The Power of Data
Data Convergence and Utility-A Process Example

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Introduction

- Limited access to timely and quality logistics data from health facilities creates challenges for effective supply chain decision-making

- Data availability alone is not enough for SCs to perform

- In addition to robust information systems, creating a **"data culture"** by training and empowering staff to analyze and use data for decision-making is key to improving supply chain performance

UNFPA Nigeria Experience

- **TASK:** Create a visualization that tells a story, illustrating the importance of strengthening the supply chain, and how it contributes to larger FP outcomes

- Used simple and free tools
  - Excel and Public Tableau

- Presented to stakeholders mid-2018
  - National: recipient of reports
  - State: producers of data/reports

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Process

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PROCESS A
Identify Needs

Work with the team to identify

- Challenges
- Goals
- Audience:
  - Users
  - Recipients of reports

Questions to ask:

1. What decisions do you make in your current role that could be made easier with access to quality data?

2. From the data sources given, identify the ones most useful to you?

3. How would you improve upon the format of the data for easier use and sharing?

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PROCESS B
Identify and Review Data

1. Data Collection

2. Cleaning

3. Standardize across datasets
   - Geographies and locations
   - Time periods
   - Methods

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Available Tools/Data in Nigeria

- State Requisition, Issues and Reporting Forms (RIRF) 2010-2017
  - Three levels (SDP, State, national)
    - Beginning balance
    - Consumption
    - Requests
    - Issues

- GPRHCS surveys-2014-2017
  - Stock outs/availability of products
  - Trained staff
  - Supervisory visits
  - Forms used

- DHS-PMA2020 reports
  - National and various states
    - mCPR
    - Method Mix

- NHMIS-FP 2011-2017
  - mCPR users
  - New FP Acceptors
  - Reporting rates

- NSCIP/Navision
  - Rolling out in 2018

PROCESS C
Create Database(s)

1. Compile data into databases
   - Sort and filter
   - Conditional formatting
   - Pivot tables and graphs

2. Create queries and desired indicators
   - Calculated fields
   - Quality checks
   - Pivot tables, filters, graphs

Calculate and View the Indicators from the Need Identified Earlier

- Indicators:
  - mCPR
  - Method Mix
  - Contraceptive Availability
  - Contraceptive Stock out
  - Average Monthly Consumption
  - Fill rate
  - CYPs
  - Quality of reporting:
    - Does Beginning stock = ending stock
  - Months of Stock
    - Issued, held, requested

- Segmentation:
  - By geography
  - Through Time
  - Public vs. Private
  - By Method (incl. LARCs/non-LARCs)
  - Supported Sites/Non-Supported sites
- Identify Correlations:
  - SC indicators and Service indicators
- Visual Depiction:
  - Mapped or Graphic

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PROCESS D
Create Dashboards

We used Tableau Public platform

- Allowed for free online access, but visible to those with a link

- Filtering to view any of the segments/indicators
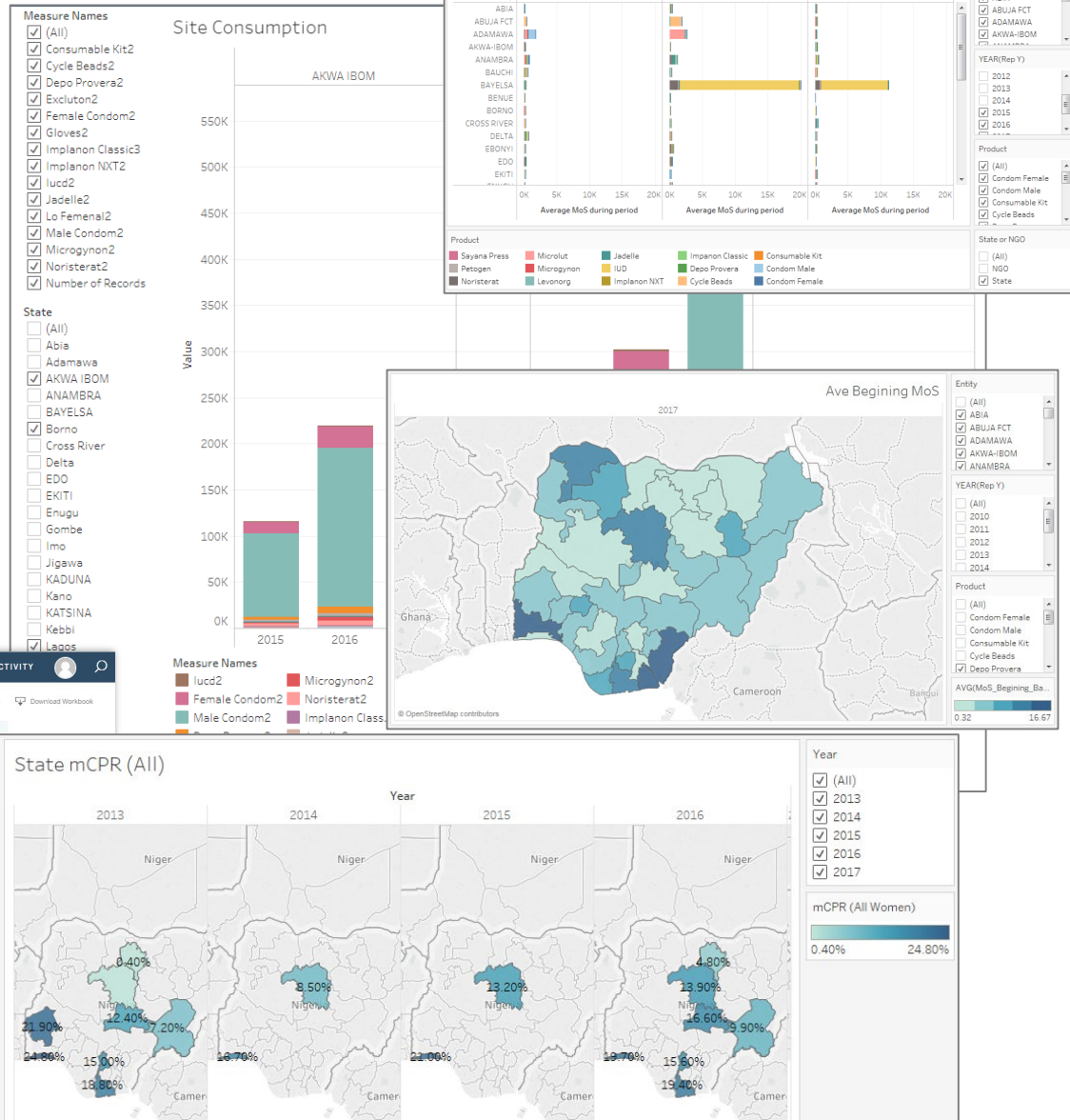
PROCESS E
Turning Analytics into Action to Improve SC Performance

Work with team to understand how to **use** and **improve** data visibility and analytics:

- Establish key metrics, benchmarks, and problem-solving steps to identify and address challenges

- Identify actions that can come from indicators

Knowing when and what actions to take is key to driving supply chain performance improvement

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Examples of Visualizations and Analytics-Nigeria

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Data for UNFPA and Their Story:
Contraceptive Availability Has Increased at SDPs & Stock Outs Have Decreased

Modern contraceptive methods in stock in last three months

44.8% 67.4% 50.5% 78.3% 60.6% 76.9% 81.2%

2011   2012   2013   2014   2015   2016   2017
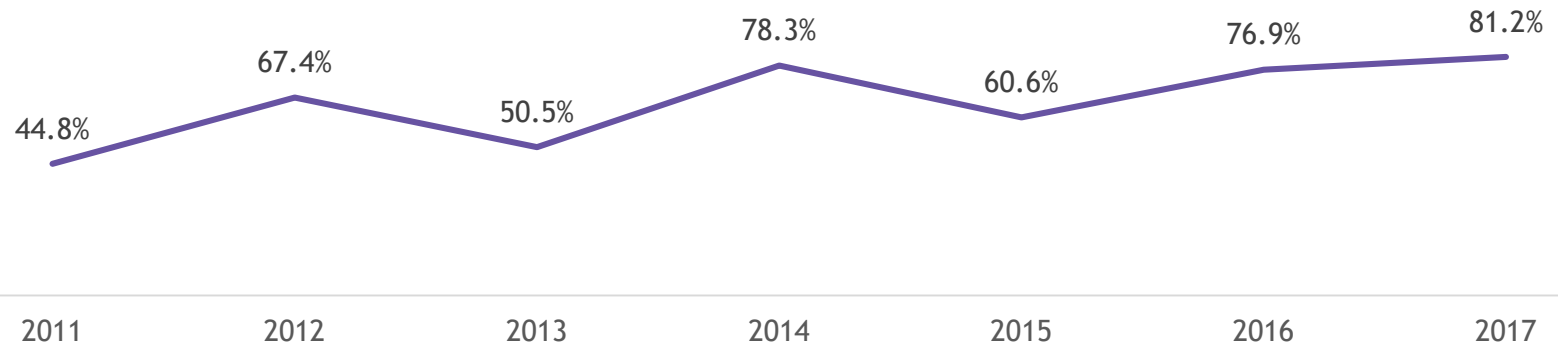
Stock out in the past 3 months-Public Facilities

53.4% 43.8% 45.2% 19.7% 38.0% 21.5% 17.4%

Male Condoms, Female Condoms, OCs, Injectables, IUDs, Implants, ECs, Modern Contraceptives
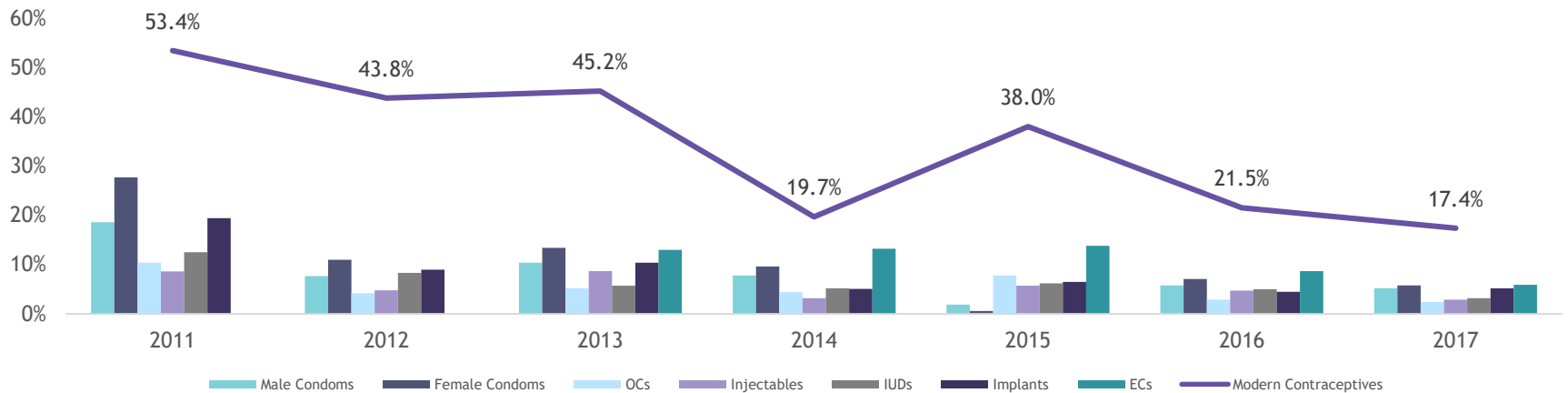
Source: GPRHCS

UNFPA Supported States Have Higher Rate of All Women mCPR Growth than National Average

Annual rate of change in mCPR

- No UNFPA Support (6 states): Married Women 0.06%, All Women -0.06%
- UNFPA Support (2 states): Married Women -0.11%, All Women 1.12%
- National: Married Women 0.98%, All Women 0.53%

Married Women ■ All Women
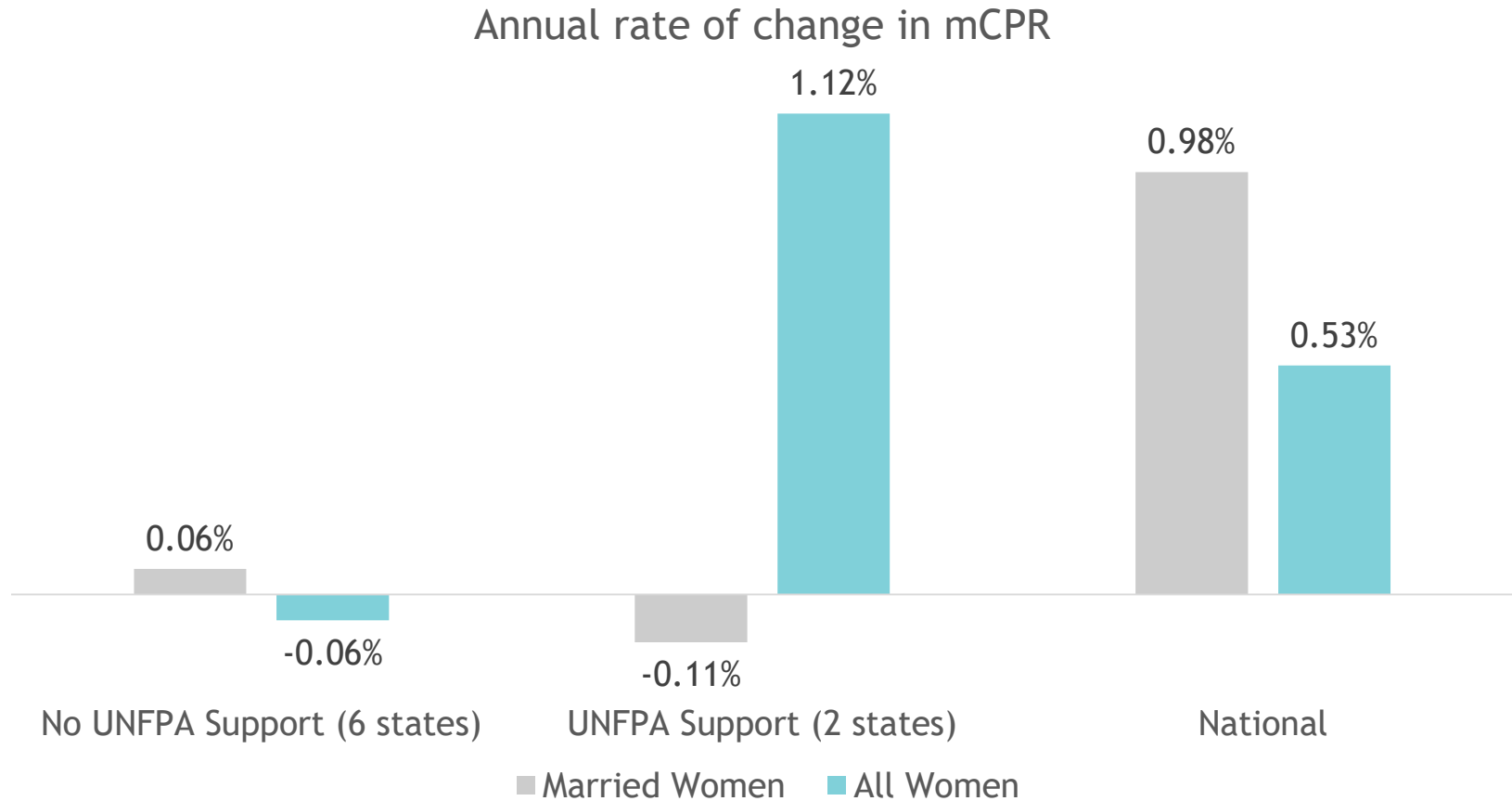
Limitation: Data from PMA2020 is not collected/available for remaining 29 states.   Source: DHS and PMA2020

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Reporting Rate-Mapped through Time
-allows for comparisons through time and by state
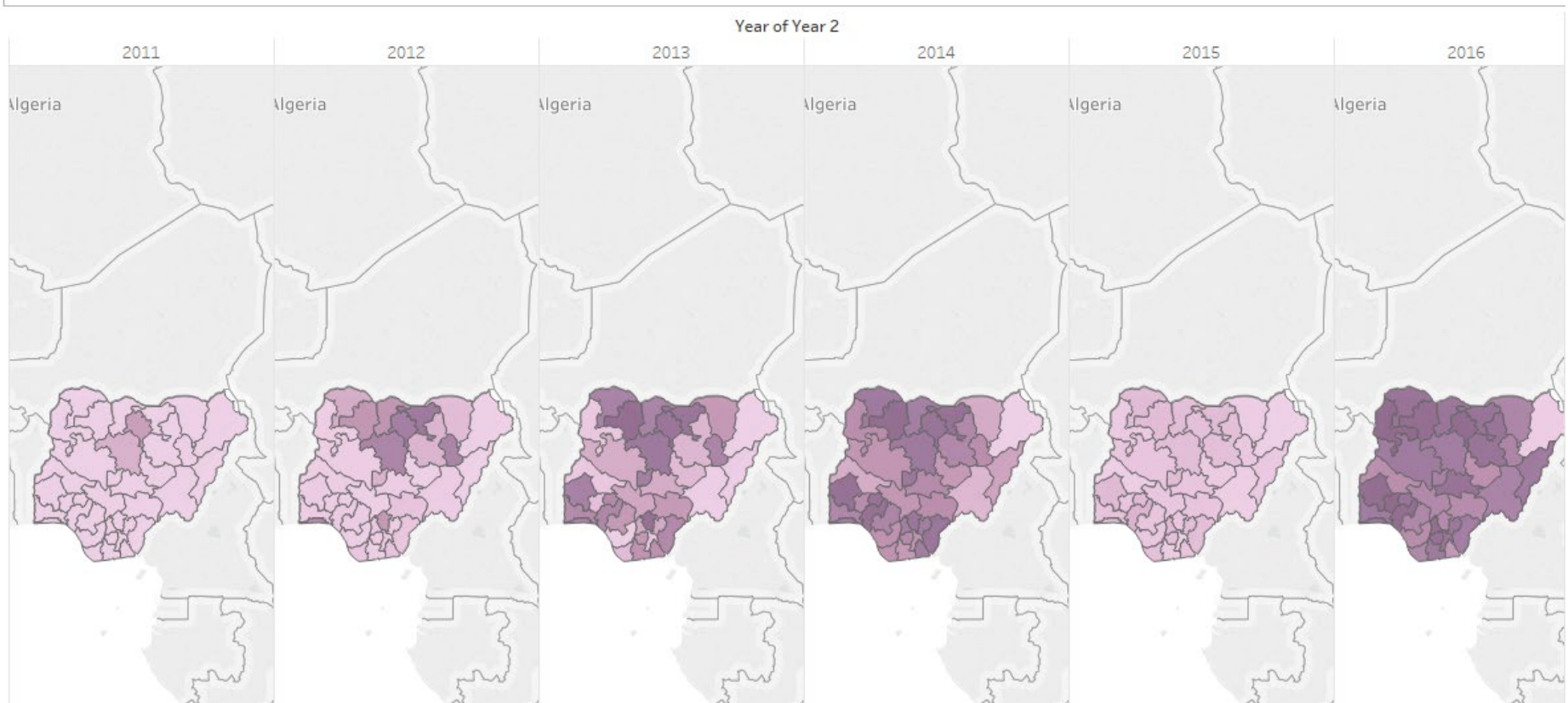
Correlations

Reporting Rates and Stock Availability

Y-axis: In stock previous 3 months (GPRHCS) — 0% to 90%

X-axis: Public Facility Reporting rates (NHMIS-FP) — 0% to 90%

Data points: 2011, 2015, 2012, 2013, 2014, 2016
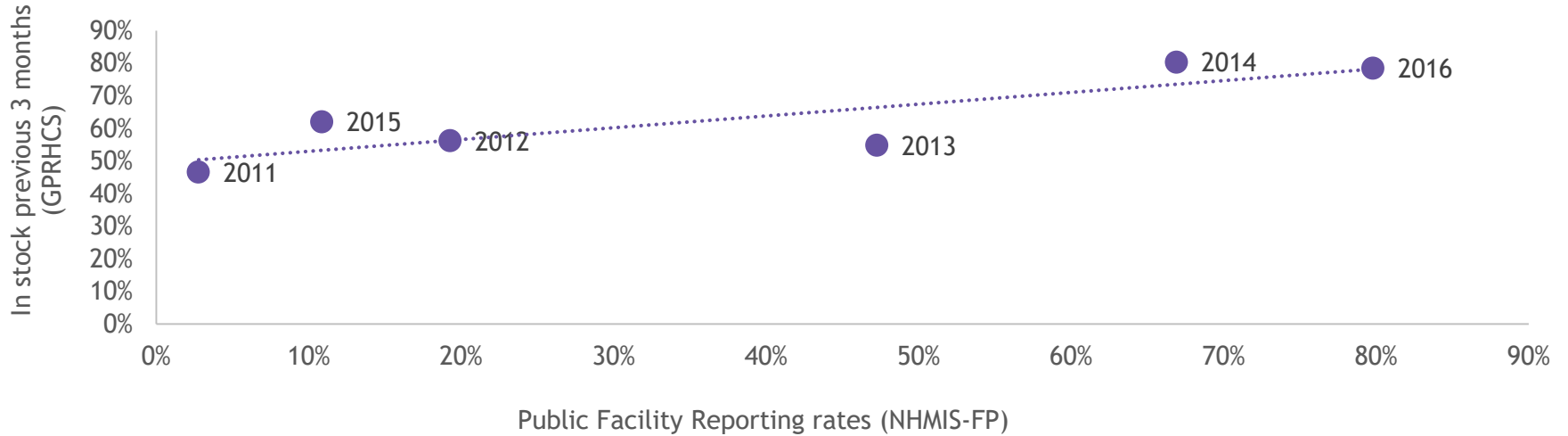
Stock Availability and New FP Acceptors

Y-axis: In stock previous 3 months (GPRHCS) — 0% to 100%

X-axis: New FP Acceptors (NHMIS-FP) — 0 to 2,500,000

Data points: 2012, 2011, 2013, 2015, 2014, 2016

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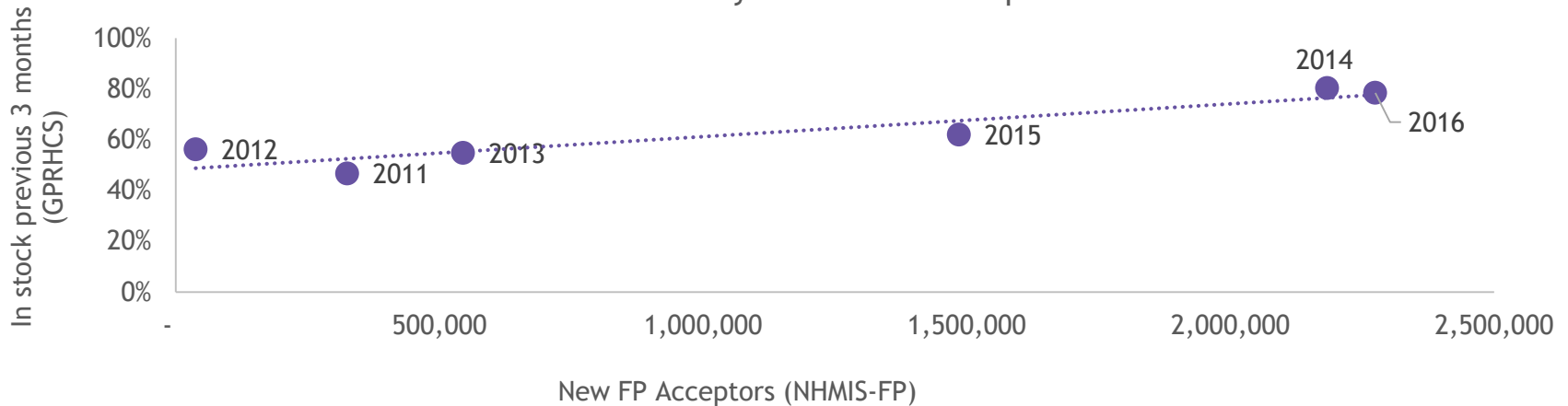
What Do You See in this Data?
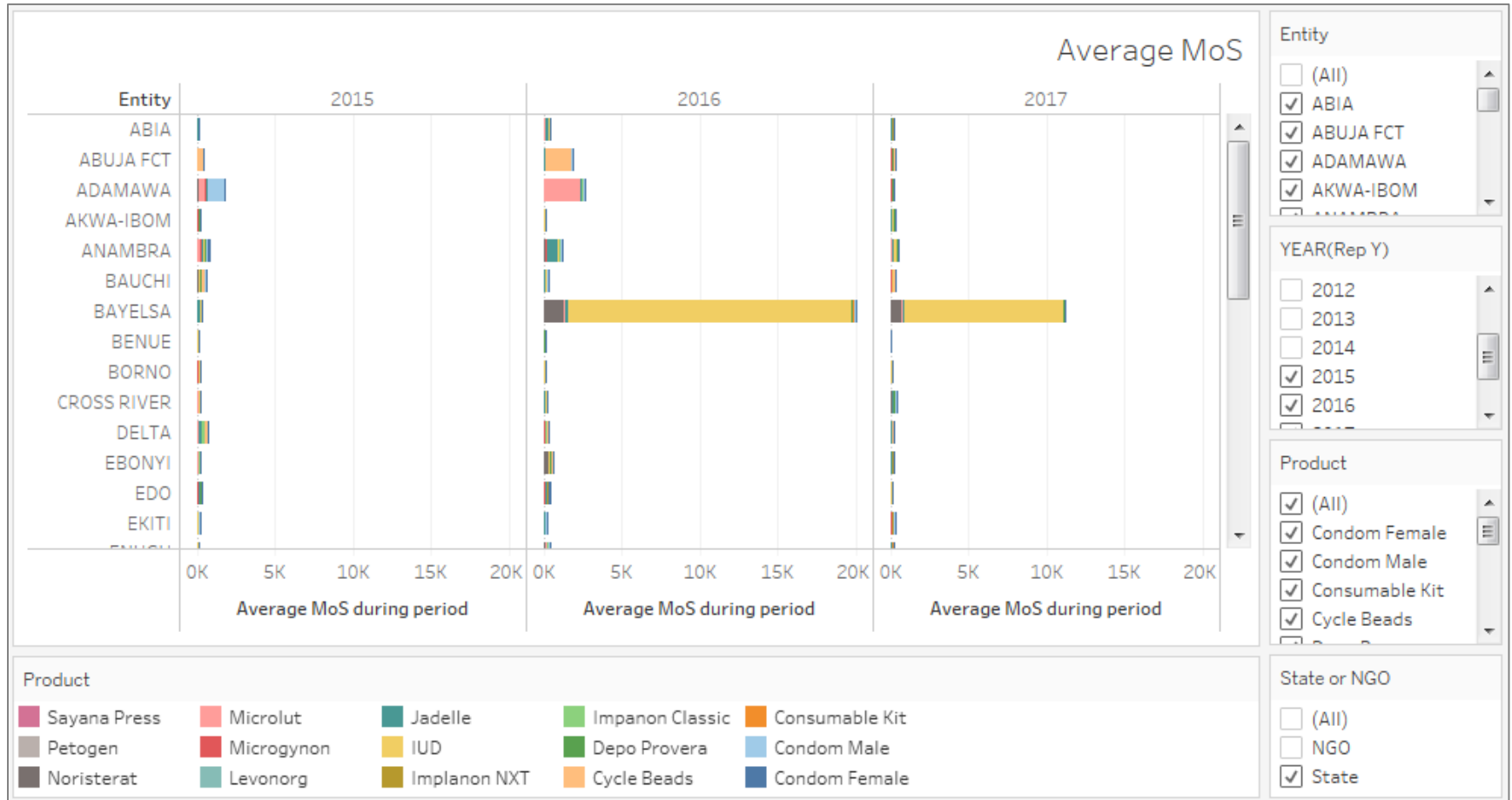
Summary

Lessons Learned

- Programs may be able to better **maximize** the investment in information systems and data availability by ensuring time and resources dedicated to **designing analysis and visuals to serve key decision making processes**

- Simple tools, if developed well, can
  - Make decision making easier and faster, for all levels of the system
  - Allow stakeholders to prioritize where to spend limited resources
  - Allow lower level staff see how they compare to their neighbors and which areas require improvements
  - Empower and encourage staff at all levels to be solution oriented
  - Allow for quick reporting…… more time to implement!

- Data and visualizations alone do not improve SCs. To create a culture of data use, a structured and rigorous process is also required and should include:
  - Common goal
  - Leadership
  - Financial and technical support
 - A process for monitoring, problem solving, recognition, action planning, and team meetings

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What data do you have? How can you better use your data for decision-making?