Assessing Health Intervention Technology and Effectiveness of Early Childhood Education in Ultra-Poor Communities in the Philippines

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Community Health Champions (CHC) Workflow Analysis:

**Introduction**
- CHC are trained community members who facilitate health interventions in areas like family planning, pregnancy, and malnutrition to build healthier families and reduce poverty.
- CHC use a health app (CHAMP) to streamline interventions providing a point for data entry.

**Objective of Study**
Create and analyze workflow of the CHAMP app to better understand and improve interventions and to provide references for Health, Research, and Tech teams.

**Methods:** construct workflows for pregnancy and malnutrition pathways using app code and data collection forms, track areas where workflow might be improved, graph malnutrition data to determine optimal threshold for intervention.

**Results and Discussion:**
Workflows indicate self-sustaining cycles that allow for continuous follow-up in both interventions. Potential issues identified: lack of follow-up after danger issues in both pregnancy and malnutrition, unclear indication of a "successful" treatment in malnutrition; no direct link in the workflow to pregnancy termination, delivery report, and malnutrition discharge forms.

Family Academy

**Introduction**
Through FA, pastors and local teachers run community-based early education programs to improve school readiness.

**Objective of Study**
Combine and analyze FA data from 2017-2019 to assess effectiveness of program and of testing protocol for determining student progress.

**Methods:** Clean and bind assessment data from 2017 to 2019, analyze effect of FA program on children's test scores and compare year to year.

**Results/ Discussion:** All years and categories indicated an increase in test scores, except for two categories in 2017. On average, math scores increased by 298.8% and phonics scores by 269.7%. In addition, average change is greater in 2018 and 2019 than 2017, indicating that the program may be improving in effectiveness.

**Conclusions and Future Directions:**
Based on current analysis, FA is associated with an increase in the assessed math and phonics abilities of children. Based on the process of data wrangling, future work may be done in standardizing the way that test data is inputted for ease of access in the future. In addition, assessment of test consistency with Cronbach's alpha or other means may be useful.

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