A New Frontier in Strategic Information:

Update from the National Health Information System Strengthening Project in Lesotho

June 14, 2018
SI Unit Webinar

Tsigereda Gadisa, Chief of Party
Suzue Saito, Principal Investigator

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Agreement #5NU2GGH001128-05-00

BOPHELO
MINISTRY OF HEALTH

Presenters

Suzue Saito, Principal Investigator for the Lesotho SI Project

Tsigereda Gadisa, Chief of Party for the Lesotho SI Project

Presentation Outline

1. Recap from 2016 webinar
2. Expanding coverage to facilities
3. Improving data quality and data use for decision making
4. Lessons learned and future directions

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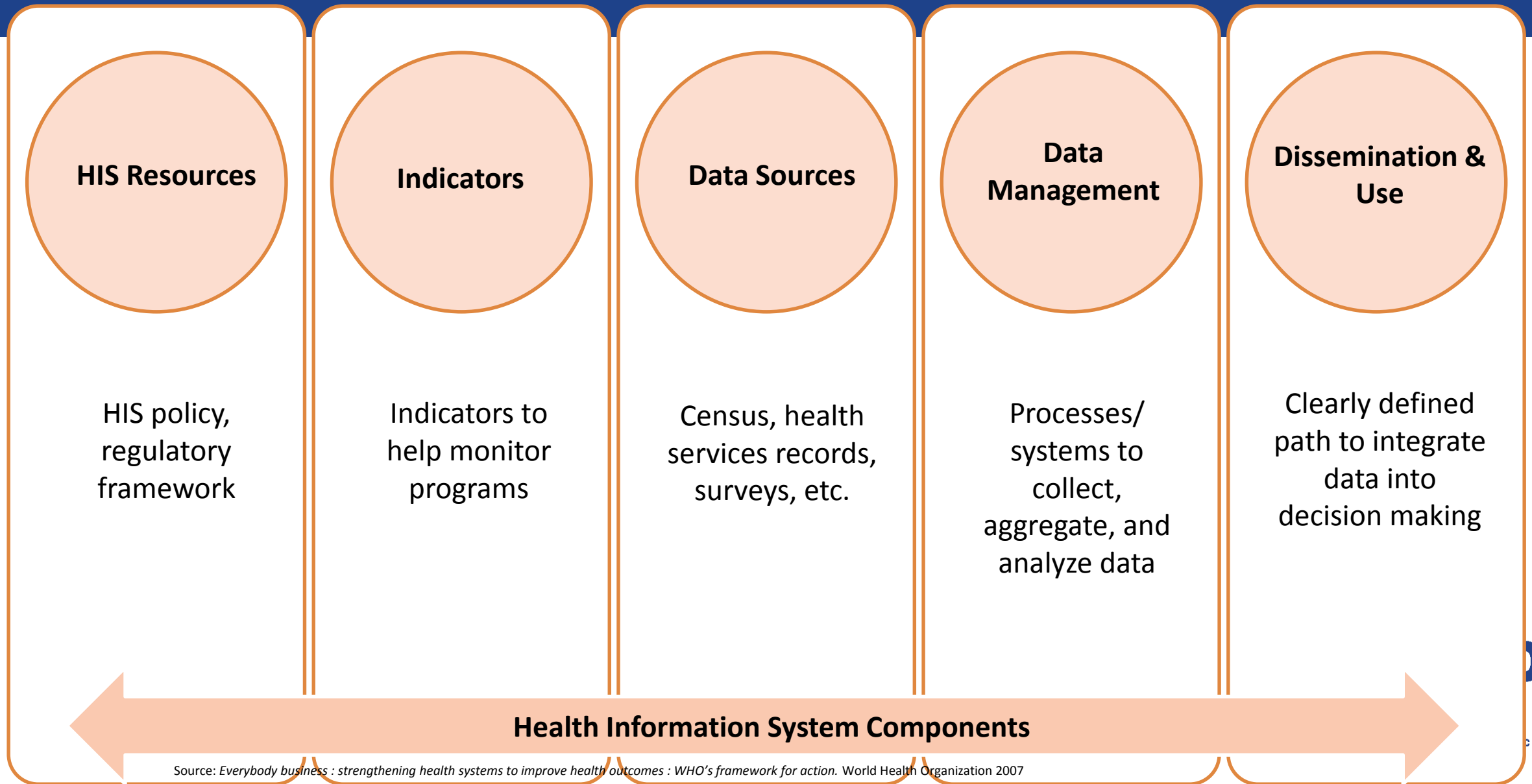
Objectives: Lesotho SI Project

1. Strengthen Health Information Systems, Surveillance Planning, and Coordination
2. Streamline Data Management and Use
3. Build Capacity for Country Ownership and Sustainability

Anatomy Health Information System (HIS)

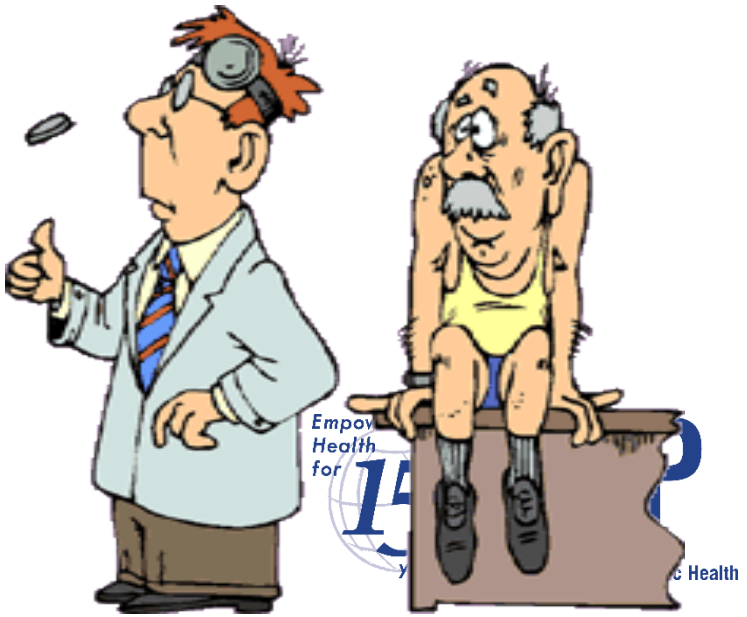


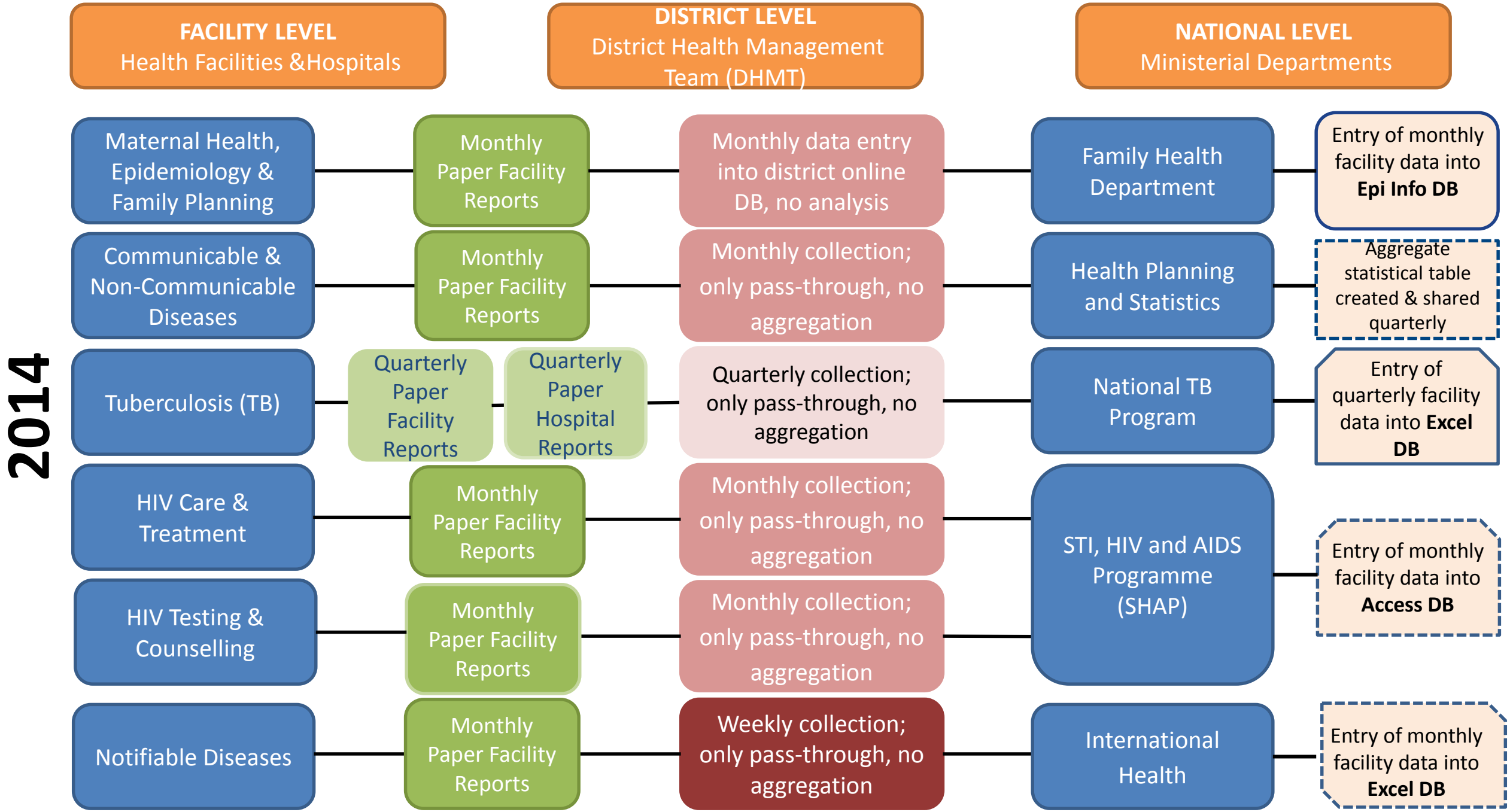
Source: *Everybody business : strengthening health systems to improve health outcomes : WHO's framework for action.* World Health Organization 2007

2014 Baseline Assessment

1. Data collection mainly paper-based and aggregation of data was a large burden, backlog of data
2. Multiple and competing paper and electronic tools used to transmit, collate and store reports
3. Existing electronic tools do not effectively interoperate (don't talk to each other)

Limited actionable health information available to decision makers

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Health Facilities &Hospitals
DISTRICT LEVEL
District Health Management Team (DHMT)
NATIONAL LEVEL
Ministerial Departments
2014
Maternal Health, Epidemiology & Family Planning
Monthly Paper Facility Reports
Monthly data entry into district online DB, no analysis
Family Health Department
Entry of monthly facility data into Epi Info DB
Communicable & Non-Communicable Diseases
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Aggregate statistical table created & shared quarterly
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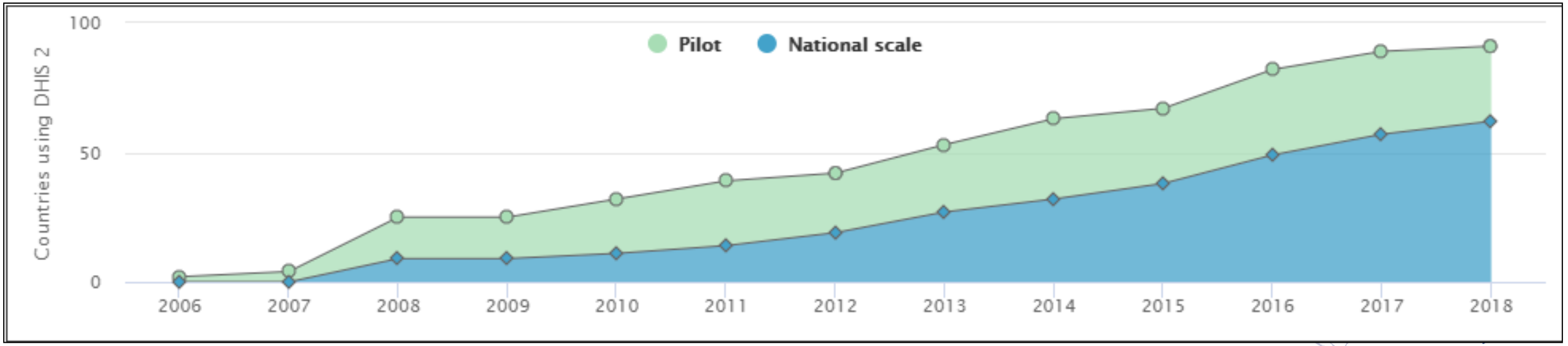
International Health
Entry of monthly facility data into Excel DB

Proposed Solution: DHIS 2

DHIS 2

- Implemented in **62** and piloted in **29** countries
- Supported by diverse and large donors: PEPFAR, Global Fund, NORAD, University of Oslo, The Research Council of Norway



https://www.dhis2.org/inaction

DHIS 2 Advantages

- **Open Source Software**
  - Free to download, install & modify source code in response to local needs
  - Continuous development and software improvement based on large community of users
- Can be implemented at **all levels of the health system**: facility, district, national departments
- Can house **different types of data**: population-based data, health facility data, aggregate service delivery data, administrative data, patient-level
- Designed to serve as **reporting** tool, **archiving** tool, and **dissemination** tool

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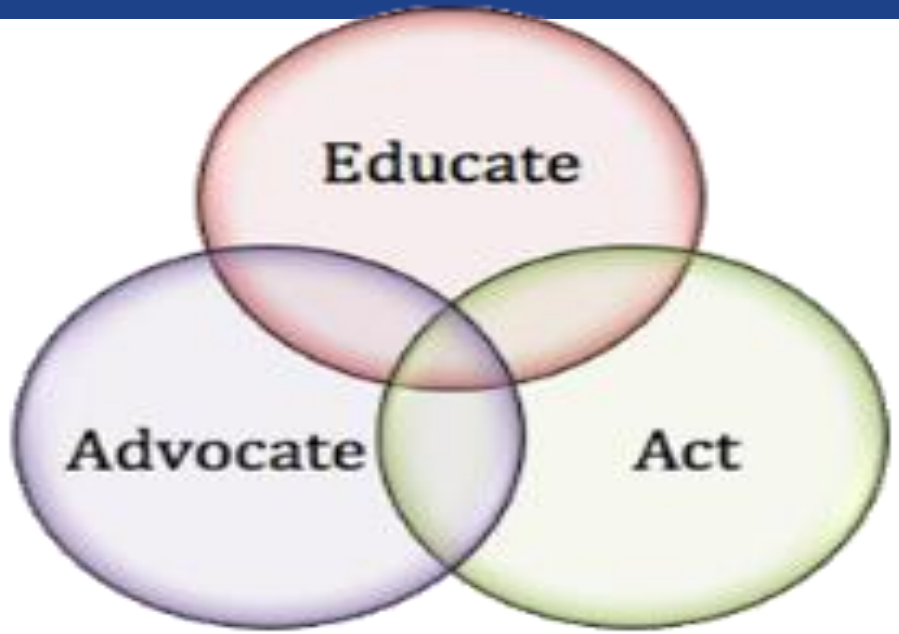
Strategy: Advocate, Educate, Act

Full year of advocacy and education at all levels

Sustained and continuous strategy through today



Advocacy target	Responsible person	Venues/Frequency
Minister of Health, Director General, Principal secretary	Country Director/Chief of Party	Monthly AIDS development partner meeting; Quarterly PEPFAR POART meeting; Ad hoc meetings
Department Heads	Chief of Party/HMIS specialist & HMIS managers	Demos, Health care performance meetings
Program Managers	HMIS specialist & HMIS managers	Stakeholder workshop, follow- up meetings, demo

Customization

Full adapt system to local context

- Developer team assembled to customize DHIS 2
  - ICAP (3) and MOH (4) developers
- Modeled DHIS 2 on current paper forms
- Imported legacy data for HIV and TB/HIV programs
- Created dashboard with key HIV and TB/HIV program indicators
- Organized a half day forum for live demonstration of DHIS 2

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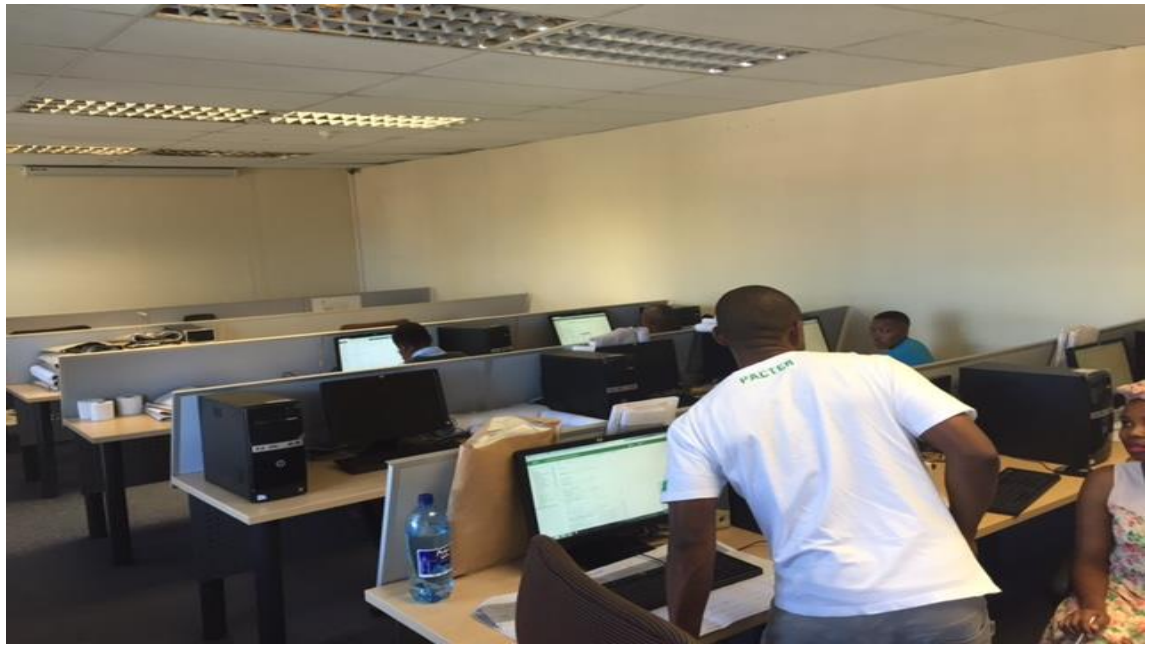
Data Warehouse

Systematic collection of program indicators and legacy data

1. Obtained all program indicators
2. Obtained all reporting forms, program data files and paper based records
3. Developed SOPs to import/enter electronic and paper based data



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SOP: Standard Operating Procedures

Validation Rules

- Data cleaning using validation rules completed for data for all 8 health programs

Validation rule management

Filter by name | Filter | Clear | Add new

Name	Importance	Period type
ANC- ART initiation/treatment for HIV+ ANC Clients	High	Monthly
ANC- Fisrt visit and parity	High	Monthly
DHIO2_ clients with documented HIV status at ANC	**High**	**Monthly**
DHIO2_ new ANC clients under 20 vs parity of ANC clients under 20	High	Monthly
DHIO2_ post test counselling at ANC	High	Monthly
DHIO2_New ANC clients tested for hiv at ANC	High	Monthly
DHIO2_total number of ANC clients with known HIV status before ANC visit	High	Monthly
DHIO_ANC known positive status vs already on ART	High	Monthly

Name:
DHIO2_ clients with documented HIV status at ANC

Description:
clients with documented HIV status should be equal to or less than new ANC clients

Rule type:
Validation

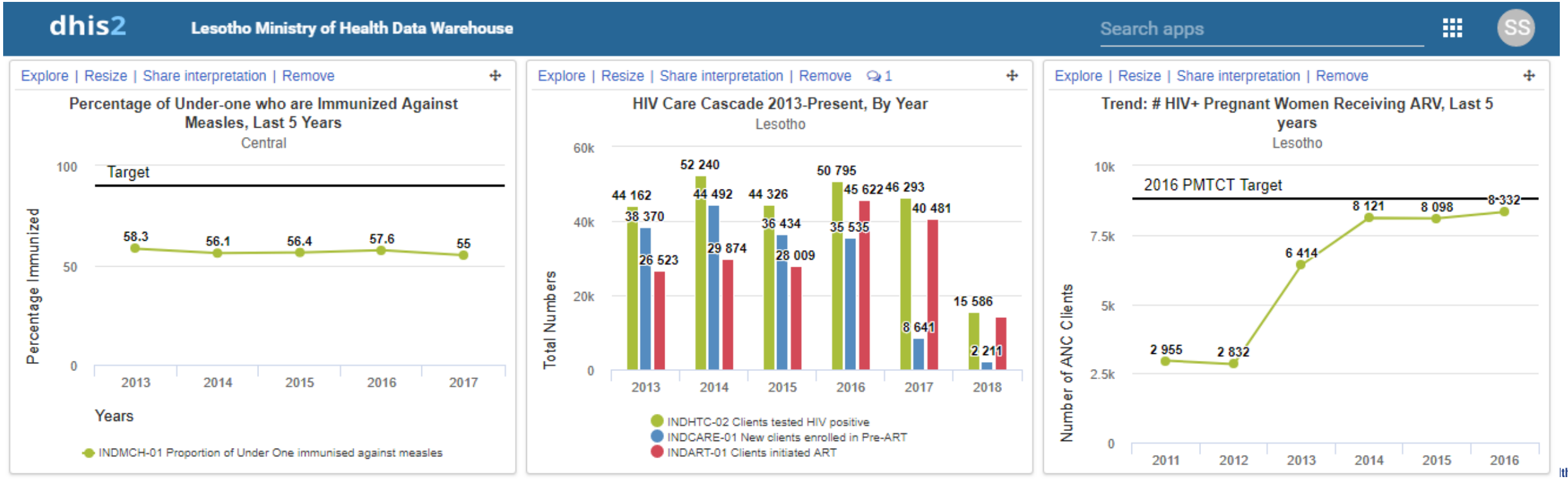
Left side description:
known status and newly tested at ANC

Operator:
<=

Right side description:
new ANC clients

Dashboards

- **2,345** dashboards developed and implemented for program managers at central and district levels



Capacity Building for District Roll-Out

- Developed training manual and data use SOPs
- Trained key staff at Central (**32**), District (**56**), and Facility (**173**) levels
- Conducted systematic follow-up with each national department and each DHMT with individual mentorship
- Distributed **55** tablets and **14** modems (4G) for use by DHMT staff
- Distributed **157** tablets for facility use

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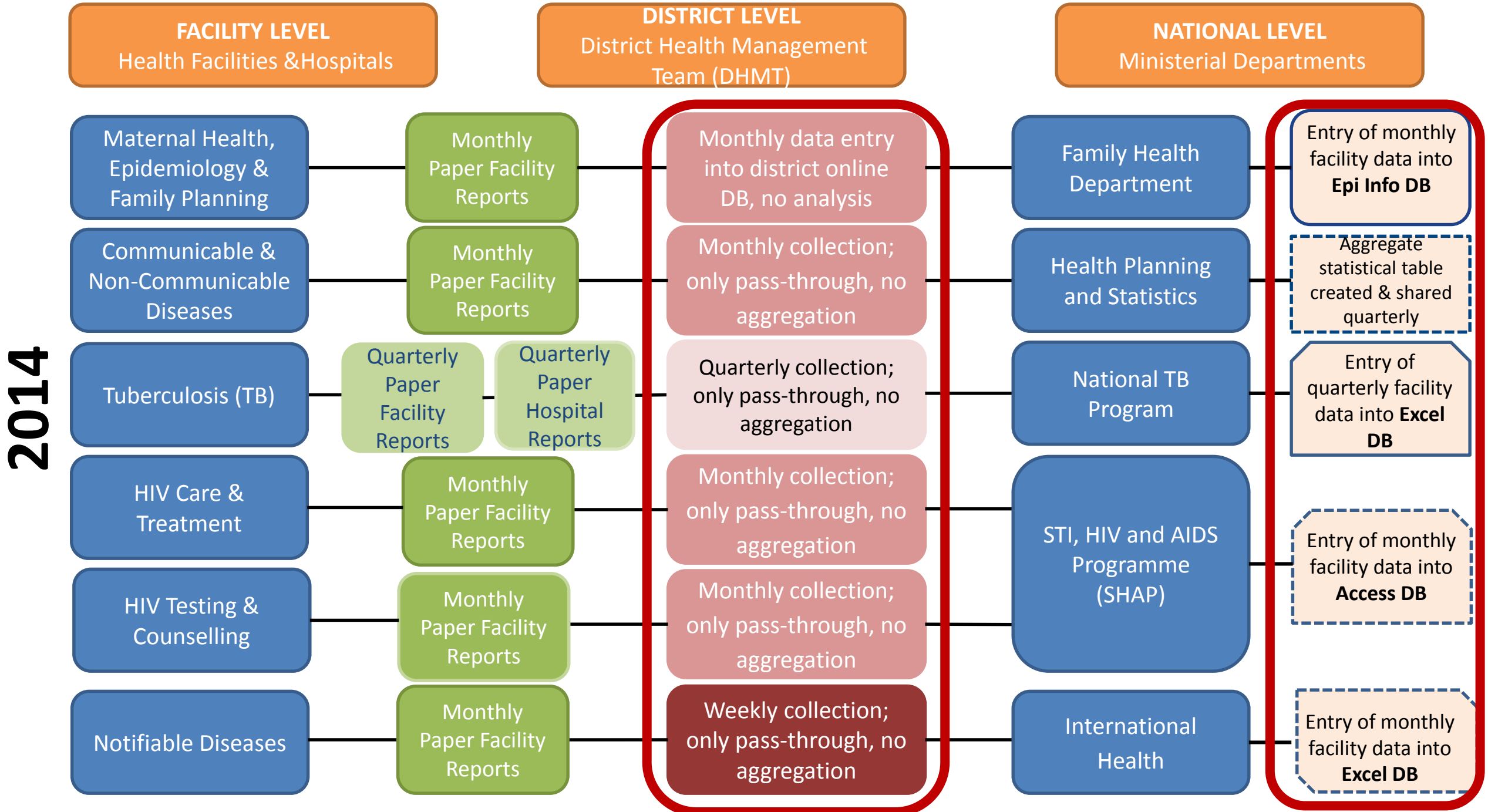
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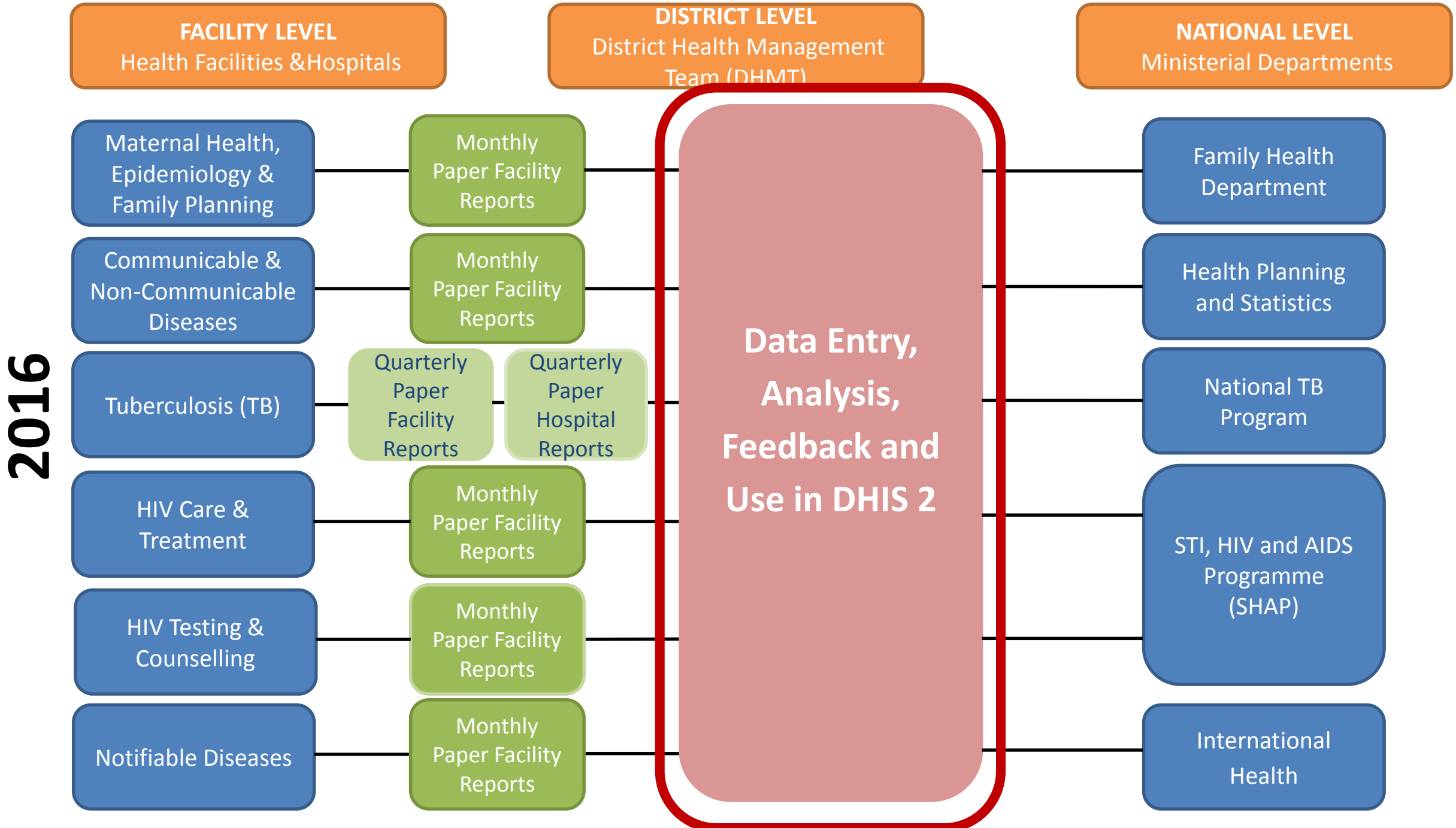
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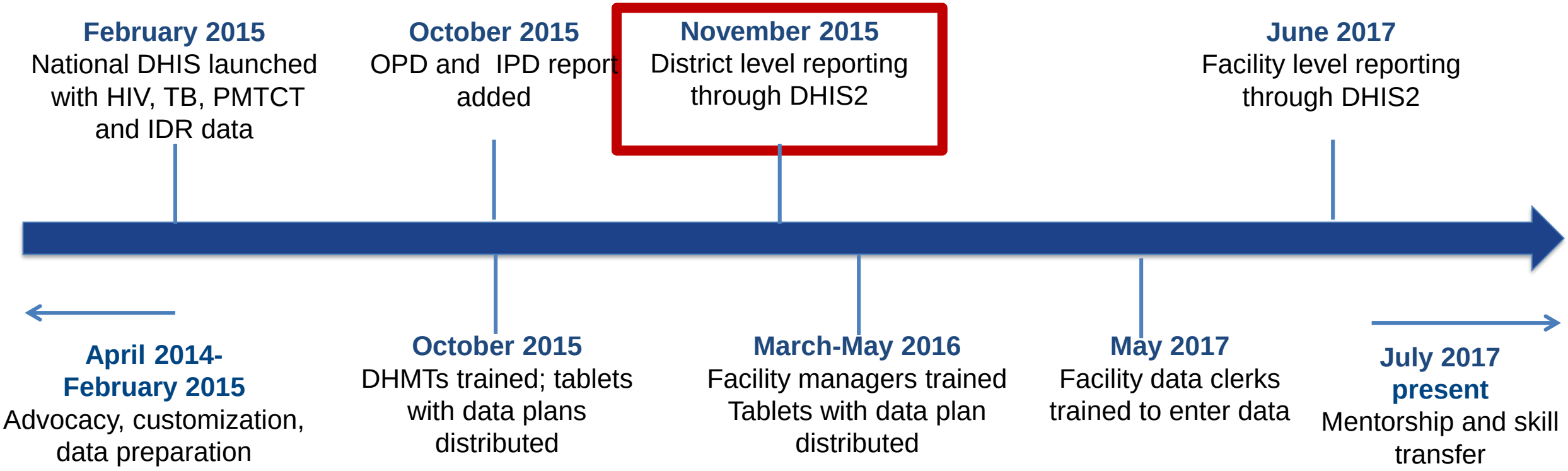
Timeline of National Roll-Out



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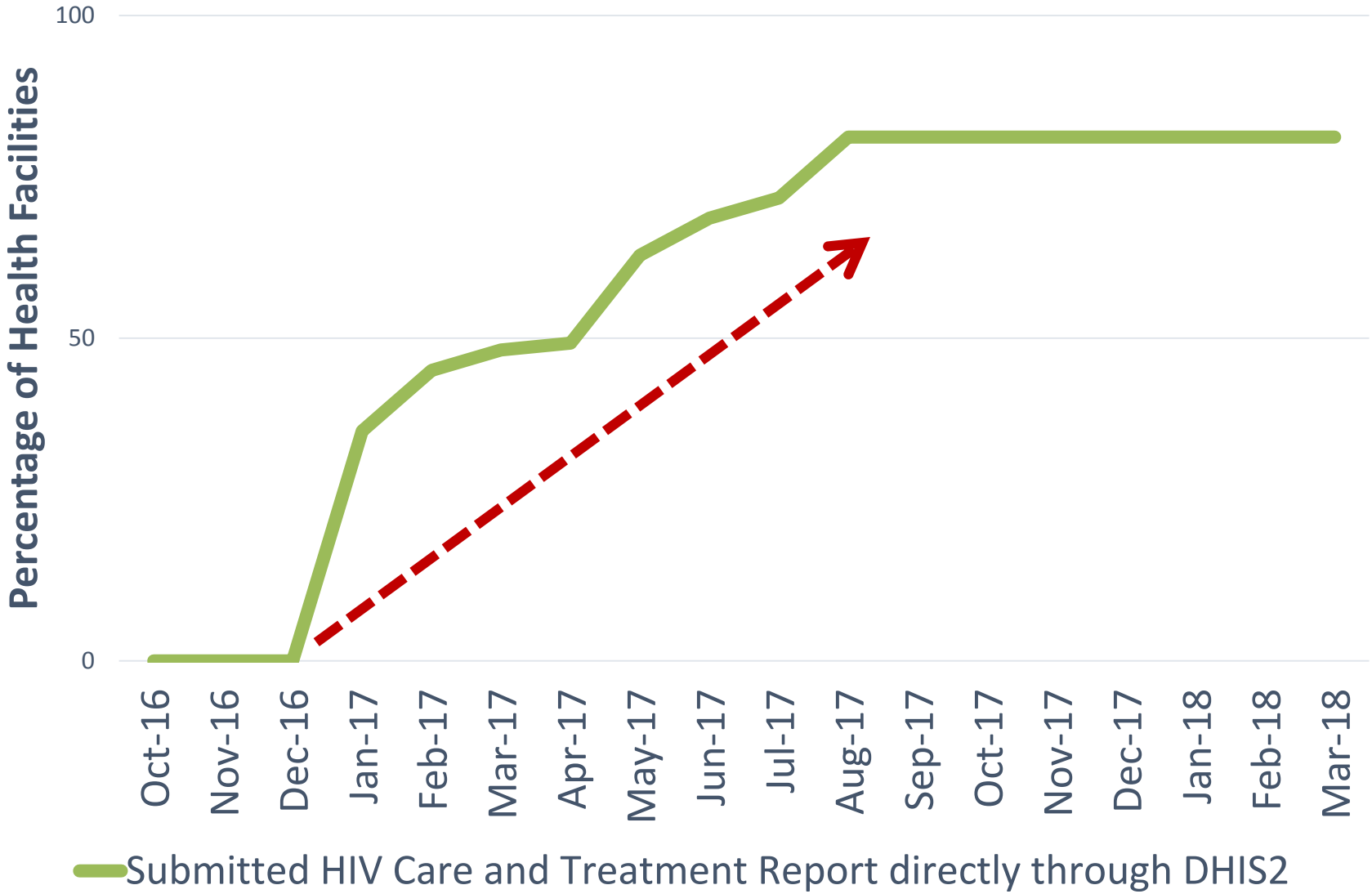
Facility Level DHIS 2 Roll Out

- Established ICAP district based team
  - Check-list guided, tailored one-on-one mentorship of facility users
- Conducted training sessions
  - **~300** trainees from **177** facilities trained and given access to enter data in DHIS2
  - Used partner data clerks with CDC and **MOH** facilitation
- By March 2018, **177** facilities submit their report directly via DHIS 2

Improved Reporting Rate



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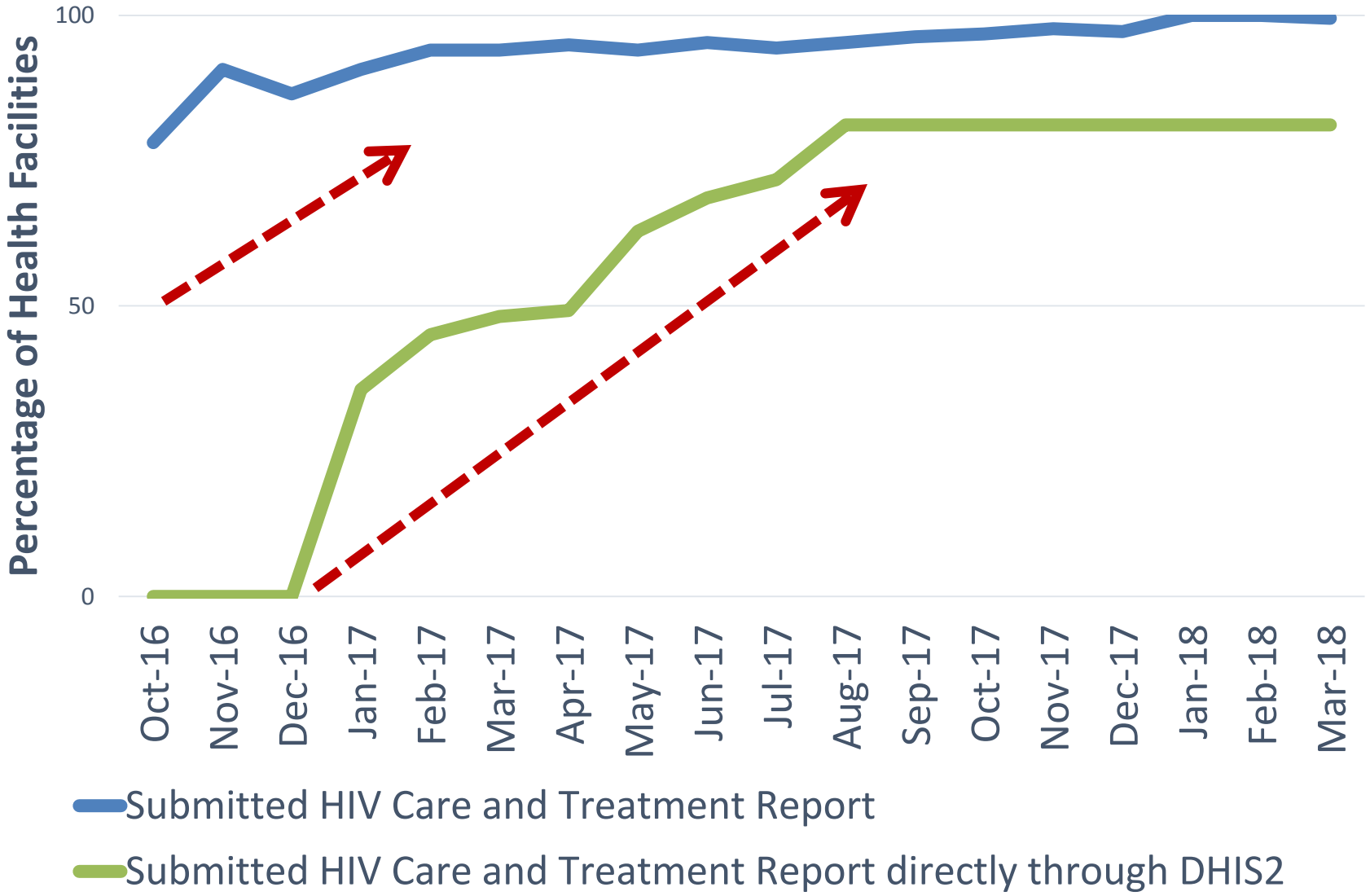
Improved Reporting Rate and Completeness



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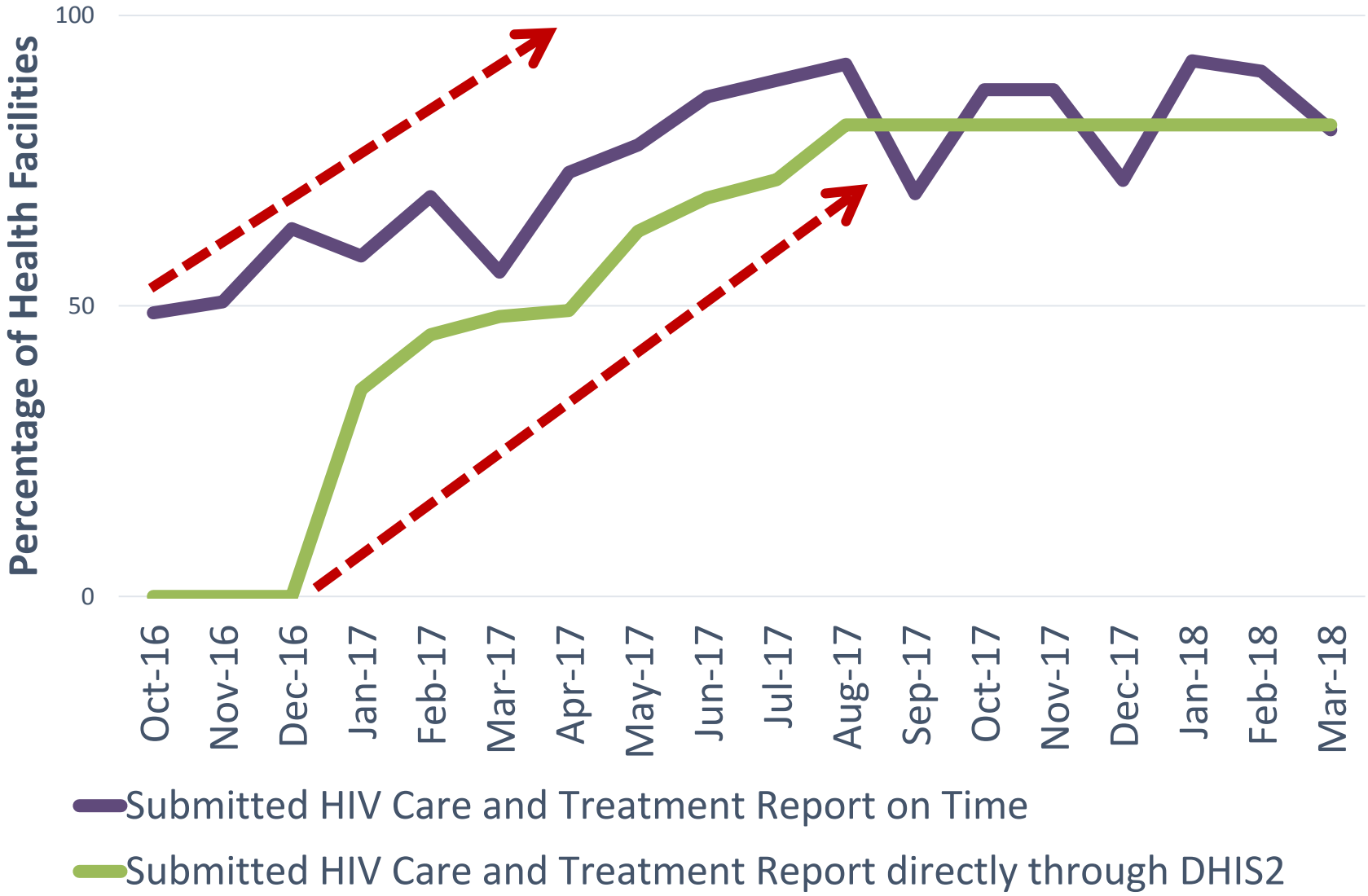
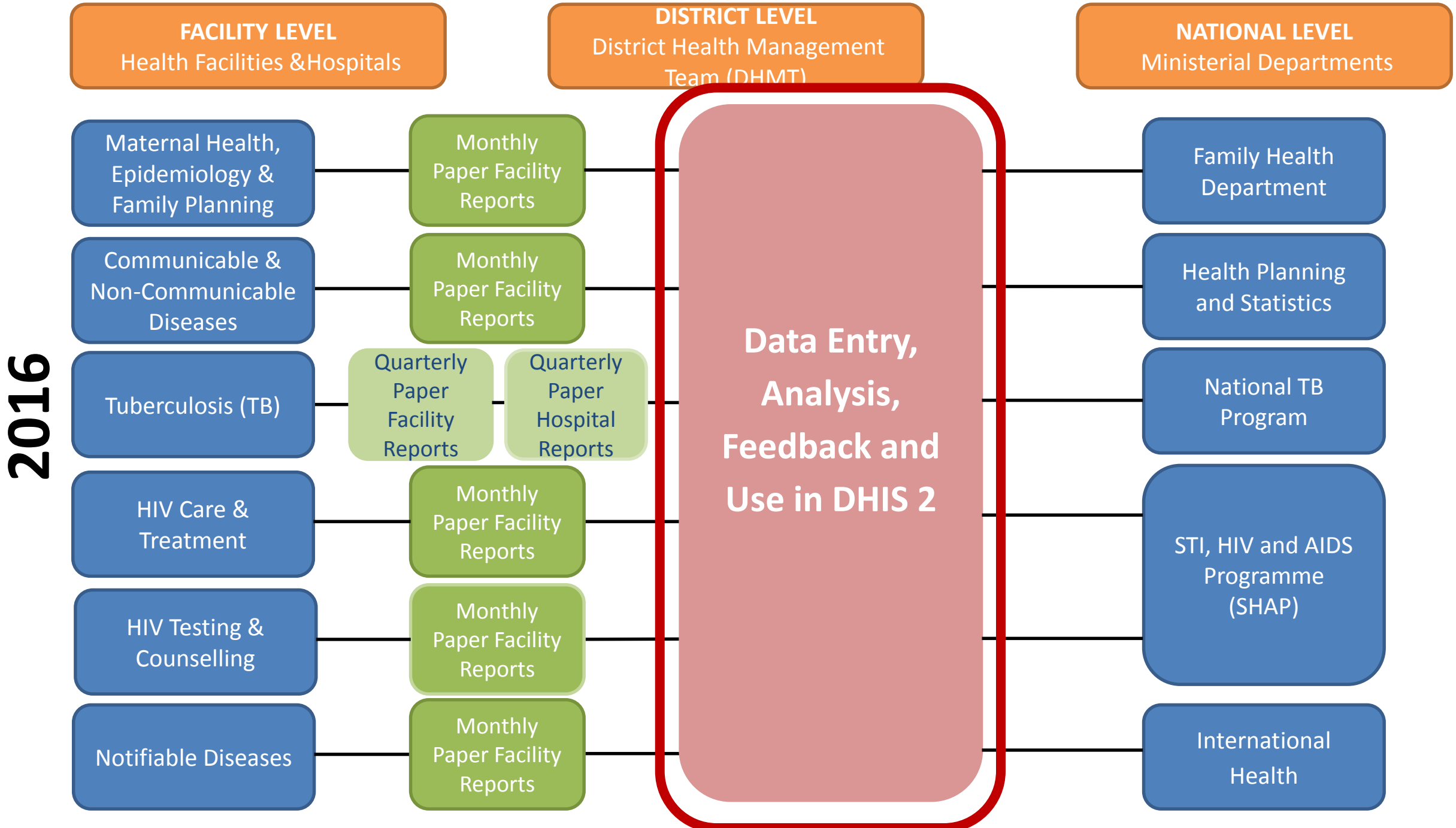
Improved Reporting Rate and Timeliness

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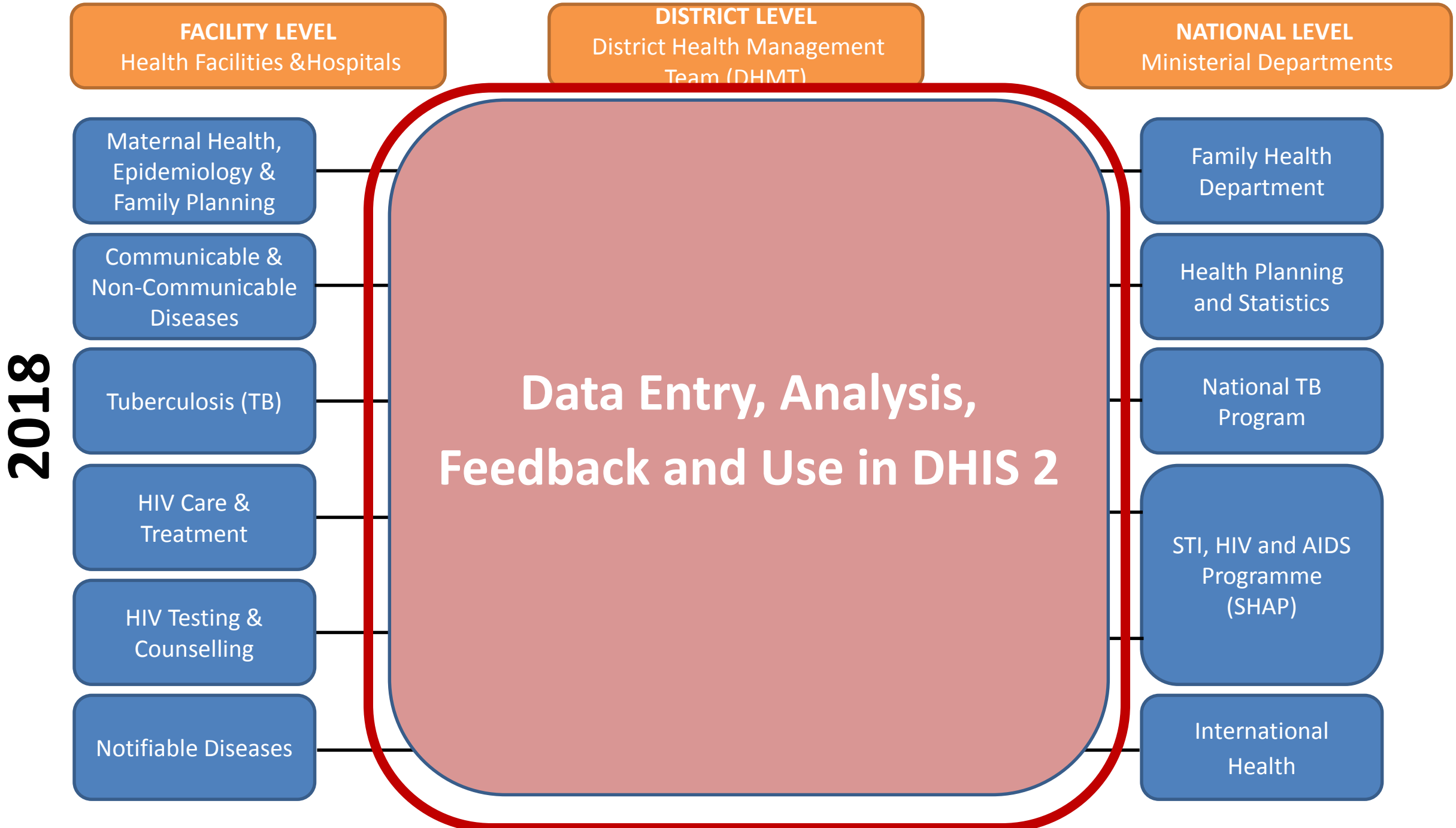
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Using Tools in DHIS2 to Improve Data Quality

- Systematic review of reports on monthly basis to identify recurring errors across data sets
- Designed and incorporated validation rules to further enforce data accuracy at the point of entry

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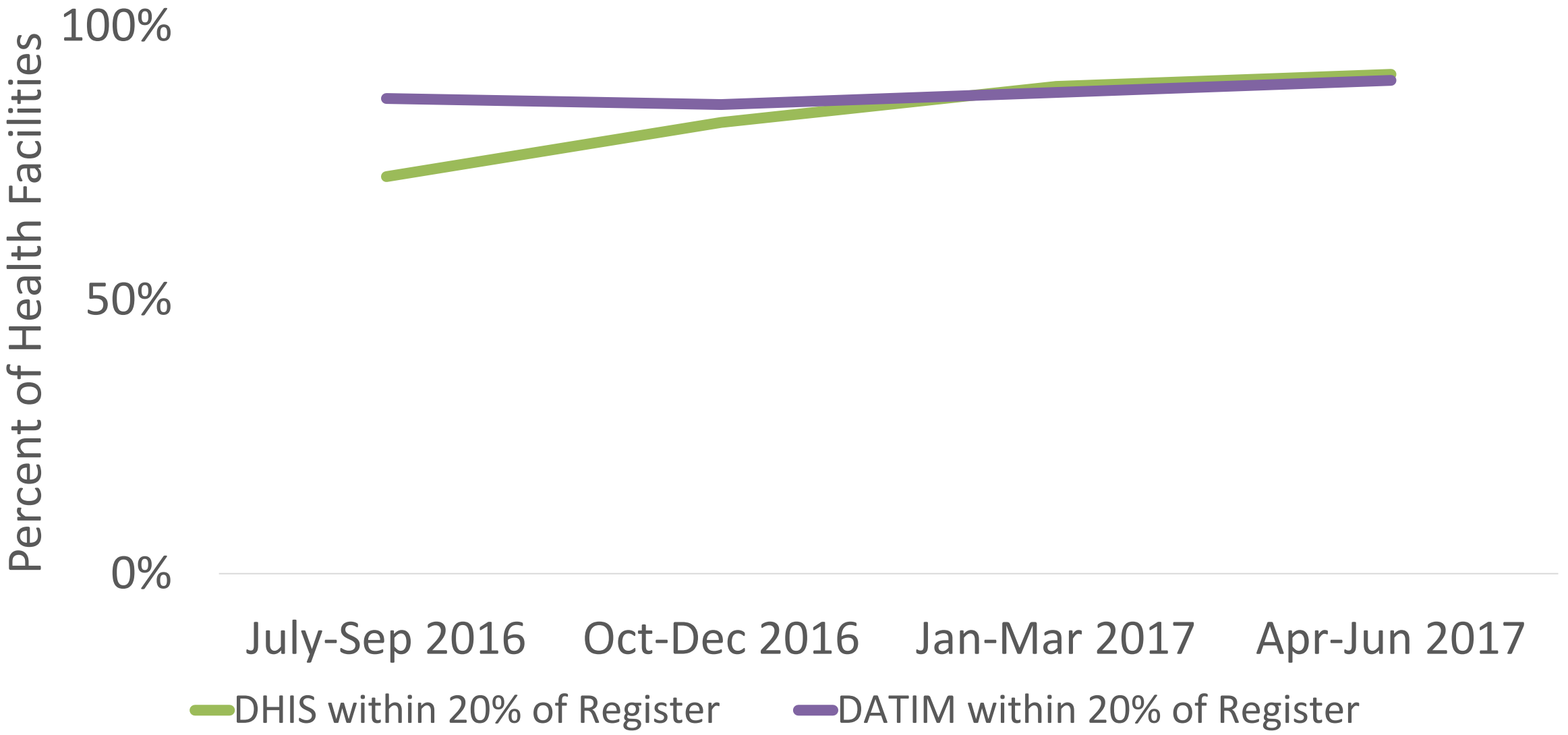
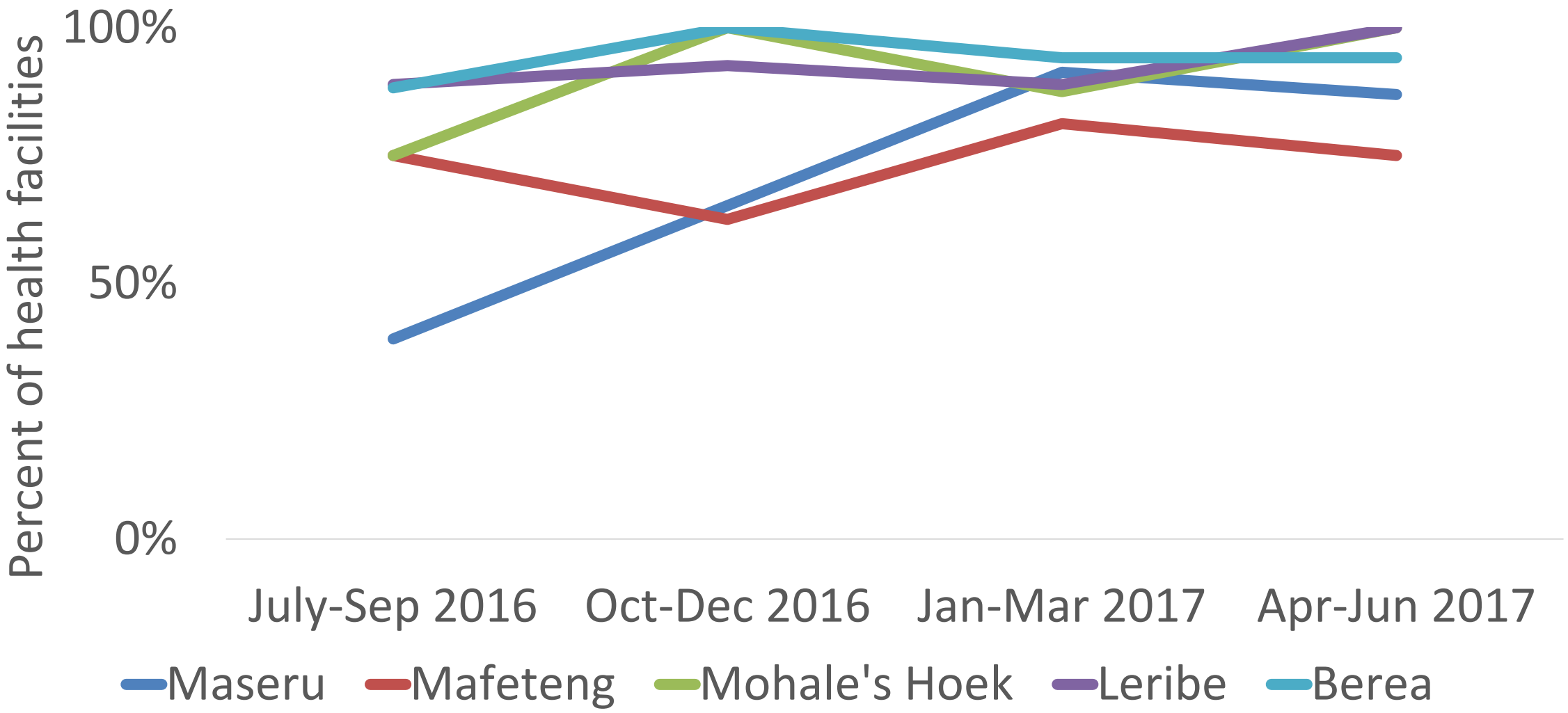
Assessing Consistency of Reported Data



Assessing Consistency of Reported Data, by District



Data Use

Interventions to encourage data use

- Improving access to historic data for trend analysis
- **210+** managers from central to facility level trained and mentored on data use
- Updated national indicator dashboard so they auto-update and allow for drill down to subnational levels

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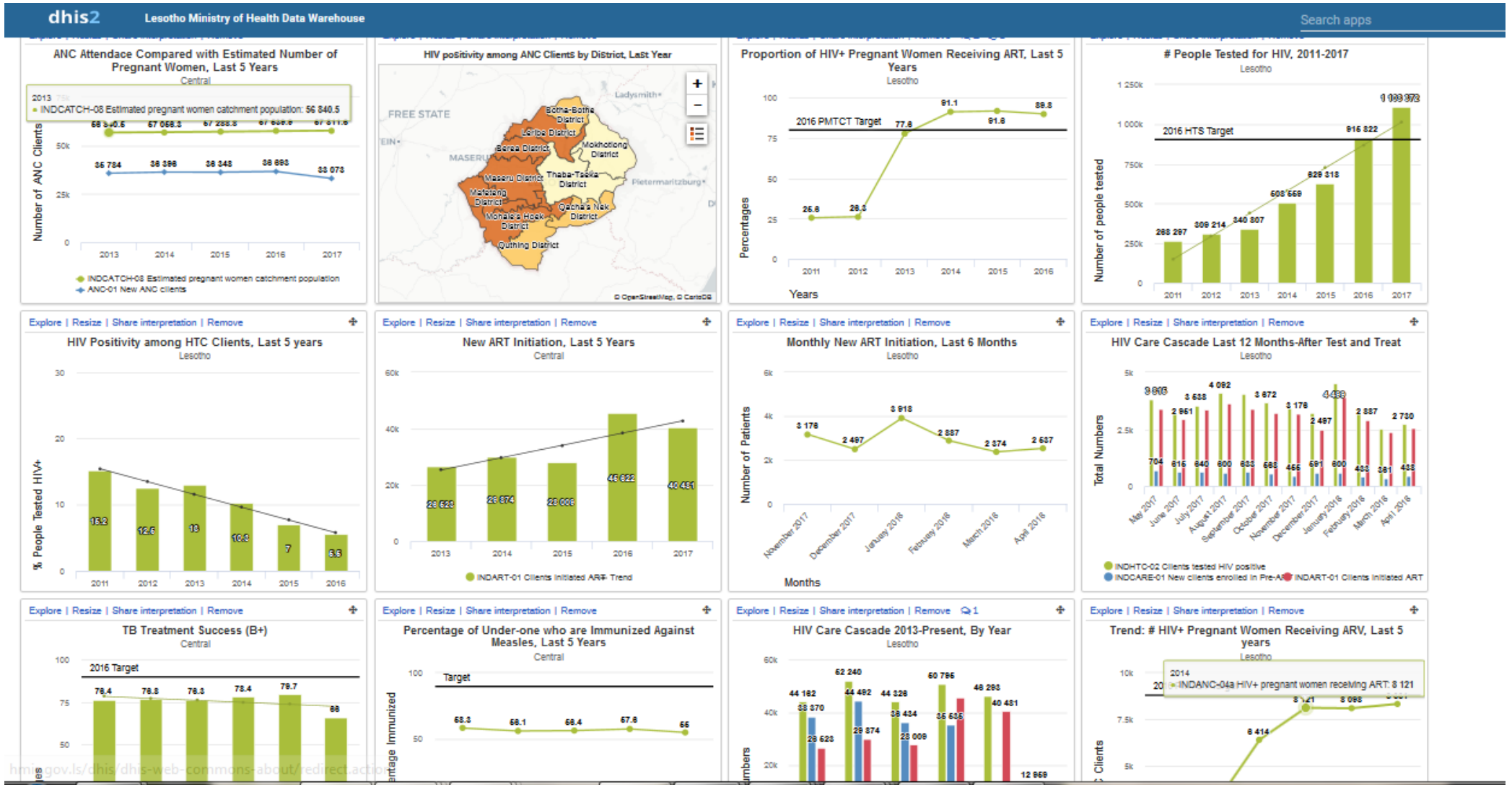
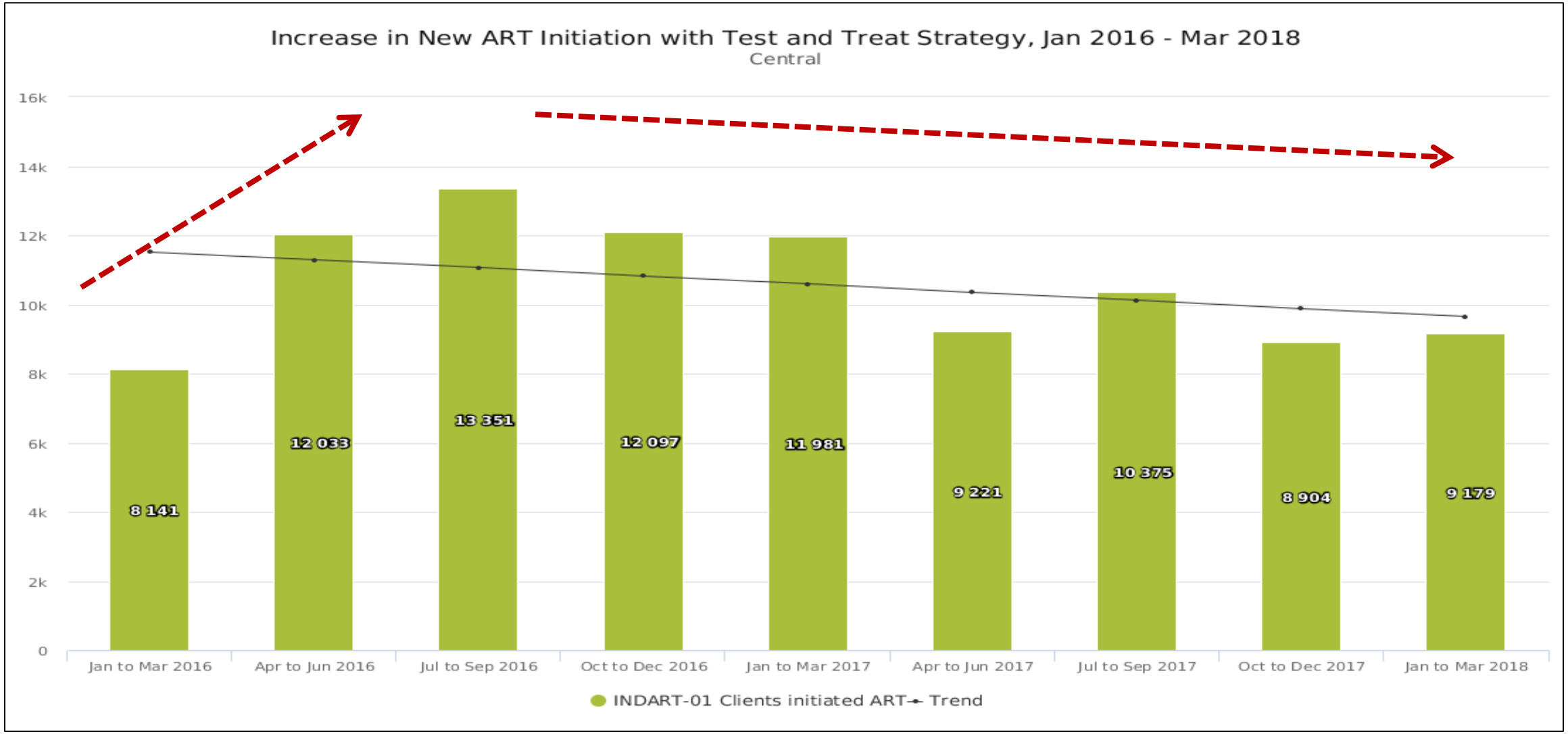
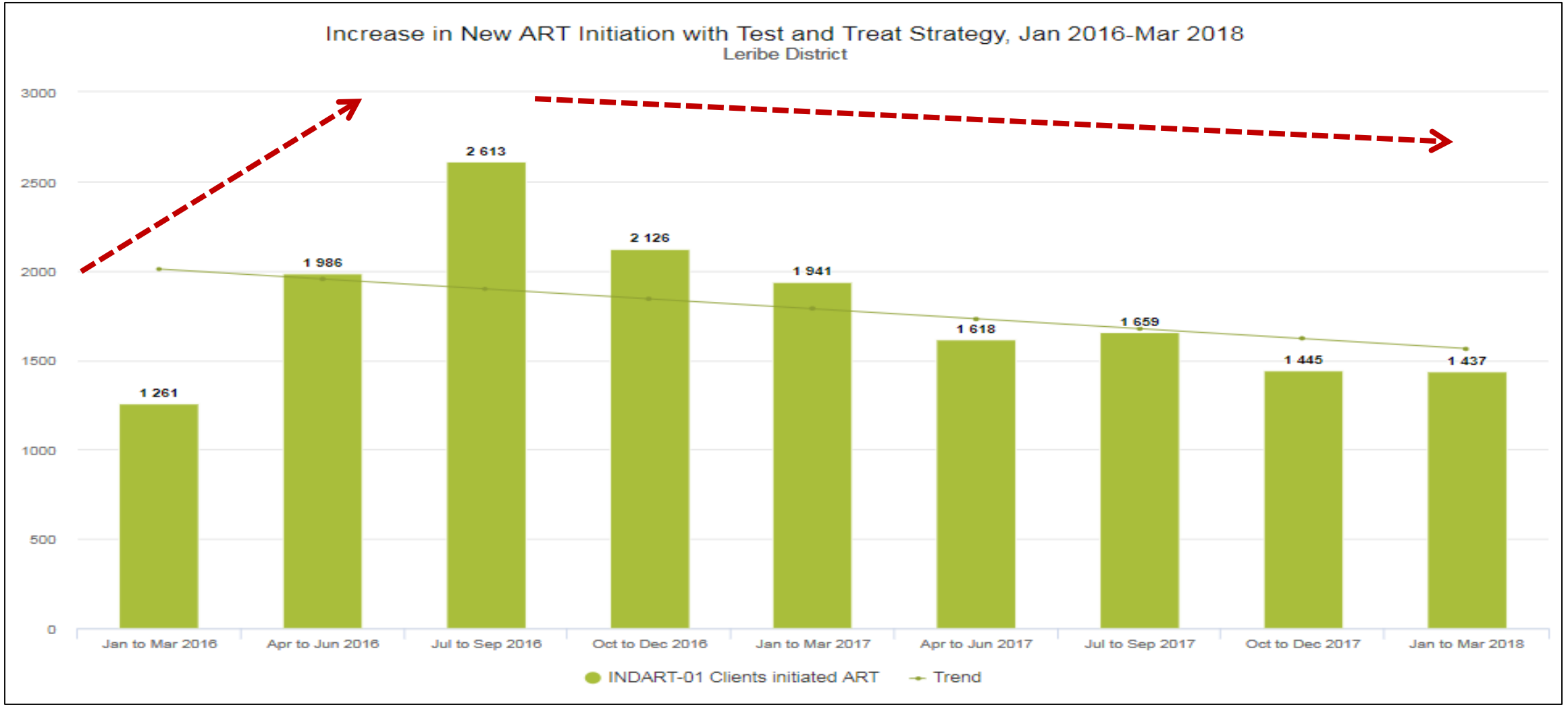
National Indicator Dashboard



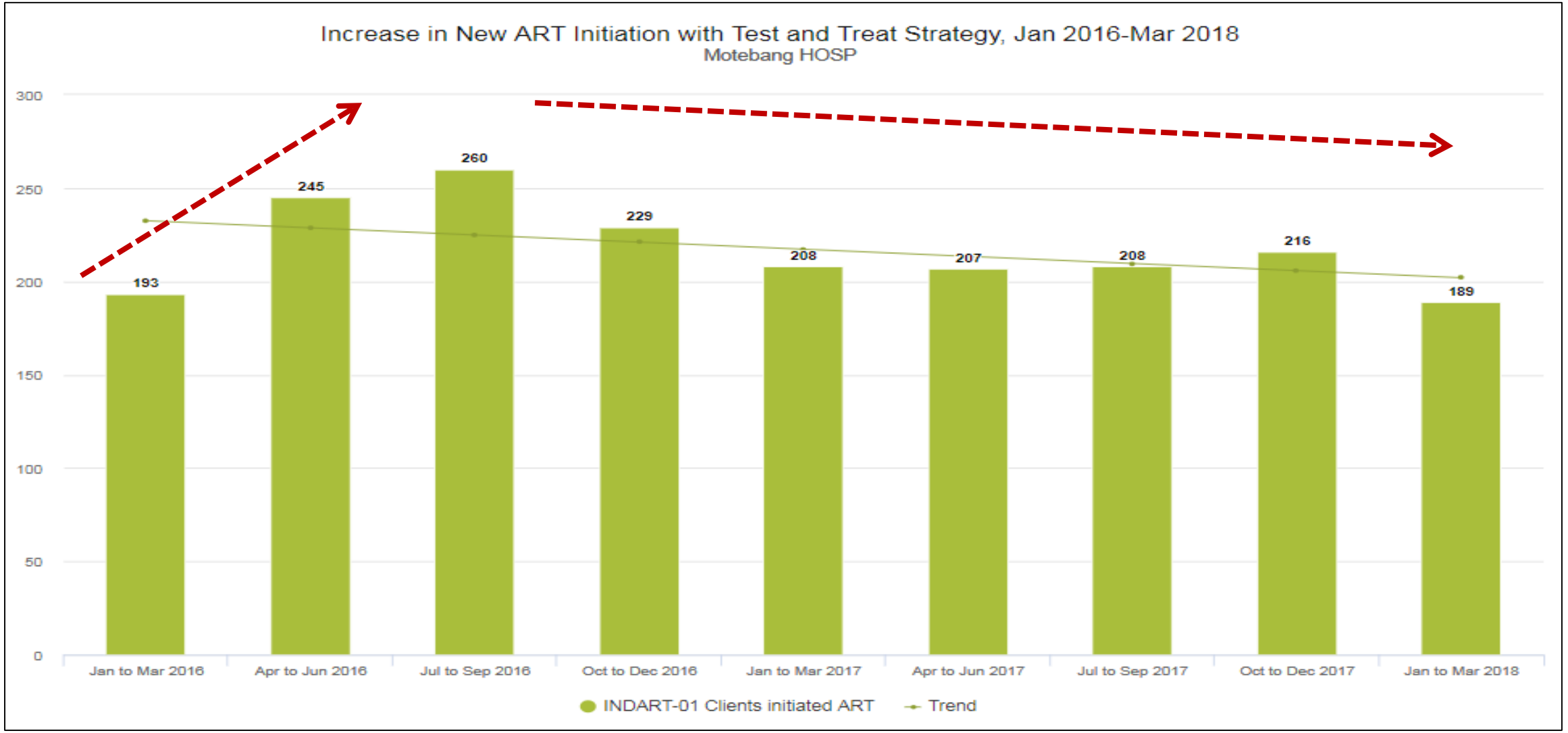
Monitoring Test and Start- National



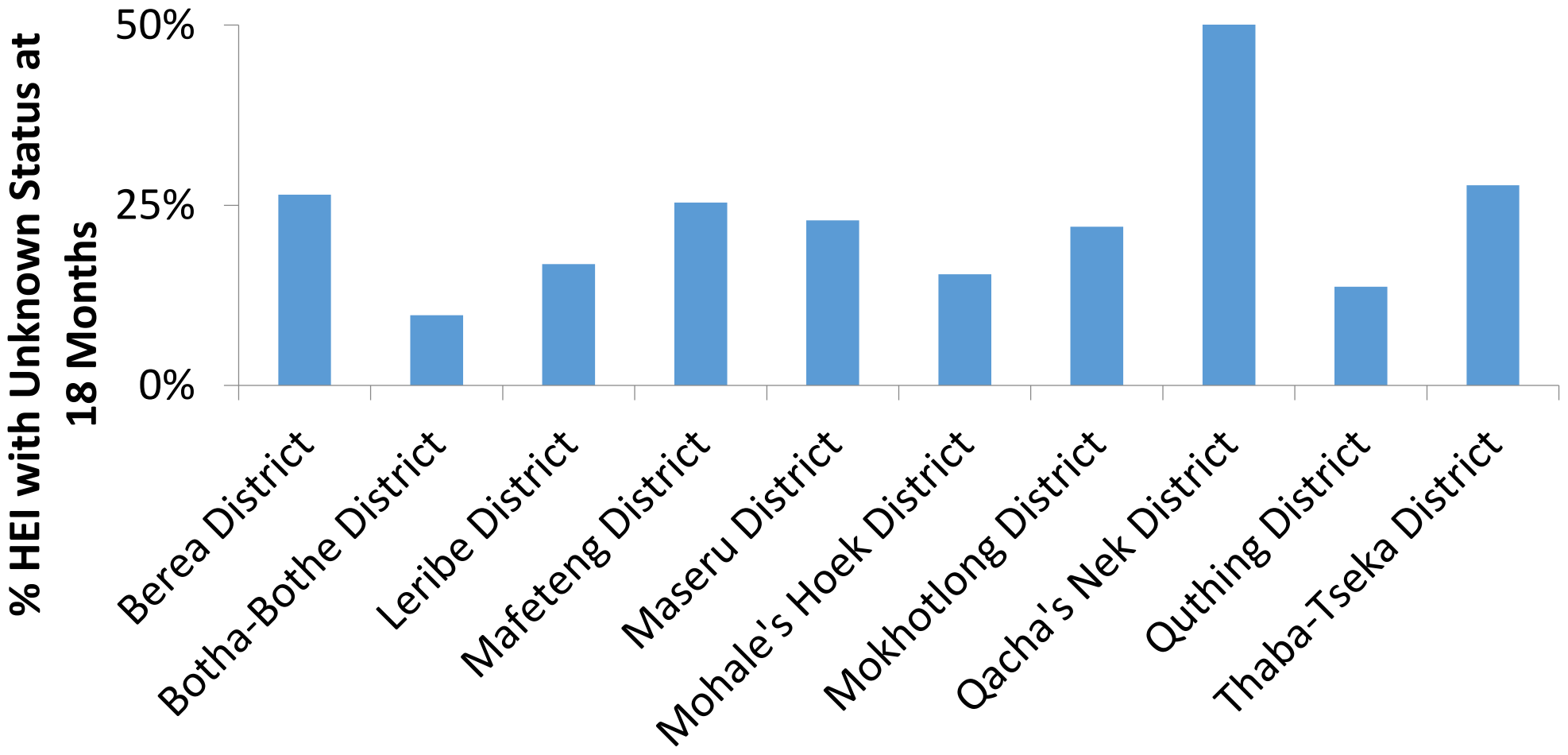
Monitoring Test and Start- District



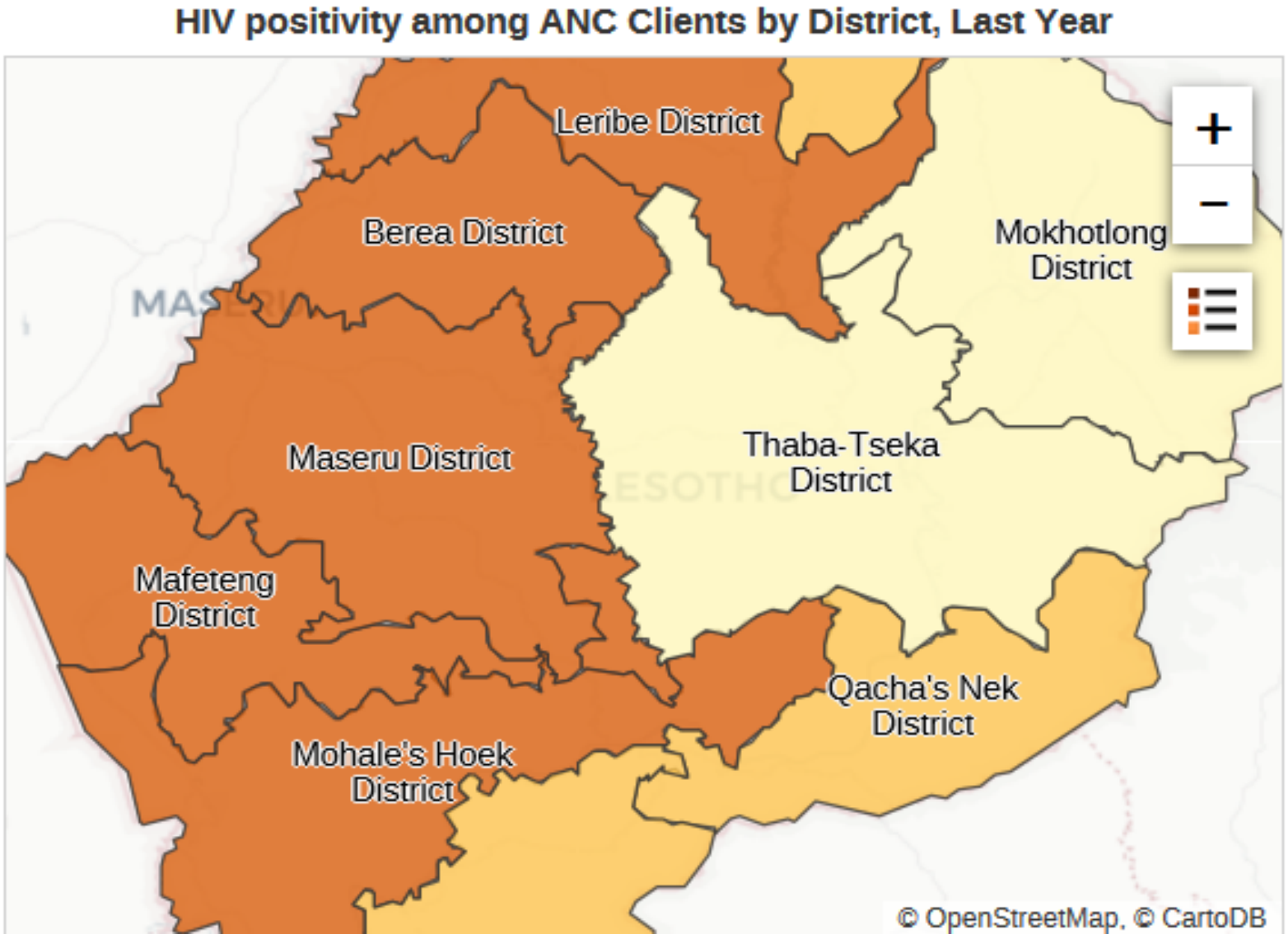
Monitoring Test and Start- Facility



HIV Exposed Infant Follow-up
April 2017- March 2018



ANC HIV Positivity, 2017

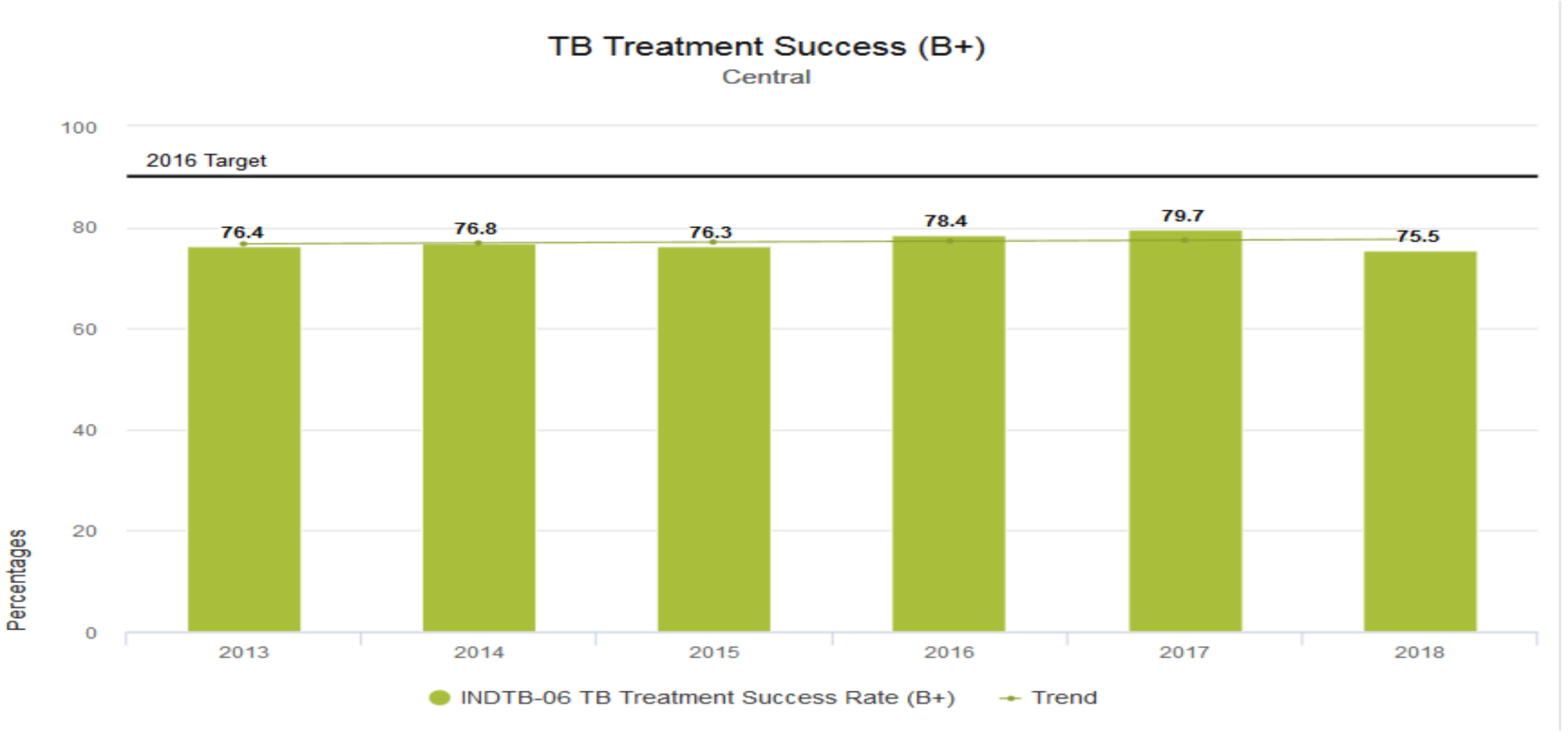


INDANC-06 HIV positivity rate among all Pregnant women attending ANC
2017

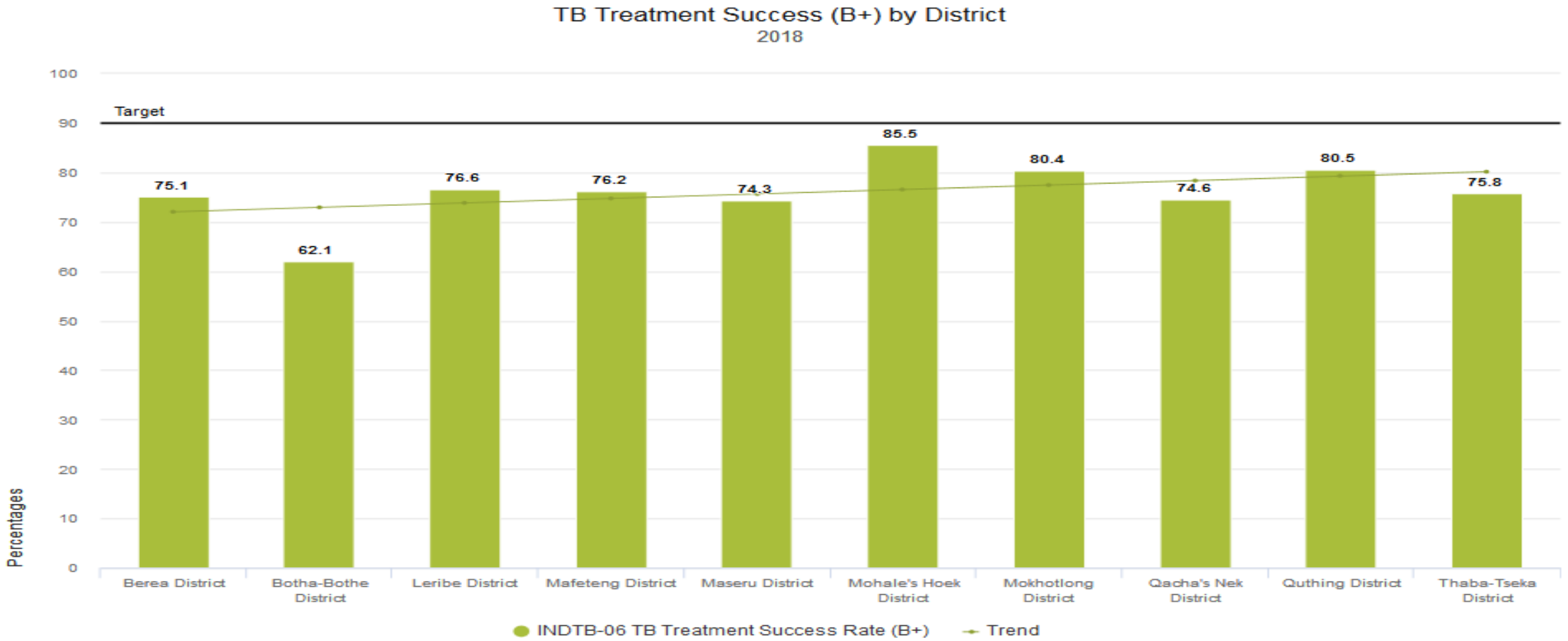
- 13.9 - 18.4 (2)
- 18.4 - 22.9 (3)
- 22.9 - 27.4 (5)

ANC: Antenatal Care

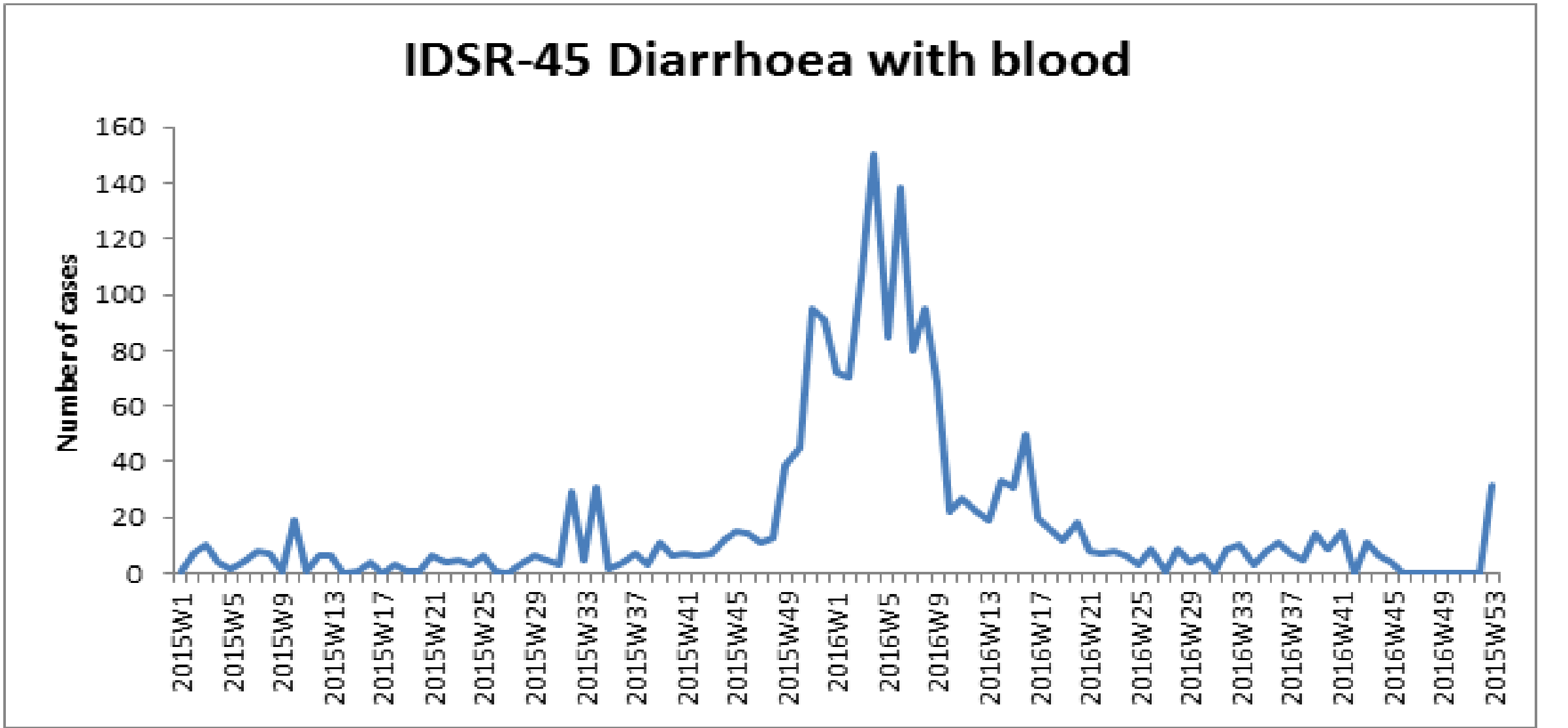
TB Treatment Success Rate, 2013-2018



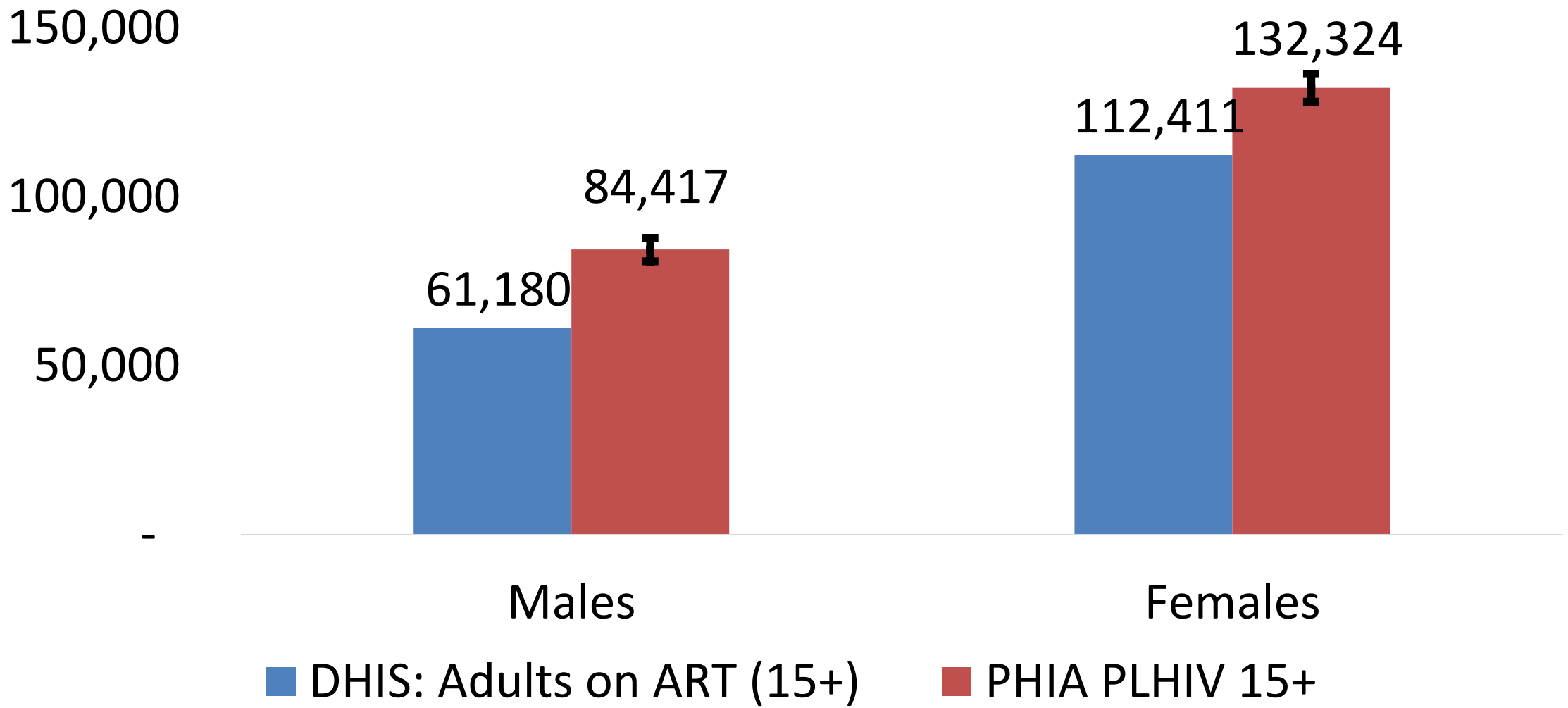
TB Treatment Success Rate, 2018



Diarrhoea Outbreak of 2015



Comparing Reported Data to Population Survey, 2017



PHIA: Population-based HIV Impact Assessment www.phia.icap.columbia.edu/

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Lessons Learned: Essentials for Success

- Securing and maintaining MOH commitment at all levels critical to create a system that “sticks”
  - Leadership change at MOH meant that we had to redo advocacy/education work
- Highly skilled locally-based informatics and data management staff fundamental
  - Timely and sustained solutions have to be developed and implemented locally
- Comprehensive and high quality data vital for a system to succeed
  - Systematically data quality assessment and feedback should be integral part of HIS project
- Wider stakeholders engagement is critical to secure buy in and leverage the use of available resources (partner data clerks)

Future Directions

- Pilot and roll out electronic registers at high volume health facilities (n=70)
  - More nimble to differing reporting requirements
  - Can pivot to case base surveillance
  - Monitor 95-95-95
- Develop DHIS2 interoperability with Lab data systems
  - Integrate lab data systems to facilitate aggregation of lab indicators (viral load, EID)
  - Improve patient care
- Continued advocacy, education at all levels
- Continued capacity building at national, district and facility levels, with particular emphasis on data use for program planning and response

Acknowledgements

- Teboho Koma, Tlohang Moeketse, Haroon Seruli, Pheletso Tau, Makhate Makhate, Moeti Mphoso, Thulo Monyatsi, District HIS officers
- Lesotho Ministry of Health
  - Tsele Moloeli, Maoeng Monaheng, Monkone Mpeepe
  - Health Planning and Statistics Department (Nkaiseng Monaheng, Masebeo Koto, Lebohang Rantsatsi)
  - Department Head
  - Program Leads
  - District Managers and District HMIS team
- PEPFAR/CDC Lesotho
- HISP South Africa
- Kieran Hartsough
- Caitlin Madevu-Matson

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Thanks!

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