Community Health Planning & Costing Tool

Institutionalizing Community Health Conference
Johannesburg, 27-30 March, 2017
David Collins, Management Sciences for Health
Purpose of Planning and Costing Tool

• Understanding the cost of community health packages will help you to:
  • Prepare investment cases that can be used to advocate for necessary funding;
  • Help persuade governments and donors to fully-fund specific programs (e.g., iCCM);
  • Compare the cost-effectiveness of community versus facility-based services.
  • Plan and prioritize services within the likely funding envelop;
  • Prepare detailed budgets for salaries, per diems, medicines etc.
The Community Health Planning and Costing Tool

**Title Page**

**Main Menu**

- Developed by MSH for UNICEF building on iCCM Costing Tool
- Open-source, user-friendly tool developed in MS Excel.
- Can cover up to 100 community services
- Dynamic – results change with key variables (e.g., population)
- Includes financing section linked to costs
- Normative costing from provider perspective.
- Tool can be used at district or national levels.
An Example of a Comprehensive Package of Services (Malawi)

Services Provided by HSAs at Community Level

- **Prevention**
  - Promotes hygiene, sanitation & safe water supply

- **Treatment--adults**
  - Referral of pregnant women to ANC
  - FP advice & commodities
  - Referral of adults to HC

- **Treatment--< 5s**
  - Malaria
  - Diarrhea
  - ARI
  - Immunizations, Vitamin A
  - Referrals
  - Visit 1st month (newborns)

- **IEC/campaigns**
  - Immunizations
  - WASH
  - Community mobilization

- **Screening**
  - Growth monitoring/MUAC
  - Pregnant women for problems

- **Village Health Committees**
  - Facilitates formation & training

- **Administration**
  - Monthly:
    - Maintains registers
    - Reports
    - Submit medicines inventory
    - Restocking

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unicef  msh
### Example of Numbers of Needed Numbers of Services and Gaps for Planning

<table>
<thead>
<tr>
<th>Health Services</th>
<th># Services</th>
<th>Estimated Utilization</th>
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</thead>
<tbody>
<tr>
<td>Male condom distribution</td>
<td>6,648</td>
<td>3%</td>
</tr>
<tr>
<td>Antenatal Care Visit 1</td>
<td>264</td>
<td>4%</td>
</tr>
<tr>
<td>Oral contraception</td>
<td>18,588</td>
<td>11%</td>
</tr>
<tr>
<td>Diarrhea treatment</td>
<td>17,446</td>
<td>12%</td>
</tr>
<tr>
<td>Depo-Provera</td>
<td>61,042</td>
<td>36%</td>
</tr>
<tr>
<td>Pneumonia treatment</td>
<td>5,134</td>
<td>58%</td>
</tr>
<tr>
<td>Malaria diagnosis (w/ rapid diagnostic test)</td>
<td>15,950</td>
<td>63%</td>
</tr>
<tr>
<td>Malaria treatment</td>
<td>35,580</td>
<td>80%</td>
</tr>
<tr>
<td>BCG Vaccine</td>
<td>10,491</td>
<td>81%</td>
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</table>

**Example Figures – Do Not Quote**
### Example of standard treatment guidelines

**18) Pneumonia treatment**

<table>
<thead>
<tr>
<th>Name of Medicine or Supply</th>
<th>Number of times/day</th>
<th>Number of days</th>
<th>% of cases treated</th>
<th>Units per dose</th>
<th>Total units per service (+ wastage)</th>
<th>Unit cost per medicine or supply</th>
<th>Total medicine and supply cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicillin - capsules and tablet - 250mg (dispersible)</td>
<td>2</td>
<td>5</td>
<td>100.0%</td>
<td>2.00</td>
<td>20.00</td>
<td>23.25</td>
<td>465.03</td>
</tr>
</tbody>
</table>

Average episode medicine cost (MWK): 465.03
The tool has detailed tables – most of which are populated automatically based on a few sets of key data. Services and costs can be projected for 10 years.

### Coverage Sheet

<table>
<thead>
<tr>
<th>Service</th>
<th>Target Population</th>
<th>Actual number of services 2015</th>
<th>Expected number of services 2015</th>
<th>Coverage in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Male condom distribution</td>
<td>Male Adult</td>
<td>89,500</td>
<td>263,880</td>
<td>34%</td>
</tr>
<tr>
<td>2 Oral Contraceptives</td>
<td>Female Rep Age</td>
<td>9,827</td>
<td>221,336</td>
<td>4%</td>
</tr>
<tr>
<td>3 Depo Provera injections</td>
<td>Female Rep Age</td>
<td>79,133</td>
<td>221,336</td>
<td>35%</td>
</tr>
<tr>
<td>4 Family Planning Counselling</td>
<td>Fem x Male Rep Age</td>
<td>121,804</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>5 ANC Visit 1</td>
<td>Pregnant Women</td>
<td>9,135</td>
<td>9,637</td>
<td>95%</td>
</tr>
<tr>
<td>6 ANC Visit 2</td>
<td>Pregnant Women</td>
<td>5,155</td>
<td>5,827</td>
<td>90%</td>
</tr>
<tr>
<td>7 ANC Visit 3</td>
<td>Pregnant Women</td>
<td>5,827</td>
<td>9,637</td>
<td>65%</td>
</tr>
<tr>
<td>8 Referral of pregnant women</td>
<td>Pregnant Women</td>
<td>964</td>
<td></td>
<td>0%</td>
</tr>
<tr>
<td>9 PNC Visit 1</td>
<td>Postpartum Women</td>
<td>5,776</td>
<td></td>
<td>0%</td>
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<tr>
<td>10 PNC Visit 2</td>
<td>Postpartum Women</td>
<td>5,776</td>
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<td>0%</td>
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<tr>
<td>11 PNC Visit 3</td>
<td>Postpartum Women</td>
<td>5,776</td>
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<td>0%</td>
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<tr>
<td>12 Referral of unhealthy baby</td>
<td>Postpartum Women</td>
<td>958</td>
<td></td>
<td>0%</td>
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<tr>
<td>13 Monitoring of breathing</td>
<td>Newborns</td>
<td>997</td>
<td></td>
<td>0%</td>
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<tr>
<td>14 ICCM assessment</td>
<td>Children &lt;5</td>
<td>249,822</td>
<td></td>
<td>0%</td>
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<tr>
<td>15 Referral of children</td>
<td></td>
<td>24,982</td>
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### Coverage Targets

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<tr>
<td>39%</td>
<td>44%</td>
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<td>54%</td>
<td>59%</td>
<td>64%</td>
<td>69%</td>
<td>74%</td>
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<td>9%</td>
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### Results Table

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</thead>
<tbody>
<tr>
<td>Reproductive Health / Family Planning</td>
<td>178,460</td>
<td>236,825</td>
<td>277,977</td>
<td>332,055</td>
<td>380,188</td>
<td>440,500</td>
<td>523,162</td>
<td>580,292</td>
<td>652,055</td>
<td>725,609</td>
<td>804,132</td>
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<tr>
<td>Maternal, Newborn and Child Health</td>
<td>41,085</td>
<td>57,595</td>
<td>65,814</td>
<td>70,563</td>
<td>77,251</td>
<td>84,944</td>
<td>92,110</td>
<td>100,314</td>
<td>108,522</td>
<td>117,351</td>
<td>121,972</td>
</tr>
<tr>
<td>ICCM</td>
<td>88,639</td>
<td>106,661</td>
<td>146,948</td>
<td>189,555</td>
<td>233,558</td>
<td>279,161</td>
<td>325,907</td>
<td>374,724</td>
<td>426,227</td>
<td>480,531</td>
<td>537,768</td>
</tr>
<tr>
<td>Malaria (5 years +)</td>
<td>5,776</td>
<td>11,885</td>
<td>18,373</td>
<td>25,490</td>
<td>35,202</td>
<td>40,299</td>
<td>48,937</td>
<td>56,975</td>
<td>66,062</td>
<td>71,851</td>
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<tr>
<td>TB</td>
<td>6,589</td>
<td>13,583</td>
<td>20,998</td>
<td>28,856</td>
<td>37,175</td>
<td>45,970</td>
<td>55,283</td>
<td>65,316</td>
<td>75,500</td>
<td>86,459</td>
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</tr>
<tr>
<td>Nutrition</td>
<td>585</td>
<td>1,154</td>
<td>1,780</td>
<td>2,480</td>
<td>3,167</td>
<td>3,871</td>
<td>4,646</td>
<td>5,461</td>
<td>6,320</td>
<td>7,224</td>
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<tr>
<td>Community Mobilization / BCC / Mess</td>
<td>44,043</td>
<td>61,172</td>
<td>76,489</td>
<td>92,642</td>
<td>108,037</td>
<td>124,288</td>
<td>141,437</td>
<td>159,507</td>
<td>178,562</td>
<td>198,617</td>
<td>219,747</td>
</tr>
<tr>
<td>Total</td>
<td>333,032</td>
<td>465,253</td>
<td>502,225</td>
<td>529,090</td>
<td>684,888</td>
<td>1,010,712</td>
<td>1,165,220</td>
<td>1,332,551</td>
<td>1,482,621</td>
<td>1,670,783</td>
<td>1,855,821</td>
</tr>
</tbody>
</table>
### Examples of unit total cost per service

<table>
<thead>
<tr>
<th>Service</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male condom distribution</td>
<td>1.42</td>
<td>1.44</td>
<td>1.46</td>
</tr>
<tr>
<td>Oral Contraceptives</td>
<td>1.96</td>
<td>2.00</td>
<td>2.04</td>
</tr>
<tr>
<td>Depo Provera Injections</td>
<td>1.82</td>
<td>1.80</td>
<td>1.76</td>
</tr>
<tr>
<td>Family Planning Counseling</td>
<td>2.07</td>
<td>1.97</td>
<td>1.84</td>
</tr>
<tr>
<td>ANC Visit 1</td>
<td>2.07</td>
<td>1.97</td>
<td>1.84</td>
</tr>
</tbody>
</table>

Costs should reduce with increasing numbers of services due to economies of scale.
Tool Output Example: Results Chart – *current and planned increases in numbers of services by program for a district*
Tool Output Example: Results Chart — Cost of Services Provided by Program for a District

Community Health Program Costs, by program, USD

- $2,500,000
- $2,000,000
- $1,500,000
- $1,000,000
- $500,000

- Reproductive Health & Family Planning
- iCCM
- Tuberculosis
- Nutrition
- Maternal, Newborn and Child Health
- Malaria (5 years+)
- HIV/AIDS
- Community Mobilization & BCC

EXAMPLE FIGURES – DO NOT QUOTE
Tool Output Example: Results Chart – *Cost of Services Provided by Input for a District*

Community Health Program Costs, by input, USD

- **2015**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Training

- **2016**
  - Equipment
  - Supervision
  - Management

- **2017**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2018**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2019**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2020**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2021**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2022**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2023**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2024**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

- **2025**
  - CHW and Supervisor Salaries
  - Medicines, supplies, commodities
  - Equipment
  - Supervision

*EXAMPLE FIGURES – DO NOT QUOTE*
Tool Output Example: Results Chart – Funding sources and gaps for a District
Reflections on cost drivers and forgotten costs

- Key elements of a successful community health program:
  - CHW incentives (financial or non-financial)
  - Visible supervision;
  - Reliable supply chain.

- Costs are typically driven by:
  - Number of service types in package;
  - Which services are in package (e.g., family planning and iCCM which include commodity/medicines costs);
  - Catchment population, need and demand;
  - Remuneration levels for CHWs and supervisors;
  - Degree of integration – e.g., supervision.

- Costs often forgotten:
  - Refresher training;
  - Training of replacement CHWs and supervisors.
  - Replacement of equipment – e.g., bicycles.
Reflections on total vs additional costs

- The Tool calculates total costs.
- Total costs comprise costs already being incurred plus additional costs.
- If services provided by CHWs were previously provided by the health centre then the costs of medicines should not be additional since they should be under the health centre budget. And shifting tasks to CHWs should allow HC staff to increase the numbers of other services.
- If supervision costs are already covered by the MOH then expanding the package should not result in additional supervision costs.
- Using the financing section you can show to some degree which costs are additional - e.g., how much is being funded already by the MOH and how much by donors.
- If possible carry out a separate analysis of costs and cost savings to households.
Process

- Analyze package of services and HIS.
- Collect incidence and prevalence rates using published data and expert panel;
- Develop standard treatment guidelines using expert panel.
- Collect actual data from small sample of facilities and CHWs.
- Collect unit prices for medicines, supplies, salaries etc.
- Analyze financing contributions.
- Populate tool and review results.
- Time needed – at least 2 persons for 4 weeks.
- But once the model is built it can be quickly adapted.
Typical challenges

• Adapting the package to reflect “encounters”.
• Matching service figures with HIS.
• Getting accurate figures for catchment populations.
• Estimating need (e.g., incidence) and demand.
• Estimating the time needed by CHWs to provide each service (travel time plus encounter time).
• Setting feasible targets.
An investment case is important to show the government and donors the value of supporting community health services.

- To prepare an investment case you can:
  - Use the costing and financing projections from this tool
  - Add Bottleneck analysis
  - Add Impact analysis – eg lives saved
### Requests for tool through 27/3/17
**(UNICEF, Government, NGOs etc)**

<table>
<thead>
<tr>
<th>Angola</th>
<th>South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRC</td>
<td>Tanzania</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Togo</td>
</tr>
<tr>
<td>Malawi</td>
<td>Uganda</td>
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<tr>
<td>Mali</td>
<td>Yemen</td>
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<td>Mozambique</td>
<td>WHO Geneva</td>
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<td>Nicaragua</td>
<td>World Vision</td>
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<td>Nigeria</td>
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</tr>
</tbody>
</table>
Finally

Tool is available on UNICEF & MSH websites:
• The tool and a user guide
• Promotional video for tool
• Country pilot reports.

For more information:
Jerôme Pfaffmann: jpfaffmann@unicef.org
David Collins: dcollins@msh.org

For health centre costing you can request CORE Plus Tool from MSH