

Zambia Child Grant Baseline: Design and Predictions

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Study Design

- 2,500 HHs
- 90 communities
- Across 3 districts
- Random selection of communities and HHs
- Random assignment of communities

Age by Gender

| Age | Male | Female | per Household | Total |
|----------|------|--------|---------------|-------------|
| 0 to 5 | 2437 | 2356 | 1.90 | 4793 |
| 6 to 18 | 2269 | 2322 | 1.82 | 4591 |
| 19 to 69 | 2247 | 2863 | 1.94 | 5110 |
| 70+ | 27 | 44 | 0.03 | 71 |

Table 2.1: Mean Differences between Original Treatment and Control Status

| | Original Controls | | Original Treatment | | <i>P-value</i> |
|--|-------------------|------------|--------------------|------------|----------------|
| | <i>Mean</i> | <i>Std</i> | <i>Mean</i> | <i>std</i> | |
| Total food consumption per month per capita (Kw) | 21910.0 | 21381.8 | 19988.7 | 20974.29 | 0.289 |
| bought fertilizer (1=Yes 2=No) | 1.90 | 0.30 | 1.92 | 0.27 | 0.035 |
| DHS style wealth index | 0.09 | 1.05 | 0.01 | 0.96 | 0.080 |
| Head's age (years) | 59.40 | 16.65 | 59.31 | 17.00 | 0.897 |
| Head's education (years) | 3.87 | 3.56 | 3.85 | 3.53 | 0.898 |
| Female Headed Household | 0.59 | 0.49 | 0.59 | 0.49 | 0.792 |
| Household size | 5.44 | 3.12 | 5.58 | 3.22 | 0.307 |
| Dependency ratio | 2.43 | 1.72 | 2.42 | 1.67 | 0.820 |
| # of orphans | 2.03 | 1.86 | 2.07 | 1.98 | 0.634 |
| # of children (0-18) | 3.20 | 2.43 | 3.23 | 2.43 | 0.783 |
| # of adults (19-64) | 1.66 | 1.42 | 1.74 | 1.46 | 0.246 |
| # of seniors (65+) | 0.56 | 0.64 | 0.60 | 0.68 | 0.202 |
| distance to nearest secondary school | 27.67 | 124.67 | 22.41 | 19.01 | 0.172 |
| distance to nearest clinic | 5.84 | 6.29 | 6.23 | 5.76 | 0.126 |
| No toilet | 0.57 | 0.49 | 0.60 | 0.49 | 0.193 |
| Unprotected water source | 0.57 | 0.49 | 0.60 | 0.49 | 0.193 |
| Observations | 1072 | | 1145 | | |

P-value is for t-test for statistical difference in means between treatment and control groups (bold indicates significance at 5 percent or less).

Table 2.2: Mean Differences between Actual Treatment and Original Control Group

| | Original Controls | | Actual Treatment Grp | | <i>P-value</i> |
|--|-------------------|------------|----------------------|------------|----------------|
| | <i>Mean</i> | <i>Std</i> | <i>Mean</i> | <i>std</i> | |
| Total food consumption per month per capita (Kw) | 21924.43 | 21517.85 | 21947.36 | 21031.39 | 0.984 |
| bought fertilizer (1=Yes, 2=No) | 1.89 | 0.31 | 1.95 | 0.22 | 0.000 ← |
| DHS style wealth index | 0.11 | 1.05 | -0.27 | 0.77 | 0.000 ← |
| Head's age in years | 59.21 | 16.67 | 64.43 | 15.01 | 0.000 ← |
| Head's years of schooling | 3.91 | 3.57 | 2.81 | 3.14 | 0.000 ← |
| Female headed household | 0.59 | 0.49 | 0.68 | 0.47 | 0.001 ← |
| Household size | 5.48 | 3.12 | 4.89 | 2.91 | 0.000 ← |
| Dependency ratio | 2.42 | 1.72 | 2.43 | 1.61 | 0.969 |
| # of orphans | 2.04 | 1.86 | 2.09 | 1.88 | 0.600 |
| # of children (0-18) | 3.22 | 2.43 | 2.71 | 2.17 | 0.000 ← |
| # of adults (19-64) | 1.69 | 1.43 | 1.42 | 1.32 | 0.000 ← |
| # of seniors (65+) | 0.56 | 0.64 | 0.75 | 0.65 | 0.000 ← |
| distance to nearest secondary school | 28.06 | 126.41 | 23.74 | 18.65 | 0.280 |
| distance to nearest clinic | 5.84 | 6.36 | 6.34 | 5.51 | 0.110 |
| no toilet | 0.58 | 0.49 | 0.68 | 0.47 | 0.000 ← |
| unprotected water source | 0.58 | 0.49 | 0.68 | 0.47 | 0.000 ← |
| Observations | 1072 | | 516 | | |

P-value is for t-test for statistical difference in means between treatment and control groups (bold indicates significance at 5 percent or less).

Child Comparisons and Development Scale

| Variables | Control | SD1 | Treatment | SD2 | Mean difference | T-value |
|---|---------|-------|-----------|-------|-----------------|---------|
| Outcome variables | | | | | | |
| Height | -1.15 | 1.46 | -1.11 | 1.43 | -0.04 | -0.73 |
| Weight | -1.22 | 1.36 | -1.29 | 1.36 | 0.07 | 1.44 |
| Weight for height | -0.49 | 1.36 | -0.54 | 1.34 | 0.04 | 0.94 |
| Health Card | 0.93 | 0.26 | 0.95 | 0.22 | -0.02 | 0.03 |
| Vitamin A dose in the last 6 months? | 0.76 | 0.43 | 0.79 | 0.40 | -0.03* | -2.45 |
| Diarrhea in the past 2 weeks? | 0.17 | 0.38 | 0.20 | 0.40 | -0.03* | -2.40 |
| Ill with fever in the last 2 weeks? | 0.23 | 0.42 | 0.24 | 0.42 | -0.01 | -0.68 |
| Development scales for children 3-7 yo | | | | | | |
| Played with items | 1.49 | 0.75 | 1.53 | 0.78 | -0.05 | -1.67 |
| Care scale - Family engagement activities | 2.49 | 2.22 | 2.39 | 2.21 | 0.10 | 1.21 |
| Various skills/behaviors | 4.41 | 2.13 | 4.46 | 2.18 | -0.05 | -0.62 |
| Control variables | | | | | | |
| Age (in months) | 27.32 | 16.63 | 26.74 | 16.32 | 0.58 | 1.15 |
| Gender (male) | 0.50 | 0.50 | 0.48 | 0.50 | 0.02 | 1.57 |
| Highest grade level of primary care giver | 3.69 | 3.17 | 4.13 | 3.38 | -0.44* | -4.69 |
| BCG vaccine | 0.96 | 0.20 | 0.96 | 0.19 | 0.00 | -0.71 |
| Oral Polio Vaccine (OPV) | 0.96 | 0.20 | 0.95 | 0.21 | 0.00 | 0.22 |
| DPT vaccine | 0.95 | 0.23 | 0.95 | 0.22 | 0.00 | -0.33 |
| Measles injection | 0.81 | 0.39 | 0.82 | 0.38 | -0.01 | -0.93 |

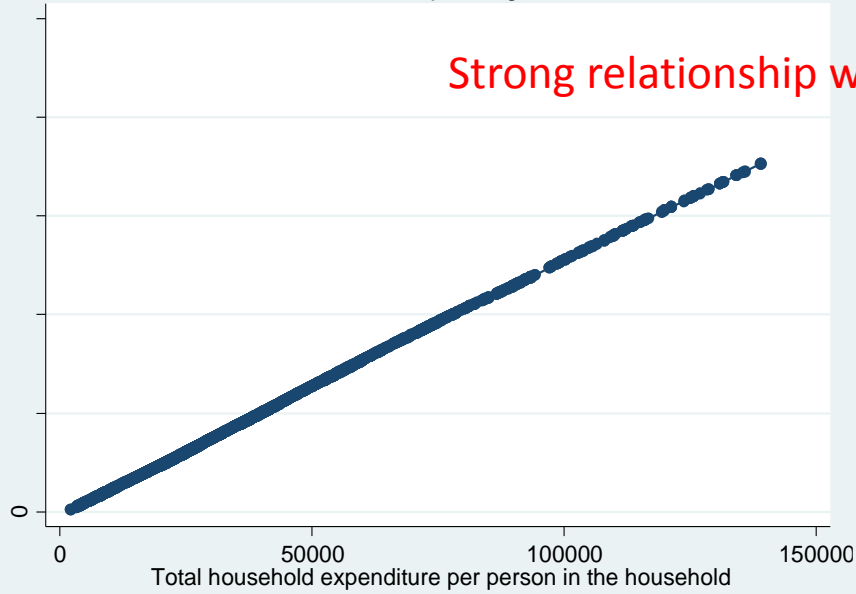
Simulations/Expected Impacts

- Manage expectations
- Scientific process
- Multiple statistical tests

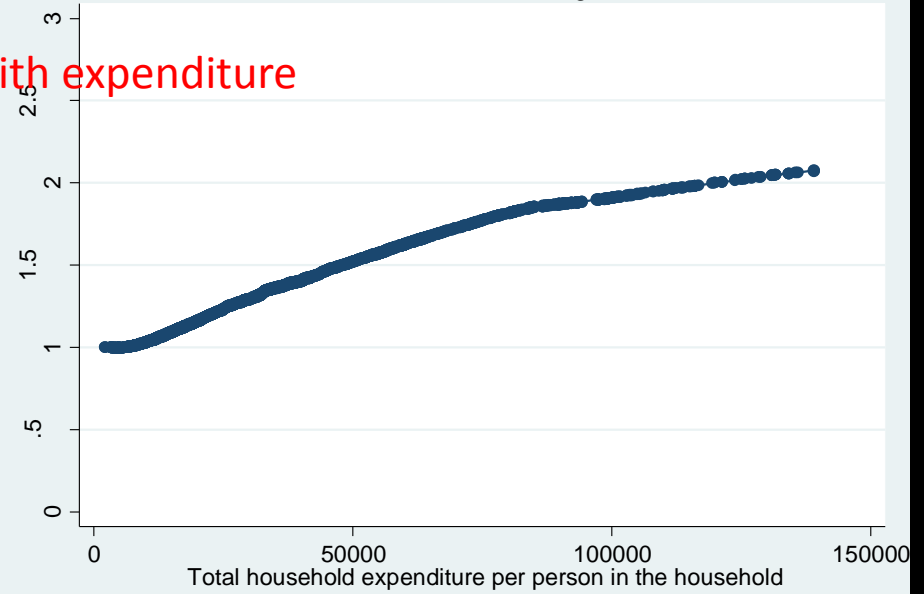
Simulations/Expected Impacts

- Two factors at play:
 - 1) relative size of grant;
 - 2) how would people spend 'extra' money
- Size of grant = 27% of mean pcexp
 - Ghana (7%), Kenya (20%), Malawi (30%), Mexico (21%), Colombia (25%)

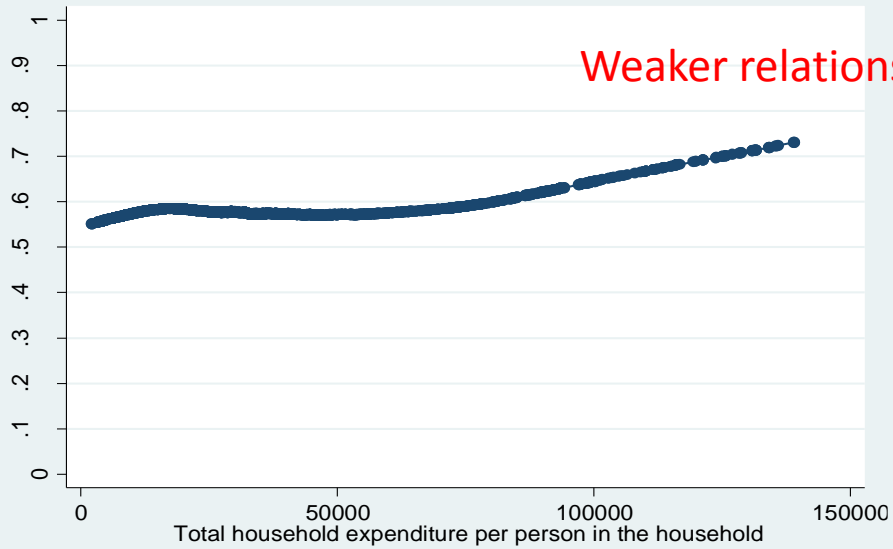
Food spending



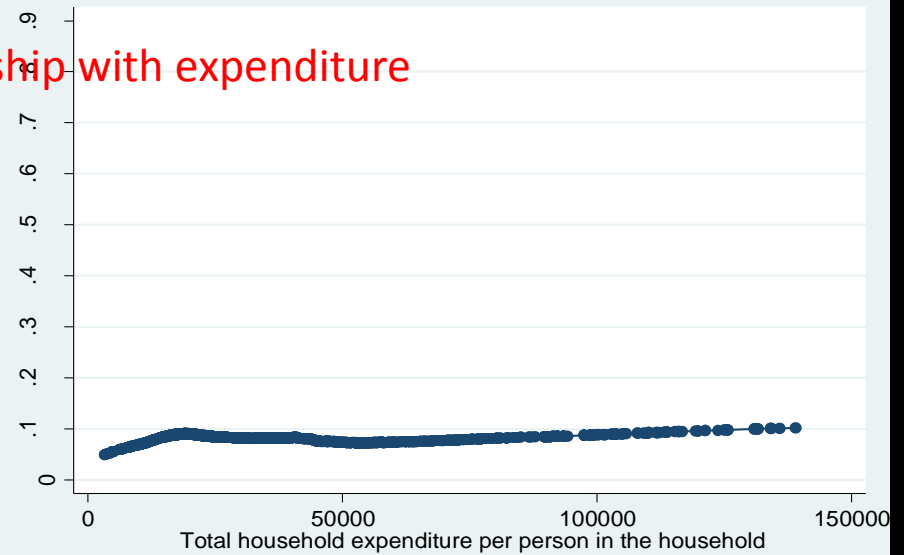
Material well-being



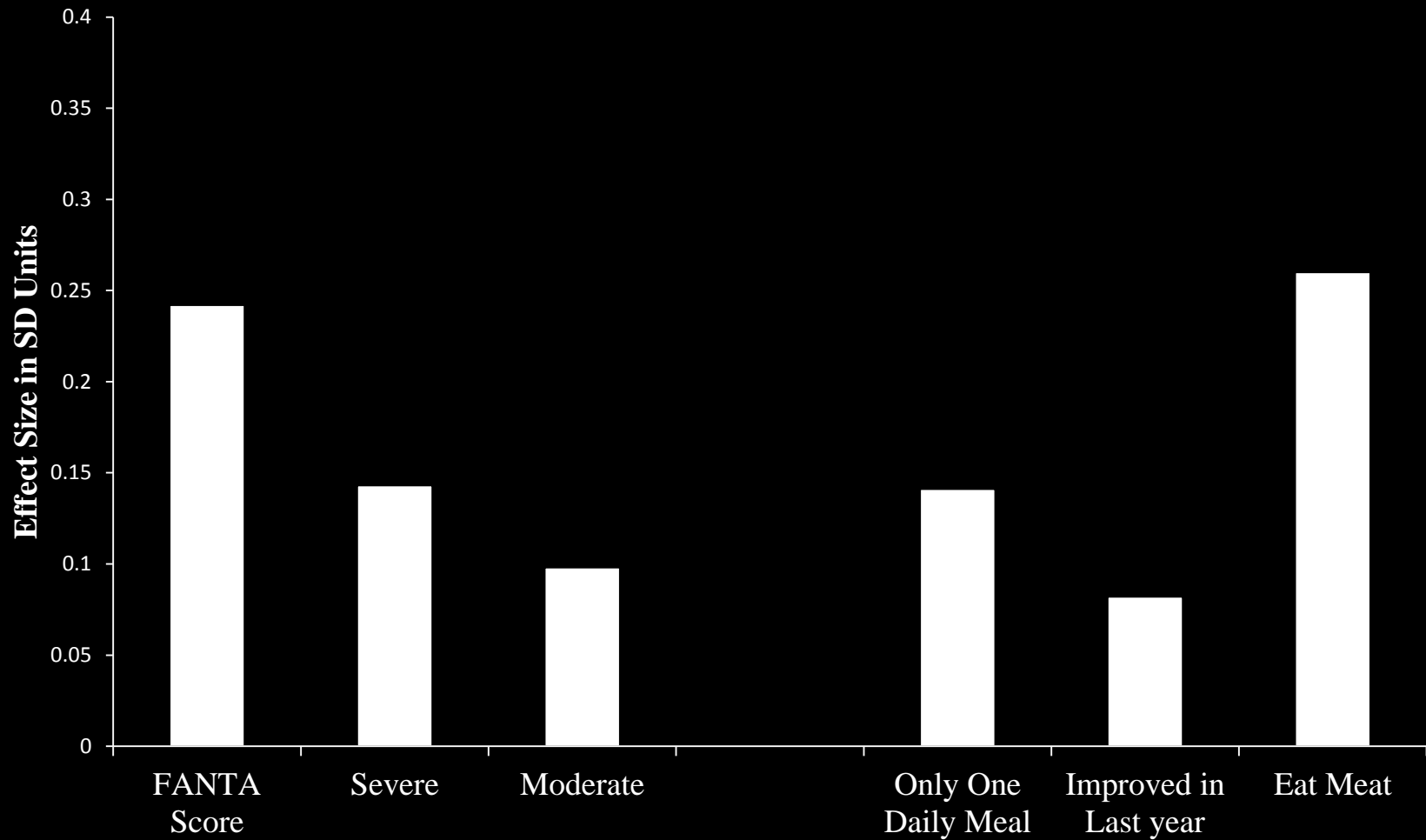
School Enrollment



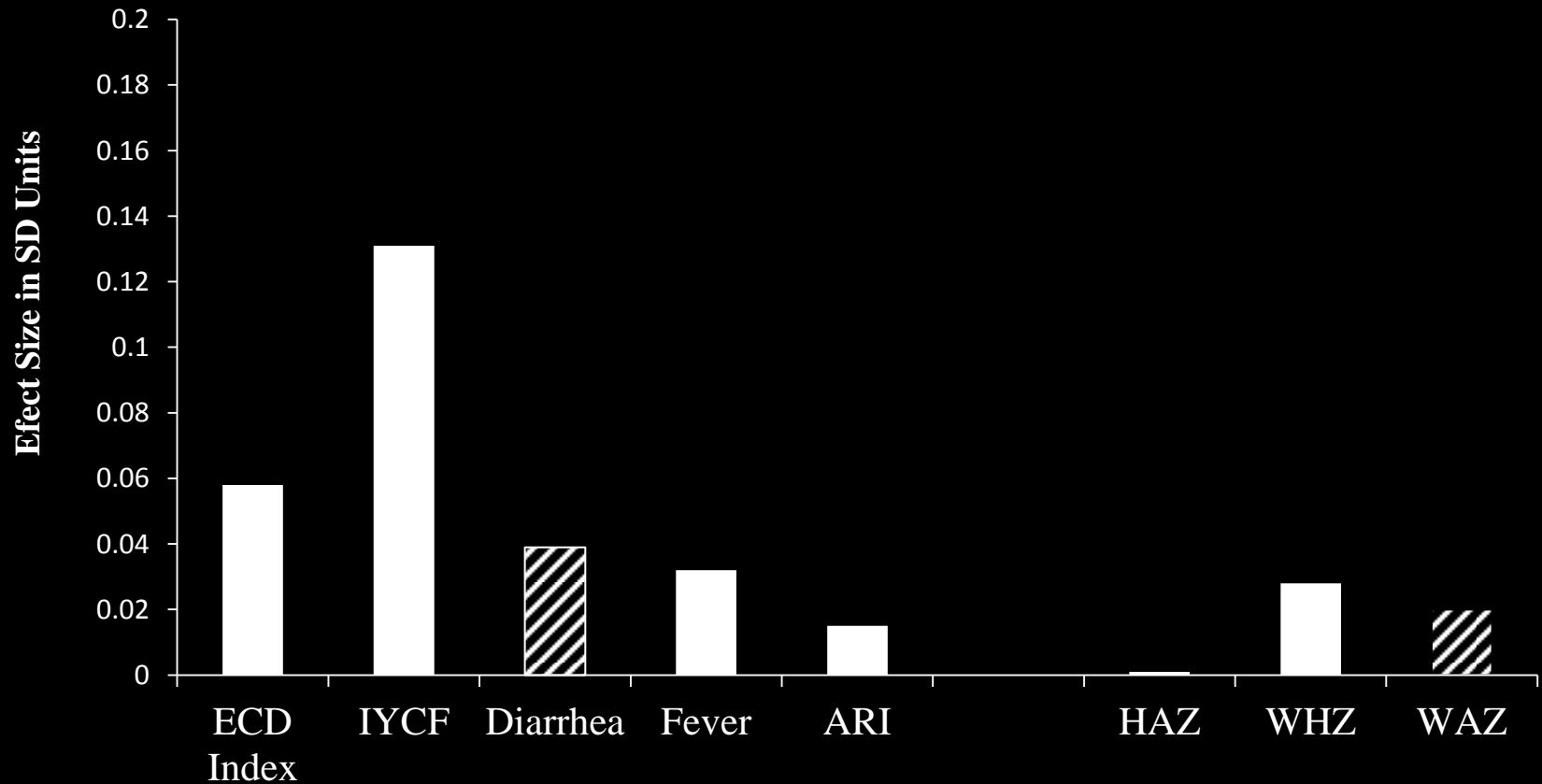
Sickness L2 weeks



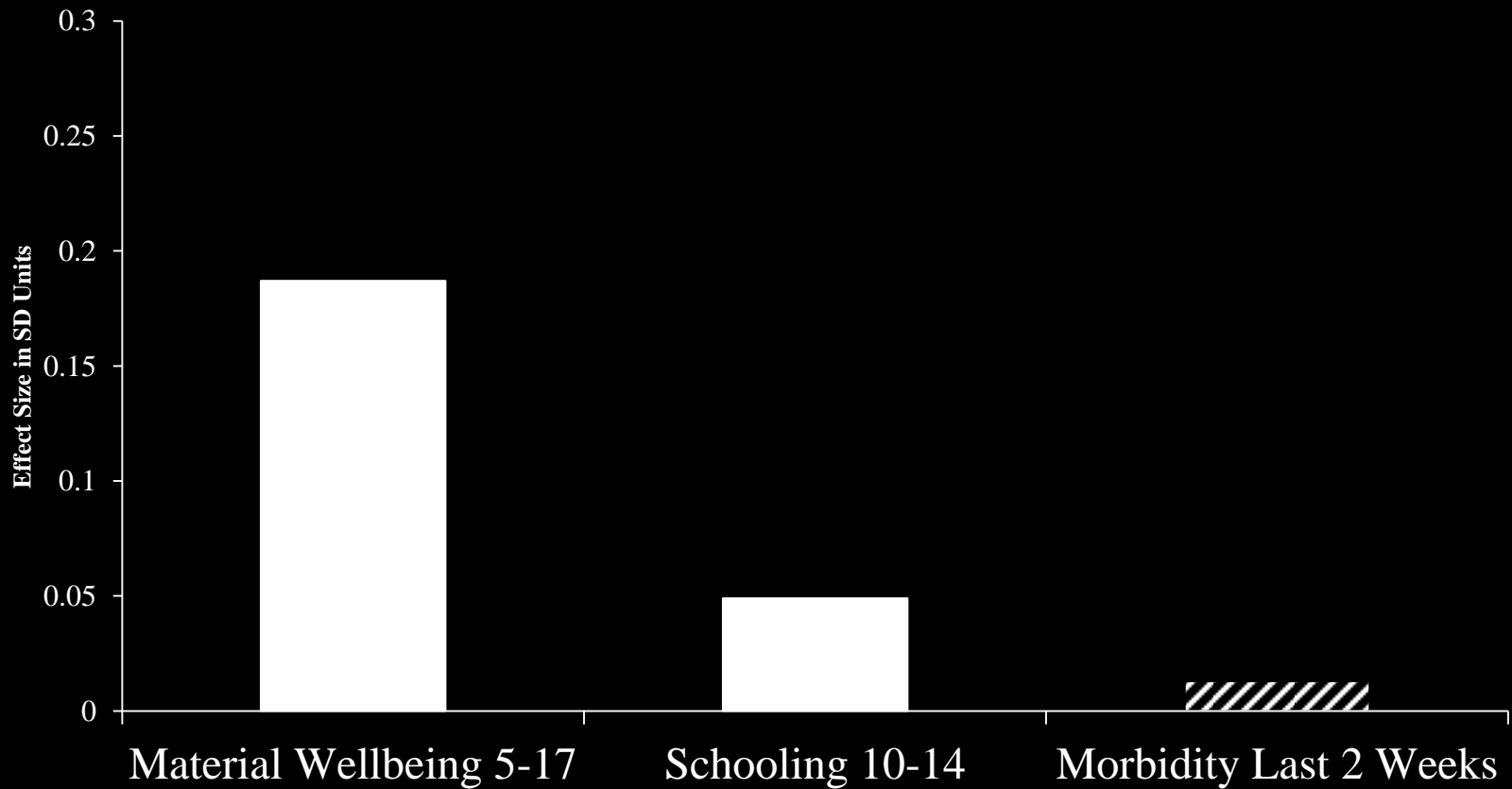
Significant impacts on household food security



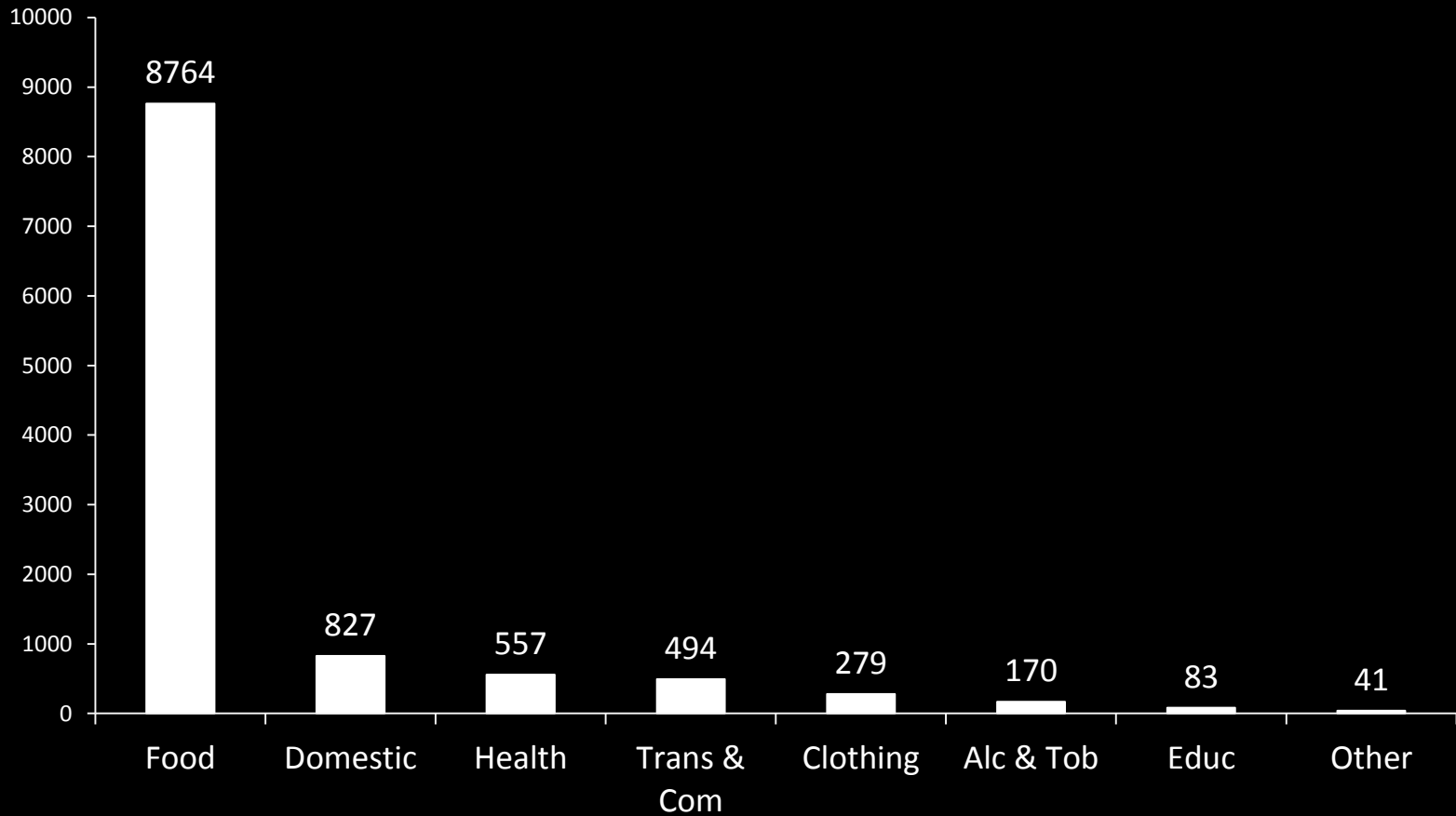
Significant impacts on some (not all) young child indicators



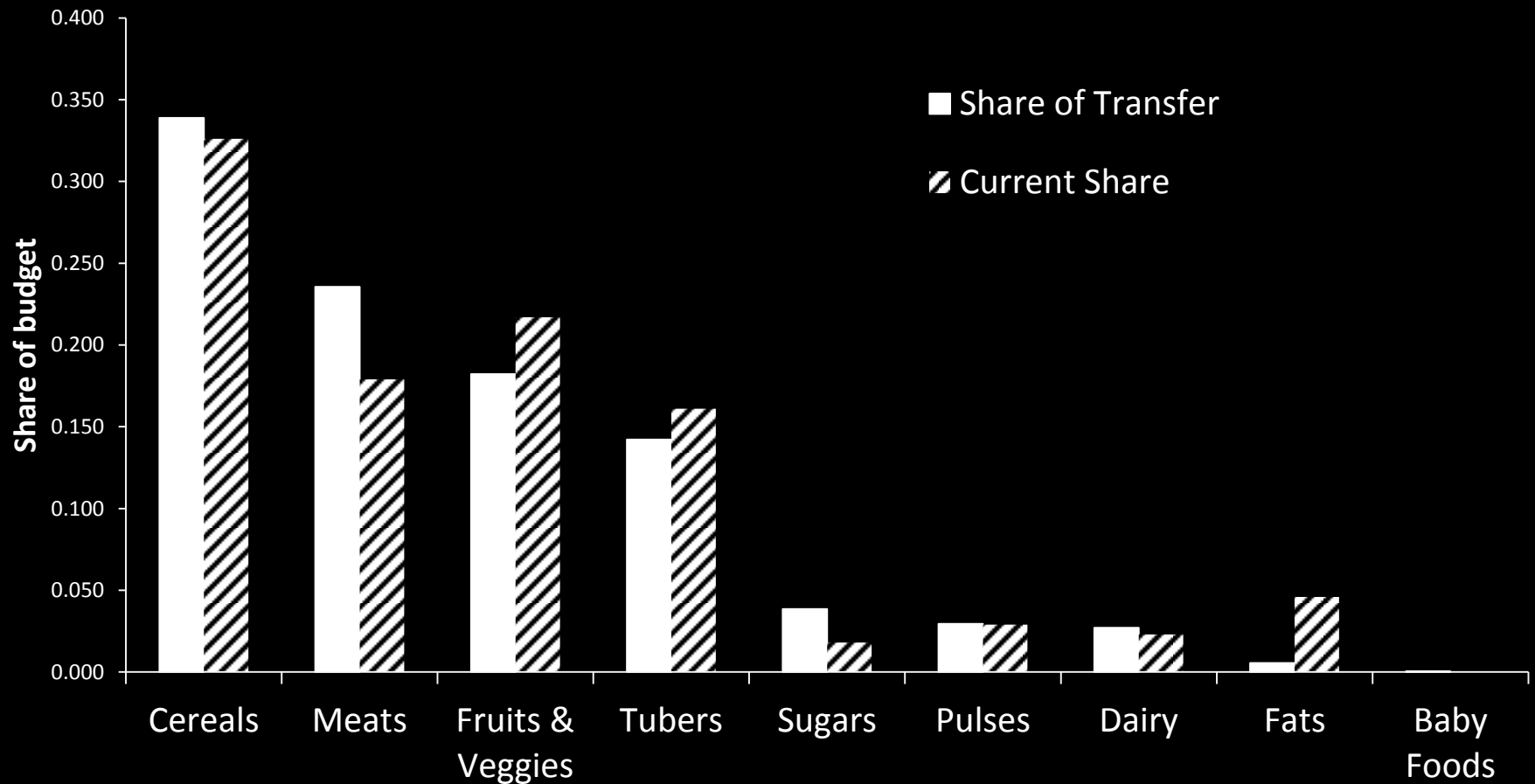
Large predicted impact on material well-being, tiny impact on school and no impact on sickness



Predicted impacts on spending: 78% of Kw11,000 goes to food



Predicted increase of Kw8580 on food spending—how is this distributed?



Conclusions on predicted spending from cash transfer

- 78 percent will go to food, other big items are domestic, health and transport & communications (airtime?)
- Protein will increase: relatively large increase in meat, decline in tubers, fruits and vegetables
- Smaller relative increases in cereals, dairy, sugars and pulses