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The George Institute for Global Health is a global, not-for-profit organisation located in Australia, China, India and the United Kingdom. We are a registered charity in Australia and the United Kingdom.

In India, we are registered under Section 25 of the Companies Act and recognised by the Department of Scientific and Industrial Research (DSIR), Government of India.

The George Institute for Global Health, India
Company Number: U74190TG2003NPL05965

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Our mission

Our mission is to improve the health of Indians by reducing premature deaths and disability in India.

We will achieve this by:

- Providing the best evidence to guide critical health decisions and action
- Engaging with decision makers to enact real change
- Targeting global epidemics, particularly of chronic diseases and injury
- Focusing on vulnerable populations

Our values

- Our humanitarian commitment will spur us to tackle the health issues affecting high-risk and disadvantaged people in India.
- Our focus on excellence will produce scientific evidence that is ethical and of the highest quality.
- Our creativity will challenge traditional thinking and provide an impetus for new and innovative solutions to the world’s leading health problems.
- Our ‘can do’ approach will produce timely, effective action, even in the face of adversity or other barriers to implementation.
- Our emphasis on impact will ensure our work has real consequences for those who are most vulnerable to disease and injury.

Our partners

Partnerships with institutions, organisations and individuals sharing our vision, allow us to extend our reach in rich and poor countries alike. Through these partnerships, we draw on a wide range of expertise to develop and implement activities to address global and regional health issues.

The George Institute India has collaborations with over sixty national and international institutions as well as strong ties within our global offices in Australia, China and the United Kingdom.

Public Health Foundation of India (PHFI)
The George Institute India and Public Health Foundation of India have a Memorandum of Understanding to promote collaborative research and capacity development activities. Initial joint activities focus on urban health and disability due to chronic diseases and injury.

University of Hyderabad
The George Institute, India, has a Memorandum of Understanding with the University of Hyderabad, India. The purpose of this academic and research partnership is to increase public health-research capacity through training of students and researchers, and develop collaborative public health projects.

Centre for Chronic Disease Control (CCDC) India
The George Institute India and Centre for Chronic Disease Control India will work jointly to develop and implement hospital-based research studies primarily focused on implementing best evidence into practice.

Our global affiliations

- University of Sydney
- University of Oxford
- Beijing University Health Science Center
Executive Director’s report

I am delighted to present to you the Annual Report of The George Institute, India for the year 2013-14, a period of significant growth and success for the Institute. We initiated a number of new projects in line with our research strategy that focuses on both discovery as well as implementation components.

We continued to expand on innovative models of healthcare to bring into our ambit of research more chronic diseases that cause premature deaths by exploring new target groups like the elderly and the adolescents using multi-sectoral approaches to improving health.

We extended the SMARTHealth project - which utilises the tight integration between software coding technology and evidence-based guideline-driven clinical decision support system that enable rural community health workers and primary health centre doctors to collaborate and deliver high-quality care. This has the potential to radically change the way the society receives primary healthcare. As SMARTHealth platform for cardiovascular disease enters its second year, The George Institute for Global Health, India received a large grant from the Wellcome Trust-DBT India Alliance to explore its adaptation for mental health.

Chronic kidney disease is an important consequence of diabetes and hypertension, the burden of both of which continue to increase. We have started a new study to ascertain the outcomes of patients with advanced end-stage kidney failure receiving dialysis and its social and economic consequences. Another new project focuses on the care pathways for the elderly who develop hip fracture so that they may receive timely guideline-based treatment following the fracture and in the long term to improve quality of life.

We also took specific steps to improve our communication, and increase engagement with all relevant stakeholders that includes the public, as the ultimate beneficiary of our research.

None of this work would be possible without the continued dedication and commitment of the Institute’s researchers and staff, an extensive network of national and international collaborating partners and the willingness of thousands of individuals and hundreds of communities to volunteer for participation in our research activities. We are immensely grateful for this. In particular, I would wish to express my gratitude to the members of our Research Advisory Committee, who ensure that we remain committed to prioritising research, responsive to the health needs of our communities, and thereby improve the quantity and quality of the lives of millions of people throughout India and other regions of the world.

Last but not the least, let me thank our donors without whose support we not be able to carry out high-quality research.

I hope you enjoy reading this report.

Vivekanand Jha
Executive Director,
The George Institute for Global Health, India

"...We strive to improve healthcare delivery to millions of Indians in order to combat challenges from non-communicable diseases...."

Professor Vivekanand Jha, Executive Director, The George Institute for Global Health, India
The George Institute for Global Health, India -

Directors & Senior Academics

The George Institute for Global Health, India is proud to boast of some of India’s finest health and medical researchers as members of its Research Advisory Committee (RAC) – an independent body that provides high-level research recommendations. Meeting in Hyderabad last year, the RAC provided positive feedback on the 2015-16 research program in India and future focus.

The committee appreciated the growth of the institute and its involvement in quality research. While acknowledging the steps taken by the institute to improve its profile in India and facilitate research capacity development, they stressed upon leveraging local funding opportunities and increasing the national profile of the institute. Setting up of a new office in New Delhi was noted as a very important step that would benefit the institute in the long run.

The portfolio of research at The George Institute for Global Health, India has grown considerably since the Institute was officially launched in 2007. Currently, there are currently are 10 major studies in non-communicable diseases including injury prevention, with a particular focus on innovative ways to delivery healthcare solutions, particularly in disadvantaged populations.

Professor Vivekandand Jha
Executive Director, The George Institute for Global Health, India, James Martin Fellow, The George Institute for Global Health, University of Oxford
Professor Vivekanand Jha is the Executive Director, The George Institute for Global Health, India, and Professor of Nephrology and James Martin Fellow at the University of Oxford.

Prior to joining The George Institute, he was Professor of Nephrology and Head, Department of Translational Regenerative Medicine and Officer-in-Charge, Medical Education and Research Cell at the Postgraduate Institute of Medical Education and Research in Chandigarh, India.

Vivek serves on the international advisory boards of several organisations, including membership of the WHO Expert Advisory Panel on Human Cell, Tissue and Organ Transplantation, Councillor of the International Society of Nephrology and the International Transportation Society, and member of the Education Committee of the International Society of Fetal Oxytocin.

He is a physician with a specialisation in the area of kidney diseases and he focuses on emerging public health threats globally and in India. He is particularly interested in using multi-disciplinary approaches and innovation to address the major challenge posed to humanity by non-communicable diseases.

Professor Anushka Patel
Chief Scientist, The George Institute for Global Health and Professor Fellow

As the Chief Scientist of the George Institute for Global Health, she has a key role in developing and supporting global strategic initiatives across the organisation. Her personal research interests focus on developing innovative solutions for delivering affordable and effective cardiovascular care in the community and in acute care hospital settings.

Anushka is a Professor of Medicine at The University of Sydney and a cardiologist and Royal Prince Alfred Hospital in Sydney, Australia. She undertook her medical training at the University of Queensland, with subsequent postgraduate research degrees from Harvard University and the University of Sydney.

Anushka currently leads research projects relating to these interests in Australia, China and India. She is supported by a Senior Research Fellowship from the Australian National Health and Medical Research Council (NHMRC). Dr. Pallab K. Moulk Deputy Director and Head of Research and Development, The George Institute for Global Health, India, Senior Research Associate, The George Institute for Global Health, University of Oxford

Pallab K. Moulk joined The George Institute, India as the Head of Research and Development in early 2010. Dr. Moulk brings a wealth of experience to the Institute, in particular expertise in mental health.

Dr. Moulk has worked with the World Health Organisation (WHO), Geneva on Project Atlas and other mental health programs, and clinically as a psychiatrist in India and Australia. After training as a psychiatrist at the All India Institute of Medical Sciences, New Delhi, Dr. Moulk received training in public health at the London School of Hygiene and Tropical Medicine, as well as Johns Hopkins School of Public Health where he studied his Masters and Doctoral training. He is a Wellcome Trust ‘351’ India Alliance Intermediate Career Fellow.

His particular research interests include social determinants of health, especially mental health services, mental disorders, international mental health, and intellectual disability.

Amit Khanna
Director, Finance and Operations, The George Institute for Global Health, India

Amit joined the George Institute for Global Health, India in May 2013 as Director of Finance and Operations. Prior to joining our team, he worked in the services industry with companies providing services such as auditing and consulting, shipping and logistics, online classification/advertising, internet and technology based solutions.

He is currently connected with The George Institute’s mission and values and is very passionate about being instrumental in driving policy changes in India. Amit holds a degree in Commerce from Delhi University and is a member of the Institute of Chartered Accountants of India.

Members of the Research Advisory Committee Include:

Dr. G Gururaj
National Institute of Mental Health & Neurosciences, Bangalore

Dr. Rajesh Kumar
Postgraduate Institute of Medical Education and Research, Chandigarh

Dr. Ramanathan Madduri
University of Hyderabad, Hyderabad

Dr. Jeyaraj Durai Pandian
Christian Medical College, Ludhiana

Dr. M Shiva Prakash
National Institute of Nutrition, Hyderabad

Dr. KR Thankappen
Sree Chinnaiya Institute for Medical Sciences and Technology, Trivandrum

Dr. R Thara
Schizophrenia Research Foundation, Chennai

Dr. CS Yogesh
King Edward Memorial Hospital, Pune
Our research areas

Research objective

The research strategy for The George Institute India is organised around three main themes:

- Innovative models of health care
- Health of adolescents
- Multisectoral approaches to improving health

Innovative Models of Clinical Healthcare

This theme would include research projects that focus on clinical conditions, but have both a “discovery” and “implementation” research focus at the same time. The overall objective of the projects would be to undertake research that involves using new technologies or research methodology that informs health care delivery and makes it more efficient and also equitable.

Health of Adolescents

This theme will focus on adolescent health related projects. Research will focus on estimates of burden of disease in adolescents, use of health services and interventions aimed at improving the health of adolescents.

Multisectoral approaches to improving health

This theme will focus on research that would largely depend on multi-sectoral approaches involving different health and non-health sectors. The main focus is on conducting research, with the objective of developing policies and programmes applicable at local, regional, or national levels. Health economics, policy development, and qualitative research will be key methodological areas involved in this theme.

"...The research has both strategy of the George Institute in India discovery and implementation components..."
"...Common mental disorders are curable. Increased knowledge and reduction in stigmatising behaviour and practices of the common disorders and people living with mental illness will promote better about mental health unity against mental mental health..."

Siddhartha Devanapalli, Research Fellow, The George Institute for Global Health, India.

Supporting Community Mental Health - SMART Mental Health

Background
Studies from India have shown that almost a quarter of the population suffer from a common mental disorder (CMD) - depression, anxiety, suicidal risk and emotional stress. However, three out of every four patients who need treatment for mental disorders do not receive the same due to lack of trained mental health professionals, lack of awareness and stigma.

Goals
The goal of the project is to develop and evaluate the feasibility, acceptability and preliminary effectiveness of a multifaceted primary healthcare worker led intervention on utilising a mobile device based electronic decision support system. This will improve the identification and management of individuals with greater than 18 years of common mental disorders (CMD).

Study Method
The three key elements of this intervention are:
- Task shifting and strengthening skills of existing primary healthcare workers
- Using Electronic Decision Support (EDS) systems to diagnose participants with CMD,
- Incorporating clinical decision support tools on a mobile phone platform

The key phases of the study are: development of an anti-stigma campaign that will help increase awareness about mental health in the community, development of the mobile based application that will be used by non-physician healthcare workers and primary healthcare doctors during the intervention to identify and manage CMD in the community, conducting a pre-stigma awareness campaign interview, baseline household survey to assess CMD, and post-intervention evaluation utilising quantitative and qualitative methods.

The study will be conducted in two different locations - 12 villages near Ilamavar and 30 scheduled tribe villages and associated PHCs in West Godavari Districts of Andhra Pradesh will compare outcomes before and after the implementation of the intervention in the villages.

Current status
The project will commence in the latter half of 2014.

Funding
The study is funded out of the Intermediate Career Fellowship awarded to the Principal Investigator (Palas K Malik) by The Wellcome Trust/Department of Biotechnology India Alliance and a grant received from the Grand Challenges Canada.

Collaborators
Department of Mental Health, World Health Organization, Geneva
Mobile technology and home dialysis - Support PD

Background
End-stage renal disease (ESRD) is a major cause of morbidity and mortality worldwide. Home dialysis, including peritoneal dialysis (PD), could potentially lead to significant reductions in healthcare utilisation and expenditure. Innovative models of care delivery that make better use of information technologies (IT) thereby enabling the remote capturing and processing of data are likely to provide a more sustainable and affordable alternative to the prevailing labour-intensive models of ESRD care. Mobile technology provides opportunities to allow patients to gain confidence in their ability to self-manage with appropriate tools that provide automated as well as nephrologist-tailored decision support systems.

Goals
• To design a remote health monitoring and non-pharmacological self-management system
• To test its usability and acceptability
• Design and conduct a controlled trial to demonstrate its benefits

Study Method
This is an observational cohort study, which aims to develop a user-friendly, and functional IT supported system for education and monitoring of patients undergoing peritoneal dialysis in their homes. We intend to collect information on physiological measures through sensors. After the initial development phase, participants and their carers will be provided with prototype remote monitoring equipment and taught how to use it. The equipment includes a tablet PC with a touch screen that connects wirelessly to a blood pressure cuff, a weighing scale to measure patient and effluent bag weights, a pulse oximeter, an accelerometer and other point-of-care testing devices such as glucometer. There will be intelligent menu-driven fields for capturing clinical and relevant laboratory data. It will have the ability to capture visual data, such as exit site photographs, PD fluid bags and any other clinical images. Based on standard clinical practice guidelines, an algorithm will provide guidance to patients for future steps, which would be related to change in PD prescription, pharmacological management, or referral to nephrologists for follow-ups. This device will be linked to similar devices with the caregivers, i.e. nurse and/or nephrologist who will receive real-time data. The device will generate automatic alerts based on the incorporated algorithms. The device will be oriented to self-management and educational materials that will be made available to the patients.

Current Status
The study will commence from the latter half of 2014.

Funding
The project is being funded by Baxter Healthcare.

Collaborators
Post Graduate Institute of Medical Education and Research, Chandigarh.
Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow.

"...We came up with the idea to study the home monitoring of patients on dialysis to make treatment more accessible, improve satisfaction and outcomes. If people cannot get the support they need, our job is to find a way to get it to them..."

Professor Vivekanand Jha, Executive Director, The George Institute for Global Health, India
"The TESTING study will provide clear and definitive evidence that a course of steroid therapy may have a powerful protective effect on people at high risk of kidney failure..."

Dr. Oommen John, Senior Research Fellow, The George Institute for Global Health, India

Therapeutic Evaluation of Steroids in IgA Nephropathy Global study - TESTING

Background
The TESTING study will provide clear and definitive evidence regarding the benefits and harms of an extremely promising treatment (Immunosuppression with steroids) for individuals with Immunoglobulin A Nephropathy (IgAN) at high risk of kidney failure. IgAN, an immunological disorder affecting the kidneys, is the most common glomerulonephritis worldwide. Available data suggests that a course of steroid therapy may have a powerful protective effect in IgAN, but to date this has not been tested in an appropriately powered randomized trial. As a result, steroids are rarely used for IgAN in most countries including India.

Goals
The specific aim of the TESTING study is to test the hypothesis that treatment with oral methylprednisolone will reduce the long-term risk of kidney failure in people with IgAN.

Study Method
The study will involve a large-scale multi-centre, double-blind, placebo-controlled, randomized clinical trial designed and adequately powered to define the effects of methylprednisolone on the risk of kidney failure.

All patients with a biopsy diagnosis of IgA nephropathy will be started on standard therapy with ACE Inhibitors, and for controlling blood pressure and lipids and will be followed up for 6 months to see if they continue to be in the high risk category as determined by proteinuria and Glomerular Filtration Rate (GFR). At this point, they will be randomized to receive a 6-month course of methylprednisolone or matching placebo.

Patients will then be followed up to see whether they will develop any of the end points as listed above. Patients will be followed up to see whether they develop high risk IgAN.

The study aims to enrol 400 patients in India and will be overseen by an international Steering Committee and an independent Data Safety Monitoring Board.

Current status
The project will commence in the latter half of 2014.

Funding
The project is being funded out of a Grant from the National Health Research and Medical Council of Australia.

Collaborators
Post Graduate Institute for Medical Education and Research, Chandigarh
Christian Medical College, Vellore
Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow
Osmania General Hospital, Hyderabad
Bombay Hospital and Medical Research Centre, Mumbai
Establishing Care Pathways for effective management of hip fractures among the elderly

Background
It is estimated that by 2020, almost 10% of the Indian population will be older than 60 years, and the annual incidence of hip fractures will reach 600,000. Based on current mortality data, an estimated 30% of these individuals will die within a year. Currently, little is known about the pathways of care and outcomes for hip fracture in India. We are undertaking a study to facilitate the development of evidence-based strategies to improve the management and outcomes of hip fractures in India.

Goals
- To determine whether the pre-operative, peri-operative and post-operative pathways of care for individuals over 60 years of age, hospitalised with hip fractures in India, are consistent with national and international guidelines and/or best evidence-based practice.
- To identify factors associated with evidence-practice gaps and to determine potential barriers and facilitators relevant to reducing evidence-practice gaps.
- To document patient outcomes at 1, 4 and 12 months following hip fracture and to determine potentially modifiable factors associated with best outcomes.
- To document the economic and social burden of hip fracture for the health system, and for families and carers, and to identify potentially modifiable factors relevant to reducing mortality.

Study Method
We have initiated the pilot in two hospitals in Delhi—one major teaching hospital and one general hospital. The main study will involve hospitals in a number of states or provinces, ranging from those with high per capita incomes to those with low per capita incomes. Samples of urban and rural hospitals, as well as government and private care providers, will be included.

Current Status
Multidisciplinary groups of care providers in three participating centres in Delhi (AIIMS, St Stephen’s and UCMS) have been identified and the proposal discussed with them. The study will consist of interviewing clinical leads involved in the pathway of hospital care, focus group discussions with the hospitals’ care providers and patient and carer groups.

Patients will be recruited from these two hospitals over the period of three months and vital information on socio-demographic characteristics, clinical condition, care and treatment during their stay at hospital will be collected. The study will also collect information on provision of care from these selected hospitals.

Each participating centre will set up an institutional steering committee consisting of representatives of the multidisciplinary group of care providers. A regional steering committee will be formed in Delhi with members from each participating centre and representatives of The George Institute, India.

Funding
The project is being funded by the Nuffield School for Population Health, University of Oxford.

Collaborators
All India Institute of Medical Sciences
University College of Medical Sciences

"...By 2020, almost 600,000 hip fractures will occur annually and this is expected to increase significantly, unless 10% of Indian people will be older than 60. Currently, experience hip fractures will die within a year."

Lalit Yadav, Research Fellow, The George Institute for Global Health, India
Family-led rehabilitation after stroke in India - ATTEND

Background

Globally, around 87% of stroke occurs in low- and middle-income countries with many people in these countries, such as India, having no access to stroke rehabilitation. Western models of stroke rehabilitation are currently unaffordable, and are likely to remain so for some decades, but evidence from the Stroke Unit and Early Supported Discharge Rehabilitation Trials suggest that components of these interventions could be introduced in a low-cost model.

Health in India is in transition with decreasing poverty-related infection and nutritional deficiency diseases and increasing chronic diseases. Annual estimated stroke incidence is 135 to 145 per 100,000 population, with early case fatality rates ranging from 27% to 41%. This equates to approximately 1.5 million people having a stroke each year, leading to a further 500,000 people, each year, living with stroke-related disability.

Goals

The primary aim of the study is to determine whether stroke recovery at home given by a trained family member is an effective, affordable strategy for those with disabling stroke in India when compared to usual care. This will reduce dependence on expensive private hospitals and make rehabilitation much more affordable and accessible.

Study Method

ATTEND is a multicentre, randomised, blinded outcome assessor, controlled trial. The study aims to enrol 1200 patients with mild to moderate disability across India.

Current status

The study is active in 12 centres across India and has recruited 567 patients till date.

Funding

The study is funded by the National Health and Medical Research Council (NHMRC), Australia.

Collaborators

Christian Medical College, Ludhiana.
Indian Institute of Public Health, Hyderabad.

...Only 7 per cent of stroke patients out of 11,000 receive rehabilitation, according to a study done in India. About 60% of stroke patients in India have lost their job or do part time work. The ATTEND trial study for our country..."
Improving the Control of Hypertension in Rural India - CHIRI

Background

Very little is known about the emergence of high blood pressure (hypertension) in rural India, where 70% of the Indian population still resides. There is some evidence that barriers to hypertension control differ according to the stage of transition of the population. An improved understanding of the awareness of hypertension in different settings and the barriers to prevention, diagnosis and treatment will provide the critical knowledge base we need to overcome these barriers in these differing settings.

Goals

The goal of this study is to assess whether barriers to hypertension are similar across rural regions of India and to improve hypertension control are applicable across different regions in different stages of demographic transition.

Study Method

The study will be done using various methods such as:

- Interviews and blood pressure measurement of a random selection of rural adults to look for the presence, awareness, and treatment of hypertension.
- Group discussions with rural adults identified with hypertension and in-depth interviews with health care providers to identify individual- and system-level barriers to hypertension control.
- Survey of pharmacies in rural India to see the availability of medicines for hypertension, heart diseases, and diabetes.
- Protocols for a hypertension control program that will be developed based on the findings of group discussions and in-depth interviews.

Current status

Interviews with a random selection of rural adults have been completed and their blood pressure has been measured. Group discussions with a sub-group of people identified with hypertension have been completed. In-depth interviews with health care providers and survey of pharmacies have also been completed. The data from all these activities will be analysed.

After going through the preliminary results of the data so far collected and insights from governmental and non-governmental stakeholders, it was decided to develop and pilot a group-based peer support program for hypertension control. The peer support program for hypertension control will be developed and piloted in 2015.

Funding

This study is funded by Australia’s National Health and Medical Research Council, through its member organisation, Global Alliance for Chronic Disease.

Collaborators

Monash University.
The George Institute for Global Health, Australia.
Sree Chitra Tirunal Institute for Medical Sciences and Technology.
Rash Valley Rural Health Centre.
Christian Medical College Vellore.

"...I have never had my blood pressure checked in my entire life until now. I am very thankful to your staff for letting me know that my blood pressure is high and counselling me to visit a doctor for further follow-up. Now I am receiving treatment for my high blood pressure and am happy that it is under control..."

Murala Ramudu, male 43 years, Ramannapalem village
An innovative way to tackle cardiovascular diseases in India - SMARTHealth

Background
Hypertension related disease affected 118 million people in India in the year 2000; this figure will double by 2055. Previous studies from rural India have found that 1 in 4 adults suffer from hypertension and a minority amongst those are achieving adequate blood pressure (BP) control. The current health system infrastructure is grossly under-resourced to meet these gaps in care leading to massive unmet demand thereby placing, placing considerable strain on primary healthcare resources and consequently quality of care provided. “SMARTHealth India” stands for Systematic Medical Appraisal, Referral and Treatment and is an innovative strategy that has been created to provide a healthcare “ecosystem” that will improve primary healthcare for those at highest risk of cardiovascular disease (CVD) in resource-limited settings. It prioritises and manages high risk patients for BP lowering treatment and at the same time eases the load from the overburdened primary health care system by using an alternate workforce ofASHAs and leveraging technology with the objective of improving access to high quality health care.

The current study is aimed to investigate the effectiveness of this innovative and multi-disciplinary program addressing BP control in rural India. It also aims to ease the load on an overburdened primary health care system by using an alternate workforce of village health workers and leveraging technology with the objective of improving access to high quality health care.

Goals

- To develop a multi-faceted primary healthcare worker intervention that utilises a smartphone-based clinical decision support system to improve BP control in high risk individuals.
- To evaluate this program utilising a mixed methods evaluation in a cluster randomised trial involving villages in rural Andhra Pradesh.

Study Method
This program will be evaluated in a stepped-wedge, cluster, randomized controlled trial in 34 villages of rural Andhra Pradesh. The study population will be adults aged 40 yrs and above and at high CVD risk. The intervention will comprise a Clinical Decision Support Systems (CDSS) for use by the health workers to identify, refer and provide non-pharmacological management. The CDSS will also provide management support for the doctors. The intervention will also include a shared electronic record, referral system, priority listing chart for the health workers and training and resource support (animations) for both health workers and doctors.

Current status
During this year, in a door to door household survey (baseline component of SMARTHealth CVD India project) engaging 100+ interviewers, we have surveyed 62,229 respondents aged 40 years and above among 2,247,146 population from 54 Villages. An android based baseline application tool was used for this screening. Respondents requiring immediate care were referred to their respective PHC doctors. The study is currently under control phase and six PHCs will be selected randomly for the intervention.

Funding
This study is funded by a National Health and Medical Research Council Global Alliances for Chronic Disease Grant.

Collaborators
The George Institute for Global Health
Centre for Chronic Disease Control
Centre for Doctoral Training in Healthcare Innovation, University of Oxford

"...Earlier we used to go to a major town to get tested for BP, we don't have good transport, but now the ASHA comes. Blood sugar etc, to our home. This will help prevent dangerous diseases, these tests are very useful..."

Mr. Ravuri Vijaya Kumar, President. LVN Puram Village Gram Panchayath
Adolescent Health Research

Background
Adolescents make up about 25 per cent of the population in India, but little is known about their health or factors that determine their risks of future disease, disability and injury. The Global Burden of Disease (GBD) study’s 2010 data from India shows that among all conditions that lead to death among adolescents in the 10-14 age group, both non-communicable diseases (NCDs) and injuries account for almost 23% of the deaths, each. The comparable figures among the older adolescents (15-19 years) are about 20% for NCD related deaths and 50% for injuries related deaths.

Goals
- To understand the current status of health among adolescents in low- and middle-income countries like India through a cohort study,
- To identify potential risk factors for the adolescent-specific health conditions and also identify behaviours that are associated with replace with cardiovascular diseases in adulthood.
- To develop a social media or new media based intervention to improve the health of adolescents.

Study Method
Our aim is to understand how Indian adolescents perceive health conditions that may affect them such as mental illness and injuries, and identify factors associated with increased risk for future ill health like reduced physical activity, unhealthy eating habits, smoking, drugs and alcohol, risky sexual practices.

We would also like to test how new media like social media, text messaging, internet based websites and mobile based technologies are used by adolescents to access information about health and use such information to their advantage. We will be using methods like crowdsourcing to do the study.

We propose to conduct the following:

a. We will be conducting a series of systematic reviews:
   i. To understand the use of social media by adolescents in India to understand their health related concerns or gather information about health;
   ii. To understand the main causes of death among adolescents in India using published literature and other data analyses;
   iii. To understand risk factors associated with later life CVD problems amongst adolescents in India using published literature and secondary data analyses.

b. To conduct pilot studies that will be both formative in nature (using mixed methods of data capture) and also inform suitable techniques to conduct interventions. One such proposal is being considered for sending out to ICMR.

i. To develop an app that will allow us to crowd-source information from adolescents about their health concerns, about their knowledge of key health issues and risk factors for injuries as well as their suggestions about how best we might engage adolescents in managing their own health.
ii. To undertake a series of face to face interviews and focus group discussions with adolescents in the above areas to ascertain the above.

Current status
A number of systematic reviews are under draft stage and proposals are being developed for pilot projects. Discussions are also underway to plan for the vanguard phase of the larger cohort study.

Collaborators
University of Hyderabad, All India Institute of Medical Sciences (AIIMS), Centre for Chronic Disease Control, New Delhi

"...Currently more than a quarter of India’s population is in 10-19 yr age group. Due to the growing disease burden among this group it is a need of the hour to increase and improve knowledge towards adolescent health and develop adolescent friendly health services..."

Sudha Kellekun, Research Assistant, The George Institute for Global Health, India
"...even I find myself talking to my friends and family about the health risks of a diet high in salt, I am taking on so much and changing my own perceptions and those of the people around me..."

Sudhir Raj, Research Associate, The George Institute for Global Health, India

Developing a national salt reduction programme for India

Background
Cardiovascular diseases are the leading cause of death in India with high blood pressure responsible for about 700,000 deaths each year. There were approximately 118 million people with hypertension in India in 2000 which is projected to rise to 213 million by 2025. High salt intake is a main cause of the disease burden attributed to high blood pressure leading to many serious but avoidable complications, premature mortality and significant healthcare costs. The scientific evidence in support of salt reduction is strong but the data required to put those scientific insights into reduced population salt intake are mostly absent. The aim of this project is to develop the evidence base required to formulate a national salt reduction program for India.

Goals
The overall goal of the study is to develop the knowledge base required to formulate and implement a national salt reduction programme for India.

Study Method
The research comprises a stakeholder consultation involving government, industry, consumers and civil society organisations; a cross-sectional survey of an age-and-sex stratified population sample drawn from urban (slum and non-slum) and rural areas of North and South India; and a systematic quantitative evaluation of processed and restaurant foods for the amount of salt in them. The stakeholder interviews will be analysed in order to summarise the main themes and define the broad range of factors influencing the food environment in India. The population survey will estimate mean daily salt consumption through the collection of 24-hour urine samples and dietary surveys defining the main sources of sodium in the diet. The survey of foods will record the nutritional composition of the food supply. The findings from this research will be synthesized and a national salt reduction strategy for India will be developed with key stakeholders.

Current status
The population survey fieldwork in North and South India is complete. Preliminary crude findings of salt levels in Southern India are very high indicating at least double the WHO recommended 5gm salt/day. Stakeholder analysis interviews are expected to be completed in 2015. Food database data collection is ongoing in Delhi where approximately 2000 processed supermarket products have been captured and added to the database making the overall product base approximately 10,000.

Funding
This work has been supported by the National Medical and Research Council of Australia.

Collaborators:
Centre for Chronic Disease Control, New Delhi
Public Health Foundation of India
World Action on Salt and Health
Wolfson Institute of Preventive Medicine, UK
Triple pill for Hypertension – TRIUMPH

Background
India has high prevalence of hypertension and evidence has shown that awareness and control of hypertension is relatively poor even amongst those who are well educated and have access to screening programs. Traditionally, the recommended way to treat hypertension is to start treatment with single drug and subsequently, up-dilate and/or add drugs from other classes, as necessary. This approach involves many visits to doctor, which can be costly and time consuming for both doctor and patient. Most patients with hypertension will need two or more blood pressure (BP) lowering drugs to control their BP. There is good evidence to suggest that starting patients directly on a triple combination treatment (i.e. three medications combined into one) with the included drugs at low doses might achieve the BP lowering effects of a two-in-one full strength medication but with even less side effects.

Goals
The goal of the study is to understand the effectiveness, cost-effectiveness and acceptability of a simplified strategy using a low dose combination of a 3-in-1 antihypertensive pill for the management of hypertension in India.

Study Method
TRIUMPH study is a randomised controlled trial that will recruit 700 participants with mild to moderate hypertension from about 20 hospitals in India. It will test whether provision of a Triple Pill compared to usual care improves blood pressure (BP) control at 6 months. The main trial will be complemented by economic and process evaluation.

Funding
This work is supported by the National Health and Medical Research Council of Australia through the Global Alliance of Chronic Disease.

Collaborators:
Centre for Chronic Disease Control

"...There is good evidence to suggest that starting patients directly on a triple combination treatment might achieve the BP lowering effects of a full strength medication with less side effects..."

M. Abdul Salam, Research Fellow, The George Institute for Global Health, India
Our overall research strategy of The George Institute India will be driven by the long-term objectives set in the research strategy document. Based on that some key anticipated projects in the area of non-communicable diseases are the following:

1. Diabetes and allied health
This body of research is based on the fact that India continues to have a large number of people suffering from diabetes and related complications. It is estimated that more than 65 million people suffer from diabetes in India. Diabetes related complications are also a major cause of worry. New research shows that gestational diabetes that leads to adult diabetes is also on the rise.
Future research will aim to focus on these different components of diabetes and will develop interventions to reduce the burden of this condition in the population.

2. Using data analytics for NCD research
There is a severe dearth of evidence on use of health services in India. Current evidence on quality and outcomes of care from India is limited and restricted to studies conducted at tertiary level and teaching hospitals. However much of the actual health services delivery happens in settings like private and small hospitals which are rarely included in research projects and are poorly regulated. As a result, there is little evidence-based support available to policy makers, administrators and payers on demand as well as the supply side of health services in India. The situation is no better in other low and middle income countries.
This initiative at The George Institute for Global Health focuses on identifying, collating and analysing existing clinical, administrative and community based datasets from India to build a region specific evidence base on utilization, quality and outcomes of hospital care. The goal is to build a health databank, and develop data processing and analytic systems to audit existing data and enable prospective monitoring based on big data philosophy.

3. Critical Appraisal Skills Programme for journalists
In order to address the gap in media coverage when it comes to public health issues, The George Institute for Global Health is working with UNICEF India and Oxford University to bring a critical appraisal skills program for budding and mid career journalists.
The idea is to address the skill gap in terms of reporting on public health issues based on similar such experiments in the United States, UK and in Australia and use that as the pivot around which media coverage can be made better.
The project therefore essentially involves conducting a baseline on the media coverage of public health issues with focus on routine immunization and pre and post-module development workshops with journalists, media educators and select public health professionals.
The critical appraisal skills programme developed by Oxford University for public health professionals would be used as the starting point to develop a module which would be then offered to journalists as a certification program.
Our collaborators

Key India collaborators
Apollo Group of Hospitals
Care Group of Hospitals
Fortis Group of Hospitals
Centre for Chronic Disease Control, New Delhi
Christian Medical College and Hospital, Ludhiana
Guru Tegh Bahadur Hospital and University College of Medical Sciences, New Delhi
Indian Institute of Public Health, Bhubaneswar
Indian Institute of Public Health, Hyderabad
Post Graduate Institute of Medical Education and Research, Chandigarh
Public Health Foundation of India, New Delhi
Rishi Valley Health Centre, Chittoor
Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow
Sree Chitra Tirunal Institute of Medical Sciences and Technology
University of Hyderabad

Key International collaborators
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King’s College, London
London School of Health and Tropical Medicine
Monash University
University of Oxford
University of Sydney
World Health Organisation, Geneva

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University of Oxford
Wellcome Trust - DBT India Alliance

Using technology to make healthcare more accessible and affordable is a focus for us here at the George Institute, India. We believe that the results from the SMARThealth project have global implications for the delivery of health services especially in low-income settings.

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