Solution in Scarcity

Verbal autopsy and Verbal autopsy manager application
tools to increase coverage and availability of cause of death information in resource-poor settings

A case of Iringa Region in Tanzania

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Layout of the presentation

- Background: Country profile
- Problem definition
- Intervention (Digital tools)
- Outcomes & benefits
- Current & future development
Background: Country Profile
Problem definition

Death: Mortality Statistics

• When people die, It is within the interest of those who are alive to know **why**
• Knowing why helps us prevent future deaths, design interventions & formulate better policies
Problem definition

Among deaths at community, majority are buried without official paperwork or reporting

https://www.macrotrends.net/countries/TZA/tanzania/death-rate
Problem definition

Among deaths at community, majority are buried without official paperwork or reporting

- The Government isn’t aware of these deaths
- Policies are made with 30% of the picture
- The same goes to health budgets & interventions, i.e., focuses on the 30% of the picture

- Captured in routine HMIS
Intervention (Setup)

**Past**
- Use standard VA Instrument
  - Version: 2007
  - Aggregate

**Current**
- Use standard VA Instrument
  - Version: 2016 1.5.3
  - Central

**Data Collection**
- Java, JavaScript, R, HTML, CSS

**Data Management**
- Python, JavaScript, HTML, CSS
  - Customizable, Scalable

**Support Data Science**
- Basic statistics & data visualization

**Advanced Statistics**
- Dynamic visualization
Intervention (Data processing)

1. Manage VA submission processes (who, what, when, at what intervals)
2. Review the VA document (pattern of responses, consistence)
3. Data visualization (tables, graphs, maps)
4. Online PCVA (to obtain CoD information)

**VA Data**

<table>
<thead>
<tr>
<th></th>
<th>Adult Forms</th>
<th>Child Forms</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1166</td>
<td>22</td>
<td>1189</td>
</tr>
<tr>
<td></td>
<td>1274</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Adult</th>
<th>Child</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>This year</td>
<td>1166</td>
<td>22</td>
<td>1189</td>
</tr>
<tr>
<td>Last year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One year</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 1: Submission Summary**

<table>
<thead>
<tr>
<th>No</th>
<th>Day</th>
<th>Adult</th>
<th>Child</th>
<th>Parent</th>
<th>Total</th>
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</thead>
<tbody>
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<td>-</td>
<td>-</td>
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<tr>
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<td>Last month</td>
<td>-</td>
<td>-</td>
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<tr>
<td>4</td>
<td>This year</td>
<td>1166</td>
<td>22</td>
<td>1</td>
<td>1189</td>
</tr>
<tr>
<td>5</td>
<td>Total</td>
<td>1166</td>
<td>22</td>
<td>1</td>
<td>1189</td>
</tr>
</tbody>
</table>

**Graph 1: VA Distribution**
**Intervention (Data processing)**

1. **Manage VA submission processes (who, what, when, at what intervals)**
2. **Review the VA document (pattern of responses, consistence)**
3. **Data visualization (tables, graphs, maps)**
4. **Online PCVA (to obtain CoD information)**
Intervention (Data processing)

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Use standard VA Instrument Data Collection Data management Support data science
Intervention (Data processing) : CCVA

Use standard VA Instrument

Deploy ODK System

Data management

Support data science

CCVA

IHME | SmartVA-Analyze

openVA

Modern techniques?
Outcomes & Benefits

- Data (VA + CoD)
- Different presentations (tables, graphs, maps) by
  - age, sex, residency, disease categories, disease ranking
- Contribute to writing the national reports
- Testing different algorithms
- Capacity building for data science
Outcomes & Benefits

- Data (VA + CoD)
- Different presentations (tables, graphs, maps) by age, sex, residency, disease categories, disease ranking
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- Capacity building for data science
Current and future developments

• Continue to develop VA tools into a studio
  • Capitalize on modern technologies
  • Make it easy to adapt and scale
  • Incorporate more graphs and visualization
  • Incorporate new and improved algorithms
  • Introduce AI/ML Models
• Contribute to building local capacity to support national mortality surveillance programs
Acknowledgement

- MoH Tanzania
- Vital Strategies
- Ifakara Health Institute

Questions / Comments