for preventing a range of major childhood illnesses, particularly in environments where children are under-nourished and may die from vaccine-preventable diseases. Immunisation has been one of the priority programmes since independence in 1947. The Universal Immunisation Programme was launched in October 1985 with the goal of achieving complete immunisation against six vaccine-preventable diseases by 1990. In 1995, Indian launched the pulse polio programme as a vertical programme. However, it is unfortunate that only 43.5 per cent complete immunisation had been achieved by 2006.

Full immunization coverage of children up to 2 years has gone up from 45.9% (2002-04) to 54.1% (2007-08). The most significant increases have hereby been in hitherto under covered areas – Bihar (20.7% to 41.4%), Jharkhand (25.7% to 54.1%), Rajasthan (23.9% to 48.8%), Orissa (53.5% to 62.4%), and Madhya Pradesh (30.1% to 36.1%).

Again, ANM and health service staff have to visit each hamlet regularly to ensure that immunisation takes place. Sr. Joel, Jharkhand reports that the ANM does not walk into the dalit's hamlets. She calls them to a central place. Who then is to ensure that all are covered? The same holds true for tribal communities living in far flung areas.

Operational deficiencies such as defunct cold chain equipment, vacant staff positions, weak surveillance of vaccine preventable diseases (other than poliomyelitis), and erratic implementation of fixed day, fixed place strategies are reasons for poor implementation. Cultural barriers also exist. But little effort has been made to encourage behaviour change.

The expanded Polio Eradication Programme has been running since 1995, and the Hepatitis B vaccination was launched in 2003. Both of these have been criticised for the large financial and administrative burden they have placed on the health services, compared to the minimal health burden within the Indian population. They also keep staff occupied for more than 100 days a year, to the detriment of routine programmes. These large vertical programmes with aggressive campaigns have been questioned on grounds of public health. It is perceived by public health activists to be the opinions of the private sector and international organisations, and industrial lobbying play a larger role in the vaccine policy than scientific evidence.

b. 5) Diarrhoea

One major goal of the 'Oral Rehydration Therapy Programme' is to increase awareness among mothers and communities about the cause and treatment of diarrhoea. The percentage of children under 2 years of age who suffered from diarrhoea in the two-week period before the survey was 42.5% in the NFHS-3. Knowledge about the Oral Rehydration System (ORS) was considerably low among rural, illiterate and ST mothers. However, ORS is a stop-gap measure that does not always manage to compensate for the lack of safe drinking water and clean living conditions, which in many places appear to remain unattainable goals. To assess the possible impact of ORT in reducing deaths due to diarrhoea, it is equally important to know the common practices with regard to the food and fluids usually given to children during diarrhoea. Rural, illiterate and ST mothers were much less likely to report correctly (NFHS-3) that children with diarrhoea should be given more to drink. Among children who suffered from diarrhoea during the two weeks preceding the survey, 26% were taken to a health facility. Again, the percentage taken to a health facility was much higher for urban than rural children, and also for children of more educated mothers. The percentage was particularly low for ST children and for children living in households with a low Standard Living Index. However, this is at the household level. At community level improved sanitation and a safe water supply would go a long way.

b. 6) Acute Respiratory Infections (ARI)

NHFS-3 reports that 6% of children under 5 show symptoms of ARI. Small variations in the prevalence of ARI by most of the background characteristics were observed. ARI was somewhat more common among children living in rural areas than among those living in urban areas. Children of mothers with at least middle school education seemed to have a lower occurrence of ARI than children of those educated below middle

school. The prevalence of ARI was higher among children in ST households and those having a low standard of living. The percentage of children with ARI who are taken to a health facility or provider is strongly proportionate to the mother's educational attainment and household standard of living. By caste/tribe, this percentage is lower for SC and ST than other backward classes or 'others'. By place of residence, urban children were taken more often to a health facility or provider than rural children.

b. 7) Nutrition

Poor nutrition and ill health affect learning abilities and preparartion for schooling. Based on weight-for-age criteria, the proportion of undernourished children was virtually the same in 2005-06 as in 1998-99. About a half of all Indian children were under-weight. In the same period, stunting declined from 45% to 38%; this decline is painfully slow. Low intake of fats and protein are responsible for this. Besides poverty, the variations in feeding beliefs and practices also responsible for poorer nutritional status of children. In our experience for instance, cooking separately for very young children is not common practice. Nor is the practice of feeding children. While time is also a constraint, most parents believe that children can feed themselves, and will eat on their own by age two.

More than half of all children are undernourished, and a vast majority suffer from anaemia. As many as 72.9% of the children up to the age of 3 in urban areas and 81.2% in rural areas are anaemic. The overall prevalence has increased from 74.2% to 79.2% over the NFHS surveys 2 and 3. By WHO child growth standards, 15.6% of children (1-3 years) are suffering from severe malnutrition.

In India, children living in the backward and drought-prone rural areas, urban slums and those belonging to socially backward groups like scheduled castes and tribal communities are highly susceptible to under nutrition. In Central India, a majority of the tribal communities show a high prevalence of child under nutrition. A study done in Raipur district, Chhattisgarh shows the difference in the nutritional status of different castes. The pattern of protein-energy malnutrition observed is primarily of mild to moderate intensity in Brahmin and moderate to severe intensity in Rawat and Teli (other backward caste) children. The findings clearly indicate various socio-economic causes such as

The results of the NNMB surveys of 1977 and 1996 show that there has ben little improvement in the nutritional status of children over the 20 year period. Only about 10% of children can be classified as normal, and there are no differences between boys and girls. **Over 90% of children had low weights for age and 45-50% of the children were classified in the moderate to severe malnutrition category.** The 1984 NNMB survey data from the urban areas was disaggregated to study the role of incomes in the percentual prevalence of malnutrition in children. In the HIG and MIG (High and Middle Income) groups 85-90% of the children were either normal or only mildly malnourished, and only 0.5% of children suffered from severe malnutrition. **However in the case of LIG, IL, the slum and the rural population the proportion of normal children was only between 12-20% and 40-47% could be classified as mildly malnourished.** A very large number of children (31-47%) could be classified in the moderate to severe malnutrition category, compared to 10-15% in the well off. The reason for such a high prevalence of malnutrition in the poor income households is obvious, shortage of foods appropriate for the child, mothers who have to work 10 to 12 hours a day without any holidays, inability to hire nannies because of low incomes, and absence of other kinds of support may be some of the important reasons for malnutrition. The slum population continues to be at a disadvantage despite their nearness to the health services (both the Government and the private sector) and other employment opportunities in the urban areas. These are not advantages, which the poor can use, because they are not supportive to mothers of young children; but with adequate purchasing power, the middle and upper classes are able to use these services.

Body Weights - Role of Nutrition, Veena Shatrugna, Medico Friend Circle Bulletin 288, 289, Sep-Oct 2001

illness treatment behaviour, better access of Brahmin children to government and private health services, food intake via better purchasing power. Similarly, the study also found that among the caste-communities, parent's education and attitudes towards child care are equally important. The extract in the text box here also explains how nutrition is a serious problem, affecting the low income groups severely. The analysis remains relevant even today.

Breast-Feeding: Breast feeding in India is virtually universal. However, less than 30% are exclusively breast fed up to 6 months. According to NFHS 3, the proportion of exclusively breast fed infants at 4 months of age was only 50.9% and that at 6 months a pathetic 9.7%. Delay in initiating breastfeeding is very common. Only 25% mothers initiate breastfeeding within the desired one hour after birth, and only 45% do so by the end of the first day. As many as 63% women discard colostrum.

Very few infants receive semisolid complementary feeds at 6 months of age; at 9 months of age it is only 46 per cent. Thus too early introduction of milk substitutes and too late introduction of complementary food are associated with the increased risk of under-nutrition and infections. Early breast feeding (within the first hour, with the possibility of saving 2,50,000 babies from dying annually[27]) and exclusive breast feeding (for six months) stands out as the single most effective intervention for child survival. It has been computed that exclusive breast-feeding for six months and appropriate complementary feeding would lead to a 20% reduction in IMR[28]. Data from NHFS-3 and DLHS-2 show that during the first few months Indian children are exclusively breast fed and are relatively free from infections. Introduction of animal milk between 3-5 months results in an increase in morbidity due to infections and an increase in underweight rates. A further rise in under-weight rates occurs between 6-11 months due to late introduction, inadequate quantity and low calorie density of complementary feeds, and an increase in morbidity due to infections. This is a result of both, cultural practices of feeding as well as unavailability of adequate nutrition.

Thus, under-nutrition increases in the first two years of life, largely due to poor breast feeding and weaning habits. There is a progressive increase in underweight rates, from 20% of babies up to 6 months to 58% in the 18-23 month age group.

Infant and Young Child Feeding (IYCF): Child malnutrition is a matter of grave concern, as India is home to nearly 40% of world's malnourished children. Various steps have been initiated by the government to combat malnutrition – development of IYCF guidelines, revamping and universalization of Integrated Child Development Scheme (ICDS) convergence of Mid-day Meal Scheme with rural and urban development, and establishment of Nutrition Rehabilitation Centers (NRC) for the management of severely malnourished children. The major concerns in this area are that despite a number of nutritional and social safety net programs, decline in malnutrition has been excessively slow. The reason could be the absence of a comprehensive nutrition policy integrating all the programs and lack of coordination between the health and nutrition sector. The focus of the ICDS scheme is primarily on food supplementation, rather than family education and child rearing practices.

India has produced "National Guidelines on Infant and Young Child Feeding" (2006) and an "Infant Milk substitutes Feeding Bottles, and Infant Foods" (Regulation of Productions, Supply and Distribution) Act from 1992, amended in 2003. However, implementation is a problem.

Traditionally, ICDS has concentrated on preparing children for school and thus, nutritional supplement reached children between the ages of 3-6, but missed many below those ages. Similarly, in the first five years of implementation, NRHM focused on ensuring institutional deliveries. This drive occupied existing staff and ignored traditional programmes of diarrhoea

27 *Mishra C.P, Indian Journal of Public Health Volume 54, Issue 2, (April-June 2010*

28 *Black R, Allen L, Bhutta Z et al, Lancent 2008, as quoted in Prema, Nutrition and Child Survival in India, Indian , Indian Journal of Pediatrics 77, (2010)*

management etc. We see the same picture with immunisation too.

Micronutrient Deficiencies: Micro-nutrients are the nutrients required in minute quantities for various body functions that are vital to maint ain good healthy life. Micronutrients of significant public health importance are iron, vitamin A, zinc and iodine. P. Kotecha et al, writing in the Indian Journal of Paediatrics says the following, ***"India has the largest number of Vitamin A deficient children in the world with 330,000 dying directly or indirectly every year due to this deficiency. Data has reported the prevalence of Bitot's sports in preschool children to be 0.7 per cent[29]. This was found to be more than 1% in scheduled castes and scheduled tribes. Folic Acid deficiency is recognised as a serious problem in India with more severe consequences and associated deformities. It is reported that 200,000 babies are born every year with neural tube defects which is 16 times the global average. Diarrhoea and pneumonia account for approximately half of all child deaths in India, and malnutrition contributes to over 61% of all cases of diarrheal death and 53% of all pneumonia deaths".***

Anaemia resulting from iron deficiency causes permanent neurological damage, resulting in suboptimal scholastic skills. This is turn leads to below average performance in class, or premature dropping out of school. It also triggers increased morbidity from infectious diseases.

The Government of India has run programmes for providing vitamin A, iron and iodine supplements for nearly 4 decades. Yet micronutrient malnutrition has increased in the last two decades. Implementation and operationalisation have been poor. Anaemia was found in 74% of children under 3 in 1998-99, increasing to 79% in 2005-06 (NHFS rounds 2 and 3). The pattern is similar across the country with the highest prevalence in the 6-23 month age group. This is the age at which the consequences are most severe, and where any damage caused is irreversible. The median intake of iron by young children between 12-35 months was as low as 12.3mg/day against the daily requirement of 28 mg[30]. Iodine deficiency disorders (IDD) have been recognised as a public health problem in India since the 1920s. Every year, over 13 million infants are born unprotected from IDD. As a result, 6.6 million children are born mentally impaired every year in India and intellectual capacity is reduced by 15 per cent.

Reviews shows that children aged 1-3 years in India currently consume 1/3rd of the recommended daily intake of iron, and 1/6th of the recommended dietary allowance of vitamin A. India has had a compulsory ban on non-iodised salt since 2007 (except in a few states), and thus later data may show an improvement in intake. There is no data on zinc, though it is believed that a mild to moderate deficiency exists across the country, which if eradicated will reduce the number of deaths due to diarrhoea.

There is much discussion going on in the country on the need for micronutrient supplementation in the form of ready to eat foods. However, micro nutrients do not work unless there is a sufficient intake of fats, protein etc. Many people advocate soya beans as a worthy supplement. These are supplied in many forms to anganwadi, yet are also met with resistance. The opposition to soya beans cites their toxic coverings and harmful effect, particularly on young children, as well as the harmful effect of introducing a foreign cash crop into agriculture. Dr Kothari, director of the Academy of Nutrition in Nagpur, cites how traditional lentils such as the protein rich lakhodi dhal have lost their place within agricultural produce and nutritional programmes. There is also a debate on imported ready to use foods, genetically modified rice, and iodised salt. This grave issue requires urgent political commitment and a very comprehensive policy covering inter-sectoral issues such as agricultural policy and food security.

b. 8) Disability

According to the National Sample Survey Organization (NSSO) Survey-2002, the prevalence of disability in India has been estimated at 1.8%. About 10.63 % of the disabled persons suffered from more than one type of disability, and 8.4 and 6.1% of all households in rural and urban India respectively have at least one disabled person. The prevalence of disability has been reported to be higher (1.85%) in the rural compared to urban population (1.5%) according to the NSSO Survey. The 2001 census estimated the prevalence of diability in India as 2.2% of the total population.

Young children are particularly vulnerable to disabilities which can be permanent. Yet much physical, mental and sensory impairment can be prevented. Even if the impairments have occurred, their undesirable physical, psychological and social consequences can be minimised. A disability prevention programme needs several measures to make it effective, viz. improvements in the educational, economic and social status of the population, the introduction of early detection and – intervention programmes, and improvement to health service delivery – particularly primary health care systems – that reach all segments of the population.

There are concerns about the identification of disability And given all the barriers to the healthy development of children, the likelihood is that childhood disabilities may results from infections, diseases and injuries. In 1999[31], the need to develop a simple tool to screen for the major disabilities of vision, hearing, motor, physical and cognitive functions was identified. Such a tool was administered in the urban slums of New Delhi, revealing an overall prevalence of 6.88 per cent. Another study done in South India (Natale, Joseph, Begen, Thulasiraj and Rahmathullah, 1992) showed that the prevalence rate in the lowest class was twice as high as it was for the next lowest class, reinforcing the role of poverty on disability in childhood. Sen (as quoted in World Bank 2005) reports that there is a clear decline in the proportion of people with disabilities of all severity (measured by the activity of daily living) as the wealth of households rises. There are more people with disabilities in poorer households in rural Uttar Pradesh and Tamil Nadu. The 2001 census also reconfirms this difference. However, while incidence among girls is less, neglect ensures that the level of morbidity is higher (for instance the chances of an infection reaching permanent impairment is higher) among girls. Urbanisation also takes its toll on younger children, who display more behavioural problems than rural children. A micro-study of a thousand children with cerebral palsy in North India has revealed that reasons may differ from those reported in western studies. Severe birth asphyxia is an important predisposing factor for cerebral palsy. Antenatal factors are also causative factors, though not necessarily direct causes[32].

b. 9) Sex selection

The disparities between boys and girls prevail over all indicators. Girls consistently have a lower status in society. This begins pre-birth with the all pervading preference for male children that exists in society. The misuse of sonograph imaging (by doctors for profit) during pregnancy results in sex ratios that show a shockingly fewer number of girls being born compared to boys. The drop to 913 girls per 1000 boys born was particularly shocking in the census of 2001. The preliminary results of the 2011 census again show a drop of 13 points (see table). The states of Maharashtra and Madhya Pradesh and Maharashtra show particularly alarming drops.

Increasing Neglect of Girls A rise in child mortality may not be from parents consciously trying to kill their children. Rather it may be the effect of a subtle drop in nutrition or health services that slightly raises the probability of a child dying and which can only be detected in aggregate mortality estimates. The magnitude of girl child mortality is reflected in the fact that every year, about 12 million girls are born in India; a third of these girls die in the first year of their life; three million, or 25 per cent, do not survive to see their fifteenth birthday. The child mortality rate between 0-4 years for girl children is 20.6%, two percent more than that for boys (18.6%)[33]. Though there is no large or official data on this trend (if any) there are reports from the field which may give us some indicators in this direction. Reports out of Rajasthan are beginning to suggest that female infanticide is on the rise once again. "Because information on the sex of the child is denied, female infanticide is more prevalent than foeticide," admits Dr Usha Dugar, head of gynaecology at Jaisalmer's Jawahar Chikitsalaya[34]. The vital statistics, which are compilations of rural data reveal that

29 *International Institute for Population Sciences (IIPS) NHFS-3 IIPS 2007, as reported in Kotecha, P and Lahariya C, Indian Journal of Pediatrics Volume 77 (April 2010)*

30 *National Nutrition Monitoring Bureau, as reported in Kotecha, P and Lahariya C, Indian Journal of Pediatrics Volume 77 (April 2010)*

31 *Chopra, G, Verma, I., and Seetharaman, P. (1999) Development and assessment of a screening test for detecting childhood disabilities, Indian Journal of Periatrics, 66, 331-335.*

32 *SinghiPratibha D, et al, Journal of Tropical Pediatrics, Vol 48, (June 2002)*

33 *Working Group on Development of Children for the Eleventh Five Year Plan (2007-2012) - A Report*

34 *Neha Bhatt, See Any Girl Out Here? They have all been killed quietly, leaving Devda just with 20 girls compared to 300 boys, Outlook May 09, (2011)*

Table 10: Child Sex Ratios (0-6 Years) Census 1991, 2001, 2011, Select States

State	(Females per 100 males)				
	1991	2001	Difference 2001-1991	2011	Difference
India	945	927	-18	914	-13
Northwest Himachal Pradesh	951	896	-53	906	+10
Punjab	875	798	-77	846	+48
Haryana	879	819	-40	830	+11
Chandigarh	899	845	-46	867	+22
Delhi	915	868	-47	866	+2
Northcentral Uttar Pradesh	928	916	-12	899	-17
Madhya Pradesh	952	932	-20	912	-20
West Gujarat	928	883	-45	886	+3
Rajasthan	916	909	-7	883	-16
Maharashtra	946	913	-33	883	-30
Goa	964	938	-26	920	-18
East Bihar	959	942	-17	933	-9
Jharkhand	NA	965	-	943	-22
West Bengal	967	960	-7	950	-10
Nagaland	993	964	-29	944	-20
Orissa	967	953	-14	934	-19
South Andhra Pradesh	975	961	-14	943	-18
Karnataka	960	946	-14	943	-3
Tamil Nadu	948	942	-6	946	+4
Kerala	958	960	+2	959	-1

Source: Compiled from Census of 2001 and Census of 2011. Reproduced from the Economic & Political Weekly, Mary John (April 16, 2011 Vol XLVI No.16

following the neo-natal period, the likelihood of girls dying compared to boys is likely to be higher. S. Mulay's preliminary analysis of the District Health Survey shows that in Maharashtra, the survival ratio of girls in the 0-6 age group is lowest, 0.83 in Beed. This shows that the higher mortality of girls together with sex selection is behind the declining Child Sex Ratio.

In the macro surveys, much disparity is shown between states for IMR and early mortality rates, with all the Central Indian states fairing quite badly. Madhya Pradesh has an IMR of 66, Jharkhand 42, and Chhattisgarh 50. Maharashtra has recorded a low IMR of 28. This has been disputed by all the organizations interviewed, who say that the situation is actually much worse, and clear systems of recording deaths – particularly neo-natal deaths – do not exist.

The picture shown for the status of children under 6 in the selected states under review is shocking. Almost half of India's children are stunted by age two, and this is up to 60% in Jharkhand. What is disturbing is that Maharashtra, despite being one of the most developed states of the country, does not perform any better with regard to its children. Both in weight for age, and weight for height, we see the states of central India not doing well. All this indicates a serious nutritional crisis. Often, children may not look undernourished, until their age is established; therefore the height for age statistics are particularly revealing.

There is also a sizeable difference in the reach of health services across states, e.g. immunization. In Jharkhand only about a third (34.2%) of children receives all basic vaccinations, while in Maharashtra this figure is 58.8 per cent.

But we do not see such a stark difference in the number of children with a birth weight of less than 2.5 kgs. The figures are: Maharashtra 22.1 per cent; Jharkhand 19.1 per cent; Madhya Pradesh 23.4 per cent; and Chhattisgarh 17.5 per cent. This suggests that a nutritional crisis exists in all four states under review.

With the crucial supplementary feeding practices for children in the age group of 6-23 months Maharashtra is the lowest with only 20.5% of children receiving the appropriate number of food groups. Chhattisgarh has 34%, Madhya Pradesh 23.5 and Jharkhand 27.9 per cent respectively.

In the central Indian states under review here, more than 70% of all children below 5 are anaemic. In Maharashtra, 63.4 per cent in the same age group are anaemic. The consumption of iron rich foods, or foods with vitamin A is also very low for children under the age of 3 – in Madhya Pradesh, for example, only 4.1 per cent. There are also sex differentials. Female children have a higher rate of death post the neo-natal period, and boys are more likely to receive vaccinations than girls.

However, there are also cultural reasons which result in early mortality. In Maharashtra, the SEARCH study (2005) revealed that among the tribal population in Gadchiroli

- Women underfed themselves during pregnancy to ensure a small baby for easy delivery;
- The babies were often not breast-fed for the first three days and were given sweetened water;
- The babies were not covered properly immediately after birth; baby clothes were not used before a ceremony (bajkadhane) was performed on the 7th day;
- Mothers did not wash their hands properly; their clothes and linen were often dirty, and the delivery rooms were poorly ventilated;
- New borns were usually not named until they had lived for one month because of the uncertainty of their survival;
- The usual explanations of sickness in neonates were 'evil eye', 'witchcraft' the mother's body humours or indiscretions in eating;
- Newborn babies, even if sick, were not moved out of the home;
- Families believed that nurses or doctors could not effectively treat the sick newborn or change the course of events;
- Neonatal death was stoically accepted.

Sex selection is an increasing phenomenon, rampant in the states of Maharashtra, and Madhya Pradesh. The enforcement of the law remains a separate mechanism within the health sector, and does not include counselling for prevention. Each state has schemes to encourage the birth of girl children though without much result.

Table 11: Child related: The states under review

Nutritional Status of Children aged 0-23 month for India and States										
Height for age (Stunting)										
Age	India		Chhattisgarh		Jharkhand		Madhya Pradesh		Maharashtra	
	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD
<6	8.4	20.4	16.7	35.2	**5.4**	**13.9**	**9.9**	**24.4**	**6.0**	**15.2**
6-11	23.6	57.9	13.4	38.3	15.0	31.1	9.2	25.0	10.4	29.5
12-23	52.2	NA	32.2	59.3	33.5	60.5	28.6	57.3	19.1	49.7
Weight for height (Wasting)										
Age	India		Chhattisgarh		Jharkhand		Madhya Pradesh		Maharashtra	
	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD
<6	13.1	30.3	15.1	41.9	25.7	40.3	22.5	48.1	10.8	23.1
6-11	30.0	58.2	11.9	24.7	14.8	35.0	20.2	45.8	11.7	26.3
12-23	14.9	45.5	6.1	21.4	15.9	42.0	15.7	37.8	5.5	16.2
Weight for height (Wasting)										
Age	India		Chhattisgarh		Jharkhand		Madhya Pradesh		Maharashtra	
	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD	% below -3SD	% below -2SD
<6	10.9	29.5	20.6	46.3	11.6	29.5	19.3	47.6	5.7	21.1
6-11	27.8	71.4	15.9	38.8	22.4	48.1	20.2	53.0	11.9	29.4
12-23	33.3	86.1	16.9	48.6	33.9	60.5	28.6	61.8	10.9	32.5

Source: National Family Health Survey (NFHS-3), India, Vol. 1 and state Report for Chhattisgargh, Jharkhand, MP and Maharshtra-2005-2006

image ©Tathapi Trust

05 CONCLUDING DISCUSSION

Health is a social indicator that reflects society and the status of its people. The poor state of health of children in the first 1000 days from conception reflects the poor standing of women and children in Indian society. It also reflects the vulnerability of the majority of poor, dalit, tribal and rural populations in India today.

The state of nutrition has changed for the worse in the last 20 years with a fall in people's purchasing power. The staple die has also changed with a change in cropping patterns and a fall in forest cover, especially in Central India. The nutritional crisis cannot be solved with supplements only, as we have seen with the implementation of the ICDS over the past 35 years. Public health activists have been calling for a universal subsidised Public Distribution System with the inclusion of local dals and oil for all those who wish to avail themselves of it. With government ensuring fair prices for such produce, this would encourage the growing of traditional nutritional foods, and have a positive impact on agriculture and employment in the country.

However, there is a need to find a consensus within the political class as to what constitutes 'growth'. Growth beyond economics alone will ensure that the various departments including environment, women and child development, and the Centre and States work together to impact health indicators such as adequate food, education, transport, environment, nature of employment etc. and focus on preventive rather than curative services. Medical education policy should ensure that locals are adequately trained to serve their populations, and that the public health sector is able to draw specialised trained personnel to serve rural areas.

The conditions reminiscent of famine are not due to a failure of nature, but rather a serious failure of the State to provide conditions in which people can access food and adequate nutrition. Therefore, a consensus across sectors must be found in order to find a solution.

Improvement of the health services would go a long way, but will not be enough to change the situation. Bringing down the rate of infant mortality is not enough unless the children thus saved can be assured a better quality of life.

As we have seen in this review, the status of the health of pregnant women and of children under the age of two is grave. The solutions are not, and cannot be, easy or quick. They require commitment that is long term, and is beyond the scope of mere programmes. They also need to be comprehensive and integrated across sectors.

NGOs have traditionally acted to remind the government of its role in providing adequate health services to its people, particularly the marginalised. This role will have to continue. It is also crucial for organisations working at the grassroots to understand the needs of the community and be able to address these through education, changes in practices, and on sound technical solutions. For instance, changing the practice where women are not fed in pregnancy would go a long way to ensure better health for mother and child. Relying only on external supplementation of diets won't help when the external source dries up. As Mahatma Gandhi said in a speech[35] in Noakhali in 1946, 'the pathway to ending hunger should involve opportunities for everyone to earn their daily bread, since the process of ending hunger should not lead to the erosion of human dignity'. To bring down rates of morbidity and mortality in children up to the age of two, we will have to change the status of the mother, the family, and the community in which the child lives. Therefore the aim is to ensure quality of life for all.

35 *As quoted by M S Swaminathan in the Hindu, (October 1st 2011)*

06 RECOMMENDATIONS

On the **governmental level** effective interventions would be

a. Increasing government expenditure on health to at least 6 per cent of the Gross Domestic Product,
b. Universalizing the Public Distribution System with locally available cereal, pulses, oils and cooking fuels.
c. Create state wise plans to provide fortification through ready to use foods developed using local recipes, and implemented using women's self help groups. Develop a regional, needs based focus for supplementation of diets, developed using locally available foods.
d. Integrating various programmes such as the RCH-II, and the NRHM into the health services based on the PHC system, to ensure their permanent nature.
e. Focus on home based care to tackle neo-natal morbidity and mortality urgently.
f. Ensuring that every hamlet has one trained female health worker. This would mean integrating the contract and honorary staff into the health services with recognition for their role as key change makers at community level. Strengthening the functioning of Primary Health Centres by ensuring adequate resources – financial and human,– monitoring and training PHC staff to include increasing their ability to gather health information, and act upon local health needs effectively.
g. The ICDS needs to be universalised with an extended focus on children between 0 and 3 years of age. This would be the necessary catalyst between the health and education sectors to provide a sure start for children both physically and mentally by age 3.
h. Partnerships with grassroots NGOs both for technical assistance as well as for monitoring will ensure that services actually reach those they are intended for.
i. Develop a comprehensive crèche programme (using the existing infrastructure of the ICDS) that enrolls children from age 0 (and mothers with children up to 6 months of age) to make certain that the physical and mental needs of the children are met.

We would **recommend that NGOs**

a. Plan activities along with the communities with whom they work based on surveys, and planning, to first identify issues, and work out solutions acceptable to all.
b. Set up crèche 'model' which intervene to prevent the nutritional crises among children up to age 3. These chréches will also include early educational input.
c. Pilot interventions to reduce malnutrition in mothers, and their households, by a change in food habits and practices during pregnancy, child birth and feeding of children up to age 2.
d. Experiment with and recommend ways of using locally available foods to supplement the existing diet with iron, iodine, zinc, vitamin A etc.
e. Continue to monitor and participate in the implementation of government programmes.

Time is short. In such an emergency situation, it is necessary to put in all our collective energies to reverse the completely unacceptable status of young children in India today.

GLOSSARY

AIDS	Acquired Immuno Deficiency Syndrome
ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infections
ASHA	The Accredited Social Health Activist
AWCs	AnganwadiCentres
CEDAW	Convention on Elimination of all forms of Discrimination against Women
CHC	Community Health Centre
DLHS	District Level Household Surveys
GoI	Government of India
ICDS	Integrated Child Development Services
ICU	Intensive Care Unit
IDD	Iodine Deficiency Disorder
IFA	Iron Folic Acid
IMR	Infant Mortality Rate
LBW	Low Birth Weight
LHVs	Lady Health Visitor
LTMGH	LokmanyaTilak Municipal General Hospital
MMR	Maternal Mortality Rate
MoHFW	The Ministry of Health and Family Welfare
NCMH	National Commission on Macroeconomics and Health
NFHS	The National Family Health Survey
NGOs	non-governmental organisation
NRHM	National Rural Health Mission
NSSO	National Sample Survey Organization
PHC	Primary Health Centre
RCH	Reproductive and Child Health
SCs	Scheduled Castes
SRS	Sample Registration System
STs	Scheduled Tribes
tdh	terre des hommes
TFR	Total Fertility Rate

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