Data Management at the Intersection of Research & Humanitarian Action
From simple surveys through agile epidemiological interventions to complex clinical trials

By The Data Management unit of Epicentre,
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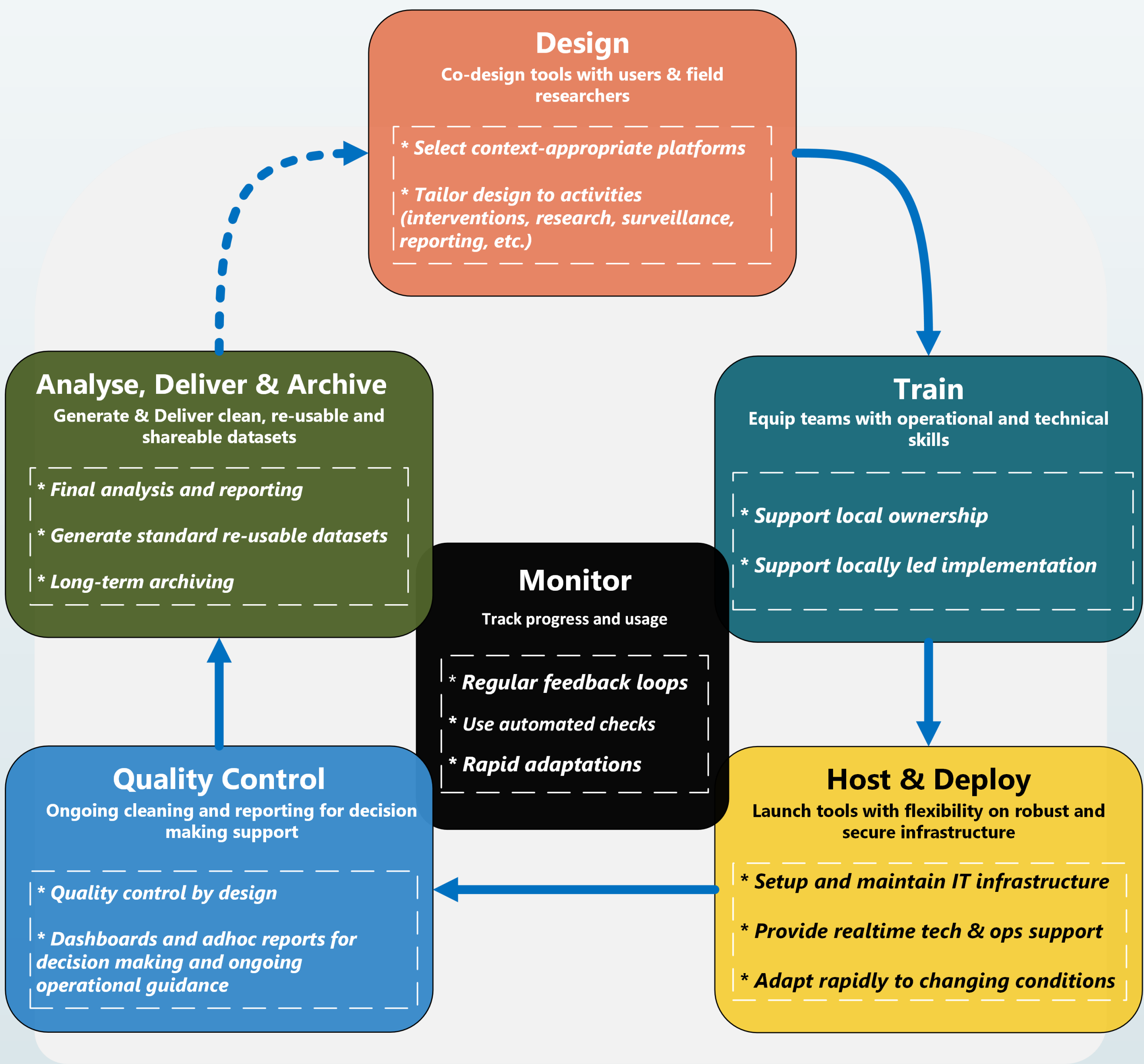
1. Introduction

In humanitarian settings, timely, accurate, and ethical data management is essential for both life-saving interventions and rigorous research. Epicentre's Data Management (DM) Unit plays a central role in ensuring that data collected in the field is fit for purpose—whether for operational decision-making or for scientific publication.

2. Our Dual Mission

Support Research Excellence
- Design and manage data systems for clinical trials, epidemiological studies, surveillance, and routine healthcare.
- Uphold international standards for quality, security, and reproducibility.

Enable Humanitarian Response
- Develop field-adapted tools for rapid data capture in emergencies.
- Deliver dashboards and reports that inform field operations in near real-time.

3. Key Challenges at the Intersection

⚠ Unpredictable Environments
Limited connectivity, frequent displacements, and rapidly changing needs.

🤝 Ethical Complexities
Ensuring informed consent, confidentiality, and data ownership in fragile contexts.

⚙ Standardization vs Flexibility
Balancing structured protocols with adaptable tools that respond to field realities.

4. Our Approach

Co-Design with Field Teams
- Human-centered design: co-creating solutions with users, not just for them.
- Automation where possible, oversight where necessary.

Robust Yet Agile Systems
- Tools are chosen based on context and project design.
- Certified cloud hosting and on-premises hosting in Niger & Uganda.
- Decentralized portable hosting solutions for limited connectivity areas.

Fit-for-purpose infrastructure
- Accommodates from simple routine to complex compliance-heavy projects.

Dashboards & Automated Reports
- Project key performance indicators (KPIs).
- Security, confidentiality and role-based access control.
- Automated quality checks & auto-updating outputs.

5. Our Workflow

Design
Co-design tools with users & field researchers
- *Select context-appropriate platforms*
- *Tailor design to activities (interventions, research, surveillance, reporting, etc.)*

Train
Equip teams with operational and technical skills
- *Support local ownership*
- *Support locally led implementation*

Analyse, Deliver & Archive
Generate & Deliver clean, re-usable and shareable datasets
- *Final analysis and reporting*
- *Generate standard re-usable datasets*
- *Long-term archiving*

Monitor
Track progress and usage
- *Regular feedback loops*
- *Use automated checks*
- *Rapid adaptations*

Quality Control
Ongoing cleaning and reporting for decision making support
- *Quality control by design*
- *Dashboards and adhoc reports for decision making and ongoing operational guidance*

Host & Deploy
Launch tools with flexibility on robust and secure infrastructure
- *Setup and maintain IT infrastructure*
- *Provide realtime tech & ops support*
- *Adapt rapidly to changing conditions*

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Reports & Dashboards

6. Field Examples

Ebola Vaccine Trial (DRC & Uganda)
FDA compliant tools design and data processing

Nutrition Surveys (South Sudan)
Multilingual ODK forms for community enumerators

Antibiotic Resistance Study (Niger)
Lab + clinical data integration across several districts

Alerte-Niger
Alert notification and investigation system for epidemic-prone diseases

Cholera Outbreak Response (Malawi, DRC, S. Sudan, etc.)
Rapid mobile-based data collection for MSF teams

Lassa Fever Epi Programme (West Africa)
Standardized tools for data collection, cleaning, and reporting across sites

Hundreds of Field Epi-Studies
Supporting vaccine coverage, mortality, morbidity, and access studies across diverse contexts

7. Our Team & Competencies

Who We Are
- A multidisciplinary team with experiences at the intersection of research, humanitarian action and digital systems.
- Stable teams located in France, Niger, Uganda, and in the field

What We Bring
- Expertise in informatics, data science, and epidemiology
- Proficient tools: ODK, REDCap, iMediData, CommCare, OpenClinica, BAHMNI, GIS, DHIS2, R, CDISC (CDASH/SDTM), PowerBI, etc.
- Deep understand of LMIC contexts & realities with strong cross-team collaboration
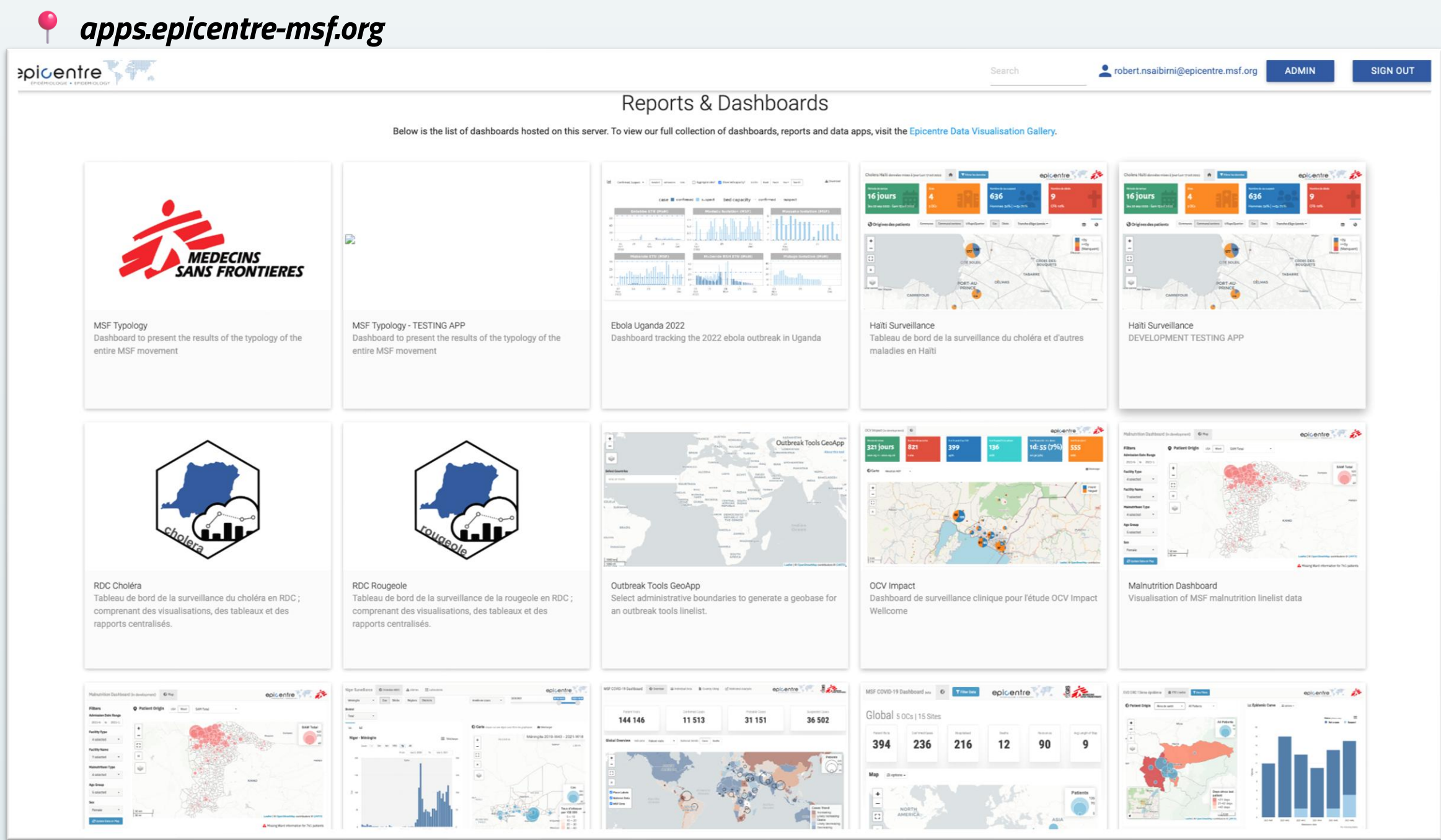- Capable of supporting clinical trials and regulatory compliance (GCP, GDPR, GCDMP)

How We Work
- Guiding Principle: **Patient/Participant safety first!**
- Agile approaches: Flexible, iterative adapting to evolving needs
- Close support strategy: On-the-ground and remote guidance

8. Moving Forward

- 🌍 **Data Interoperability** across projects and Epicentre/MSF missions
- 📊 **More Real-time analytics** to support faster decision-making
- 🔒 **Stronger privacy and security** frameworks
- 🟢 **More flexible, adaptable tools** that work in diverse field conditions
- 🗄 **Archiving & Long-term data storage**, leveraging **data lakes** and **warehouses**
- 👥 **Equitable data practices** that respect and involve the communities we serve

Appreciation