

CENTRE OF EXCELLENCE FOR SCIENCE OF IMPLEMENTATION AND SCALE-UP (CoE-SISU)

Established in 2016, the main objective of the CoE-SISU is to timely generate and embed knowledge related to healthcare practice. The Centre aims to bridge gaps to allow successful scaling up and implementation of interventions by focusing on testing different methodologies, generating evidence-based interventions and innovations, and translating them into standard protocols for policy-makers in Bangladesh.

Research conducted at the Centre reviews potential evidence of successful interventions that can showcase the application of science of implementation for scaling-up. Guidelines and policy briefs are produced for policymakers on implementation of various health programmes and scale-up in Bangladesh. Advocacy efforts include the development of communication materials to showcase successfully implemented or scaled up programmes. Training and short courses are offered under the Centre on implementation research and, monitoring and evaluation to build capacity of development professionals, implementers, researchers and government officials.

RESEARCH PROJECTS ONGOING IN 2021

- SYNTHESIS AND TRANSLATION OF RESEARCH AND INNOVATIONS FROM POLIO ERADICATION (STRIPE)

PI: Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH.

Co-PI: Dr Yameen Mazumder, Project Implementation Specialist, BRAC JPGSPH.

Focal: Dr Humayra Binte Anwar, Lecturer, BRAC JPGSPH.

Timeline: April 2018 - December 2022

Objectives:

- Map knowledge content from the Global Polio Eradication Initiative (GPEI);
- Package GPEI knowledge assets for a global health course and training materials on implementation science;
- Validate GPEI-IS course, MOOC and training materials for the clinic;
- Disseminate GPEI-IS knowledge products, courses, IS clinics to different targeted audiences.
- Track impact of GPEI-IS knowledge product over time.

Methodology: Mixed method

Donor: Bill and Melinda Gates Foundation

Partner: Johns Hopkins Bloomberg School of Public Health.

- A MEDIA EXPERIMENT TO REDUCE INTIMATE PARTNER VIOLENCE IN BANGLADESH

PI: Professor Malabika Sarker, Associate Dean, and Director, CoE-SISU, BRAC JPGSPH.

Co-PI: Atonu Rabbani, Associate Scientist, BRAC JPGSPH.

Focal: Mushfiqur Rahman, Research Associate, BRAC JPGSPH.

Timeline: June 2019 - May 2021

Objective:

To reduce the risk of bacterial and parasitic infection through flooring reconstruction in homes that currently have dirt/mud floors.

Methodology: Qualitative

Donor:

- South African Medical Research Council (SAMRC);
- The World Bank;
- Grand Challenges Canada.

Partner: Association of Development for Economic and Social Help (ADESH)

- CLIMATE CHANGE, MIGRATION AND HEALTH SYSTEMS RESILIENCE IN HAITI AND BANGLADESH (CLIMHB)

PI: Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH.

Focal: Nazia Nawar Chowdhury, Research Associate, BRAC JPGSPH;

Timeline: October 2021 - December 2022

Objective: To analyse the capacities and vulnerabilities of health systems in Haiti and Bangladesh, through the lens of climate change-induced migration flows.

Methodology: Mixed method

Donor:

- French National Research Agency (ANR)
- Institut De Recherche Pour LE Développement (IRD)

Partner: CEPED – IRD

- DEVELOPING AND TESTING A RISK STRATIFICATION APPROACH SCREENING USING GUIDELINES AND ARTIFICIAL INTELLIGENCE FOR DIABETIC RETINOPATHY IN PEOPLE WITH DIABETES IN BANGLADESH.

PI: Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH.

Co-I:

- Malay Kanti Mridha, Professor and Director, CNCDN, BRAC JPGSPH;
- Dr Mehedi Hasan, Senior Lecturer, BRAC JPGSPH;
- Ipsita Sutradhar, Senior Research Fellow, BRAC JPGSPH.

Focal: Ipsita Sutradhar, Senior Research Fellow, BRAC JPGSPH.

Timeline: October 2020 - June 2021

Objective:

- Develop and validate a simple DR risk stratification score and tool in the Bangladeshi population with diabetes;
- Pilot the use of the DR risk stratification approach for targeted screening in a real-world clinical setting in Bangladesh.

Methodology: Mixed-method

Donor: Fred Hollow Foundation Australia

- EFFECTS OF AGE AT MARRIAGE AND EDUCATION ON HEALTH OF MOTHERS AND CHILDREN

PI:

- Erica Field, Professor, Economics and Global Health, Duke University;
- Kate Vyborny, Associate Director, DevLab, Duke University;
- Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH;
- Nina Buchmann, PhD Candidate, Economics, Stanford University;
- Rachel Glennerster, Chief Economist, Foreign, Commonwealth and Development office, UK;
- Shahana Nazneen, Consultant, Innovations for Poverty Action;
- Xiao Yu Wang, Assistant Professor, Economics, Duke University and Chief Economist, CRI.

Coordinator: Fatema Mohammad, Senior Research Assistant, BRAC JPGSPH.

Timeline: September 2020 - August 2022

Objective:

- Assess the impact of increased marriage age and/or human capital on reproductive health;
- Assess the impact of increased marriage age and/or human capital on women's long-term physical and psychological well-being;
- Assess the impact of increased marriage age and/or human capital on child health;
- Assess potential channels through which marriage age and/or human capital influence maternal and child health

Methodology: Quantitative

Donor: National institutes of health, USA

Partner: Duke University

- VALIDATION OF FINGER IMAGE: A MIXED-METHOD STUDY

PI: Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH.

Focal:

- Mushfiqur Rahman, Research Associate, BRAC JPGSPH.
- Saima Mehjabeen, Senior Research Associate, BRAC JPGSPH.

Timeline: September 2020 - August 2021

Objective: To measure the accuracy of finger image testing among children under 5 and to explore the feasibility of the implementation in specific urban slums.

Methodology: Embedded mixed-method approach.

Donor: Simprints Technology Limited

- CLINICAL IMPACT AND ECONOMIC FEATURES OF A COMMUNITY HEALTH WORKER-LED LOW-SODIUM SALT INTERVENTION TO REDUCE BLOOD

PRESSURE AT THE POPULATION LEVEL IN RURAL BANGLADESH: A CLUSTER-RANDOMIZED TRIAL

Local PI: Dr. Malabika Sarker

CO PI: Pascal Geldsetzer

[Assistant Professor of Medicine, Primary Care and Population Health, Stanford University School of Medicine]

Focal: Animesh Talukdar

Timeline: October,2021- June,2022

Objectives:

The primary objective of this study is to assess the effectiveness of a low-sodium salt substitute (LSSS) (a compound in which a percentage of the sodium chloride [NaCl] is replaced by potassium chloride [KCl] and/or magnesium sulfate [MgSO₄]) for blood pressure reduction in a general population of adults (aged 18 years and older) in rural Bangladesh. Several methods of intervention delivery will be compared in separate study arms to determine the optimal approach for low-sodium salt provision in this setting. Besides, our study will include a study of the willingness-to-pay of our target population for an LSSS.

Methodology: Mixed method

Donor: Leland Stanford Junior University

Partner: Leland Stanford Junior University

- TRANSFORMING HOUSEHOLDS WITH REFRACTION AND INNOVATIVE FINANCIAL TECHNOLOGY (THRIFT) (PRE-FORMATIVE PHASE)

PI: Dr. Atonu Rabbani

Focal: Sharmin Akter Shitol, Research Associate, BRAC JPGSPH

Timeline: July 2021 to August 2024

Objective: To learn about the OAA online banking system in Bangladesh through a desk review of relevant documents and interviews with relevant planners and implementers

Methodology: Qualitative

Donor: Wellcome Trust

Partners: Queen's University Belfast (primary)

- IMPLEMENTATION RESEARCH IN HEALTH CAMPAIGN EFFECTIVENESS: A RETROSPECTIVE STUDY IN IMMUNIZATION RELATED CAMPAIGN INTEGRATION IN BANGLADESH

PI: Saima Mehjabeen, Senior Research Associate, BRAC JPGSPH

Co-PI: Humayra Binte Anwar, Research Associate, BRAC JPGSPH

Focal: Saima Mehjabeen, Humayra Binte Anwar

Timeline: 1 June 2021 to 31 July 2022

Objective: This retrospective study will help us to gain a deeper understanding about the context and factors in integration of health campaigns, facilitating factors and challenges during implementation, and the overall impact on the success of the program outcome. Besides, it will help us to formulate

recommendations and suggestions regarding integrating health campaign for future program. These insights will assist in creating a set of design principles and considerations that will reflect the need of conducting health campaign integration in current country context and guide our national policy makers to review national policies to build on solutions for emerging issues in the field of infectious disease by aligning with Immunization Agenda 2030 by World Health Organization.

Methodology: Mixed-method

Donor: Task Force for Global Health with Bill & Melinda Gates Foundation

Partners: Task Force for Global Health

- IMPLEMENTATION RESEARCH – FOR DHIS2 APP-BASED INDIVIDUAL TRACKING OF CHILDREN FOR VACCINATION (EPI E-TRACKER) IN MOULAVIBAZAR DISTRICT AND ZONE-5 OF DHAKA SOUTH CITY CORPORATION

PI: - Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH

Focal: Avijit Saha

Timeline: 1 April 2021 to 30 June 2022

Objective: The purpose of this implementation research is to document and explore the DHIS2 app-based individual e-Tracker system used for vaccinating children in Moulavibazar District and zone-5 of Dhaka South City Corporation of Bangladesh and identify challenges, lessons learned, solutions to scale-up, and success stories. Detailed steps of implementation, including training, resource mobilization, field monitoring, challenges at the field level, and acceptance of the new system by health managers and workers and beneficiaries, will also be reviewed

Methodology: Mixed-method

Donor: United Nation's Children Fund

Partners: UNICEF, EPI

- ENHANCING NUTRITION SERVICES TO IMPROVE MATERNAL AND CHILD HEALTH IN AFRICA AND ASIA (ENRICH): ENDLINE EVALUATION IN BANGLADESH

PI:

- Prof. Dr. Daniel William Sellen (Main PI)
- Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH (Country PI)

Focal: Avijit Saha

Timeline: 1 July 2021 to 30 September 2022

Objective: The main purpose of the proposed endline evaluation is to evaluate the progress of the program since inception as well as to generate and share data that would help the local, sub-national, national, and international policymakers to improve the implementation of the MNCH program in similar communities building on the lessons learned from this evaluation. The endline evaluation will focus on measuring the effectiveness of the programme towards achieving targets since baseline.

Methodology: Quasi-experimental Mixed-method

Donor: World Vision

Partners: University of Toronto (UofT), World Vision Bangladesh (WVB)

- **YOUTH WITH DISABILITIES' LIVED EXPERIENCES, ASPIRATIONS, AND CURRENT ENGAGEMENTS IN LIVELIHOODS IN BANGLADESH, AND HOW THEY CAN SHARE THEM WITH LOCAL DECISION-MAKERS**

Local PI: Dr. Malabika Sarker

Focal: Sayema Akter

Technical lead: Mrityika Barua

Timeline: June 2020- July 2022

Objectives:

The general objective of the study is to understand the experiences, aspirations and challenges of youths with disability in their livelihood in Bangladesh and, to explore the inclusion of young people with disabilities into policy dialogues around the implementation of SDG8: decent work and economic growth.

Methodology: Mixed method

Donor: British Academy

Partner: Sightsavers

- **AMPLIFYING RESILIENT COMMUNITIES TO FACILITATE A DEEPER UNDERSTANDING OF HOW VULNERABLE POPULATIONS RESPOND TO AND RECOVER FROM A CRISIS, SUCH AS COVID-19**

PI: Professor Malabika Sarker, Associate Dean, and Director, CoE-SISU, BRAC JPGSPH, BRAC University.

Focal/Coordinator:

Humayra Binte Anwar, Research Associate, BRAC JPGSPH, BRAC University

Implemented by: Center of Excellence for Science of Implementation & Scale-Up (CoE-SISU)

Timeline: October 2020 – August 2022

Methodology: Mixed method

Objective:

To provide a deeper understanding of how vulnerable populations interact with healthcare systems during and after the COVID-19 crisis in Bangladesh. These findings aim to inform the rebuilding of better health systems.

Donor: Bill and Melinda Gates Foundation

Partner: Ipsos MORI (UK), Quicksand Design Studio (India)

- **UPSTREAM FACTORS OF PANDEMIC RESPONSE: BANGLADESH CASE STUDY**

Local PI: Dr. Malabika Sarker

CO PI: Dr. Md Zabir Hasan

Focal: Syeda Tahmina Ahmed

Timeline: July,2021- December,2022

Objectives:

The objective of this mixed-methods case-study is to explore the institutional, political, organizational, and governance factors that influenced the public health response to COVID-19 in Bangladesh and understand how they influenced the choice and implementation of interventions to manage COVID-19. This in-depth exploration also aims to understand the “actual” or “de facto” response against COVID-19, versus, the “normative” or “de jure” relationships.

Methodology: Mixed method

Donor: JOGL

Partner: School of Population and Public Health, University of British Columbia (UBC)

- **MILLION COOL ROOFS CHALLENGE**

PI: Professor Malabika Sarker, Associate Dean, and Director, CoE-SISU, BRAC JPGSPH.

Co-PI: Dr Atonu Rabbani, Associate Professor, Department of Economics, University of Dhaka and Associate Scientist, BRAC JPGSPH.

Focal: Md. Shihab Ad Din, Research Associate, BRAC JPGSPH; Muhammed Nazmul Islam, Senior Research Fellow, BRAC JPGSPH.

Timeline: July 2019 – October 2021.

Implemented by: Centre of Excellence for Science of Implementation and Scale-up (CoE-SISU).

Objective: To improve access to sustainable cooling through the rapid scaling of cool roofs in countries with large numbers of people facing heat stress risks.

Methodology: Mixed method

Donors: Institut de Recherche pour le Development (IRD); France Nesta Enterprise Ltd.

Partner: Department of Architecture, BRAC University.

Grant Amount: USD 125,000

- **TRAINING BIOMETRICS TO BOOST EFFECTIVE VACCINE COVERAGE IN BANGLADESH**

PI: Professor Malabika Sarker, Associate Dean, and Director, CoE-SISU, BRAC JPGSPH.

Focal: Mushfiqur Rahman,

Timeline: August 2021 – October 2021.

Implemented by: Centre of Excellence for Science of Implementation and Scale-up (CoE-SISU).

Objective: Evaluate the six-months long pilot aimed to biometrically enroll 5000 children and verify the use of biometric for vaccine delivery

Methodology: Mixed method

Donors: Simprints Technology Limited

Partner: EPI, GoB

- **LEARNING IN THE PANDEMIC: IMPACT OF COVID-19 ON EDUCATION OF CHILDREN WITH DISABILITIES DURING SCHOOL CLOSURES IN THE SUB-DISTRICTS OF BANGLADESH(CWD)**

PI: Professor Malabika Sarker, Associate Dean, and Director, CoE-SISU, BRAC JPGSPH.

Co-PI: Sayema Akter, Research Fellow, BRAC JPGSPH

Focal: Mrityika Barua, Assistant Professor, BRAC JPGSPH

Timeline: October 2021 – February 2022

Implemented by: Centre of Excellence for Science of Implementation and Scale-up (CoE-SISU).

Objective: This study aims to investigate the experiences of children with disabilities and their parents and instructors to determine levels of access to education and identify factors impeding their learning during school closures and the phased reopening period.

Methodology: Qualitative
Donors: Leonard Chessire
Partner: Leonard Chessire

- IMPLEMENTATION RESEARCH – FOR DHIS2 APP-BASED INDIVIDUAL TRACKING OF CHILDREN FOR VACCINATION (EPI E-TRACKER) IN MOULAVIBAZAR DISTRICT AND ZONE-5 OF DHAKA SOUTH CITY CORPORATION

PI: Professor Malabika Sarker, Associate Dean and Director, CoE-SISU, BRAC JPGSPH

Focal/ Coordinator: Avijit Saha

Timeline: April 2021 - June 2021

Objective: The purpose of this implementation research is to document and explore the DHIS2 app-based individual e-Tracker system used for vaccinating children in Moulavibazar District and zone-5 of Dhaka South City Corporation of Bangladesh and identify challenges, lessons learned, solutions to scale-up, and success stories. Detailed steps of implementation, including training, resource mobilization, field monitoring, challenges at the field level, and acceptance of the new system by health managers and workers and beneficiaries, will also be reviewed.

Methodology: Mixed method

Donor: United Nation's Children Fund

Partners: UNICEF, EPI