CONDITIONAL CASH TRANSFERS AND HEALTH: UNPACKING THE CAUSAL CHAIN

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Overview

- Study rationale
- Methodology
- How CCT interventions approach health demand and supply
- Theory-based approach: does the evidence support the implicit assumptions?
- Concluding remarks

Study Rationale

- CCTs are unique in their use of a multiplicity of interventions to reach their objectives
- However, until recently, the evaluations focused on the impacts of the package of interventions – the proverbial 'black box' approach
- Which components of the programs, or combination thereof, are important in achieving health and nutritional outcomes?
- Contribution of this paper:
  - adds the results of the most recent rigorous impact evaluations (10 only from 2009 or forthcoming!)
  - discusses to what extent the available evidence supports the assumptions behind the expectation that the CCT interventions will have a measurable impact on health and nutrition outcomes

Methodology

- Theory-based approach, i.e. spelling out implicit assumptions and using existing evidence to illustrate our state of knowledge around said assumptions
- Following most of the Campbell collaboration criteria for systematic review
  - Rigorous search of multiple databases for additional studies, in addition to studies included in existing reviews and found through contacts
  - Inclusion criteria:
    - Studies assessing the effect of CCT interventions (with health conditionalities) in low and middle-income countries on health care utilization and health and nutrition outcomes
    - Study designs: Experimental (randomized controlled trials) and quasi-experimental (matching techniques, regression discontinuity design, interrupted time-series)

Studies included

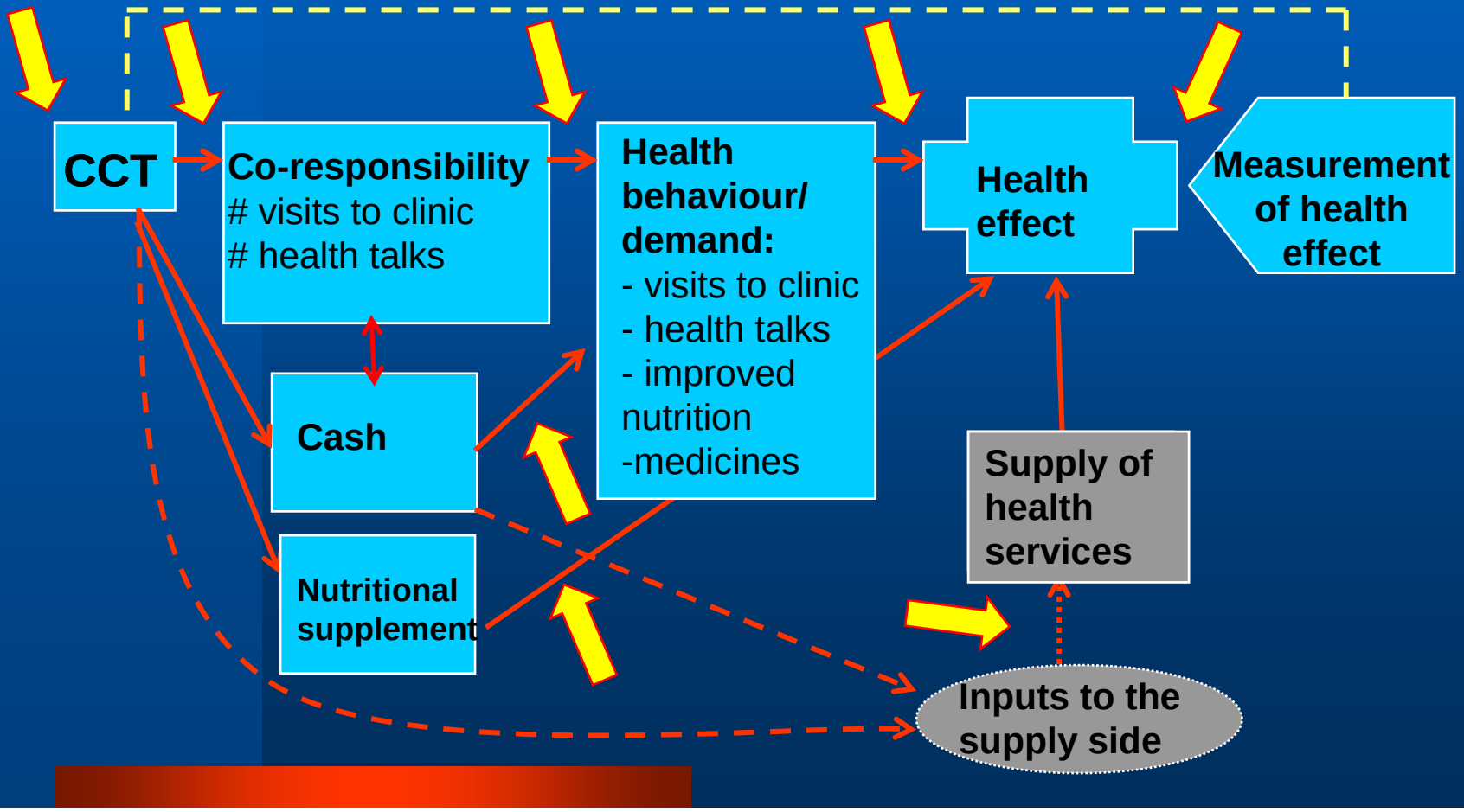
Programs / Interventions	# of studies	Eval. Method
1. Brazil's Bolsa Alimentacao/Bolsa Familia	1	PSM
2. Colombia's Familias en Acción	1	PSM
3. Honduras' Programa de Asignacion Familiar (PRAF)	2	RCT
4. Jamaica's Programme Advancement Through Health and Education (PATH)	1	RDD
5. Mexico's Progresa/Oportunidades	24	RCT/PSM/ITS
6. Mexico's Programa de Apoyo Alimentario	1	RCT
7. Nicaragua's Red de Protección Social	2	RCT
8. Paraguay's Tekopora	1	PSM
9. Turkey's CCT Program	1	RDD
10. Malawi Diffusion and Ideational Change Project (MDICP)	1	RCT
11. Nepal's Safe Delivery Incentive Programme (SDIP)	1	ITS

CCTs: demand and supply approach

- CCTs designed to address the households' health-promoting behavior (*demand-side*) by providing cash conditional on
  - Regular health check-ups (including pre-natal)
  - Growth monitoring
  - Health education workshops
- The provision of health care services to these households (*supply-side*) has been relatively ignored
  - Parallel strengthening of health sector; 'coordination agreements' (e.g. Turkey)
  - Minimum supply conditions (provider/infrastructure to beneficiary ratio in Colombia; maximum distances to provider in Mexico)
  - Honduras and Nicaragua built in supply-side strengthening

Theory-based approach to CCTs and mapping the implicit assumptions

'Black box' approach to program impact evaluation



A1: Sub-utilization of preventive health services by the poor

- Optimal level of use, although clearly defined in theory, is not well-defined in practice
- Assumption of under-utilization is best approximated by looking at systematic differences in use and fiscal impact among population groups
- Little ex ante analysis conducted to test the proposition that the inequities in health and nutrition outcomes and outputs were primarily due to demand-side factors relative to supply-side factors
- Observed increases in utilization as a result of the program would indicate that cash incentives work but would not prove that the main reason for under-utilization was a lack of demand

Impact evaluations do indicate that the programs can increase utilization..

	Mexico (rural)	Honduras	Nicaragua	Colombia	Paraguay	Jamaica
Public clinic visits	0-2 years old: NS 3-5 years old: 43% increase 6-17 years old: 50% increase 18-50 years old: 28% increase	0-3 years old: 20% increase	0-3 years old: 11% increase	0-2 years old: 23% increase 2-4 years old: 33% increase >4 years old: 1.5% increase	0-5 years old: 7% more likely to attend clinic 6 times or more; 4% more likely to attend 4-5 times	0-6 years old: 27.8% increase
Growth monitoring visits	0 to 2 years old: 30 - 60 % increase 3-5 years old: 25 - 45 % increase		0-3 years old 17.5% increase (23.6% for extremely poor)			

	Mexico	Honduras	Malawi	Nepal
Pre-natal care visits (number of visits; details)	*Rural* No impact *Urban* 6.12% increase (4 or more; Kessner Index)	18.7% increase (5 or more; last pregnancy)		No impact (not a condition)
Professional care at childbirth	No impact (not a condition)			2.6 percentage points increase in prob. of delivery in government facility; 2.3 percentage points increase in prob. of skilled birth attendance; 4.4 percentage points increase in attendance by any health worker
VCT center visit			80-126% increase (any positive value voucher)	

A2: Utilization of health care services will improve health status

- Relying on further assumption that adequate health care services are provided at the health clinics (vaccination, weighing etc)…
- …and that any OOP expenditure in relation to service use does not jeopardize future health
- Improvements in health and nutrition outcome indicators, as well as decreases in visits to the hospital and hospitalizations would be necessary but not sufficient indications that the assumption holds
- Due to the type of indicators used, nutritional indicators would be expected to improve, whereas morbidity measures may be expected to increase or decrease as a result of the CCT intervention

Vaccination results are bleak…

- Out of 7 studies reporting immunization results, only 2 (Nicaragua and Turkey) find large program impacts on full vaccination coverage
- Possible reasons:
  - Nation-wide or regional campaigns (no difference between treatment and control)
  - Not enough vaccines to meet the increased demand
  - Immunization coverage high at the outset (e.g. Mexico)

Nutritional status outcome measures show mixed results…

	Mexico	Honduras	Nicaragua	Colombia	Brazil
Proportion stunted; haz<-2.0	*1997-1999* 12-36 months decrease (coefficient for	0-4 years old no impact	0-4 years old 5.5% point decrease	0-2 years old 6.9% points decrease	NS
(Or impact on height)	logit estimate reported) *1997-2003* 24-72 months 29% decrease (girls) 11% decrease (boys)			2-7 years old no impact	
Proportion underweight; waz<-2.0 (Or impact on weight)	*Rural* *1997-2003* no impact *2002-2004* *Urban* 0-6 months at baseline 0.76 kg >6 months at baseline No impact	0-4 years old no impact	0-4 years old 6.0% point decrease	*Rural* 0-3 years old no impact 3-7 years old 3.4% points decrease *Urban* no impact	All children: -0.183 kg (difference after 6 months of interventions) 0-12 months: -0.274 kg
Weight at birth	*1997-2003 (ft: 11)* Rural 0.0455 (0.025)			Rural NS Urban 0.578 (0.143)	

Effects on morbidity and mortality researched (and measured) mainly in Mexico…

	Mexico	Colombia	Honduras	Nepal
Probability of morbidity	*Rural:* illness days: -20% (0-5 y and 16-49) *Urban:* Illness days: -24% (6-15 y) *Rural* Children whose mother reported that they were ill in the past 4 weeks: -aged 3 y at baseline, -4.7% -aged 3-5 y at baseline, -3.2% Likelihood of children aged 3 y at baseline to be reported ill 0.78 -impact after 2 mo of program 0.94 -impact after 8 mo of program 0.75 -impact after 14 mo of program 0.84 -impact after 20 mo of program 0.61 Days of difficulty with daily activity due to illness: -6-17 y old: NS -18-50 y old: -0.047 -Age 51+: -0.504 Days incapacitated due to illness in last 4 weeks: -6-17 y old: no effect -18-50 y old: -0.032 -Age 51+: -0.412 Days in Bed Due to Illness in Last 4 weeks -6-17 y old: NS -18-50 y old: NS -Age 51+: -0.27 Kilometers can walk without getting tired: -6-17 y old: no effect -18-50 y old: 0.2 -Age 51+: -0.92	*Rural* Diarrhea <48 mo: -11% >48 mo: NS Resp. Dis. NS *Urban* Diarrhea –NS Resp. Dis. -NS	Diarrhea increase	
Mortality	Maternal mortality: -11% Infant mortality: -2% (treatment municipalities); -5% (ATE)			Neonatal mortality: NS
Hospital visits	*Public hospital visits:* *Age 0-2:: -0.007 (monthly average 0.12)* *Age 51+: -0.006 (monthly average 0.006)*			

Out-of-pocket (OOP) expenditures

- Recent finding in Nepal's safe delivery incentive program (Powell-Jackson, 2009)
  - Increase in rate of professional care at birth
  - No change in incidence of infant mortality
  - **More households exposed to catastrophic payments**
    - **10% increase in OOP budget share of non-food expenditures for normal deliveries**
    - **36% for caesarian section**

A3: Cash affects service utilization and food consumption mainly

- Cash is found to affect growth and chronic disease independently of health care utilization in Mexico's Oportunidades program
  - Doubling of cash transfers associated with higher height-for-age score, lower prevalence of stunting, lower body-mass index for age percentile, and lower prevalence of being overweight among children in the ages of 24-68 months old
  - Doubling of cash transfers associated with higher BMI, higher diastolic blood pressure, and higher prevalence of overweight and obesity among adults (although program has been found to lower obesity and diabetes rates) (Fernald et al., 2008)
- Poverty alleviation is found to affect mental health in Mexico's Oportunidades program
  - Lowering of stress-level (measured through cortisol) in children of mothers with depressive symptoms (Fernald and Gunnar, 2009)
  - 10% decrease in aggressive/oppositional symptoms but no significant decrements in anxiety/depressive symptoms (Ozer et al., 2009)
  - Negative association between higher cash transfers and children's behavior problems (Fernald et al., 2009)

A4: Information induces behavior change

Mexico Progresa / Oportunidades evidence:

- Duarte et al (2004) find that knowledge of healthy practices improved more than the practices themselves
- Hoddinott et al (2000) found an increase in consumption of more diverse, high nutritional quality foods (fruits, vegetables, animal products)
- Duarte et al (2004) found that youth in rural areas consumed less alcohol and more cigarettes than control groups, but no effect on adults
- Prado et al (2004) reported an increased knowledge of family planning methods in both urban and rural areas, but higher use only in rural areas
- Bonvecchio et al (2007) reported that communication to improve household utilization of nutrition supplement led to improved recommended behaviors

A5: Conditioning necessary to induce desired levels of utilization

- No comparative study exists to date, but….
  - Agüero et al (2006) finds that a SCT program in South Africa increases nutritional status as measured by height-for-age.
  - Paxson and Schady (2007) find that Ecuador's SCT program improves children's nutrition, but no significant impact on visits to the health clinics for growth monitoring
- Thus, initial tentative findings indicate that conditionality is not required for a cash transfer program to have some nutritional impact, but without conditionality visits to health clinics are less likely to increase

A6: Supply-side of services is in place or will follow demand

- Most programs assume that existing supply side capacity is sufficient to meet CCT beneficiary demand
- ..or that the beneficiaries can use their additional cash from the monetary transfer to incentivize the supply-side (no evidence)
- ..or that by learning that access to health care is a right, beneficiaries will begin to demand services and provider accountability
- Incipient evidence suggest supply-side constraints, but quality may be improved by more informed clients
  - Barber and Gertler, 2008, find lower incidence of low birth weight and attribute it to program women insisting on higher quality pre-natal care
  - Nevertheless, a recent study of rural Oportunidades (Bautista et al.; forthcoming) finds that in the presence of supply constraints, the incentive scheme is less effective in stimulating increased utilization of health services

Concluding remarks

- Financial incentives work to increase utilization of key health services by the poor (particularly when conditioned)
- However, once at the health center, the measured performance in terms of coverage of basic interventions, such as immunization, is bleaker
- The mixed picture with respect to health outcomes suggests that encouraging utilization when services are of poor quality may not produce the expected effects
- More evidence on health and nutrition outcomes from programs other than Oportunidades (Mexico) required
- Well-designed and delivered information about the program itself and about health-promoting behavior important for improving program performance
- Recent findings suggest that the poverty alleviation achieved with the cash transfers may affect health directly, by affecting mental health and life-style choices related to chronic diseases

Final thoughts

Key question yet to be answered:

- What is the relative cost effectiveness of investing in the supply versus the demand-side within the health system?
- What are the implications if quality decreases or non-beneficiaries are crowded out as a result of increased demand without adequate investment in the supply-side?

Operational/design issues:

- Need to improve chronic disease prevention in CCT programs
- Need to find the right mix of incentives and regulation to improve the quality of care (more research required)
- Need for an assessment of the supply-side and ex ante modeling of the demand for health care before launching a CCT