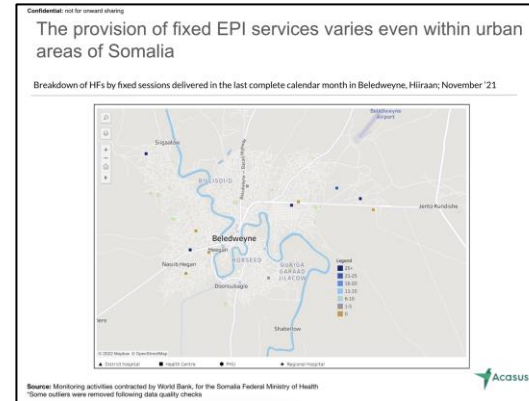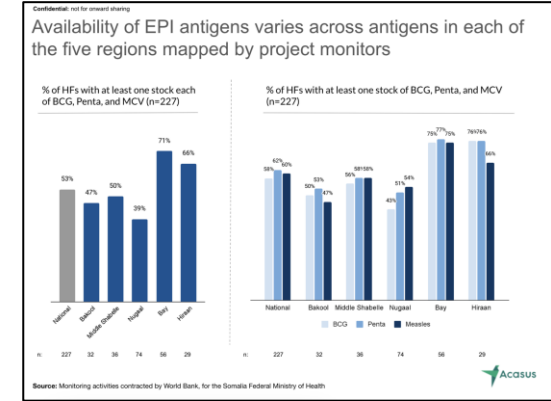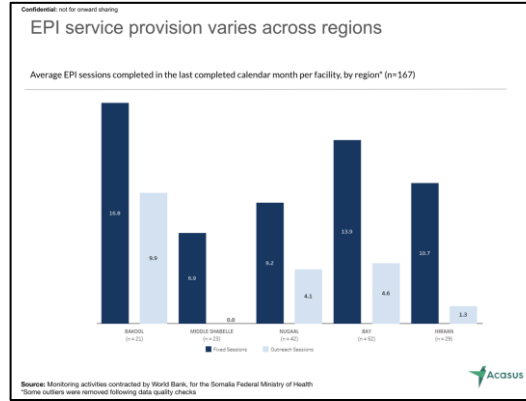# Rapidly mapping Primary Healthcare Facilities in challenging settings:
Lessons from Somalia

February 2023

In 2021 Acasus supported the Government of Somalia and World Bank to map primary health facilities in five regions

The aim of the project was to identify, locate, and assess services in health facilities in 5 regions of Somalia in advance of contracting-out

Challenges	Description
Limited and incomplete information on the location, functionality and status of health system infrastructure	No single recent or complete source of information on the number, location, and management of health facilities across Somalia, or usable maps visualizing their location
Minimal visibility on last-mile primary health performance	Limited recent or regular information on the range, consistency or quality of primary and secondary health services delivered at health facilities for use by Government, partners or to manage or improve health system performance
No visibility on the provision of critical primary health inputs	No recent or regular information on the provision of key inputs (e.g. staff, medicines, equipment, infrastructure, guidelines and EHS criteria, etc.) available at primary and secondary health facilities
Urgent need to provide planning inputs to potential implementing NGOs for the Damaal Caafimaad project	To enable local service providers and NGOs to submit evidence-based bids as part of the approach to contract out health services through the Damaal Caafimaad program, there was an urgent need to be collect data on the location, management, and performance of health facilities
Challenging context to manage a field force to complete monitoring activities	Somalia is an highly challenging environment to operate in, with political instability, sporadic conflict, limited human resource capacity, and extreme weather impacting the ability to remotely plan, staff, implement and oversee health system mapping

Source: Acasus

To enable this, Acasus sourced, hired and trained 50 independent monitors from communities in the 5 project regions, in a 30 day period

Direct engagement with government stakeholders to provide support in key areas

- Aligned on the high-level approach and framework with **Ministry of Health (MoH)** at the beginning of the project

- Engaged **Regional Governments** prior to starting data collection, and invite them to **participate in trainings, workshops and planning stages**

- Held several informal 'coffee meetings' to **align on key details of the approach with MoH colleagues** during the design phase

- Validated data sources to **identify facilities** and develop a **'long list' for the targeted regions**

- Reviewed and **built the survey with MoH**, and integrated suggested changes where possible

- Integrated **MoH and Regional Government feedback** for draft database and summary presentation

Acasus and Regional Coordinators leading hands-on, in-person trainings for monitors**

*Including female monitors, who were actively sought for in the hiring process.

**Project Coordinators typically had medical, public health, or comparable degrees and experience in management, whereas monitors were required to have completed secondary education and ideally have experience in data-related activities.

A focused survey was developed to monitor primary and secondary health performance, based on best-practices and global and local expertise

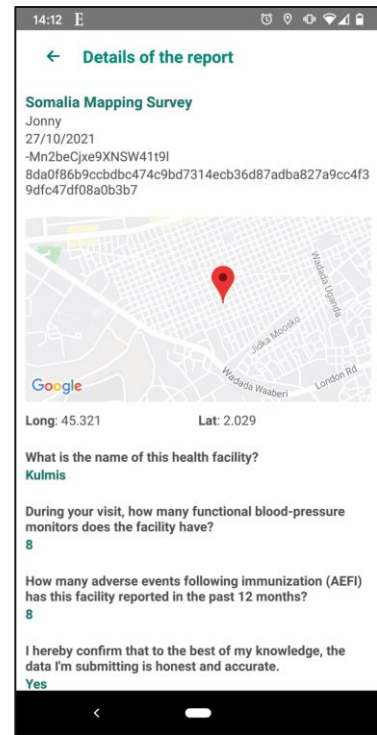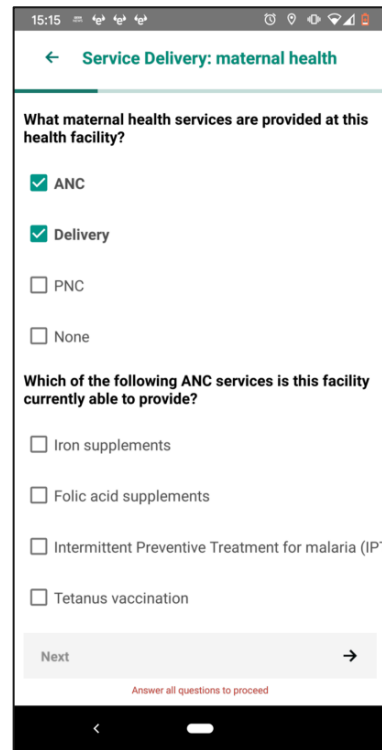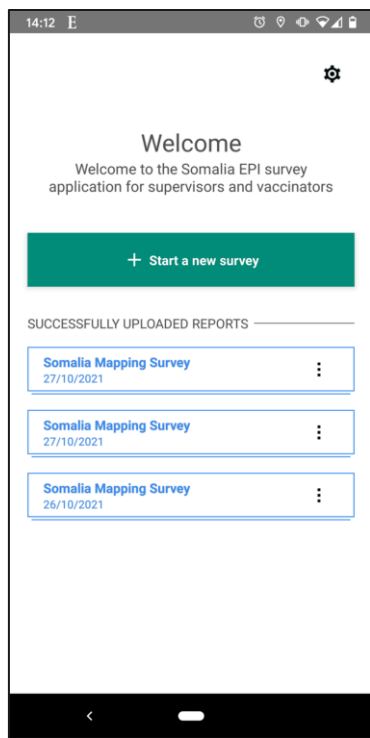| Survey areas	Description
Key facility information	Location Management and ownership Opening hours
Facility condition	Functionality of key infrastructure and furniture Presence and source of utilities General levels of hygiene
Staffing	Hiring of staff Presence of staff during monitoring visits, and reasons for absence Completion of training for key areas (e.g. EPI, midwifery, etc.) Responses to standardized capacity questions to assess knowledge
Service	Overview of services delivered (focus on MCH - general medicine; EPI; maternal health (BEmONC and CEmONC); nutrition; TB) Number of services delivered in the most recent calendar month Overview of diagnostic and lab services
Medicines and equipments	Availability and functionality of key equipment (focus on MCH) Number of medicines and antigens in stock during monitoring visit Date and 'completeness' of last medicine delivery Overview of cold chain availability and functionality
EHS and Guidelines	Availability of key manuals and guidelines Compliance to existing protocols Availability of key 'safeguarding' materials, and compliance to them
Patient feedback	Exit interviews on the patient experience on the day of the monitoring visit, e.g. journey time, wait time, staff comms, overall satisfaction, etc.
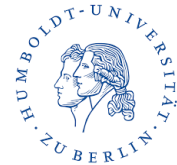
A digital tool was leveraged to collect this information from health facilities

Features of the data collection tool

- Data collection based on **fully customized** questionnaires (including scanning barcodes, photos)

- **Offline** usage - functional without active internet connection (connection is required for downloading the latest questionnaires and uploading the filled surveys)

- **GPS** data is collected and linked to questionnaires

- Supports a wide variety of **Android** and Android Go devices

The tool is also used in 8 other countries to collect ~30,000 individual monitoring reports on front-line health service delivery each week, including in other World Bank projects (e.g. GFF Pakistan; etc.)

Automated dashboards were developed to monitor and manage the quality and quantity of data, and develop real-time views of facilities

Automated dashboards to help review the quantity and quality of data
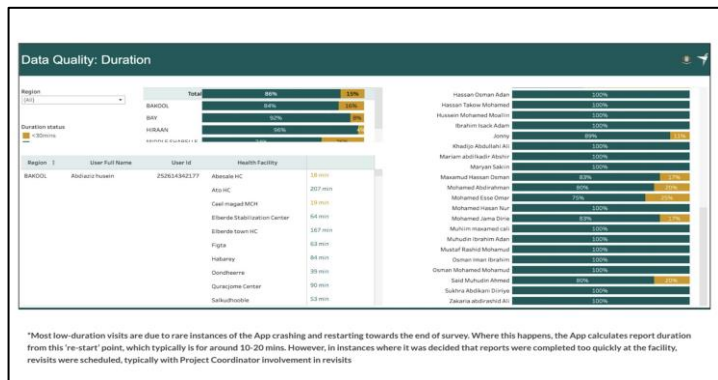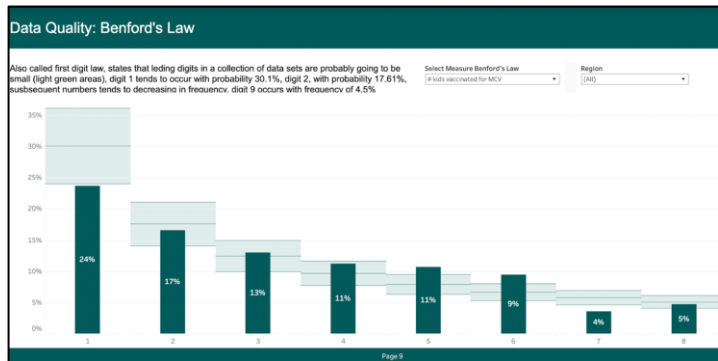
Example dashboard and mapping outputs
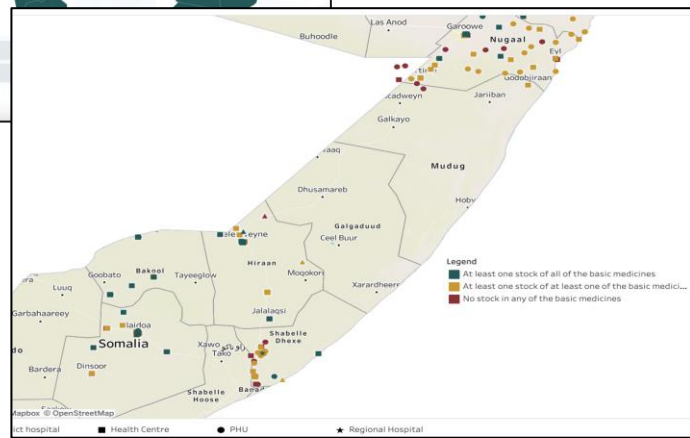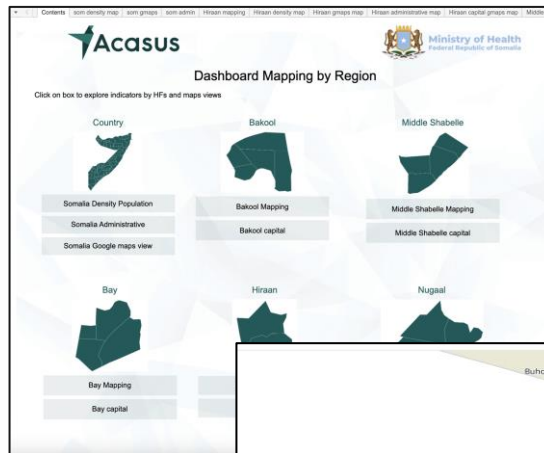
New GIS and geospatial tools were developed to identify underserved communities, estimate catchment areas, and assess future service delivery needs for communities

Mapping data was overlaid against population density data to show access challenges, and where new investments are needed

Hiraan density population

Legend
- ▲ District hospital
- ■ Health Centre
- ★ Regional Hospital

Hiraan

© 2022 Mapbox © OpenStreetMap

Population density
- +5,000
- 1,000-5,000
- 500-1,000
- 100-500
- 50-100
- 25-50
- 1-25
- 0
- ▲ District hospital
- ■ Health Centre
- ★ Regional Hospital

View of (from top) Beledwayne (top) to Buloburte (bottom), Hiiraan, overlaid with population density data

Populations lacking easy access to HFs can be seen along the Shabelle river, running top-left to bottom-centre of the image

It is likely that these populations have lower health outcomes than in other areas, and require new investments in health services

Source: Monitoring activities contracted by World Bank, for the Somalia Federal Ministry of Health; LandScan

The proximity of populations to the nearest health facility varies significantly across regions

Breakdown of estimated population by distance to the nearest health facility

Region	20km+	10-20km	5-10km	0-5km
Bakool	68%	14%	4%	15%
Bay	54%	18%	5%	23%
Hiraan	44%	15%	7%	35%
Middle Shabelle	35%	16%	14%	35%
Nugaal	3%	24%	18%	54%
Total	42%	17%	9%	31%

Legend: 20km+ | 10-20km | 5-10km | 0-5km

Source: World Bank mapping data; Landscan population density data; Acasus analysis

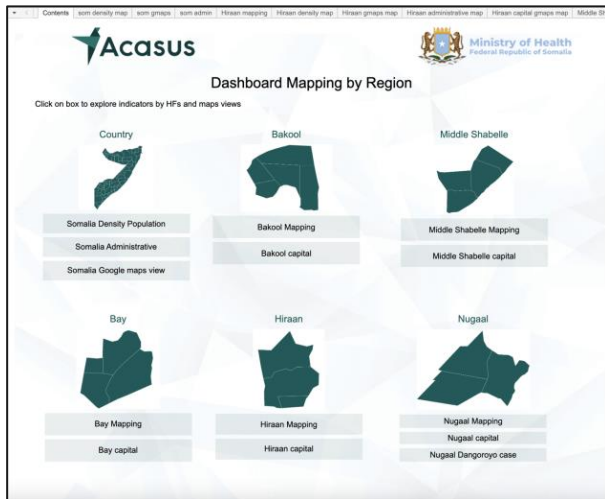# This approach enabled 50 independent monitors to monitor 350+ HFs in 5 regions over a 10 day period…

Facilities visited by region and facility type (operational =227; total visited = 357)

	Bakool	Middle Shabelle	Nugaal	Bay	Hiraan
Closed	10	15	40	13	48
Regional Hospital			4	4	
District Hospital	2	3		4	4
Health Centre	19	19	37	47	24
PHU	11	13	32	4	
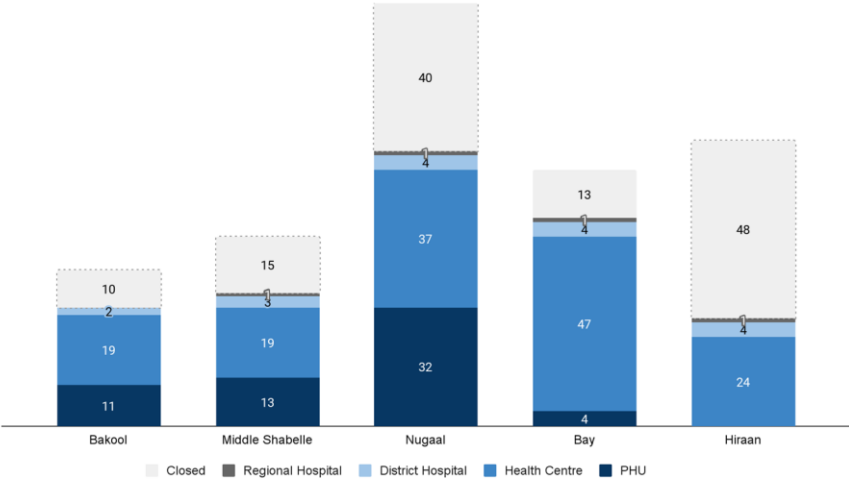
…with initial deliverables available for review and use a few weeks later

(Left) Online mapping dashboard and performance dashboard; (Right) Detailed database of performance per facility for Implementing NGOs to use to inform their approach for the Damaal Caafimaad project

Several success factors were critical in completing this work

1. Creating **opportunities to engage National and Regional Governments** to drive buy-in, alignment and ownership

1. Hiring **monitors from within communities, and rapidly building their capacity through tested training measures**

1. Using **analytics, daily routines, in-field monitor-managers, and in-person spot-checks** to manage data quantity and quality

1. **Being flexible and persistent** - when floods or conflict stop you, use alternative means (i.e. phone calls) to get the data

1. Balance the **sophistication and simplicity of outputs** to maximize engagement and use

1. **Combining global and local expertise and best-practices** to maximize the impact and credibility of the approach

Create opportunities to engage National and Regional Governments throughout the process to maximize buy-in, alignment and ownership

Hire independent monitors and experienced 'monitor managers' from within communities, and build their capacity through practical measures

Acasus-led monitor-manager trainings

Monitor-managers leading monitor training workshops in Nugaal and Hiiraan

Use analytics, daily routines, in-field monitor-managers and in-person spot-checks to manage data quantity and quality during collection

Real-time data quantity and quality visuals to manage monitors during the data collection process
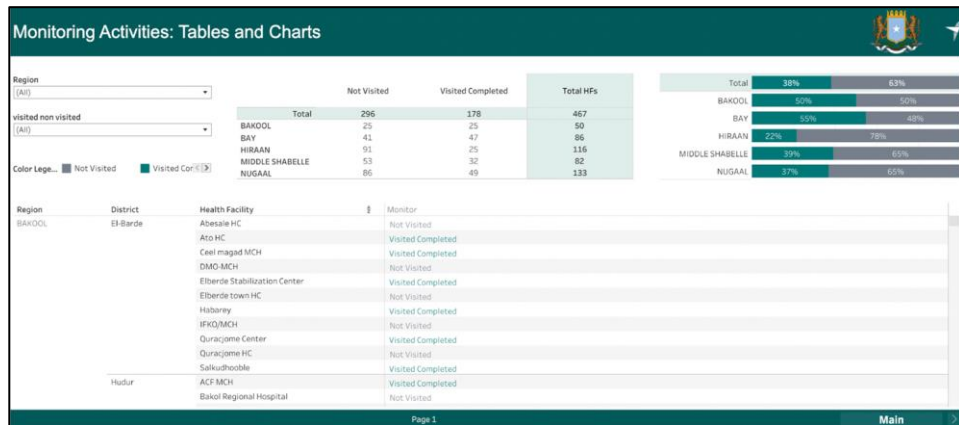
Spot-check completed by Regional Gov. teams; Hiraan
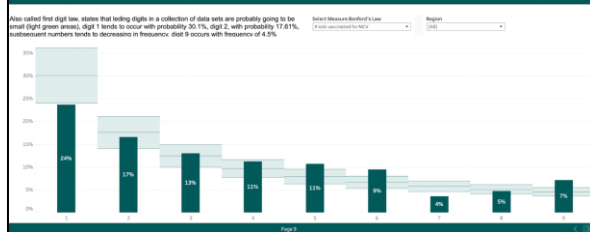
Be flexible and persistent in the field - when floods or conflict stop you, use alternative means (i.e. phone calls) to get the data

Example of flooded roads affecting monitor access in Middle Shabelle (some facilities are up to 50km+ from monitor locations)

Example of a former HF damaged due to conflict

Balance the sophistication and simplicity of outputs to maximize use and engagement
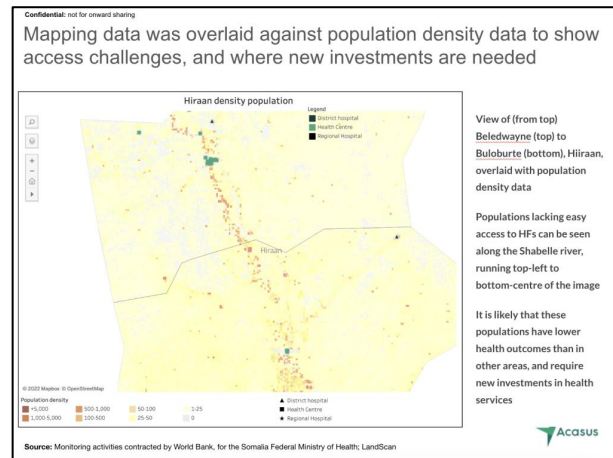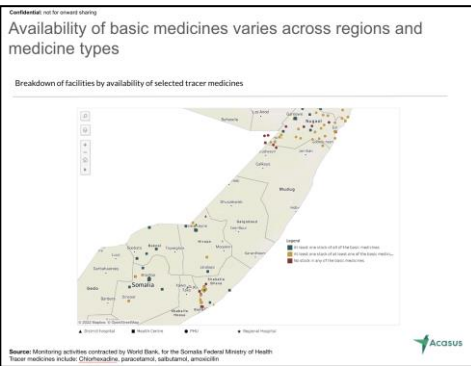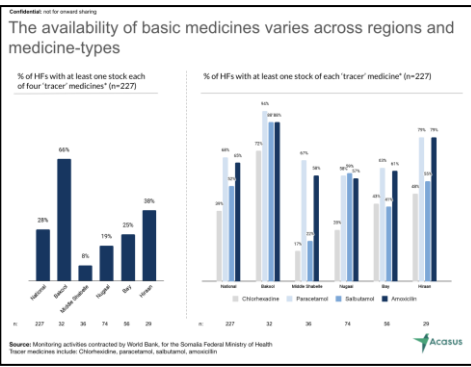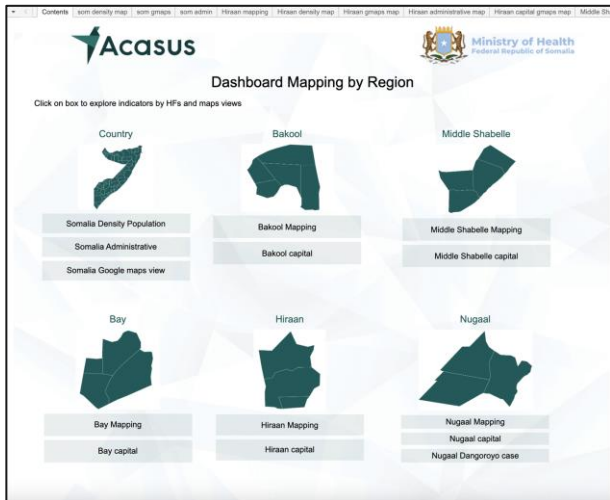
Combine best-practices, learnings from other countries, and expert insights from Gov. and partners to maximize the quality, pertinence, and credibility of survey tools
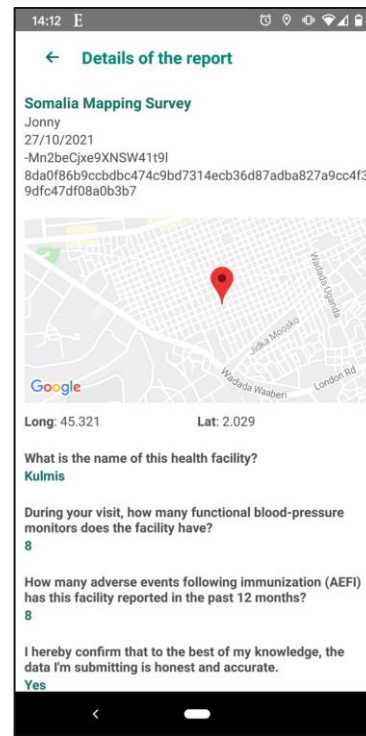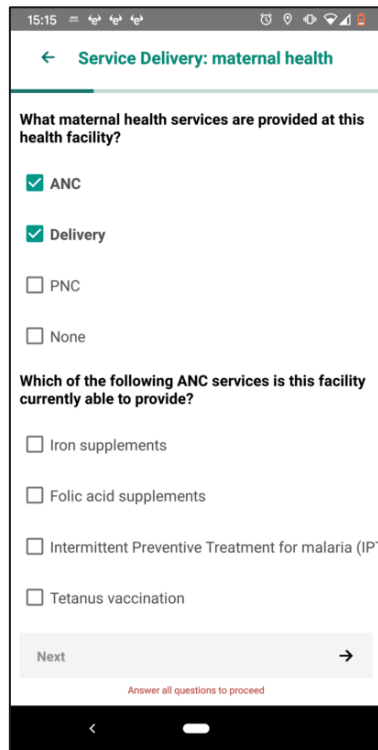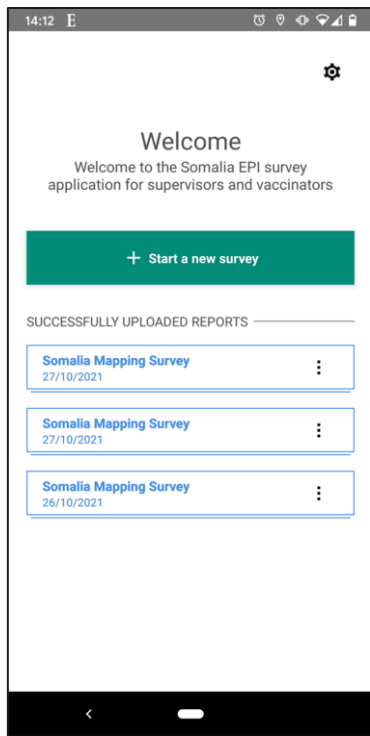
Similar success factors have been observed completing similar assignments in Punjab (PK), Afghanistan, Ethiopia, Peru, and other locations
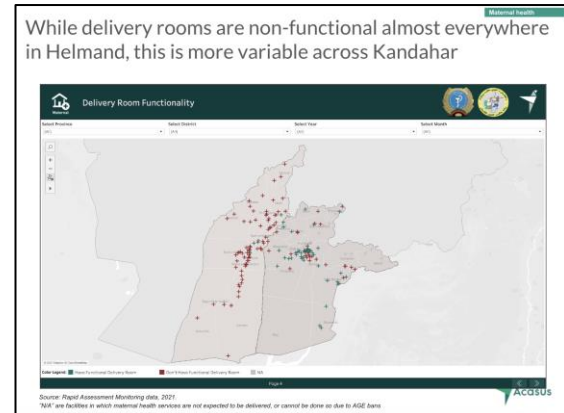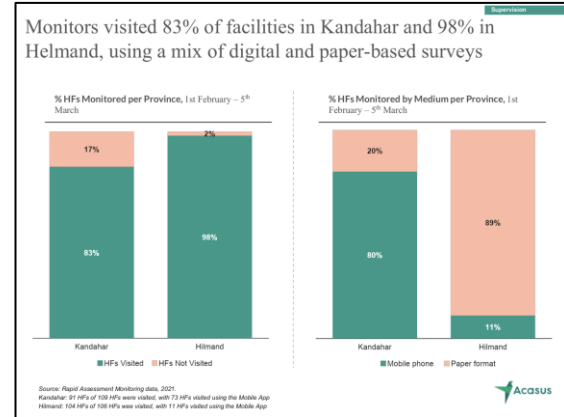
Five further learnings were identified on how to complete such exercises with greater efficiency and impact in future

1. Identify, engage and gain the buy-in of **N-1 / N-2 'influencers' early** in the project

2. Provide **more virtual 'pre-training' sessions** to expedite monitor training activities

3. Conduct **monitor focus groups**, and **follow-up 'qual' visits to review root causes** behind issues identified in the data

4. Engagement Government stakeholders to **co-designing dashboards early-on**, to improve buy-in, ownership and use

5. Spend more time **sensitizing Government them to sensitive outputs early-on**, to avoid tension in final meetings
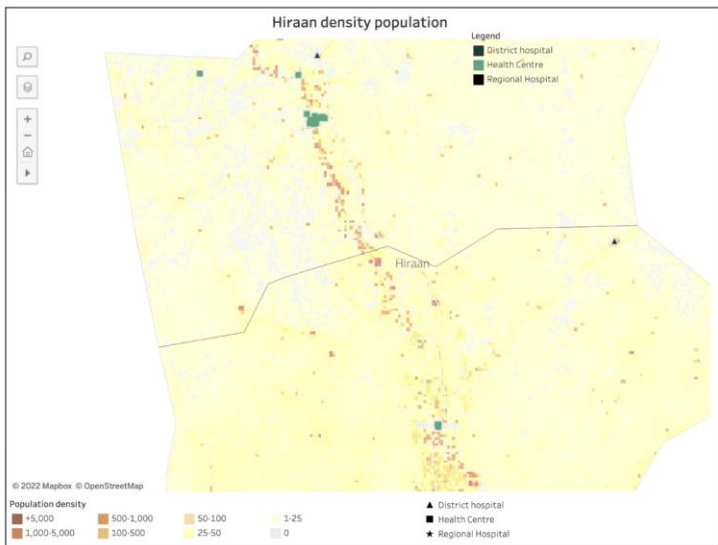
Thank you

February 2023

Demonstrate how new data, analyses, and ways of thinking can help improve planning and service delivery

Confidential: not for onward sharing

Mapping data was overlaid against population density data to show access challenges, and where new investments are needed

Hiraan density population

Legend
- District hospital
- Health Centre
- Regional Hospital

View of (from top) Beledwayne (top) to Buloburte (bottom), Hiiraan, overlaid with population density data

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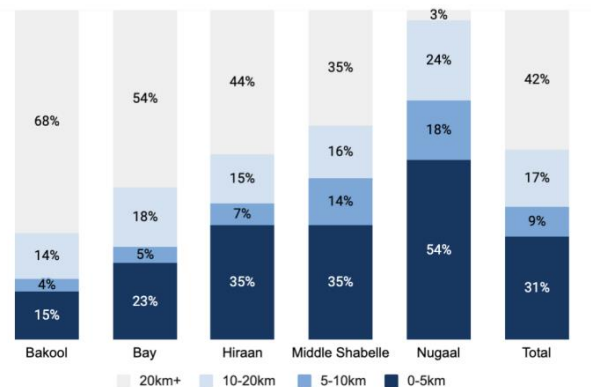
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Population density
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© 2022 Mapbox © OpenStreetMap

Source: Monitoring activities contracted by World Bank, for the Somalia Federal Ministry of Health; LandScan

Acasus

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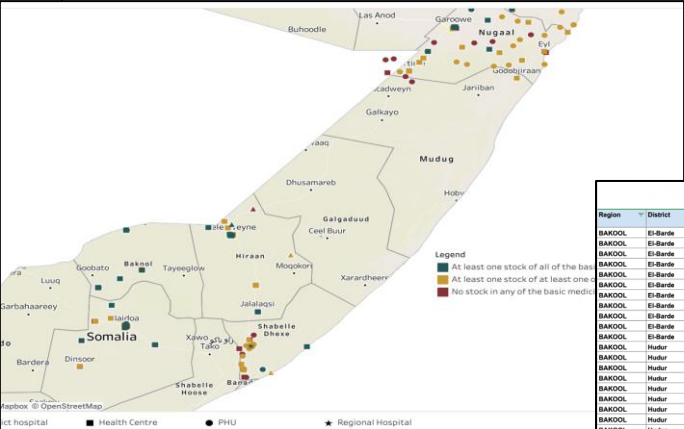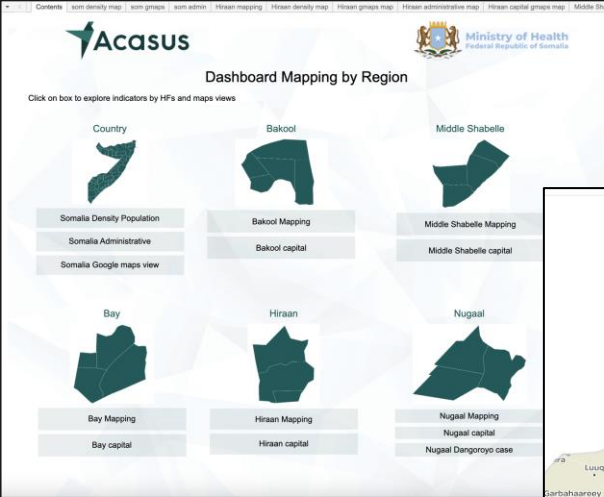## The proximity of populations to the nearest health facility varies significantly across regions

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20km+	68%	54%	44%	35%	3%	42%
10-20km	14%	18%	15%	16%	24%	17%
5-10km	4%	5%	7%	14%	18%	9%
0-5km	15%	23%	35%	35%	54%	31%

(Nugaal 0-5km: 54%)

Legend: 20km+, 10-20km, 5-10km, 0-5km

Source: World Bank mapping data; Landscan population density data; Acasus analysis

Acasus

Acasus

Final deliverables from this work included a combination of **dashboards, facility mapping and databases**, closely aligned with the MoH's needs

Dashboards summarizing data

Mapping of facilities

Databases of collected information