A Comment on “Population, Poverty and International Development” (Sinding, 2008)

Shareen Joshi
Overview

1. What have we recently learned about the micro-impacts of fertility decline?

2. What have we recently learned about the design of effective population programs?
   - Types of services
   - Delivery systems

3. What are most important unanswered questions?
Micro-impact of fertility decline: Evidence from Matlab, Bangladesh

**Program Details:**
- Women with 8+ years of schooling were trained as “Health workers”
  - Visited a set of married women in their own village every 2 weeks in their homes
- Provided key functions:
  - Choice of services and follow-up support
  - Referred women to the hospital pre-natal and ante-natal care medical care
  - Distributed “safe delivery” kits
  - Prenatal and ante-natal care
  - Tetanus inoculations
  - Children’s immunizations
  - Treatment for simple diseases (diarrhea, respiratory diseases, etc.)

**Impact over 30 years**
- Benefits to women:
  - 15% reduction in fertility = 1 less child
  - Improved weights and BMI’s
  - Lower mortality risks
  - Increased labor-market participation & wages
- Benefits for children
  - Better health (vaccinations)
  - Higher schooling attainment for boys
- Benefits for families
  - Increased resources (drinking water)
Map from Chaudhuri (2005, Fig 2)
<table>
<thead>
<tr>
<th></th>
<th>Woman age 25—30</th>
<th>Woman age 45-50</th>
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<tbody>
<tr>
<td></td>
<td>8-10 years of exposure</td>
<td>20 years of exposure</td>
</tr>
<tr>
<td>Total children</td>
<td>-0.710*** (0.264)</td>
<td>-1.520*** (0.282)</td>
</tr>
<tr>
<td>First birth interval (years between first and second child)</td>
<td>0.357 (0.322)</td>
<td>0.125 (0.333)</td>
</tr>
<tr>
<td>Second birth interval (years between second and third child)</td>
<td>0.957*** (0.335)</td>
<td>0.706** (0.318)</td>
</tr>
<tr>
<td>Fraction of all children who died before age 5</td>
<td>-0.035 (0.029)</td>
<td>-0.086*** (0.029)</td>
</tr>
<tr>
<td>Fraction of boys died before age 5</td>
<td>-0.053 (0.041)</td>
<td>-0.143*** (0.039)</td>
</tr>
<tr>
<td>Fraction of girls died before age 5</td>
<td>-0.008 (0.044)</td>
<td>-0.092*** (0.039)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.987 (0.912)</td>
<td>2.397** (0.973)</td>
</tr>
<tr>
<td>BMI</td>
<td>0.840*** (0.366)</td>
<td>1.169*** (0.390)</td>
</tr>
<tr>
<td>Drinking water drawn from a clean well on the bari</td>
<td>0.165*** (0.065)</td>
<td>0.210*** (0.071)</td>
</tr>
</tbody>
</table>
Educated women are able to improve income and savings

Educated women aged 20—30 in the treatment area:
- 17% increase in income from their primary occupation
- 1% increase in household asset holdings
- 8% increase in household agricultural asset holdings
- 7% increase in household non-agricultural asset holdings
- 15% increase in household savings

Educated women aged 30—40 experience the following:
- 79% increase in income from their primary occupation
- 22% increase in household asset holdings
- 20% increase in household agricultural asset holdings
- 34% increase in household non-agricultural asset holdings
- 27% increase in household savings
New research expanding the empirical base for further research into these issues

Randomized trials:
- Dow (Southern Tanzania)
- Vera-Hernandez (Malawi)
- Hallman (South Africa)
- Ashraf and Field (Zambia)
- Thomas and Frankenburg (Bangladesh)
- … (Several others too!)

Panel datasets:
- Filippe (Burkina Faso)
- Baschieri (Malawi)
- Foster and Weil (India and others)
- Hill and Aryeetey (Ghana)
- Thomas and Frankenburg (Indonesia)
- Ruben and Kamazima (Sub-Saharan Africa)
- Lam and Liebbrandt (South Africa)
- Hooimeijer and Musahara (Rwanda)

- New cross-sectional data
- Development of panel datasets
- Collection of sub-national data for large countries with significant internal variation
- Use of random assignment evaluation methods
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Effective population policies must go beyond family planning

<table>
<thead>
<tr>
<th>Reproductive health services:</th>
<th>Early childhood services:</th>
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<tbody>
<tr>
<td>Variety of family planning methods</td>
<td>– Children’s nutrition</td>
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<tr>
<td>Follow-up services</td>
<td>– Prevention and treatment of early childhood illnesses</td>
</tr>
<tr>
<td>Nutrition before, during and after pregnancy</td>
<td>– Essential vaccinations</td>
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<td>Prenatal and antenatal care</td>
<td>Socio-economic supports:</td>
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<td>Safe delivery systems</td>
<td>– Financial literacy</td>
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<tr>
<td>Tetanus innoculations</td>
<td>– Educational opportunities for women and their children</td>
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<td>Prevention and treatment of STDs</td>
<td>– Labor market opportunities</td>
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<td></td>
<td>– Credit</td>
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<td>– Investment opportunities</td>
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Such programs require strong delivery systems

- Long-term commitment on part of policy-makers
  - Require significant resources
  - Micro-impacts may take time to become fully evident

- Strong and uninterrupted supply chains
  - Some medical supplies may require cold storage

- Local health workers
  - Personal networks, knowledge of the local community
  - Strong training systems

- Delivery must be sensitive to local culture
  - Factors that must be considered: structure of the family, levels of female autonomy and female mobility, and history of past family planning or health programs

- Data-collection, surveillance and analysis
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We are hoping to learn more!

- What are the core constituents of a “reproductive health program”?  
  - What exact interventions work best?

- Can experimental reproductive health programs be truly scaled up?

- How do the costs of reproductive health interventions compare with other poverty-alleviating policies?

- What is the best time-horizon for measuring the impact of a program?  
  - Improvements in income, assets and children’s human-capital take time!

- We need to better understand contextual factors in fertility decisions  
  - Fertility and health decisions are not always made by a woman  
  - There is variation in who is included in this decision across geographies, cultures, religions, economic systems, etc.