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# THRIFT

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## **Transforming Households with Refraction and Innovative Financial Technology**

A randomized controlled trial on the impact of free reading glasses to support use of smartphone banking in Bangladesh among elderly recipients of government Old Age allowance payments and widow allowance payments

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## STUDY AIM

The aim of the trial is to measure the impacts of free vision corrected reading glasses combined with digital financial services (DFS) training to support the adoption and use of mobile banking in Bangladesh, who are recipients of digitized government Old Age Allowance (OAA) benefits and Widow Allowance (WA) benefits.

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## OBJECTIVES

- To provide a reliable estimate of the impact of vision correction with glasses and digital financial service training on greater adoption and use of DFS platform in receiving digital Old Age Allowance and widow allowance transfers using mobile banking platform
- To measure the difference between treatment and control groups in number of transactions with the index bank account per unit (measured by change in account balance, defined by the DFS balance sheet, detected by the DFS App. Additionally, the app can detect the number of transactions on the app by reading SMS confirmation received in relation to the transactions) per unit of time.

The objectives of qualitative component include:

- How do elders or widows use their safety net benefit (and who else has access to it or uses it)?
  - How does correcting refractive errors with spectacles affect social support beneficiaries' ability to access safety net payments, make independent decisions about how their money is used by household members,
  - impact on food security, and
  - affect power relations in the family/household (if the beneficiary becomes more active in decision making about finances or other household issues)?
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## MAIN STUDY QUESTION

Will Provision of free near -vision corrected glasses and simple training in smartphonedigital financial service operation result in greater financial inclusion?

## SETTING

Peri-urban districts of digitized OAA/WA coverage area of Greater Dhaka division.

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## TRIAL DESIGN

Randomised, mixed methods, investigator-masked trial.

The study involves employing a two-arm RCT design; one treatment and one control. Only households with eligible participant who does not own a mobile phone will be a part of the study.

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## PARTICIPANTS

### Inclusion criteria:

Current beneficiaries of the OAA/WA from the Government of Bangladesh (under DSS).

- Female OAA recipients older than 62 years and male older than 65 years of age
- older than 50 years for WA beneficiaries. Age is verified on the basis of National Identity Cards (NIDs)
- are diagnosed with uncorrected presbyopia.
- reside in a district covered by a bKash catchment area
- demonstrate basic numeracy and dexterity
- display the desired cognitive capacity

### Exclusion criteria:

- higher income group or deemed ineligible based on proxy means testing
  - diagnosed with vision problems in addition to, or other than presbyopia
  - are not above 70 years of age for OAA.
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## SAMPLE SIZE

THRIFT is a two-arm randomized control trial (RCT) confers 80% power and 95% significance to detect a 14% change in number of transactions with the app (mean diff=5.78,SD=7) (ICC = 0.8). This is achieved by having a total of 400 beneficiaries, with 200 assigned to intervention groups over the course of the trial, assuming a 15% dropout rate.

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## RANDOMIZATION

- **Intervention:** The design involves a package of interventions including vision corrected free glasses and basic Digital Financial Services (DFS) training to the recipients of government digital OAA/WA and mobile banking training after payments. Smartphone provided Trial version of the design participants will additionally receive smartphones. All participants will get calls/data plans plus a DFS tracking app regulating daily usage. smartphone, near vision glassed and mobile banking training.
- **Controls:** Control group participants receive training and free spectacles only at trial end line.

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## MAIN STUDY OUTCOME

Difference between treatment and control groups in the number of transactions with the index bank account per unit time

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## SECONDARY OUTCOMES

1. Total mobile data consumption by the individual
2. Whether use of the application was facilitated by a bKash agent or family member, or independent
3. Purchase of additional phones by study participant's household
4. Purchase of additional phones by study participant
5. Intra-household resource sharing by the beneficiary (as a percentage of total household consumption)
6. Purchase of glasses
7. Food security (measured using standard module developed by World Food Programme (WFP))
8. Adequate and timely access to healthcare and medications (self-reported measures of purchase of essential medicine and healthcare visits.)

9. Role of study participant in household decision making autonomy (measured using a standard survey instrument).
10. Subjective well-being of study participants (self-reported measures using a standard survey module, WHO-QoL-BREF).
11. Mobility of study participant
12. Social connectedness of study participant
13. External remittances, recorded on the bKash app (verified by survey)
14. Incidence of COVID-unsafe behaviours.
15. Self-reported incidence of theft or fraudulent use of money from the index participant's account.

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## TECHNIQUE FOR MEASUREMENT OF MAIN OUTCOME AND SECONDARY OUTCOMES

Bkash is the technical partner who create mobile banking application. The THRIFT app developed for the purpose of the study will record the number of bank transactions undertaken through the bKash app, as they will reflect in the SMSes on the participants' phones. The primary outcome is defined as a change in the bKash balance sheet measured on the THRIFT app, which would indicate a transaction undertaken using mobile banking.

- Primary Outcomes  
Number of transactions with the index bank account per unit time
- Key Secondary Outcomes  
Standardized survey modules will be adapted for use to measure the secondary outcomes.

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## BASELINE DATA (POTENTIAL PREDICTORS OF OUTCOME)

Baseline data for stratification includes variables like age, gender, and prior experience with banking transactions.



# **CAPACITY BUILDING PARTNERSHIPS**

**CHEN YET-SEN FAMILY FOUNDATION**

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**CLEARLY INITIATIVES**

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**GOOD BUSINESS LABS FOUNDATION**

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**JAMES P. GRANT SCHOOL OF PUBLIC HEALTH**

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**L V PRASAD EYE INSTITUTE CLINICAL TRIALS UNIT**

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**MOMODA FOUNDATION**

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**NORTHERN IRELAND CLINICAL TRIALS UNIT**

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**QUEEN'S UNIVERSITY BELFAST**

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**VISION SPRING**

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## DESCRIPTION OF ANY QUALITATIVE WORK

The qualitative component of the THRIFT study provides contextual information to assist the development of the trial and understand the challenges and facilitators of implementing the trial.

This component consists of two phases.

- **Formative phase**  
provides contextual information to support the THRIFT trial as it will gather the experience and views of the beneficiaries and family members of the beneficiaries on family dynamics, normal aging, changing vision, spectacles and smartphone use, and changes in how elders managed finances/ banking over lifespan. Alongside, document reviews will be conducted to learn the theoretical implementation of the social safety net program and to identify the various stakeholders involved.
- **Pilot/feasibility study**  
The second phase, pilot/feasibility study, will assess the implementation of the pilot trial and make necessary modifications for the main trial, explore the challenges among beneficiaries and implementers, understand the retention mechanism among beneficiaries, and determine the number of beneficiaries that need to be included in the main trial

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## OUTLINE OF MAIN ANALYSIS

Outcome data for all participants who take up the treatment will be analysed using an Intention-to-Treat approach, according to random assignment of the intervention. Even if the control group participants obtain eyeglasses during the study period, data will be analysed as per treatment allocation status.

Numbers (with percentages) for binary and categorical variables and means (and standard deviations), or medians (with lower and upper quartiles) for continuous variables will be presented; there will be no tests of statistical significance performed nor confidence intervals calculated for differences between groups on any baseline variable.

Additional analysis involves evaluating the outcomes in sub-groups split along gender and severity of presbyopia.

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## TRIAL MANAGEMENT AND OVERSIGHT

An independent Data Monitoring and Ethics Committee (DMEC) will be established, whose remit will be to review the trial's progress. The DMEC is independent of the trial organisers. The DMEC Charter and Operating Procedures will be agreed before their first meeting. Meetings of the committee will be arranged periodically, as considered appropriate by the TSC Chair.

The main criteria for early stopping of the trial will be determined by the DMEC but are likely to be that the TSC, upon suggestion from the DMEC, that evidence from the trial and other sources as appropriate suggests (a) proof beyond reasonable doubt that one of the allocated interventions is clearly indicated or contra-indicated for all, or some types of participant, and (b) that the findings might reasonably be expected to influence routine practice in the future. Criteria for the above will usually include a difference in outcomes between the randomised groups that has achieved a statistical significance level of  $p < 0.001$ .

The TSC Charter and its relationship to the DMEC will be discussed and agreed prior to the start of recruitment

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## TIMELINE

- Protocol development and approvals: 8 months  
Aug 2021 to Mar 2022
- Recruitment: 4 months, September 2022 to December 2022
- Study duration: 12 months, January 2023 to December 2023
- End line: 2 months, January 2024 to February 2024.
- Analysis and report writing (not including peer review and approval): 6 months, March 2024 to August 2024



THRIFT is part of the ENGINE (Eyecare Nurtures Good-health, Innovation, driving-safety and Education) suite of Trials, funded by Wellcome Trust and The Chen Yet-Sen Family Foundation