Section B

Evidence for Integrated Approaches
Analysis of Integrated Projects Included in the Review

- Review of studies with at least three child survival interventions and at least four years of implementation
- 40 studies/projects identified
## Characteristics of 40 Integrated Projects

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>158,000</td>
<td>10,500-10 million</td>
</tr>
<tr>
<td>Number of interventions</td>
<td>10</td>
<td>6-15</td>
</tr>
<tr>
<td>Duration</td>
<td>5 years</td>
<td>4-43 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study design</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline/final without comparison</td>
<td>78%</td>
</tr>
<tr>
<td>Baseline/final with comparison</td>
<td>22%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of projects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USAID Child Survival to PVOs:</td>
<td>67%</td>
</tr>
<tr>
<td>Long-term community health program:</td>
<td>17%</td>
</tr>
<tr>
<td>Research-oriented field project:</td>
<td>11%</td>
</tr>
<tr>
<td>Other international donor-funded project:</td>
<td>6%</td>
</tr>
</tbody>
</table>
## Community Processes in Intervention Implementation

<table>
<thead>
<tr>
<th>Community process</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use some type of community-based outreach agent</td>
<td>100%</td>
</tr>
<tr>
<td>Had strong community involvement/engagement/mobilization</td>
<td>94%</td>
</tr>
<tr>
<td>Involved in strengthening health system capacity</td>
<td>100%</td>
</tr>
</tbody>
</table>
Types of Community Outreach Workers

- CHWs/VHWs
- Health agents
- Promoters
- Family health workers
- Peer educators
- Family planning agents
- Malaria/nutrition agents
- Community case management workers
- Lead mothers
- Community health extension workers

- Animators
- Community health officers
- Mobile clinic team
- Care groups
- “Socoristas”
- “Accompagnateurs”
- Health surveillance assistants
- Community surveillance volunteers
- Auxiliary nurses
- Bridge to health teams
- Nutrition counselor mothers
Common Methods of Outreach

- Censuses/mapping/family registration common
- Routine home visitation common
- Drama/dance/songs/puppet shows used to attract the community for health education events
**Types of Community Involvement/Participation**

**At community leadership level**
- Village health committees
- Associations of village health committees
- Village development committees
- Health action committees
- Community leadership committees
- Meetings with chiefs/mayors/elders/imams
- Imams as community mobilizers
- Community meetings/assemblies
- Community pharmacies
- Self-sufficient maternity homes

**At household level**
- Health days (for community clean up)
- Model mothers
- Competitions among mothers for healthiest babies
- Breastfeeding support groups
- Husbands and mothers-in-law as targets for messages
- Pregnant women’s groups
- Mothers’ clubs
- Child clubs
Types of Support

- Types of support given by CPHBC programs to MOH health systems
  - Training MOH health system staff
  - Provide support for MOH health system logistics (fuel, repair motorbikes, etc.)
  - Facilitate referral/counter referral
  - Promote visits of MOH health staff to model programs
  - Promote regular meetings between community leaders and MOH health facility staff
  - Communicate messages from MOH facilities to communities (e.g., community vaccination dates, etc.)
### Outcomes of 40 Integrated Projects

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvements in population coverage of key child survival indicators</td>
<td>24%</td>
<td>13-91%</td>
</tr>
<tr>
<td>Reductions in mortality rate</td>
<td>55%</td>
<td>24-89%</td>
</tr>
</tbody>
</table>
Reviews of Integrated Approaches

- 1980: Can Health and Nutrition Interventions Make a Difference? (monograph)
- 2006 and 2007: Estimation of Impact of USAID PVO Child Survival Projects (USAID website)
- 2007: Impact of Packaged Interventions on Neonatal Health (Health Policy and Planning)
Health Programs
“Most of these studies examine the effects of single interventions, and many are closer to carefully controlled clinical trials than they are to evaluations of large-scale programs. Therefore we cannot make strong statements about the overall effectiveness of health programs in Africa ... [T]here are very few studies of the effects of health centers and integrated programs on mortality, and no studies that attempt to estimate the effectiveness of hospitals in reducing population levels of mortality.”
Update on Bellagio Calculator Approach

- Update on Bellagio calculator approach to assessment of USAID PVO child survival projects

- 32 projects ending since 2005: primary focus CBPHC and child survival

- Median population served: 350,000

- Median cost $5.55 per beneficiary per year

Source: Jim Ricca, ORS/Macro. (January, 2008). Presentation at USAID.
Outcomes for Each Project

- Average reduction in U5M: 25%
- Average estimated number of lives saved: 883
- Average USAID cost per life saved: $1,293
- Average USAID cost per DALY saved: $43
- Two-thirds of impact through community-level interventions (especially ORT use, breastfeeding, community-based prescription of pneumonia)
- The larger the project and the higher the mortality levels, the lower the cost/DALY saved
Packages of Neonatal Health (41 Studies)

- Review of packages of interventions which had more than one plausible biological effect

- Few studies of any “complete” packages (antenatal, intrapartum and postpartum) which were recommended in the *Lancet* neonatal series

- Interventions appeared to be bundled on basis of convenience or funding requirements

- No studies of true effectiveness of packages (in routine conditions) at scale

Examples of Sustained Impact of Integrated Programs

How long have these programs improved child health?
Mortality Rates in Intervention and Comparison Areas

Matlab Infant and One- to Four-Year Mortality Rates in Intervention and Comparison Areas

- IMR-Intervention Area
- IMR-Control Area
- 1-4-year mortality rate-Intervention Area
- 1-4-year mortality rate-Comparison Area

Henry Perry
The Jamkhed Comprehensive Rural Health Project
Jamkhed Comprehensive Rural Health Project, India (150,000 people)

- Major external evaluation of mortality impact compared to surrounding villages currently underway by researchers at the London School of Economics and at the London School of Hygiene

Source: Arole and Arole. (1994.)
Infant Mortality Rates

Note: rates for rural Maharashtra are the infant mortality rates among mothers with less than 5 years of education for the entire state inflated by 10% since rural rates in general are 10% greater than rates for the overall population.

Henry Perry
## External Mortality Assessment of the Jamkhed CRPH

<table>
<thead>
<tr>
<th>Age period</th>
<th>Effect of intervention</th>
<th>Hazard Ratio</th>
<th>Age period</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>U5M</strong></td>
<td>Crude</td>
<td>0.92</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td>Control 1</td>
<td>0.90</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Control 2</td>
<td>0.90</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>NNM</strong></td>
<td>Crude</td>
<td>1.06</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td>Control 1</td>
<td>1.03</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Control 2</td>
<td>1.03</td>
<td>0.82</td>
</tr>
<tr>
<td><strong>1-59 month MR</strong></td>
<td>Crude</td>
<td>0.72</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>Control 1</td>
<td>0.70</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>Control 2</td>
<td>0.71</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Hospital Albert Schweitzer, Haiti (150,000 people)

Long-Term Trends in Under-5 Mortality Rates in Haiti and in the Primary Health Care Service Area of the Hôpital Albert Schweitzer, 1958-1999

Hospital Albert Schweitzer, Haiti (150,000 people)

Population Coverage of Selected Key Child Survival Services in the Hôpital Albert Schweitzer Primary Health Care Service Area and Haiti, 2000

Percentage coverage

- Childhood immunization
- Vitamin A administration
- Use of ORS for childhood diarrhea
- Treatment for ARI
- Exclusive breastfeeding in infants <6 mths age
- Maternal tetanus immunity
- 3+ prenatal visits
- Birth assisted by trained health worker
- Use of modern contraception

Adapted by CTLT from Perry et al. (2006), Health Policy and Planning.
Mortality Rates

Gadchiroli/SEARCH Mortality Rates in Intervention and Comparison Area in Rural Maharashtra

Comparison Area (after introduction of home-based neonatal care in Intervention area)

Intervention Area

Henry Perry

Source: Phillips et al. (2006). *Bull WHO.*
Successful Programs for Improving Child Health

Table 4. Common Characteristics of Eight Successful Longer-Term Integrated Programs for Improving Child Health

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Findings for the Eight Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of services provided</td>
<td>Provision of a comprehensive array of preventive and curative primary health care services (child health, maternal health, reproductive health, and family planning)</td>
</tr>
<tr>
<td></td>
<td>Presence of a strong referral system from the community to higher levels of care at fixed facilities, including hospitals with surgical capability</td>
</tr>
<tr>
<td>Health program management and support</td>
<td>Presence of a strong system of management and supervision led by competent and dedicated professionals (including maintaining needed supplies and drugs)</td>
</tr>
<tr>
<td></td>
<td>Achievement of a record of treating patients and clients with a high level of respect</td>
</tr>
<tr>
<td>Nature of community partnerships/community involvement</td>
<td>Presence of a strong partnership between the program and the community, with a strong level of trust in the community toward the program</td>
</tr>
<tr>
<td></td>
<td>Strong training and support of community-based workers present, the workers are an integral part of the program, and financial support for them is assured</td>
</tr>
<tr>
<td>Role of community-based workers</td>
<td>Community-based workers achieve routine contact with all families</td>
</tr>
<tr>
<td></td>
<td>Essential services for improving child health provided in the home</td>
</tr>
</tbody>
</table>

Source: Hospital Albert Schweitzer (Haiti), Imesi Ile/Wesley Guild (Nigeria), Matlab (Bangladesh), Jamkhed (India), BRAC (Bangladesh), SEARCH (India), and Navrongo (Ghana).
Cost Effective?

- How cost-effective is CBPHC in improving child health?
CBI to Improve Child Health

Cost per DALY Averted with Community-Based Interventions to Improve Child Health

- IPT in pregnancy
- Vitamin A supplementation
- Breastfeeding promotion
- Home-based neonatal care
- Pneumonia management in neonates
- Routine basic immunizations
- Insecticide-treated bednets
- Breastfeeding promotion
- Hygiene promotion
- PMTCT of HIV
- Cotrimoxazole for HIV-infected children
- CTC for acute malnutrition
- ORS and zinc for acute diarrhea
- Pneumonia case management
- New vaccines + routine EPI

Threshold for defining a very cost-effective intervention in least-developed countries according to the WHO Commission on Macroeconomics and Health (2001)

Threshold for cost-effectiveness established by the World Bank in 1993 – expressed in 2007 dollars

First-line ARV treatment: $350–2,010 per DALY averted (Denny and Emanuel, 2008)

Henry Perry
Cost per DALY Averted with Integrated Community-Based Interventions to Improve Child Health

USAID child survival projects

Comprehensive PHC in Bolivia

Comprehensive PHC in Haiti

High-impact package of interventions

Threshold for defining a very cost-effective intervention in least-developed countries according to the WHO Commission on Macroeconomics and Health (2001)

Threshold for cost-effectiveness established by the World Bank in 1993 – expressed in 2007 dollars

Cost per DALY averted (2007 US$)

Henry Perry