Understanding differentials in district performance in reproductive health service coverage and quality in Rwanda

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Drones begin delivering blood in Rwanda

Country launches world’s first national drone delivery service with help from a Silicon Valley startup

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Rwanda has launched the world’s first national drone delivery system, which will be used to deliver blood to patients in remote areas of the country. The drones, manufactured by California robotics company Zipline, will begin delivering blood to 21 transfusing facilities in the western part of Rwanda, where poor roads and healthcare infrastructure have often made it difficult to reach patients in need. Rwandan President Paul Kagame will formally announce the program at a ceremony in Kigali on Friday.

... The hope is that the drone system can help reach people in desperate need of transfusions, including mothers suffering from postpartum haemorrhage, which is the leading cause of maternal mortality worldwide.
Rwanda

- 12.1 million inhabitants (2015)
- 30 districts, each with a district hospital that provides basic surgery, including emergency obstetric care
- referral hospitals in capital Kigali
- 1994 genocide
Health in Rwanda

• One of only 4 countries* that achieved MDG4 and 5

• Community health insurance (*mutuelles de santé*): coverage >90%
• Community health workers: 3 per ±800 inhabitants
• Performance based financing
• Leadership in health, government leadership in general.
Maternal health in Rwanda

• Maternal Mortality Ratio (MMR): decreased from 1071 per 100 000 live-births in 2000, to 210 in 2015 (DHS).

• Hospital deliveries: increased from 27% to 91% over same period.
• One third of all pregnant women attending antenatal consultation at least 4 times.
• ART for pregnant and breastfeeding women who are HIV+
• Prevention of cervical cancer.

• Yet: large variation among districts; little known about adolescents.
Causes of maternal death in Rwanda
Related studies

BMJ Open Maternal death audit in Rwanda 2009–2013: a nationwide facility-based retrospective cohort study
Felix Sayinzoga,1 Leon Bijlmakers,2 Fidèle Ngabo,1 Koos van der Velden1

ABSTRACT
Objective: Presenting the results of 5 ye implementing health facility-based mater audits in Rwanda, showing maternal death classification, identification of substandard factors that have contributed to death, an recommendations for quality improver and obstetric care.

Drivers of improved health sector performance in Rwanda: a qualitative view from within
Felix Sayinzoga1 and Leon Bijlmakers2

Abstract
Background: Rwanda has achieved great improvements in several key health indicators, including maternal mortality and other health outcomes. This raises the question: what has made this possible, and what would Rwanda’s experiences teach us?
Methods: We describe the results of a web-based survey among district health managers in Rwanda who gave their personal opinions on the factors that drive performance in the health sector, in particular those that determine maternal health service coverage and outcomes. The questionnaire covered the six health systems building blocks that make up the WHO framework for health

Mapping of research on maternal health interventions in low- and middle-income countries: a review of 2292 publications between 2000 and 2012
Matthew Cherchi1, David Hill2, Mari Dumbaugh1, Lovdahl Peri-Ann2, Siphile Nhuluma1, Leon Bilaljek1, Emily Varga2, Josephine Kwagwa1, Mat Dumbaugh1, Siphelele Nhuluma1, Leon Bilaljek1, Emily Varga2, Josephine Kwagwa1, Mat Dumbaugh1, Siphelele Nhuluma1, Leon Bilaljek1, Emily Varga2, Josephine Kwagwa1

Abstract
Background: Progress in achieving maternal health goals and the rates of reduction in deaths from maternal conditions have varied over time and across countries. Assessing whether research priorities in maternal health have moved with the increase in evidence and recent advances in maternal health, such as...
Research questions

• To what extent can adolescent pregnancies and the RH services available for adolescents explain the observed differences in district performance in Rwanda?

• What determines the effective use of sexual and reproductive health services by adolescents?
Study sites

Districts

- Bugesera
- Gicumbi
- Nyagatare
- Rwamagana
### Ranking of districts

Table 1: District scores and rankings on selected maternal health indicators in 2013 and 2014

<table>
<thead>
<tr>
<th>Selected coverage indicators</th>
<th>Bugesera district</th>
<th>Gicumbi district</th>
<th>Nyagatare district</th>
<th>Rwamagana district</th>
<th>National average</th>
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</thead>
<tbody>
<tr>
<td>ANC 4 standard visits</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2013 Score (rank)</td>
<td>42% (9)</td>
<td>27% (20)</td>
<td>22% (24)</td>
<td>62% (3)</td>
<td>35%</td>
</tr>
<tr>
<td>2014 Score (rank)</td>
<td>45% (10)</td>
<td>23% (27)</td>
<td>28% (21)</td>
<td>55% (4)</td>
<td>38%</td>
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<tr>
<td>Deliveries at home</td>
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<tr>
<td>2013 Score (rank)</td>
<td>4.5% (17)</td>
<td>3.1% (11)</td>
<td>9.1% (28)</td>
<td>4.4% (15)</td>
<td>4.5%</td>
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<tr>
<td>2014 Score (rank)</td>
<td>4.0% (17)</td>
<td>3.7% (14)</td>
<td>8.2% (29)</td>
<td>3.5% (13)</td>
<td>3.9%</td>
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<tr>
<td>PNC new registrations</td>
<td></td>
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<tr>
<td>2013 Score (rank)</td>
<td>65% (11)</td>
<td>60% (18)</td>
<td>63% (13)</td>
<td>63% (14)</td>
<td>58%</td>
</tr>
<tr>
<td>2014 Score (rank)</td>
<td>65% (16)</td>
<td>72% (8)</td>
<td>64% (17)</td>
<td>55% (24)</td>
<td>61%</td>
</tr>
<tr>
<td>Overall rank 2013 for 5 coverage indicators</td>
<td><strong>4</strong></td>
<td><strong>12</strong></td>
<td><strong>27</strong></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Overall rank 2014 for 5 coverage indicators</td>
<td><strong>5</strong></td>
<td><strong>12</strong></td>
<td><strong>24</strong></td>
<td><strong>13</strong></td>
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</tr>
</tbody>
</table>

**Selected process indicators**

| ANC registrations screened for anaemia | 2013 Score (rank) | 2014 Score (rank) | | | |
|---------------------------------------|-------------------|-------------------| | | |
| 2013 Score (rank) | 22% (26) | 24% (25) | | | 42% (9) | 34% |
| 2014 Score (rank) | 22% (26) | 38% (20) | | | 92% (1) | 44% |
Study sites

- Gicumbi
- Nyagatare
- Rwamagana
- Bugesera
Qualitative methods

Focus groups at district hospitals and health centres

- Health staff
- DHMT members
- CHW, volunteers

Focus groups in community (2 districts):
- Adolescents
Results

1. Enablers
2. Barriers
3. Unique factors that explain variation in performance
4. Adolescents
1. Enabling factors

- Measures to stimulate service demand and supply
  Community health workers
- Interconnectedness of actors within health system
  Vertical as well as horizontal
- Local innovations, appropriate use of technologies
  Rapid SMS, WhatsApp group ‘Health team Rwamagana’
- Strive for excellence
  Pride, PBF
2. Barriers

- Population density, overcrowding of facilities
- Geographic barriers
- Serving mobile / displaced populations
- Service quality compromised, by
  - inadequate skills mix
  - inadequate infrastructure (water supply, med.equipment)
  - essential supplies (blood)
  - low performance of health insurance scheme.
3. Unique factors that explain variation in performance

- Presence of a nursing school (in Rwamagana and Gicumbi)
- Local innovators/leaders (Rwamagana)
- ‘Ingobyi’, community solidarity (in Bugesera).
What’s special among adolescents?

- Geographical access, financial capacity to travel
- Parental consent / Acceptability of RH consultations for youngsters
- Privacy

Youth friendly centres preferred over a youth corner at health centres.
Discussion

Service quality, quality and quality

- Study completed on maternal near-miss events
- Basis for routine auditing of maternal near-miss events nation-wide

Key ingredients: Skilled workforce & Accountability
Dissemination, valorisation

- Health districts themselves, incl district authorities
- Ministry of Health HQ, through the PI = Head of MCH
  - input for the MCH Technical Working Group
  - inclusion into routine support & supervision of districts
- Journal publications, PhD dissertation.