Innovation to Improve Children's Health:
Integrated e-Diagnostic Approach (IeDA)

Swiss TPH Spring Symposium 2018
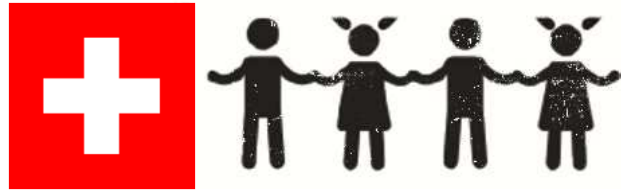**April 25 - BASEL**
Riccardo Lampariello, RLA@tdh.ch

Terre des hommes
Helping children worldwide.

Who we are

Terre des hommes is the **leading Swiss child relief organization.**

- 2'000 staff
- $140 million annual budget
- Yearly support to > 3 million children & their families
- In 48 countries

Our Vision

**A world in which every child
has a right to childhood.**

What we do - Five Priority Programmes

Mother & Child Health

1. Children under five and their mothers in situation of extreme vulnerability

Child protection

2. Children affected by risks in migration
3. Child victims of labour exploitation
4. Children in contact with the law

Humanitarian Aid

5. Children in contexts of humanitarian crisis

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Burkina Faso (« The land of the upright »)

# In Burkina Faso: 3 out 4 people live in rural areas

- Hard to reach

- Low-skilled healthcare workers

- Facilities under-resourced

- High burden of infectious disease, including pneumonia, malaria and diarrhea

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In Burkina Faso,
1 out 10 children doesn't reach the age of 5

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- Severe cases not identified

- Antibiotics over-prescribed

- Lack of trust in the healthcare system

- Healthcare workers under-trained & unmotivated

- Reporting and statistics unreliable

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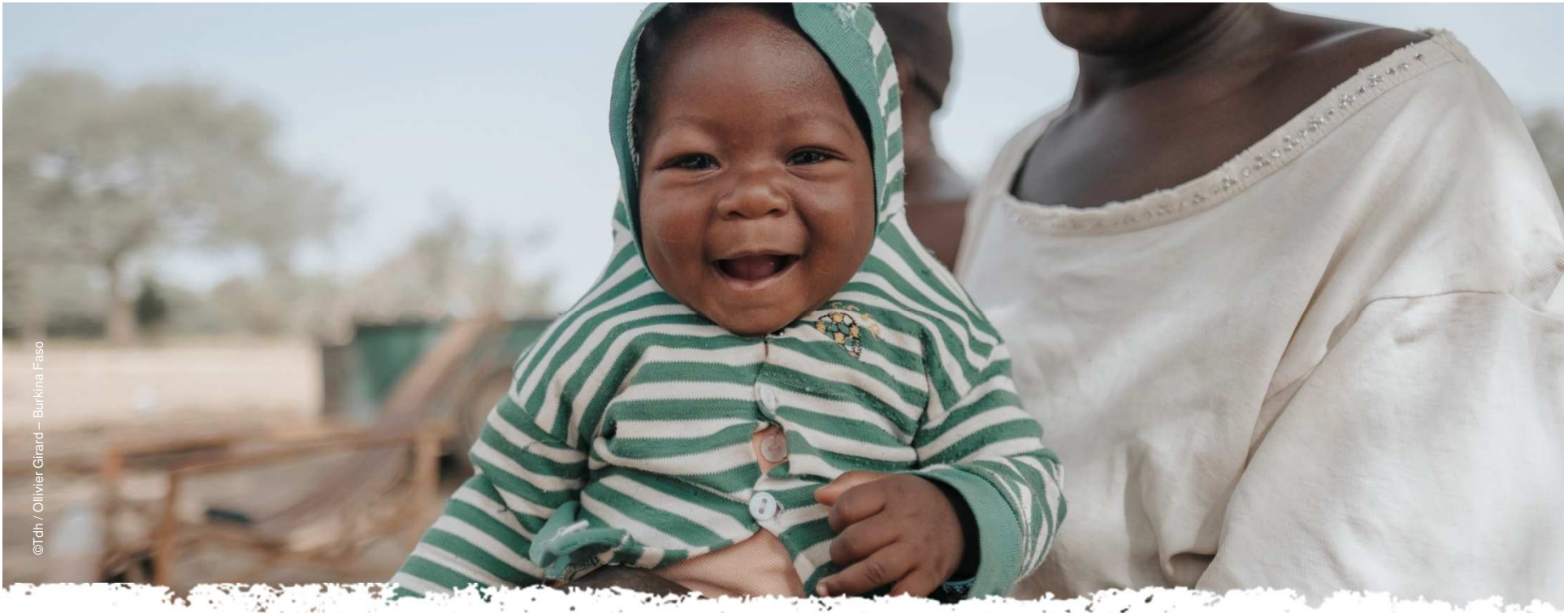
©Tdh / Olivier Girard – Burkina Faso

How can we help the Government improve quality of care in rural areas at regional/national level?

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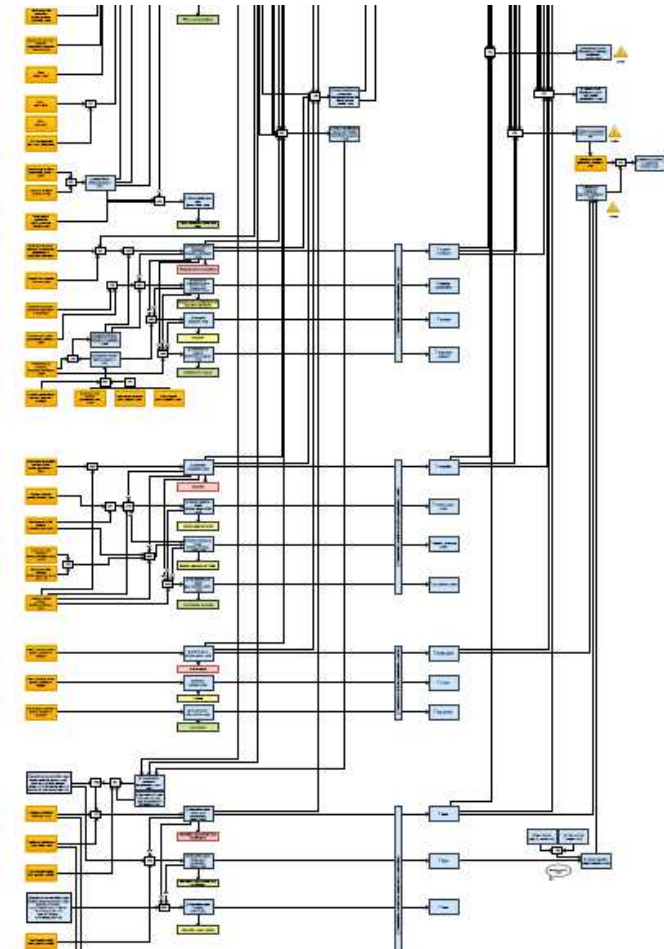# Terre des hommes has developed the Integrated e-Diagnostic Approach (IeDA)

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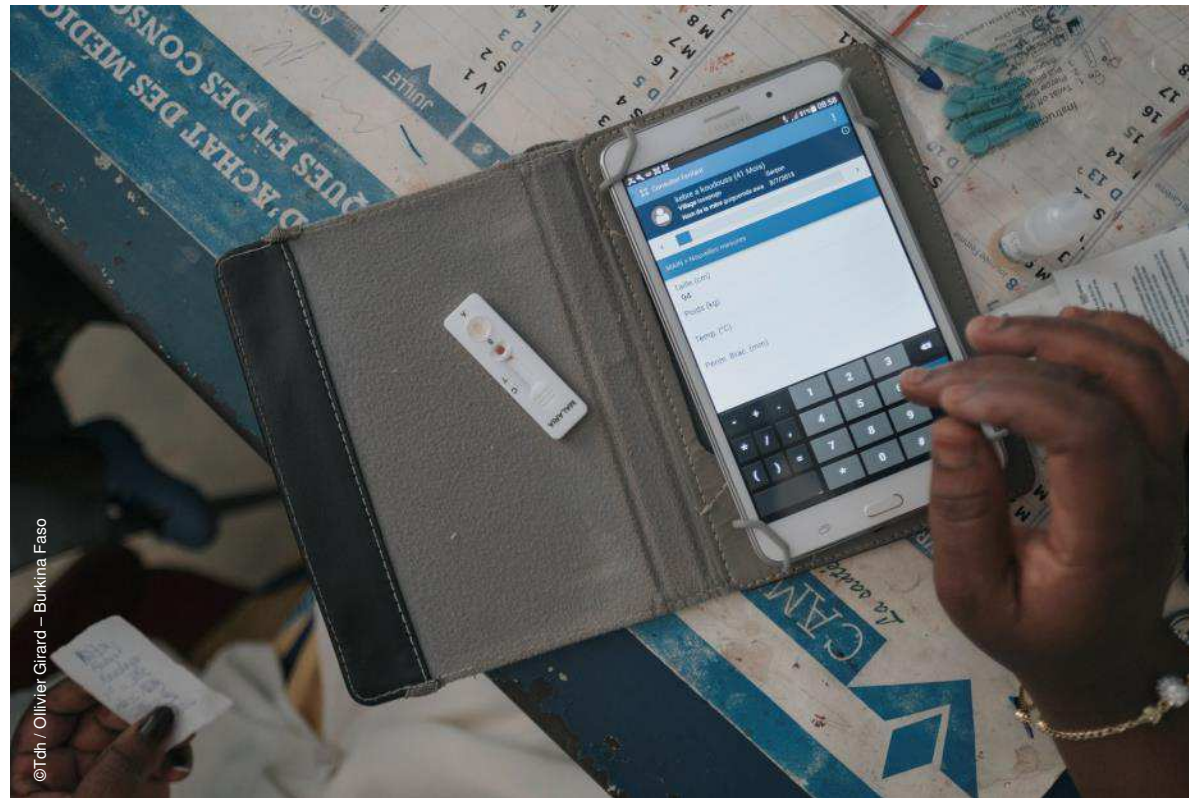
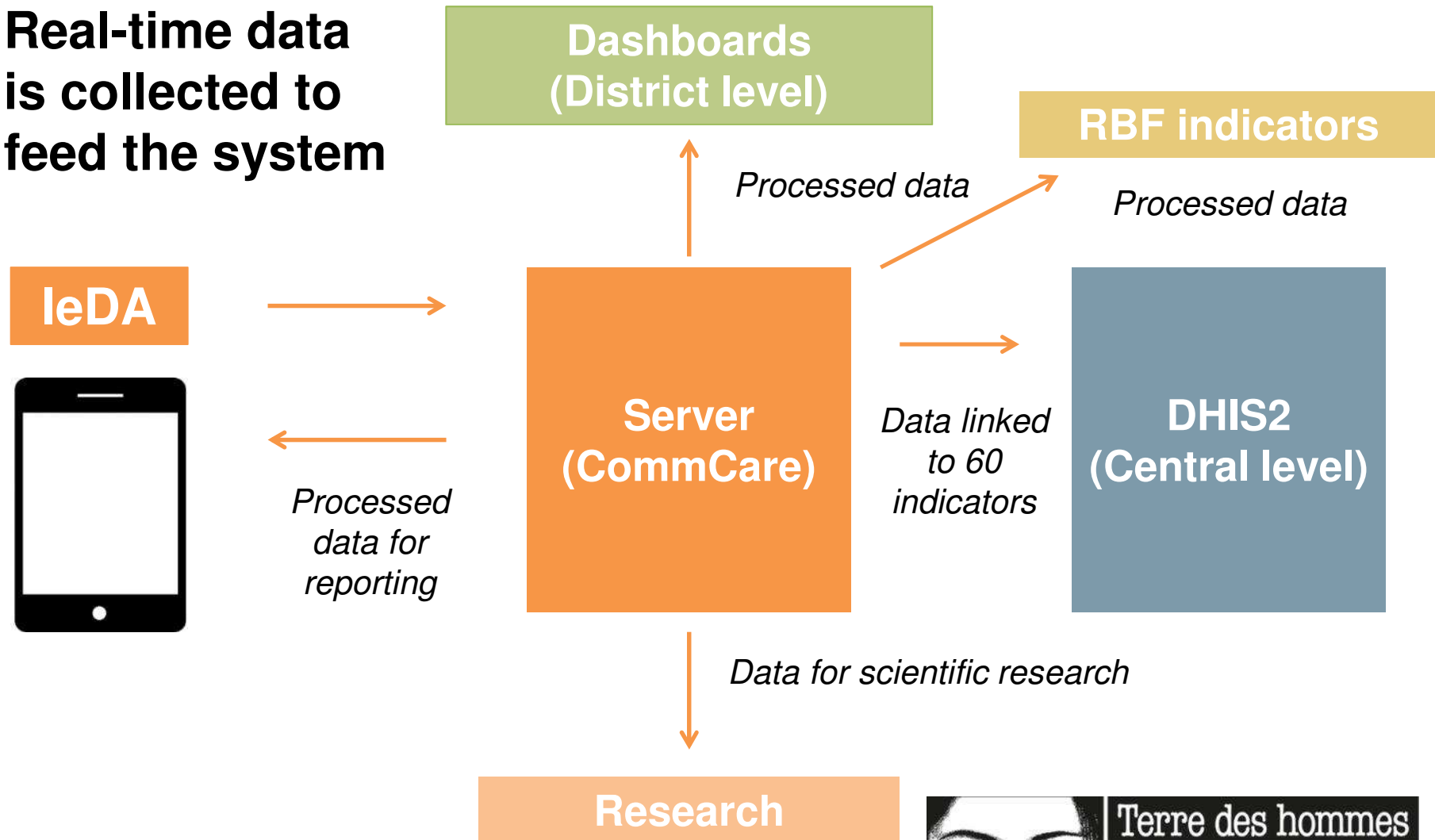# Decision support for healthcare workers

- A digital application on tablets built on the WHO clinical protocol

- The algorithm guides healthcare workers to make an accurate diagnosis & prescription

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Integration with national IT system

Real-time data is collected to feed the system

Dashboards (District level)

RBF indicators

Processed data

Processed data

IeDA

Server (CommCare)

Data linked to 60 indicators

DHIS2 (Central level)

Processed data for reporting

Data for scientific research

Research

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Real-time data exploitation for epidemiological surveillance
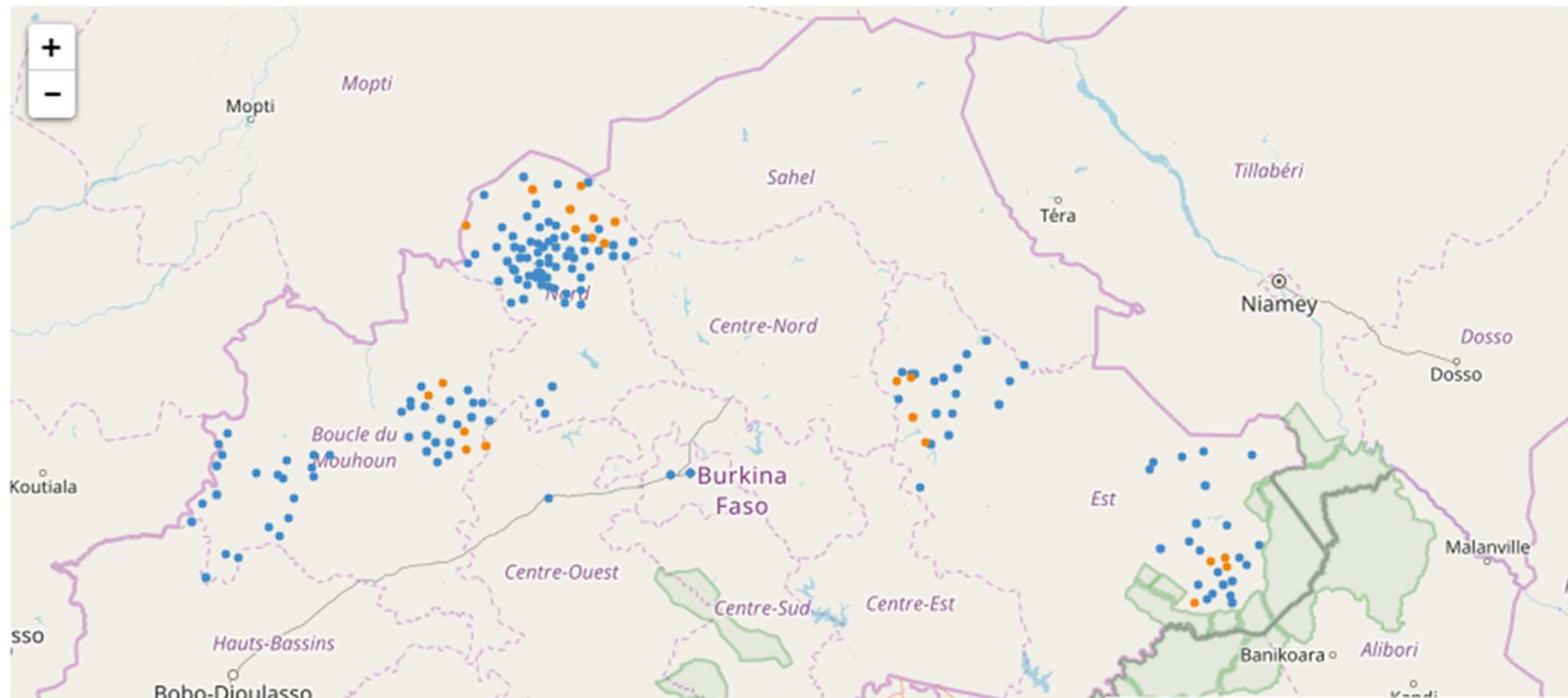
Sponsored by:

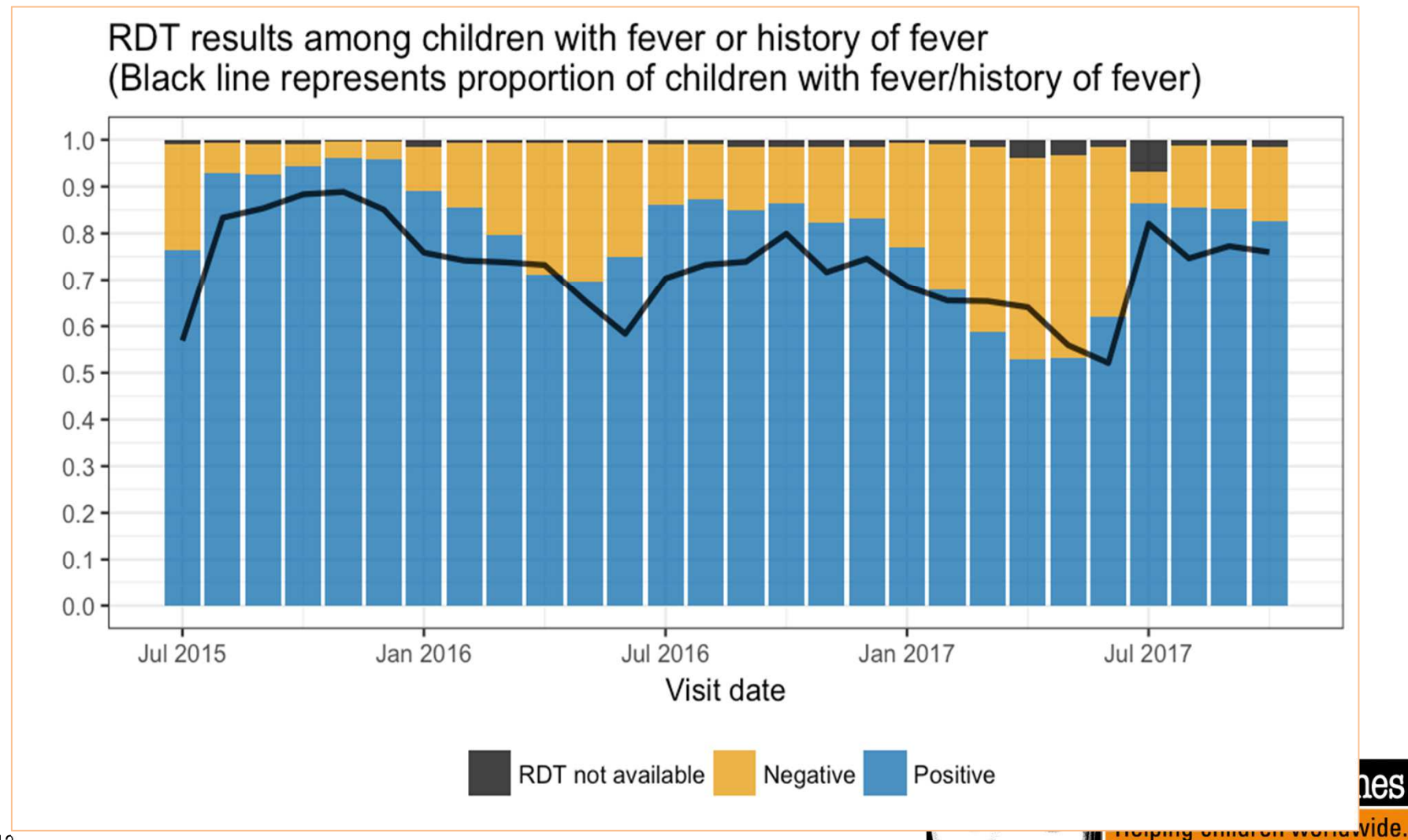Humanitarian Aid
and Civil Protection

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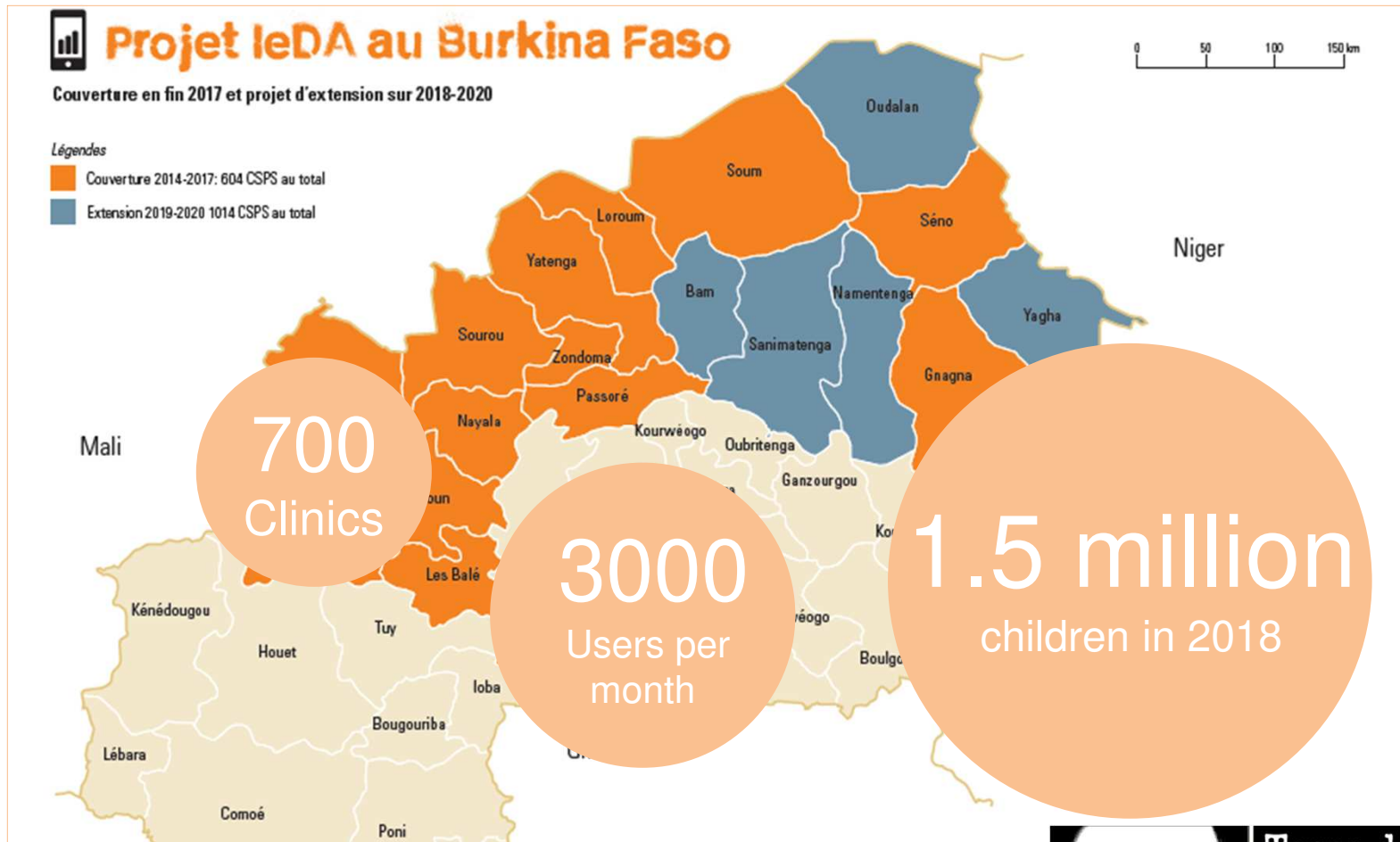# Data exploitation for better planning/monitoring

RDT results among children with fever or history of fever
(Black line represents proportion of children with fever/history of fever)

Tailored capacity building in remote areas through e-learning
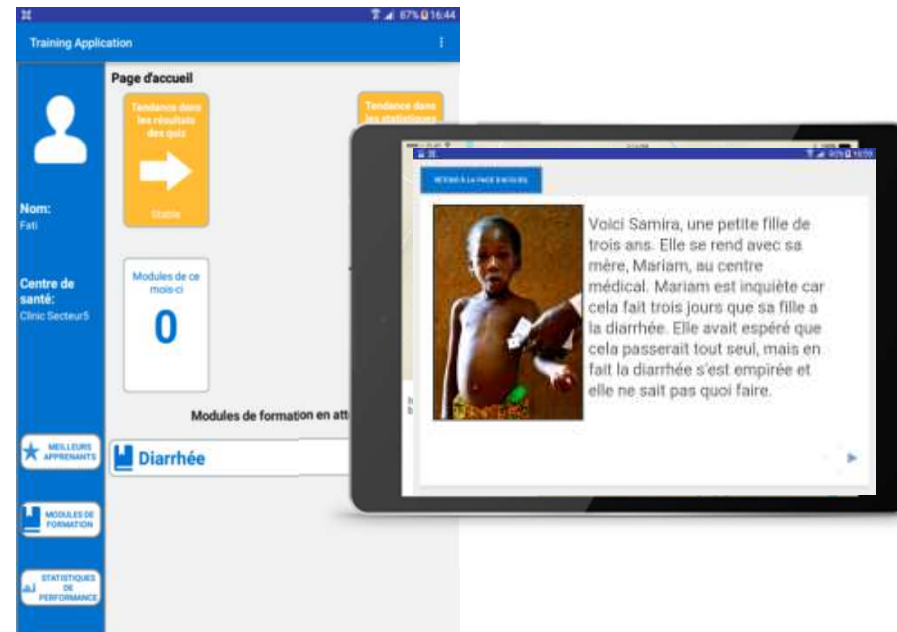
Reaching an unprecedented volume in 2018 : 200,000 consultations every month

Projet IeDA au Burkina Faso

Couverture en fin 2017 et projet d'extension sur 2018-2020

Légendes
- Couverture 2014-2017: 604 CSPS au total
- Extension 2019-2020 1014 CSPS au total

0   50   100   150 km

Oudalan
Soum
Séno
Loroum
Yatenga
Bam
Namentenga
Yagha
Niger
Sourou
Zondoma
Sanimatenga
Gnagna
Passoré
Nayala
Kourwéogo
Oubritenga
Ganzourgou
Mali
Les Balé
Kénédougou
Tuy
Houet
Ioba
Boulgo
Bougouriba
Lébara
Comoé
Poni

700 Clinics

3000 Users per month

1.5 million children in 2018

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Positive preliminary results from the London School of Hygiene and Tropical Medicine evaluation

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- Increased diagnostic accuracy

- Reduction of prescribed medicines including antibiotics

- Cost: on par with the paper version

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At the centre of a thorough evaluation

Publications planned for 2018

| Cost Report | Co-Morbidities Paper | Realist Evaluation Report | Realist Synthesis Paper | Baseline Paper | Trial Paper |

Mar — Apr — May — Jun — Jul — Aug — Sept

| Antibiotics Paper | E-learning Paper | Scale up cost Report | Trial Report | Cost-eff Report | Pilot District Paper | Econ. Study Paper |
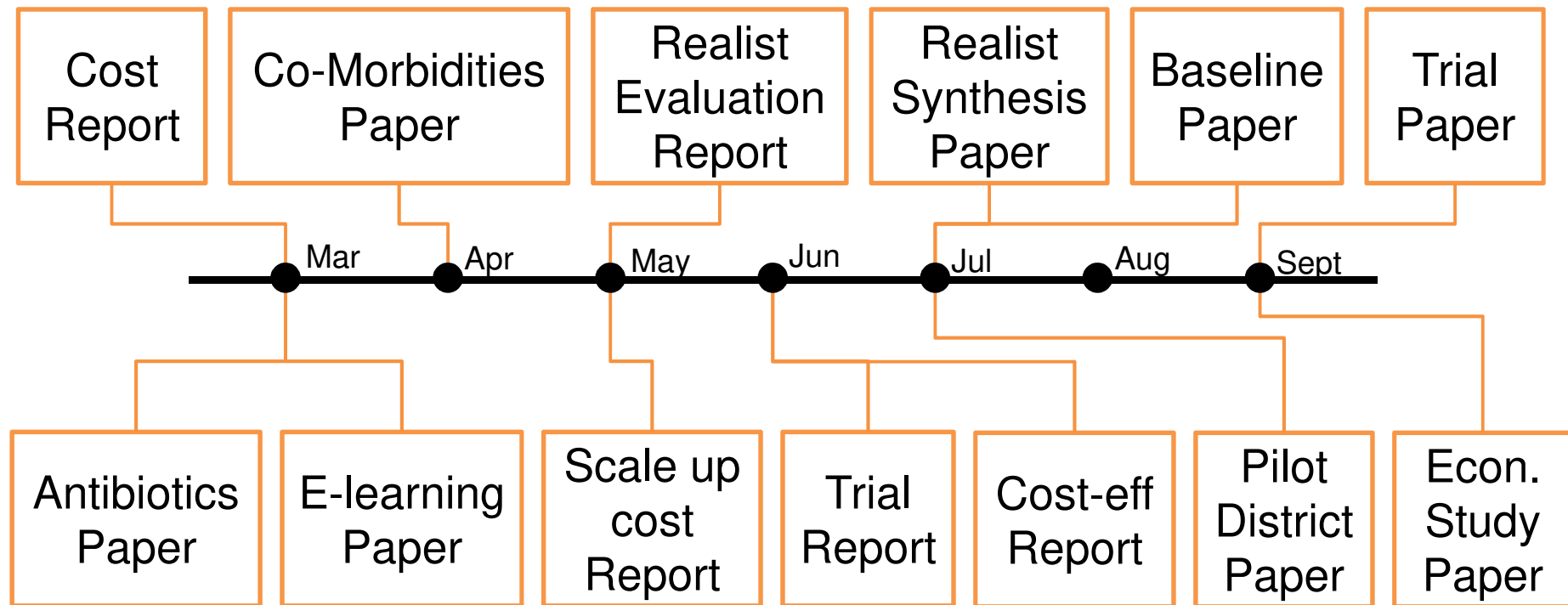
Empowering the community and strengthening trust in the health care system

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- Parents trust IeDA (power shift)

- A district bought its own tablets

- Health workers have adopted the tool (80% of adherence)

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Multi partners approach for a systemic change

Implementation:
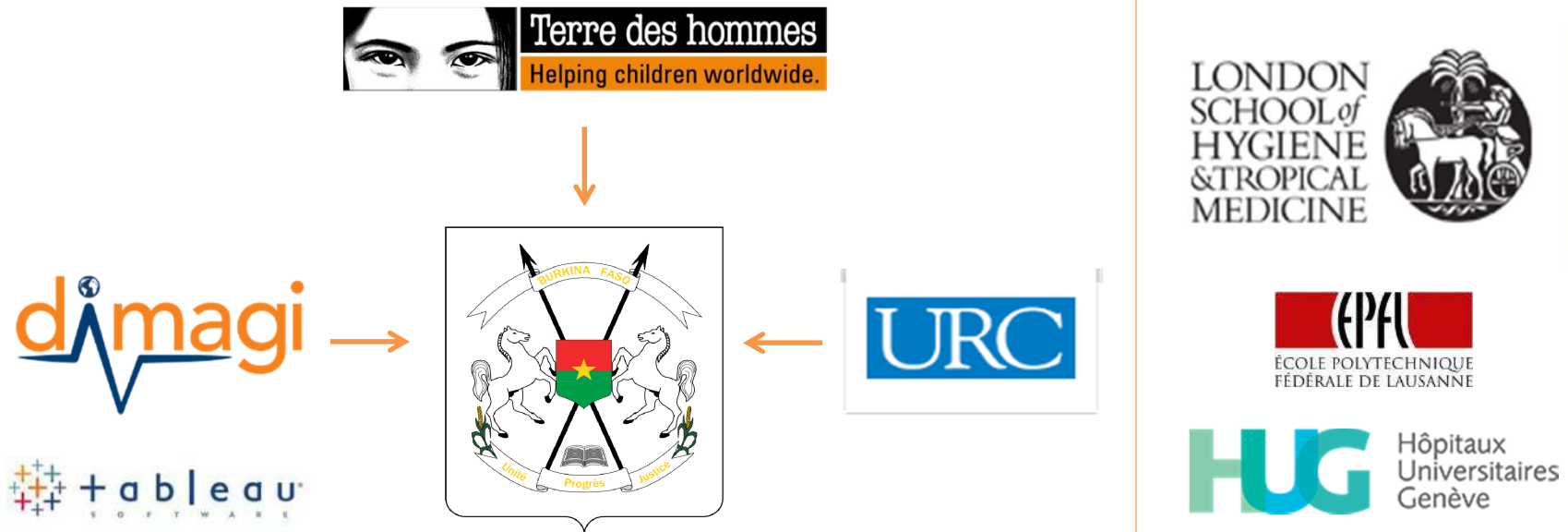
Main Sponsors:

Future plans

- **National scale up in Burkina Faso:**
    - become the first m-health clinical initiative to cover an entire country in Africa
    - transfer IeDA to the Ministry of Health

- **Develop IeDA 3.0**: integrate malnutrition & geographical exportability

- **Increase diagnostic accuracy**

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Build partnerships to innovate and seek excellence

Machine Learning & Image Recognition for anthropometric measurements

New Algorithms

*Point of care**

Block chain * for* digital identity

Smart Respiratory Counter

Artificial Intelligence: automated feedback & **predictive model**

*under discussion

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THANK YOU!

**For more information visit www.ieda-project.org
or contact RLA@tdh.ch**

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