



Population: 135131

Brief Introduction to HDSS VADU

KEM Hospital, Pune initiated the Vadu Rural Health Program (VRHP) in 1977. VRHP has been providing primary health care to the 90,000 populations in 22 villages (presently about 60000 populations in 14 villages) in Pune district, using a three-tier health care model with Vadu Rural Hospital functioning as the first referral unit and KEM Hospital in Pune city as the tertiary referral centre. It demonstrates a unique Public Private Partnership between the public sector and the NGO sector that has pioneered several innovative strategies in health care delivery, most recently the Health and Demographic Surveillance System. VRHP initiated the **HDSS Vadu site** in August 2002 with initial support for formation of the HDSS from the Gates Institute for Reproductive Health, Johns Hopkins Bloomberg School of Public Health, USA for technical collaboration and financial support to establish an experimental field station to systematically test health care interventions.

Objectives:

- To develop a longitudinal database system
- To improve the service delivery of Vadu Hospital in Primary Health care with an emphasis on Reproductive Health through designing suitable intervention research programs.
- To monitor trends in health status of the populations through specified health indicators
- To create a quasi experimental field station
- To provide support to the field /hospital based clinical and epidemiological research

Priority Research Areas:

- Reproductive health research
- Maternal & child health research
- Vaccine trials and other Clinical trials
- HIV surveillance
- Adult health
- Environment & health
- Infectious diseases
- Non-health interventions
- Risk factor profile of non communicable diseases
- Migration and health care services
- Telemedicine
- Geographic Information System and health
- Metagenomics (Microbiome of human body)
- Ayurgenomics (amalgamation of the ancient science of Ayurveda and modern genomic science)

Ongoing Key Projects

Project Name	Funding agency	Grant Period
Pune Microbiome study	DBT	August 2013- Ongoing
Cook Stove study	John Hopkins Bloomberg school of public health	October 2012 - Ongoing
Women, WASH and Health in Rural Pune District. Identifying stress and unmet needs”	London school for hygiene and tropical	June 2013- Ongoing

	medicine	
Preparedness for Marriage	ICMR	November 2012- Ongoing
TRISUTRA-Ayurgenomics	CSIR	2009- Ongoing
INTREC	European Commission	February 2012 – September 2012
NVGH Typhoid Vaccine trial	NVGH	November 2011- July 2012
INDEPTH iSHARE	INDEPTH network	March 2012
Rota Vaccine Project	DBT, Govt of India. PATH, France.	August 2010- Ongoing
CVRU	DBT, Govt of India.	July 2010- Ongoing
Documentation of INDEPTH NCD-RF (Non Communicable Diseases Risk Factor) Surveillance data using Data Documentation Initiative (DDI3)	INDEPTH Network	June 2010 - January 2011
INDEPTH PopStats (INDEPTH Minimum Dataset Management and Graphical Presentation)	INDEPTH Network	March 2010- Ongoing
Meningitis Vaccine Project (MVP 005)	PATH, WHO and SILL	Jan 2010 – Ongoing
HIV-Cervical Cancer Prevention Research Program	NIH through the ICMR and Vanderbilt University USA	Aug 2008- Ongoing
Influenza Surveillance- Influenza disease burden in rural communities in India	CDC, Atlanta, USA.	May 2009- Ongoing
Ayurgenomics- Integration of Ayurveda with Genomics for system biology approach in predictive and personalised medicine	CSIR, Govt of India	April 2009- Ongoing
Measles Vaccine trial	WHO	April 2009- Ongoing
Identification of causes of death using verbal autopsies in the HDSS Vadu area	HDSS Vadu	Sep 2004 Ongoing
Health and demographic surveillance system (HDSS, Vadu)	HDSS Vadu	Jan 2002 ongoing

Planned Projects

Project Name
Antibiotic Resistance Surveillance
SAGE Phase II
Dengue surveillance study

National Collaborations

- Bharat Biotech International Ltd.
- Chest Research Foundation, Pune
- Council for Scientific and Industrial Research, New Delhi
- Department of Biotechnology, New Delhi
- Geo-informatics Department of Geography, Pune University
- Institute of Genomics & Interactive Biology, New Delhi
- Indian Council of Medical Research, New Delhi
- International Institute of Information Technology, Pune
- National AIDS Research Institute, Pune
- National Centre for Cell Sciences, Pune
- National Chemical Laboratory, Pune
- National Institute of Virology, Pune
- Public Health Foundation of India, New Delhi.
- Serum Institute of India Ltd., Pune
- St. John's Medical College, Bangalore
- Tata Institute of Social Sciences, Mumbai
- University of Pune, Department of School of Health Sciences
- Ministry of Health and Family Welfare, Government of Maharashtra
- Health and Demographic Surveillance System, Ballabgarh, AIIMS, India
- Christian Medical College (CMC), Vellore.

International Collaborations

- Centre for Disease Control & Prevention (CDC), Atlanta, USA
- Department of Public Health and Clinical Medicine, Umeå University, Sweden
- Hellar Kellar International, New York
- Hospital for Sick Children, Toronto, Canada
- Imperial College, London
- Johns Hopkins University and Bloomberg School of Public Health, Baltimore, USA
- INDEPTH: International Network of Field Sites with Continuous Demographic Evaluation of Populations and Their Health in Developing Countries, Accra, Ghana
- London School of hygiene & Public Health, UK
- Program for Appropriate Technology in Health (PATH), Seattle, USA
- Swiss Tropical and Public Health Institute, Basel
- Vanderbilt University, Nashville, Tennessee, USA
- World Health Organization (WHO), Geneva, Switzerland

Funding Agencies

- Council for Scientific and Industrial Research, Government of India, New Delhi
- INDEPTH Network, Accra, Ghana.
- World Health Organization, Geneva, Switzerland
- Serum Institute of India Limited, Pune, India
- PATH, France
- Helen Keller International, New York
- Department of Biotechnology, New Delhi
- Akzo Nobel, Singapore
- Imperial College, London
- The World Bank, USA; USAID, USA; WHO, Geneva and IMPACT Foundation, UK
- The Bill and Melinda Gates Institute for Population and Reproductive Health, Johns Hopkins Bloomberg School of Public Health, Baltimore USA
- Heinz, India

PUBLICATIONS

- [2013] Khot S, Shaikh H, Gupta L. Atherosclerotic risk among epileptic patients taking carbamazepine, phenytoin treatment: Brief Review 2013 Vol 4, Issue 3.
- [2013] Sankoh, O., Herbst, A. J., Juvekar, S., Tollman, S., Byass, P., & Tanner, M. (2013). INDEPTH launches a data repository and INDEPTHStats. *The Lancet Global Health*, 1(2), e69. Copyright © Sankoh et al. Open Access article distributed under the terms of CC BY. doi:10.1016/S2214-109X(13)70034-2
- [2012] Ingole, V., Juvekar, S., Muralidharan, V., Sambhudas, S., & Rocklo, J. (2012). mortality in Vadu Health and a population level time series analysis, 44-52.
- [2012] Hirve, S., Juvekar, S., Sambhudas, S., Lele, P., Blomstedt, Y., Wall, S., Berkman, L., et al. (2012). Does self-rated health predict death in adults aged 50 years and above in India? Evidence from a rural population under health and demographic surveillance. *International Journal of Epidemiology*, 1–9. doi:10.1093/ije/dys163
- [2012] Hirve, Siddhivinayak, Bavdekar, A., Juvekar, S., & Benn, C. S. (2012). Non-specific and sex-differential effects of vaccinations on child survival in rural western India. *Vaccine*, 30, 7300–7308.
- [2012] Hirve, Siddhivinayak, Chadha, M., Lele, P., Lafond, K., Deoshatwar, A., Sambhudas, S., Juvekar, S., et al. (2012). Performance of case definitions used for influenza surveillance among hospitalized patients in a rural area of India. *Bulletin of the World Health Organization*, 90(11), 804–812.
- [2012] Kekan, D., Juvekar, S., & Padmawati, S. (2012). INDEPTH Training and Research Centres of Excellence (INTREC): India Country Report October 2012, (October).
- [2012] Visceral leishmaniasis clinical management in endemic districts of India, Nepal, and bangladesh. Banjara MR, Hirve S, Siddiqui NA, Kumar N, Kansal S, Huda MM, Das P, Rijal S, Gurung CK, Malaviya P, Arana B, Kroeger A, Mondal D. *J Trop Med*. 2012;2012:126093. Epub 2012 May 9.
- [2011] How do health care providers deal with kala-azar in the Indian subcontinent? Kumar N, Singh SP, Mondal D, Joshi A, Das P, Sundar S, Kroeger A, Hirve S, Siddiqui NA, Boelaert M. *Indian J Med Res*. 2011 Sep;134:349-55.
- [2011] A comparative study to evaluate the safety and immunogenicity of two lots of Haemophilus influenzae type-B conjugate vaccine manufactured at different scales. Hirve S, Bavdekar A, Juvekar S, Agarwal D, Barde P, Mangrulle S, Patwardhan M, Pandit A, Kulkarni PS. *Vaccine*. 2011 Jul 26;29(33):5363-7. Epub 2011 Jun 7.

[2011] Options for active case detection of visceral leishmaniasis in endemic districts of India, Nepal and Bangladesh, comparing yield, feasibility and costs. Singh SP, Hirve S, Huda MM, Banjara MR, Kumar N, Mondal D, Sundar S, Das P, Gurung CK, Rijal S, Thakur CP, Varghese B, Kroeger A. PLoS Negl Trop Dis. 2011 Feb 8;5(2):e960

[2010] Ageing and adult health status in eight lower-income countries: the INDEPTH WHO-SAGE collaboration; Paul Kowal, Kathleen Kahn, F. Xavier Go´mez-Olive´, Mohammad Hakimi, Siddhivinayak Hirve, Abraham Hodgson, Sanjay Juvekar, Catherine Kyobutungi et.al; Global Health Action Supplement; 10.3402/gha.v3i0.5302;11-22.

[2010] Health inequalities among older men and women in Africa and Asia: evidence from eight Health and Demographic Surveillance System sites in the INDEPTH WHO-SAGE study; Nawi Ng, Paul Kowal, Kathleen Kahn, Nirmala Naidoo, Salim Abdullah, Ayaga Bawah, Mohammad Hakimi, Siddhivinayak Hirve, Abraham Hodgson, Sanjay Juvekar, Catherine Kyobutungi et al 10.3402/gha.v3i0.5302;96-107.

[2010] Social gradients in self-reported health and well-being among adults aged 50 and over in Pune District, India; Siddhivinayak Hirve, Sanjay Juvekar, Pallavi Lele and Dhiraj Agarwal; 10.3402/gha.v3i0.5302; 88-95.

[2010] Effectiveness and feasibility of active and passive case detection in the visceral leishmaniasis elimination initiative in India, Bangladesh, and Nepal. Hirve S, Singh SP, Kumar N, Banjara MR, Das P, Sundar S, Rijal S, Joshi A, Kroeger A, Varghese B, Thakur CP, Huda MM, Mondal D. Am J Trop Med Hyg. 2010 Sep;83(3):507-11.

[2010] Randomized trials to study the nonspecific effects of vaccines in children in low-income countries. Shann F, Nohynek H, Scott JA, Hesselning A, Flanagan KL; Working Group on Nonspecific Effects of Vaccines. Pediatr Infect Dis J. 2010 May;29(5):457-61. Review.

[2009] Using the INDEPTH HDSS to build capacity for **chronic non-communicable disease risk factor surveillance** in low and middle-income countries; Nawi Ng, Hoang Van Minh, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] Self – reported use of tobacco products in **nine rural INDEPTH Health and Demographic Surveillance Systems in Asia**; Ali Ashraf, M.A. Quaiyum, Nawi Ng, Hoang Van Minh, Abdur Razzaque, Syed Masud Ahmed, Abdullahel Hadi, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] **Patterns of alcohol consumption in diverse rural populations in the Asian region**; Tran Huu Bich, Pham Thi Quynh Nga, La Ngoc Quang, Hoang Van Minh, Nawi Ng, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] **Fruit and vegetable consumption in rural adults' population in INDEPTH HDSS sites in Asia**; Uraiwan Kanungsukkasem, Nawi Ng, Hoang Van Minh, Abdur Razzaque, Ali Ashraf, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] **Prevalence of physical inactivity in nine rural Health and Demographic Surveillance Systems in five Asian countries**; Nawi Ng, Mohammad Hakimi, Hoang Van Minh, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] **Social factors and overweight: evidence from nine Asian INDEPTH Network sites**; Abdur Razzaque, Lutfun Nahar, Hoang Van Minh, Nawi Ng, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] **Blood pressure in adult rural INDEPTH population in Asia**; Hoang Van Minh, Kusol Soonthornthada, Nawi Ng, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2009] **Clustering of chronic non-communicable disease risk factors among selected Asian populations: levels and determinants**; Syed Masud Ahmed, Abdullahel Hadi, Abdur Razzaque, Ali Ashraf, Sanjay Juvekar et al. Global Health Action Supplement 1, 2009.

[2008] **Self-reported prevalence of chronic diseases and their relation to selected sociodemographic variables: a study in INDEPTH Asian sites**, Minh HV, Ng N, Juvekar S, Razzaque A, Ashraf A, Hadi A, et al. Prev Chronic Dis; 5(3).
(ref: http://www.cdc.gov/pcd/issues/2008/jul/07_0115.htm)

[2008] **Compare the performance of Indicators of Hand Washing Practices in Rural India Households**; Biran A, Rabie T, Schimdt W, Juvekar S, Hirve S, Curtis V; Trop Med Int Health, 13 (2): 278-285

Hirve SS, Bhave S, Bavdekar A, Naik S et al. **Low Dose Sprinkles – an innovative approach to treat Iron Deficiency Anemia in Infants and young Children**. Indian Pediatrics, 2007;44;91-100.

Hirve SS. **Injectables as a Choice – Evidence based lessons**. Indian Journal of Medical Ethics, Jan – Mar 2005; vol 2(1); pg.12-13.

Hirve SS. **Long acting Progestin Only Injectable (POI) Steroidal Contraceptives – Facts File**.

The impact of NaFeEDTA fortified whole wheat flour on iron and cognitive status of school aged children in India. Sumithra Muthayya, Prashanth Thankachan, Siddhivinayak Hirve, Vani Amalrajan, Tinku Thomas, Himangi Lubree, Dhiraj Agarwal, Krishnamachari Srinivasan, Richard F Hurrell, Chittaranjan S Yajnik, Anura V Kurpad. (In press)