

## **CENTRE OF EXCELLENCE FOR SOCIAL DETERMINANTS OF HEALTH**

Health is defined as “A state of complete physical, mental and social wellbeing and not merely absence of disease or infirmity” – WHO.

Social factors that determine health include, but are not limited to factors like poverty, ignorance, pollution, contaminated drinking water and food access. All these factors have channeled our efforts towards building of a research centre which would allow physicians, researchers, health professionals and students to come together and learn about how they can improve the health of their community and combat these types of “social determinants”.

With this idea, we envisioned to develop a “Centre of Excellence for Social Determinants of Health”

### **What are social determinants??**

The social determinants of health are the economic and social conditions including those, in which people are born, grow, live and work that influence their health status and risk for disease.

BLDE (DU) as a University has strong vision to develop world class inter-disciplinary research centre in this underdeveloped region of Karnataka, this was envisaged by then Hon VC Dr.B.G.Mulimani and administrators of the Shri.B.M.Patil medical college and BLDE University. So, the center was started with the following

### **Vision:**

We will strive to enable every individual to achieve their full health potential and not to be affected by any socially determined disadvantageous circumstance.

### **Mission:**

- To measure the problem, expand our knowledge base of various social determinants that come in the way of individual's health in our study area.

- Develop and implement interventions at population level, raise public awareness about the issues.
- Train and Develop work force to tackle social determinants of diseases work with government agencies and assist governments in formulation of policy matters related to social determinants of Health.

The above mentioned goal is being achieved by funding from external agencies of international repute and with hand holding support from our BLDE (DU).

## Research Projects Completed till now:

### I. **Project:** “Home environment and School going adolescent’s weight status in Urban Bijapur”

India faces a dual burden of increasing obesity and persistent underweight. In 2012, our study of 400 families in Vijayapura measured the weights of mothers and children ages 5-19 years. We found 11% of families experiencing a dual burden of underweight and overweight, as majority of the children had normal weight while majority of the mothers were overweight (26% overweight & 40% obese).

**Funded by:** Fogarty International Centre and Eunice Kennedy Shriver National Institute of Child health and Human Development at National Institute of Health USA (Grant No: **D43HD065249-S1**)

**Grant Amount:** Rs. 35, 00, 000/- (Rs. 35 Lakh)

**Duration:** 2011-2012

#### **Project Team:**

1	Principle Investigator	Dr. Venkat Narayan K.M	Emory University, USA
2	Indian-Principal Investigator	Dr. Nikhil Tandon	AIIMS, New Delhi, India
3	Emory co-investigator	Dr. Solveig A. Cunningham	Rollins School of Public Health, Emory University, Atlanta, GA, USA
4	India co-investigator	Dr. Shailaja.S.Patil	Professor & Head, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India

### II. **Project:** A Follow-Up survey (Wave-2) of the **Home Environment and School going Adolescents weight status in Bijapur Urban area** and ancillary projects of the Global Health Initiative sponsored team of five students from Emory University.

In 2013, we expanded our research, training, and action on social determinants of health. The core of this work was a follow-up study of adolescents who had participated in the 2012 survey of “Influence of Home environment on adolescent unhealthy weight”. The follow-up project was carried with the help of a five member multidisciplinary team of trainees in Public Health, Medicine, and Anthropology at the Master’s and Doctoral level from Emory University visited Bijapur for 6 weeks. Team worked under centre of excellence for social determinants of Health at BLDE and expanded a novel area of research to understand patterns and changes in diet among young people in our community. In addition, several smaller side projects were conducted with the research team to understand various aspects of what globalization entails for health in our community.

**Funded by:** GHI Emory University, BLDE University (SEED Grant)

**Grant Amount:** Rs. 2, 00,000/- (Two Lakh rupees)

**Duration:** 3 Months (2013)

**Project team:**

1	Indian-Principal Investigator	Dr. Shailaja.S.Patil	Professor & Head, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India
2	Emory-Principal Investigator	Dr. Solveig A. Cunningham	Rollins School of Public Health, Emory University, Atlanta, GA, USA

**Ancillary projects of the Global Health Initiative sponsored team from Emory University under Centre of Excellence for Social Determinants for Health.**

- 1. Jamie Ports:** an Emory Physician Assistant (PA) trainee  
**Study:** Physician's perceptions about the emergence of childhood overweight in India
- 2. Sue Gloor:** an Emory Master of Public Health trainee  
**Study:** Grandmothers' perspectives on the changing context of health in India
- 3. Maxfield A:** an Emory PHD student in Anthropology  
**Study:** Globalization and Food Prestige among Indian Adolescents. Ecology of food and nutrition
- 4. Sara Thorpe:** an Emory Master of Public Health trainee  
**Study:** A "snapshot" of physical activity and food habits among private school children in India
- 5. Alex Tran:** an Emory Master of Public Health trainee  
**Study:** Collected data on all food sources using GPS units and smart phones to understand the spatial distribution of food access and of adolescent body weights across Bijapur city



**Emory GHI team visit to BLDE (DU)**

- III. **Mrs. Nida Izhar Shaikh** PhD candidate and NIH Fogarty Global Health Fellow from Emory University conducted her PhD thesis work under Centre of Excellence for Social Determinants of Health.

**Project:** Understand the Effect of Globalization on Adolescents Nutrition

The goal of this project was to develop a nutrition transition assessment survey to measure nutrition changes among children. The survey was tested among 200 children, ages 13-18 years to check for its reproducibility and validity. The children, selected from the 2012 study cohort in Bijapur also provided three food recalls and were measured for their height, weight, and waist circumference. According to this study, adolescent eating patterns in Vijayapura reflect a combination of global or non-local and traditional foods and preferences. Adolescents' food intake can be compared to the recommended dietary guidelines. The adolescents ate energy-dense food more frequently than recommended but ate fruit, vegetables and dairy less frequently than recommended. Girls reported more frequent consumption of global packaged and ready-to-eat foods, vegetables, and added oil/ghee to foods while boys reported more frequent consumption of eggs and street foods.

**Dr.Shailaja. S. Patil** was Field Mentor and PhD committee member for her PhD work.

**Funded by:** VECD FogartyGlobal Health Fellowship

**Grant amount:** Rs. 1.75/- Lakh (One Lakh seventy five thousand Rupees)

**Duration:** 2013- 2014



**Project team:**

1	Principal Investigator	Dr. Shailaja.S.Patil	Professor & Head, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India
2	PhD Scholar	Msr. Nida Izhar Shaikh	NIH Fogarty Global Health Fellow, Emory University, USA

IV. **Project:** “Prevalence of Cardio metabolic risk factors using WHO-STEPPS 2 in rural area”**Funded by:** BLDE (DU) University SEED Grant**Grant Amount:** 4.5 lakh Rupees**Duration:** 2015-2016**Project team:**

1	Principal Investigator	Dr. Shailaja.S.Patil	Professor & Head, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India
2	Research associate	Dr. M. C. Yadavannavar	Professor, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India

V. **Project:** “Drivers of Food Choice in Indian Households in the Context of the Nutrition Transition”

The goal of this project is to quantify aspects of women’s and men’s food choices relevant for addressing the dual burden of malnutrition in India through data collection and analysis based in Vijayapura, a remote district in Southern India that globalization is just reaching. The objectives are to: 1) Quantify the importance of factors including price, satiety, taste, reputation, and subsidies as proximate drivers of food choice in the context of globalizing food markets; 2) Identify the conditions under which women and men select global vs. traditional foods and how variations in these conditions can alter selections; 3) Assess the role of the public distribution system (PDS) as a driver of food choices and its implications for intake and for advancing nutrition transition. In a representative sample of 265 urban and 222 rural households, quantitative and qualitative methods were used to explore gender differences and communication relating to food choices and food intake. The research has real-world applications and is sustainable. This project will generate data on food choices in a remote but urbanizing region in Southern India, on the key drivers of food choices within and across households, and on the implications of the PDS. More information about the study is available at <https://www.driversoffoodchoice.org/research/project-descriptions/food-choice-in-Indian-households/>

**Funded by:**

“**Drivers of Food Choice**” (DFC) competitive grants programs, which is funded by UK governments department for International development & the **Bill & Melinda Gates foundation** and managed by University of South Carolina Arnold School of public health USA.

**Grant Amount:** Rs. 1. 8 crore**Duration:** 2018-2021**Project team:**

1	Principle Investigator	Dr. Shailaja.S.Patil M.D	Professor & Head, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India
2	Co- Principal Investigator	Dr. Solveig A. Cunningham PhD, MSc	Associate Professor, Rollins School of Public Health, Emory University, Atlanta, GA, USA
3	Co-Investigators	Dr. Nida I. Shaikh, PhD, RD	Assistant Professor, Department of Nutrition, Georgia State University, Atlanta, GA, USA.
4	Co-Investigators	Dr. Ashlesha Datar, PhD	Senior Economist, University of Southern California. USA
5	Research Assistant	Dr. Chandrika Doddihal, M.D	Assistant Professor, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India
6	Project Coordinator	Mr. Manjunath Marad, MPH	PhD Scholar, Department of Community Medicine, BLDE (DU)

#### VI. On-going Project:

**Project: Assessment of livelihood status and Food Security of the seasonal migrants during Covid-19 lockdown and post lockdown period in North Karnataka**

This study aims to understand the livelihood status and assess the level of food security among the migrant workers experienced during COVID-19 lockdown and post lockdown period in a rural area of the Vijayapura district, Karnataka, India.

**Funded by:** BLDE University (SEED Grant)

**Grant Amount:** Rs. 2, 60,000/- (Two lakh sixty thousand rupees only)

**Duration:** October 2020- September 2021

**Project team:**

1	Principal Investigator	Dr. Shailaja.S.Patil	Professor & Head, Dept of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India
2	Research Assistant	Mr. Manjunath Marad, MPH	PhD Scholar, Department of Community Medicine, Shri B M Patil Medical College, Hospital and Research Centre, BLDE (DU), India



## Activities conducted under Centre of Excellence for Social Determinants of Health

### 1. Conducted “Research Methodology Workshop”. July-2011

#### **Dr. Venkat Narayan. K. M**

Professor and Ruth and O.C. Hubert chair, Global Health department, Emory University

– Visited BLDE University and participated as a Resource person in the “**Research Methodology workshop**” conducted by Department of Community Medicine, Shri B M Patil Medical College, BLDE (DU). He also delivered a Guest Lecture on Diabetes Mellitus-Changing Trends in Developing World.

#### **Dr. Krishnaveni**

- Visited BLDE University and participated as a Resource person in the “**Research Methodology workshop**” conducted by Department of Community Medicine, Shri B M Patil Medical College, BLDE (DU).



**Guest Lecture by- Dr. Venkat Narayan. K. M**



**Resource persons and participants during- Research Methodology workshop - 2011**



2. Launch of the project titled- “**Home environment and adolescent unhealthy weight status among school going adolescents in Bijapur city.**” January-2012

**Dr. Solveig. A. Cunningham** Associate Professor.

Rollins School of Public Health, Emory University, Atlanta, GA, USA

– Visited BLDE (DU) to launch the NICHD, NIH funded project. She also delivered guest lecture on “Role of Social Determinants in Health- An Overview of Research in Bijapur”.



Inauguration of “ Home Environment & Adolescent weight” Research Project – January-2012

3. Interim observation of NICHD, NIH funded project. **November-2012**

**Dr. Venkat Narayan. K. M**

Professor and Ruth and O.C. Hubert chair, Global Health department, Emory University

– Visited BLDE (DU) to for interim observation of NICHD, NIH funded project and held discussions with BLDE (DU) authorities regarding further development of collaborations.



**Dr. Venkat Narayan. K. M**

#### 4. Guest Lecture December-2013

**Dr. Solveig. A. Cunningham Associate Professor.**

Rollins School of Public Health, Emory University, Atlanta, GA, USA

- Visited BLDE (DU) to supervise the data collection process of ongoing project. She also addressed members of faculty on Research project. She delivered a lecture on “**Importance of Social Determinants in Emerging Adolescent Obesity**”



**Hon. Vice Chancellor Dr. M S Biradar & Dr. Solveig. A. Cunningham**

5. Inauguration ceremony of DFC funded collaborative project titled **“Drivers of Food Choice in Indian Households in the context of Nutrition Transition”**. November-2018

**Dr. Solveig. A. Cunningham Associate Professor.**

Rollins School of Public Health, Emory University, Atlanta, GA,  
USA

- Visited BLDE (DU) for attending the launching ceremony of DFC funded collaborative project and delivered guest lecture.



**DFC Project launching ceremony**



**Inaugural talk by Hon. VC. Dr. M S Biradar**



**Guest Lecture by Dr. Solveig A Cunningham**



**DFC Project team during launching ceremony**

6. Interim observation of DFC Project. **“Drivers of Food Choice in Indian Households in the context of Nutrition Transition”**. November-2019

**Dr. Solveig. A. Cunningham Associate Professor.**

Rollins School of Public Health, Emory University,  
Atlanta, GA, USA

- Visited BLDE (DU) for supervision of DFC funded collaborative project, distributed sports kit to participated school children and delivered guest lecture.



**Sports kit Distribution in participatory school**



## **International Students who have completed MPH/PhD research work under Centre of Excellence for Social Determinants of Health**

- **Ph.D candidates conducting thesis work under this centre:**
  1. Nida I Shaikh – Emory University (Completed - 2013-16)
  2. Mr. Manjunath D Marad – BLDE (DU) (on-going)
- **MPH students from Emory University worked under this centre.**
  1. **Philip Dollard** : an Emory Master of Public Health trainee - 2017  
**Study:** “**Poverty and food choices in urban and rural families of India**”
  2. **Atsuyoshi Ishizumi** : an Emory Master of Public Health trainee - 2018  
**Study:** Developing database of food items sold in Vijayapura and assist in the data collection preparation for the Project “**Food Choices in Indian Households in the context of Nutrition Transition**”
  3. **John Pothen** : an Emory MD/PhD trainee - 2019  
**Study:** Assisted in analysis and data management aspects of Drivers of Food Choice Project. He is also helped in developing a manuscript examining sedentary activity and Pedometer counts in adolescents and with a paper regarding temporary labor migration and diet.
  4. **Asha Nadabar** : an Emory Master of Public Health trainee - 2020  
**Study:** Drivers of Food Choice and Associated Factors in the Context of the Nutrition Transition in South India.

## International Students field work visits



Philip Dollard - 2017



Atsuyoshi Ishizumi field data collection - 2018



Atsu Ishizumi - 2018



John Pothan - 2019

## SCIENTIFIC OUTCOME FROM THE PROJECTS SO FAR (SINCE 2012) AS PUBLICATIONS

1. Nida Shaikh, **Shailaja Patil**, Usha Ramakrishna, Solveig Cunningham. Food consumption of Indian adolescents in a globalizing world. Federation of American Societies for Experimental Biology. 2014; 28(01) Supplement 1014.5.
2. N Shaikh, A Maxfield, U Ramakrishnan, **S Patil**, S Cunningham. Perspectives of Food Availability, Healthfulness and Modernity Among Adolescents in India. The FASEB Journal 2015; 29 (1\_supplement), 898.30
3. N Shaikh, **S Patil**, U Ramakrishnan, K Yount, S Cunningham. Development and Evaluation of a Food Behaviour Survey to Assess Nutrition Transition Among Adolescents in South India. The FASEB Journal 2016; 30 (1\_supplement), 33.7-33.7
4. **Patil S**, Ports J, Yadavannavar M, Cunningham S. Physician's perceptions about the emergence of childhood overweight in India. JKIMSU. 2016; 5(1): 37-44.
5. Staab E, Cunningham S, Thorpe S, **Patil S**. A "snapshot" of physical activity and food habits among private school children in India. Childhood. 2016; 23(4): 537-553.
6. N Shaikh, U Ramakrishnan, **S Patil**, K Yount, R Martorell, KMV Narayan, Development and Validation of a Nutrition Transition Diet Score for Adolescents in India. The FASEB Journal 2016; 30 (1\_supplement), 43.7-43.7
7. Nida Shaikh, Jennifer Frediani, UshaRamakrishnan, **Shailaja Patil**, Kathryn Yount, Solveig Cunningham. Development and Evaluation of a Nutrition Transition FFQ for Adolescents in South India. The FASEB Journal 2016; 30 (1\_supplement), 1153.4-1153.4
8. Maxfield A, **Patil S**, Cunningham SA. Globalization and Food Prestige among Indian Adolescents. Ecology of food and nutrition. 2016;55(4):341-364
9. Shaikh NI, **Patil SS**, Halli S, Ramakrishnan U, Cunningham SA. Going global: Indian adolescents eating patterns. Public health nutrition. 2016;19(15):2799-2807.
10. NI Shaikh, JK Frediani, U Ramakrishnan, **SS Patil**, KM Yount, R Martorell, et al. Development and evaluation of a Nutrition Transition-FFQ for adolescents in South India. Public health nutrition. 2017; 20 (7), 1162-1172

11. Cunningham S, Gloor S, **Patil S**. Grandmothers' perspectives on the changing context of health in India. BMC Research Notes. 2017; 10(1).
12. Shaikh N, Maxfield A, **Patil S**, Cunningham S. Healthfulness, Modernity, and Availability of Food and Beverages: Adolescents' Perceptions in Southern India. Ecology of Food and Nutrition. 2017; 1-17.
13. Ilana G. Raskind, **Shailaja S. Patil**, Regine Haardörfer, Solveig A. Cunningham. Unhealthy Weight in Indian Families: The Role of the Family Environment in the Context of the Nutrition Transition. Popul Res Policy Rev (2018) 37: 157.
14. Ilana G Raskind, Shailaja **S Patil**, Michael R, Kramer Solveig A Cunningham. "Physical Activity Pattern among Indian Adolescents: Independent & Joint Association of Gender & Socio-Economic Status" American Heart Association EPI|Lifestyle.2019; 139:322. Published Online.
15. Ilana G. Raskind, PhD, **Shailaja S. Patil**, MD, Nikhil Tandon, MBBS, MD, PhD, Sharanya Thummalapally, MPH, Michael R. Kramer, PhD and Solveig A. Cunningham, PhD. "Household Chores or Play Outdoors? The Intersecting Influence of Gender and School Type on Physical Activity Among Indian Adolescents". Health Education & Behavior. 2020;1-10. **(Article first published online: June 9, 2020)**
16. Cunningham, SA, Shaikh, NI, Datar, A, Chernishkin, A and **Patil, Shailaja**. "Food subsidies, nutrition transition, and dietary patterns in a remote Indian District. Global Food Security International Journal **(Accepted)**



## **COMMUNICATION MATERIAL FOR STACKEOLDERS AND STUDY PARTICIPANTS**

### **1. Report for Participants – Health Changes in Vijayapura**

**Web link:**

### **2. Research Brief : Food Choice in Indian Households in the Context of Nutrition Transition**

**Web-Link:** <https://driversoffoodchoice.org/wp-content/uploads/2020/11/Cunningham.pdf>

### **3. B\_E Impactful – A Social Determinants News Letter**

**a. Issue- I – 2013**

**b. Issue – II – 2014**

**c. Issue – III – 2020**

**Web-Link:** <https://driversoffoodchoice.org/wp-content/uploads/2020/11/8-page-Brouchers.pdf>

### **4. PDS Flyer –**

**Web link:**