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# Future Stewardship of OpenLMIS and Collaboration with IQVIA

*6 November 2019*

Concept Note by IQVIA

# OpenLMIS is an open source, web-based system which manages supply chain processes across 12,000+ facilities in 10 geographies

*Our understanding of the current context of OpenLMIS*



## OpenLMIS Overview

- The OpenLMIS community is a consortium of over 20 leading global health implementation and technology partners

## Unique selling points: supply chain visibility designed for LMICs context

**Empower countries to own**, customize, extend and manage the system as an open source resource

**Designed for low-infrastructure environment** in low-middle income countries (LMICs)

**Interoperable** across various health information systems

**Flexibility** to be tailored for country-specific needs

**Availability of support community** to allow knowledge exchange

## Features: ordering, reporting and inventory management services



Modular Architecture for Extensibility



Requisitions (Ordering)



Stock Management and Local Fulfillment (Inventory Management)



Reporting and Analytics



Vaccine Management



Standards

## Current Status

Today, OpenLMIS is focused on public sector supply chains in Sub-Saharan Africa with a donor-driven approach. One new nation-wide roll-out is funded roughly every 12 months.

# The OpenLMIS community is looking at potential partners to provide stewardship and support a pathway to sustainability and broader use

## Concept Note Overview

### Overall Objective

- The OpenLMIS community is evaluating potential partnership and stewardship models to **broaden implementation of OpenLMIS** and determine the **appropriate business model for sustained use**, keeping the principles of financial sustainability and open-source public good in-mind

### Today's Discussion






- Discuss the opportunity and risks associated for **IQVIA to steward the OpenLMIS community and technology** to explore its **commercial product potential**
- Discuss options for financing and governing the transition process, and associated timelines

### Key Considerations

- **Organizational capacity:** Does this partner have a proven track record of managing grant and investment funds and successfully running a businesses in the tech/software arena in LMIC country settings?
- **Sales force and channel partner strategy:** Do they already have a sales force or channel partner relationships to sell in our target markets?
- **Product Synergy:** Do they have other product offerings for private health clinics, hospitals, pharmacies, or government health ministries? Or anything similar/adjacent/synergistic?
- **Open Source Compatibility:** Do they have experience working with open source software? Do they commit to keep OpenLMIS open, including with dual-licensing, compatible with our values?
- **Community Partnership:** Will they be able to work with the existing OpenLMIS community and implementations to support and involve them?

# IQVIA envisions a future freemium OpenLMIS+ which retains the existing product as a free to use public good alongside other fee-based offerings

## OpenLMIS+ Vision

	<b>Core Product: OpenLMIS</b> Maintain as open-source and free to use	<b>Premium Product: OpenLMIS+</b> Develop as commercial software
 <b>Product</b>	<ul style="list-style-type: none"> <li>Existing clients will continue to have access to the OpenLMIS product developed to date</li> </ul>	<ul style="list-style-type: none"> <li>Existing and new clients will have access to the same core OpenLMIS product for free, with option to access OpenLMIS+ features for a fee</li> </ul>
 <b>Maintenance and support</b>	<ul style="list-style-type: none"> <li>Basic maintenance will be provided</li> </ul>	<ul style="list-style-type: none"> <li>IQVIA service team will arrange service level agreements with clients and troubleshoot accordingly</li> </ul>
 <b>Enhancements</b>	<ul style="list-style-type: none"> <li>Further enhancements to the open-source version of the product subject to available funding</li> </ul>	<ul style="list-style-type: none"> <li>IQVIA and OpenLMIS development team will maintain a user group to review product change requests and develop new functionalities</li> </ul>
 <b>Implementation</b>	<ul style="list-style-type: none"> <li>Support for new implementations subject to available funding; open for use by other OpenLMIS partners</li> </ul>	<ul style="list-style-type: none"> <li>IQVIA will be responsible to support and service new implementations; open for use by other OpenLMIS partners</li> </ul>
 <b>Value-add services</b>	<ul style="list-style-type: none"> <li>Value-add services like analytics, insights &amp; reporting can be provided as part of data sharing arrangements</li> </ul>	<ul style="list-style-type: none"> <li>IQVIA will explore opportunities to develop data offerings and support services (e.g. advisory, analytics)</li> </ul>

# Table of Contents

Overview of IQVIA public health

01

Our approach to IQVIA Technologies

02

Our understanding of synergies with OpenLMIS

03

Next steps

04

# Table of Contents

Overview of IQVIA public health

01

Our approach to IQVIA Technologies

02

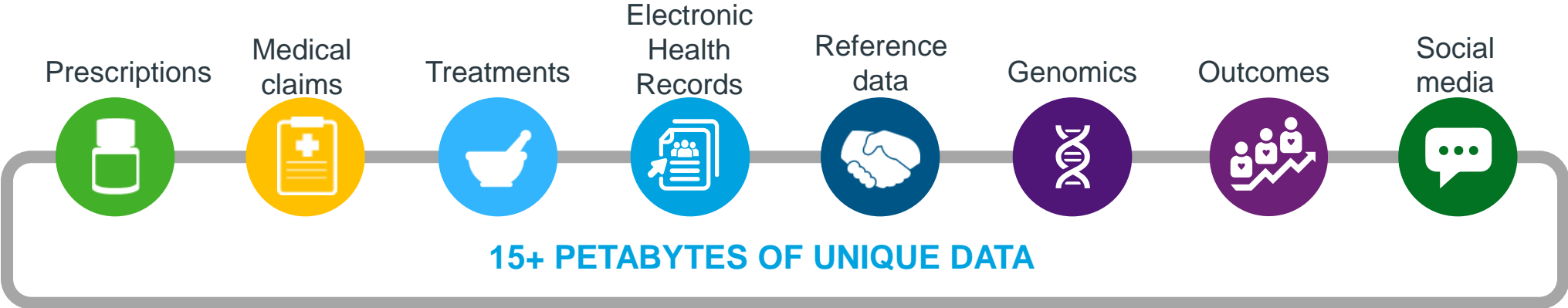
Our understanding of synergies with OpenLMIS

03

Next steps

04

# IQVIA is home to the world's largest healthcare data set, which is used to support our solutions



**90%** global pharma sales    **800K+** data feeds    **300K+** unstructured data sources    **100K+** suppliers    **1.4M+** products    **14M+** professionals and organizations    **500M+** anonymous patient records

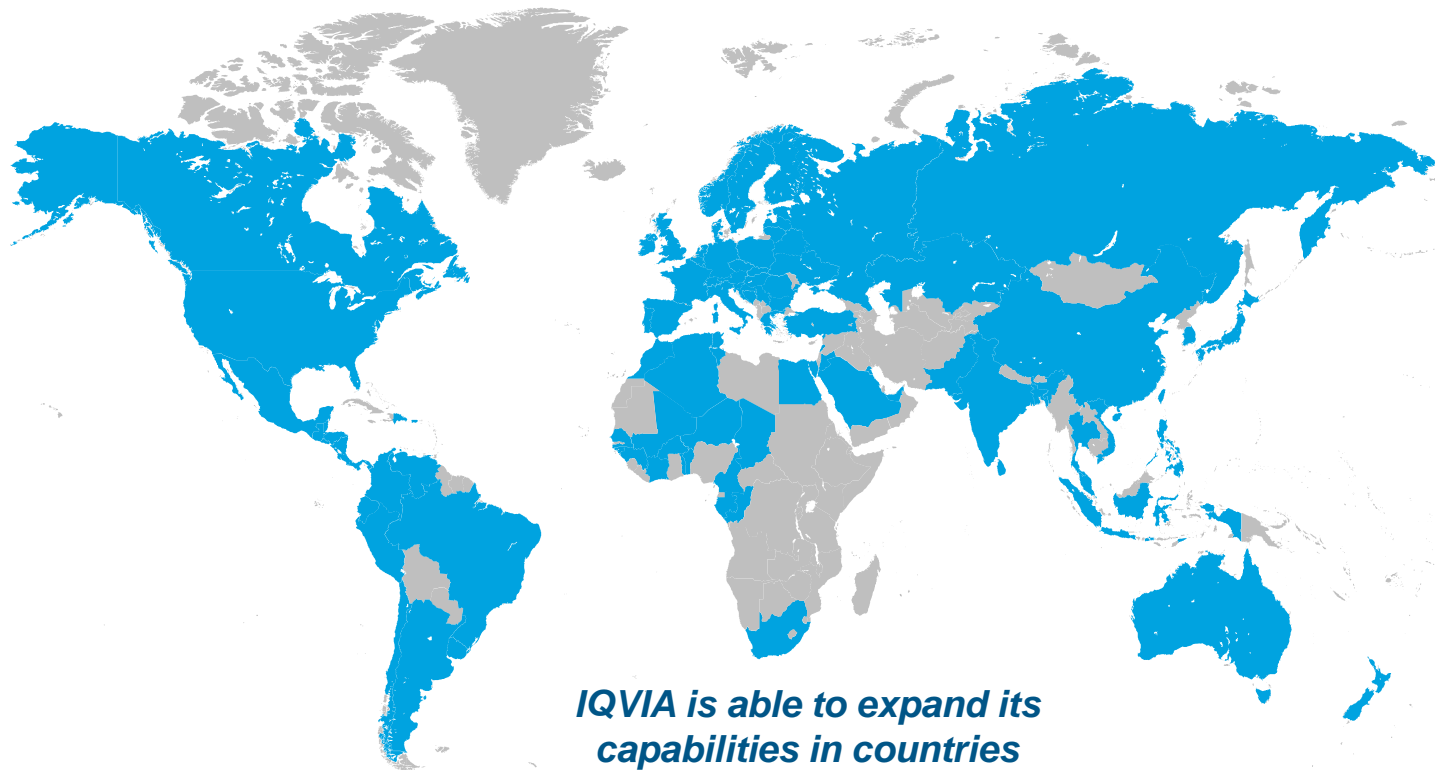
- Interoperable technology driving**
- Data visualization
  - Advanced analytics
  - Actionable insights
  - Commercial success

## Deep healthcare and technology domain expertise

**55,000+** Experts serving clients in **100+** countries    **2,500+** Advanced analytics / data scientists / statisticians    **850+** Epidemiologists / RWI experts    **4,500+** Technology experts    **1,400+** PhDs    **6,000+** Service experts    **1,100+** Medical doctors

# IQVIA's data analytics provide clinical and pharmaceutical market insights in over 100 countries

*IQVIA global market data*



***IQVIA is able to expand its capabilities in countries where routine data is not available***

## Countries/regions covered through local audits

- Algeria
- Argentina
- Australia
- Austria
- Bangladesh
- Belarus
- Belgium
- Bosnia
- Brazil
- Bulgaria
- Canada
- Central America<sup>1</sup>
- Chile
- China
- Colombia
- Croatia
- Czech Republic
- Denmark
- Dominican Republic
- Ecuador
- Egypt
- Estonia
- Finland
- France
- French West Africa<sup>2</sup>
- Germany
- Greece
- Hong Kong
- Hungary
- India
- Indonesia
- Ireland
- Italy
- Japan
- Jordan
- Kazakhstan
- Korea
- Kuwait
- Latvia
- Lebanon
- Lithuania
- Luxembourg
- Malaysia
- Mexico
- Morocco
- Netherlands
- New Zealand
- Norway
- Pakistan
- Peru
- Philippines
- Poland
- Portugal
- Puerto Rico
- Romania
- Russia
- Saudi Arabia
- Serbia
- Singapore
- Slovakia
- Slovenia
- South Africa
- Spain
- Sri Lanka
- Sweden
- Switzerland
- Taiwan
- Thailand
- Tunisia
- Turkey
- Ukraine
- UAE
- UK
- USA
- Uruguay
- Venezuela
- Vietnam

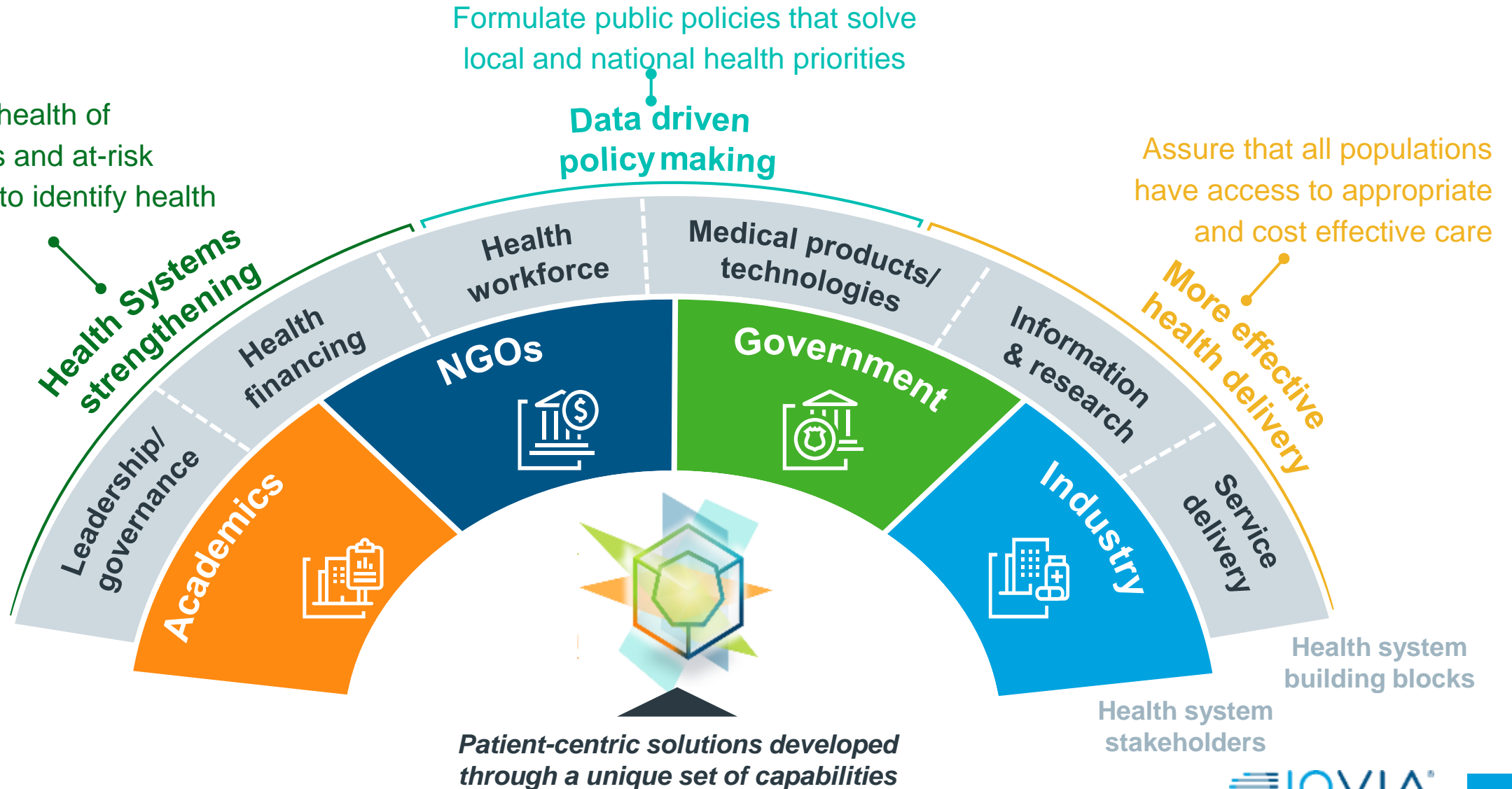
1. Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama

2. Benin, Burkina Faso, Cameroon, Chad, La Republique du Congo, Gabon, Guinea, Cote d'Ivoire, Mali, Niger, Senegal, Togo



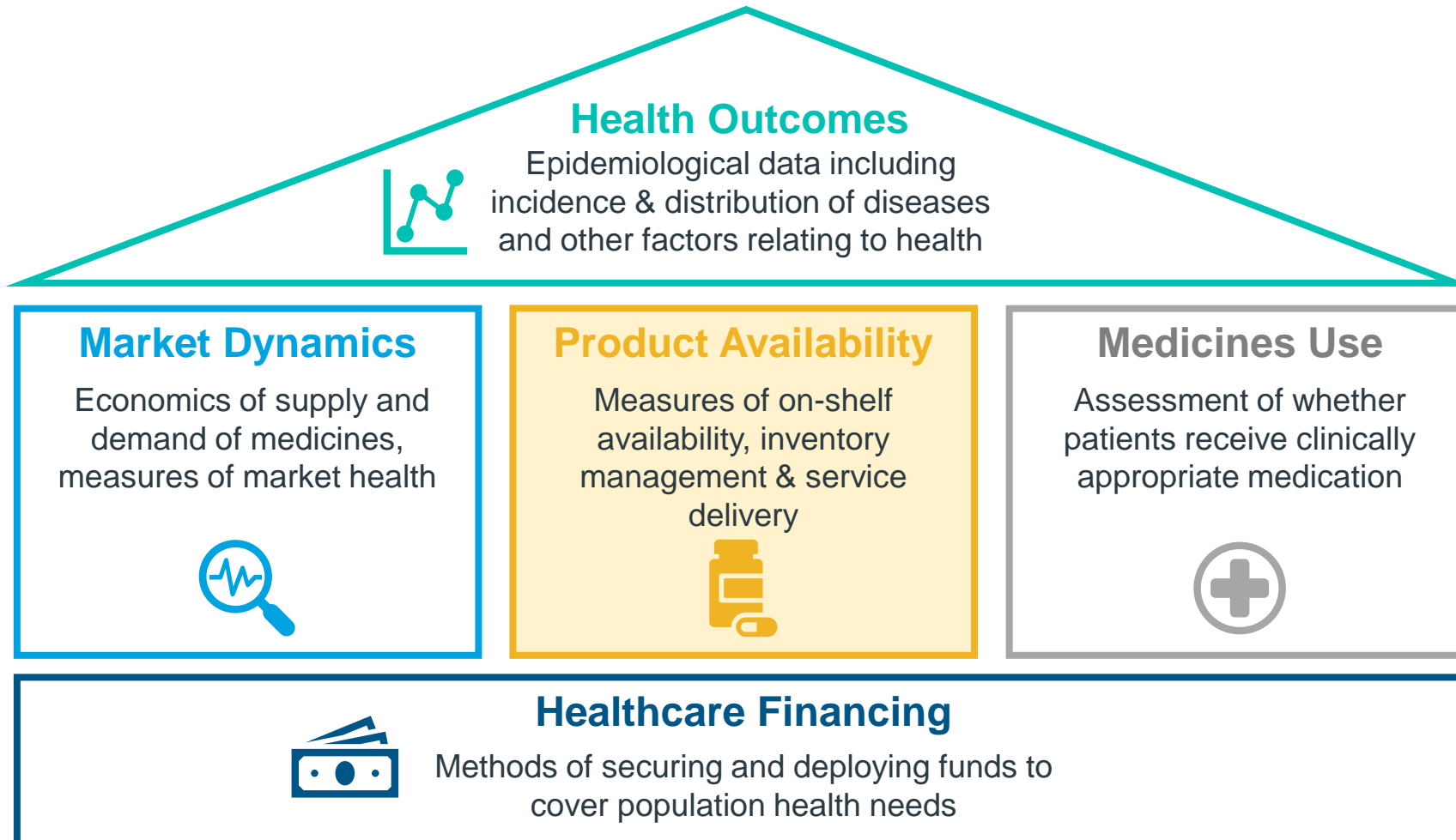
# IQVIA works across public and private institutions in the health system to address key barriers to high-quality, cost-effective care

Monitor the health of communities and at-risk populations to identify health challenges



# To strengthen health systems, we need to develop innovative data solutions and strong data governance models

*IQVIA's flow of medicines data framework*



- IQVIA's vision is to develop data assets and capabilities which capture the **end-to-end flow of medicines and health commodities**
- Market dynamics, product availability and medicines use are the core underlying pillars
- There is an opportunity to **integrate OpenLMIS into IQVIA's solutions** and offerings to improve insight into on-shelf product availability

# IQVIA's product availability offerings measures on-shelf availability, inventory management & service delivery



## Product Availability Offerings

### IQVIA Data Offerings

### Use Cases



#### Drug Distribution Data (DDD)

Monthly reporting of all registered pharmaceutical drugs in retail and non-retail drug sale



- Monitor sub-national sales trends to understand access and channel availability



#### mClinica

Pharmacy survey platform with the largest community of pharmacy professionals in Asia



- Leverage SwipeRx platform to collect information on stock-outs & on-shelf availability from pharmacists



#### Order Genie

Pharmaceutical e-Commerce platform for health facilities to order from stockist and wholesalers



- Develop regional, provincial and district-level estimates of drug availability and sales using real time transaction and sales data



#### Barcoding Technology

Provides security for over 1.2 billion packages around the world by using barcoding technology to track drug movement and distribution



- Verify authenticity of medicines quality, explore trends in counterfeit medicines through the distribution system
- Inform policy decisions on drug quality monitoring

# Table of Contents

Overview of IQVIA public health

01

**Our approach to IQVIA Technologies**

**02**

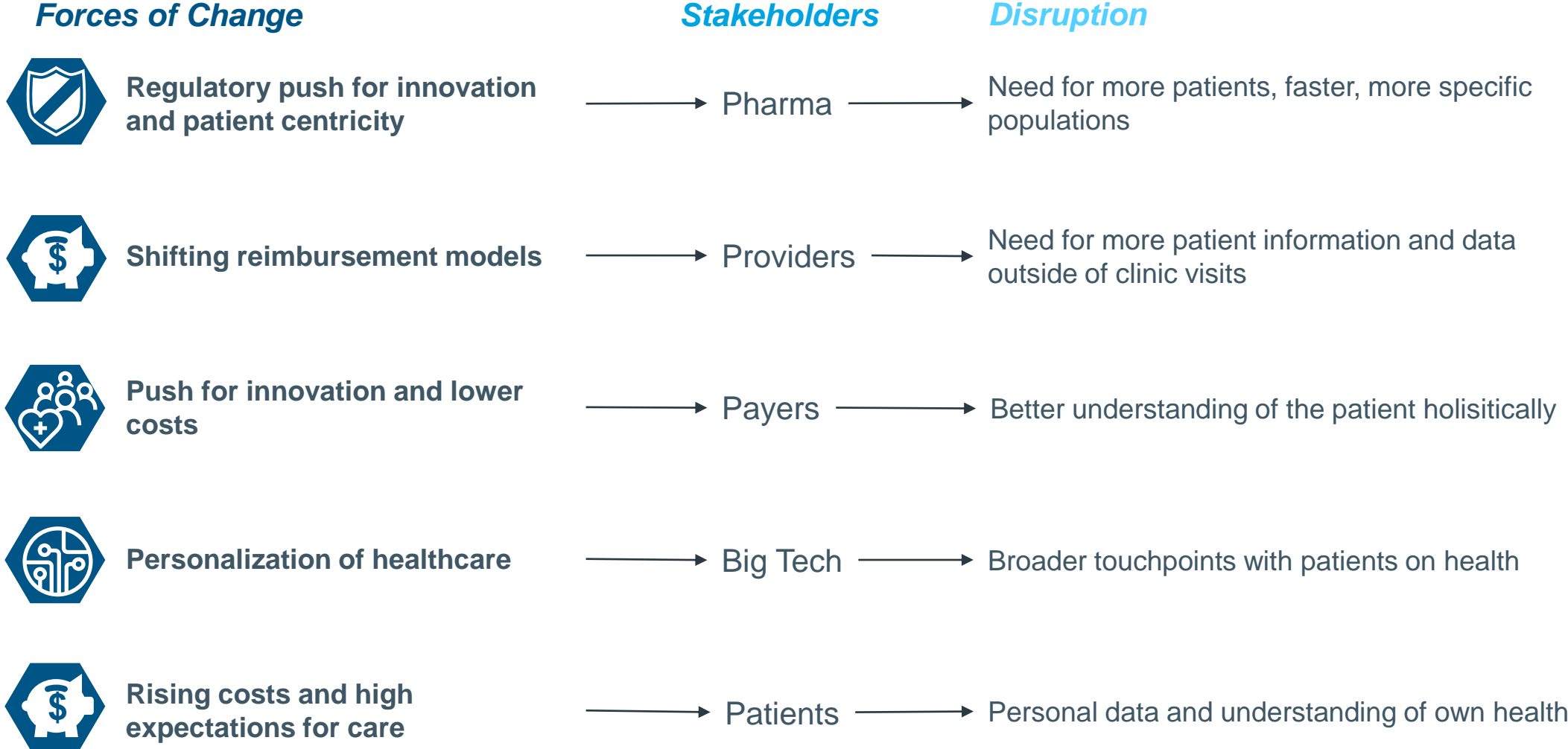
Our understanding of synergies with OpenLMIS

03

Next steps

04

# Healthcare industry is facing many forces of disruption which affect increasingly complex operational models



# IQVIA is a global technology partner for healthcare companies from concept to launch in the era of orchestration



## Clinical

Modernizing clinical development for efficiency

## Real-world evidence

Increasing the ability to learn from clinically rich data, quickly

## Compliance

Simplify regulatory, compliance & quality complexities

## Commercial

Delivering more valuable customer experiences and better ROI

# IQVIA's organizational infrastructure supports a suite of IQVIA technologies for healthcare clients

**SaaS solutions and applications transform the way you can make decisions**

**Best-in-class platforms configured to maximize value for life sciences and healthcare**

**IQVIA infrastructure curates, platforms and transforms data to make it fit-for-purpose**

Foundation of unparalleled data from **900k+ sources**



- Our healthcare experts **design technology for other healthcare experts**
- We configure leading platforms to **unleash new healthcare functionality**
- **Embedded machine learning** “trained” by industry’s leading data and experts
- Our technologies are **interoperable to create seamless workflow**

**Lexi**  
Seamless connectivity

APIs from IQVIA and ecosystem partners have created the standard for frictionless integration of applications and data sources

**Ada**  
Embedded intelligence

Intuitive, consumer-grade user experience to drive adoption and enable transformation

**Apollo**  
Intelligent design

Roadmap with a new stream of innovations to address your challenges today and tomorrow

# Table of Contents

Overview of IQVIA public health

01

Our approach to IQVIA Technologies

02

**Our understanding of synergies with OpenLMIS**

**03**

Next steps

04



# As part of IQVIA Technologies, IQVIA would improve the OpenLMIS offering, support data management and coordinate go-to-market

## What value IQVIA can bring to OpenLMIS



IQVIA is a global health data science company founded in 1954 and is a leading global provider of healthcare information, clinical research, advisory & consulting and innovative health technologies – with a focus on using analytics and science to improve health outcomes.

With six decades of experience, IQVIA operates in over 100 countries and serves more than 5,000 organizations and decision makers around the world including government agencies, donors, policymakers, researchers, life science and healthcare companies, consumer health and medical device manufacturers, distributors, providers and payers

# 1

**Integrate OpenLMIS into IQVIA solutions suite**

- Under the IQVIA umbrella, OpenLMIS would be able to leverage an **existing global organizational backbone**: HR, finance, legal, salesforce, product development and technology teams
- IQVIA can **support the management of vendors and partners**, and bring stability to OpenLMIS development process

# 2

**Improve the core product and data standards**

- IQVIA would support OpenLMIS in adopting a **master data management** system to ensure that data is standardized and internationally comparable, and **establish data use agreements**
- **Develop freemium product offering** which reflects localized needs of various customer segments

# 3

**Build business model for technology & services**

- IQVIA can support OpenLMIS to commercialize and **achieve financial sustainability** through a go-to-market strategy which taps into new customer segments in existing markets with OpenLMIS and new markets where IQVIA has in-country salesforce

# IQVIA would bring OpenLMIS under the umbrella of IQVIA Technologies, which range from digital strategy & design, to information management

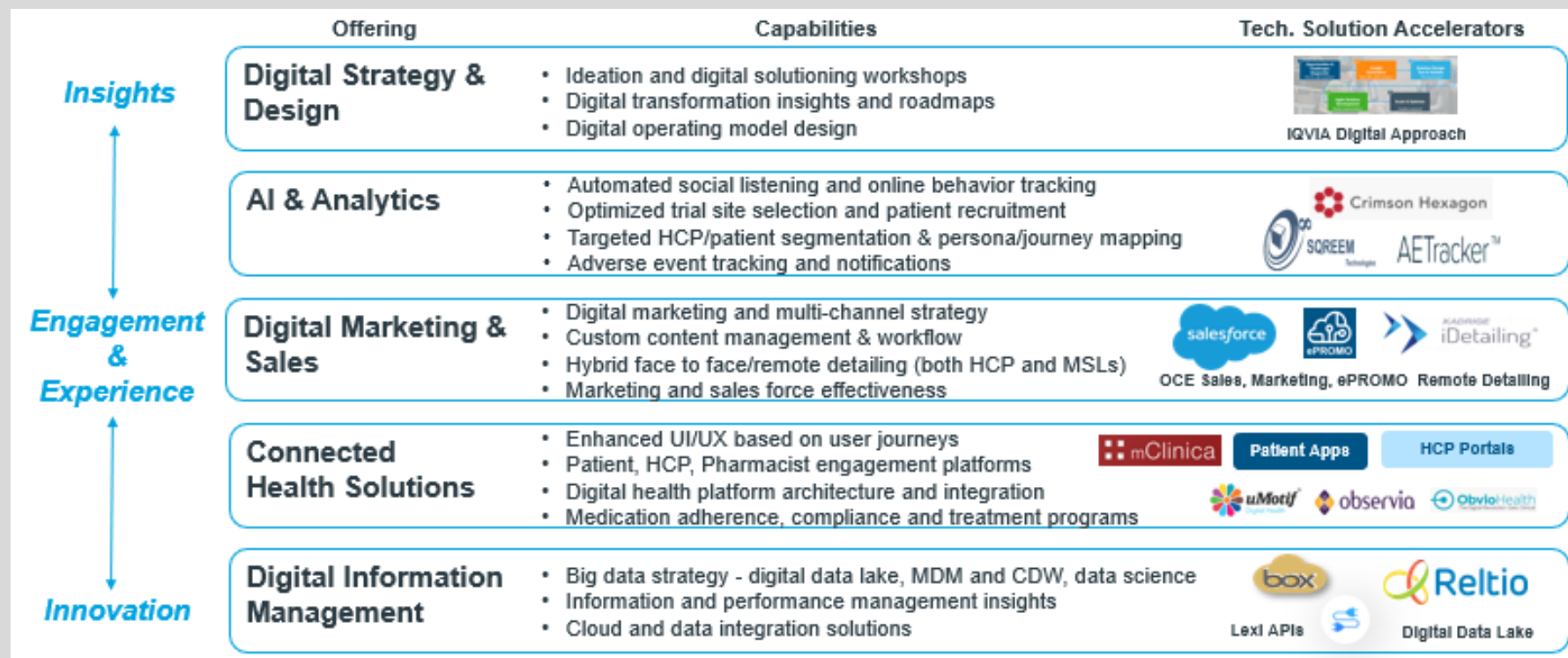
## Synergy between IQVIA and OpenLMIS

1

Integrate OpenLMIS into IQVIA solutions suite

### Examples of IQVIA Technology offerings

IQVIA has a family of best-in-class technologies, exclusive partnerships, and advanced analytics capabilities to serve a range of clients



# IQVIA will also bring OpenLMIS into a family of technology partners and products, which operate in similar LMIC supply chain contexts



## mClinica

- mClinica provides a multi-purpose mobile platform for pharmacy professionals, currently being used by 65,000 pharmacists across Southeast Asia

## Hello Health

- Hello Health provides the technology-enabled platform and services that allow practitioners to enhance patient engagement, all while automating their processes, increasing their revenue and taking control of their practice

## Pavilion Health

- Pavilion Health is a specialist software provider of clinical coding workflow, classification and analytics products and services, focusing on the quality and integrity of activity and costing data within the healthcare industry.

## Allied World Healthcare

- AWH is an innovative social enterprise using a new service model, technology platform and financing mechanism to deliver basic, free healthcare services to LMICs, with a current focus on rural areas in Southeast Asia



## OrderGenie

- OrderGenie is an e-Commerce platform enabling health facilities to order from the stockist/wholesalers would allow real transaction data to be captured.

## SystemOne

- SystemOne gathers and digitizes data from diagnostics devices to serve the health system.

## Pharmasecure

- Pharmasecure uniquely code each unit at the primary, secondary and tertiary levels, using diverse methods as applicable for particular environment: text, 2-D GS1 barcodes, QR codes or labels

## AccuHealthcare

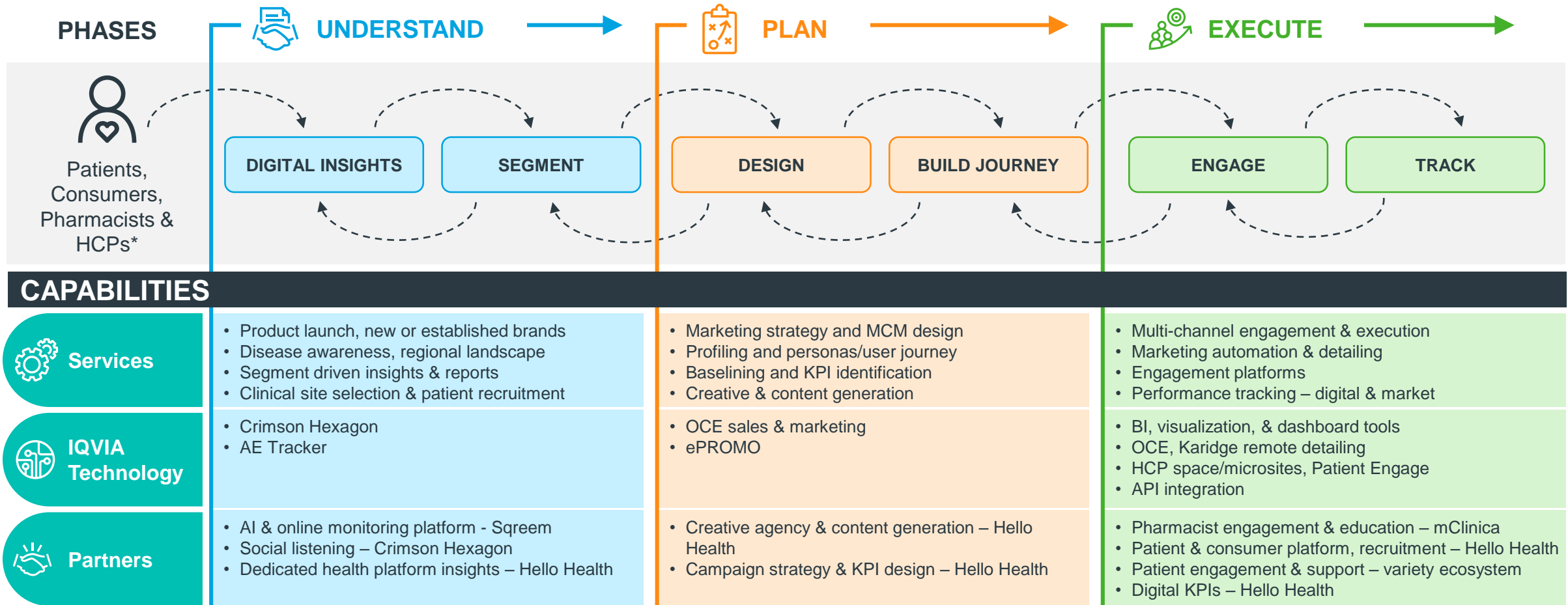
- AccuHealthcare uses of imaging analysis, photonic spectroscopy, and other technologies, to address falsified & substandard drugs, improved dispensing accuracy, improve medication adherence.

*IQVIA ownership stake*

*IQVIA technology partners*

# IQVIA will integrate OpenLMIS into its existing digital capability and offerings, which combine analytics, automation and technology

## IQVIA Digital Capabilities



\*Iterative approach across user journey

# IQVIA would support OpenLMIS in implementing a data backbone standard, based on our expertise in developing commercial datasets

## Synergy between IQVIA and OpenLMIS

2

Improve the core product and data standards

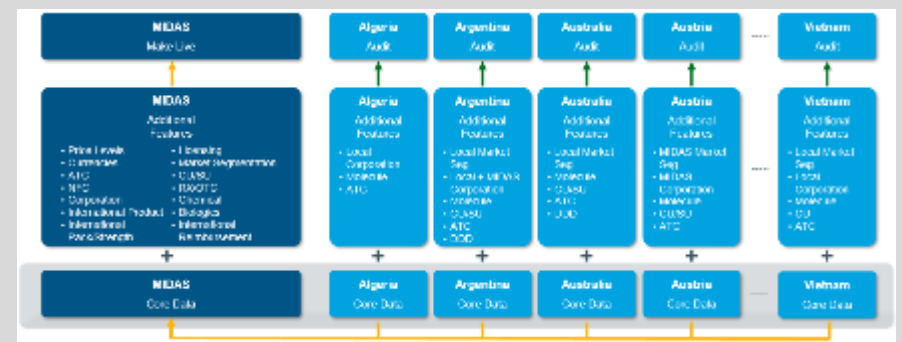
### Adopting a master data management system and product upgrades

- Master data management and the foundation for serialization begins with having a standardized nomenclature and approach to organizing pharmaceutical data. The implementation of a data backbone standard can be adapted from the private sector.
- IQVIA captures total manufacturer sales by therapy area and channel of distribution from over 100 countries in a standardized way on a quarterly basis. Before establishing collaborations and data sharing agreements with distributors, IQVIA first works to develop and maintain a National Drug File (NDF) which is the master list of drugs that have been approved for use.

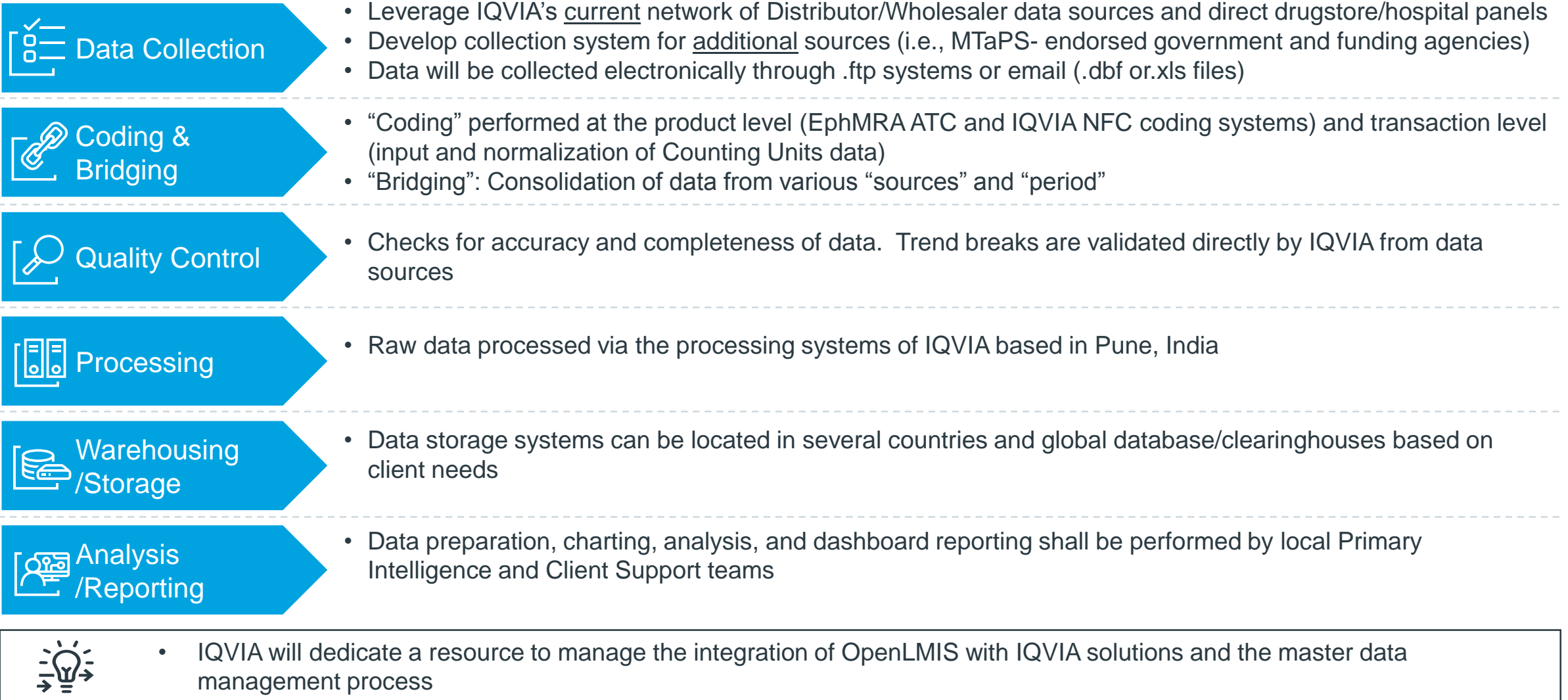
### IQVIA MIDAS Pharma Data

<b>93</b>	<b>152</b>	<b>7K+</b>	<b>250K+</b>	<b>4M+</b>
Countries	Distribution Channels	Active Ingredients	International Brands	Packs
39 years of local and global experience			PRODUCTS (per year)	PACKS (per year)
120 production heads in 7 countries			82,000	267,000
Ongoing updates as new/changed products and packs appear		NEW	46,000	236,000
		CHANGED		

### IQVIA Data Production Process



# IQVIA has a world-class data management process to integrate data sources, and drive insights for improved decision making in healthcare



# IQVIA will also support OpenLMIS in exploring data use agreements and business models to achieve financial sustainability

## Synergy between IQVIA and OpenLMIS

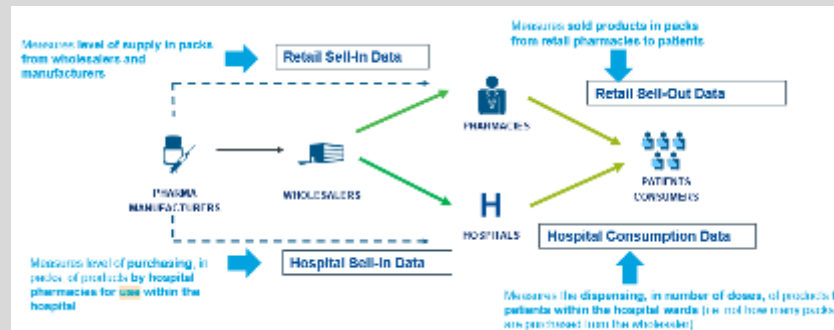
3

Build business model for technology & services

### Data use agreements with governments and other stakeholders

- Strong data governance models ensure that data can be accessed to drive insights and improve decision making, while also protecting patient privacy. Data use agreements can be powerful mechanisms to develop a health data sharing ecosystem
- IQVIA's operational model is founded on the ability to collaborate with diverse stakeholders involved in the flow of medicines to ensure that data use agreements are robust and mutually beneficial

### IQVIA Partners and Contributors



### IQVIA Sample Panel Types

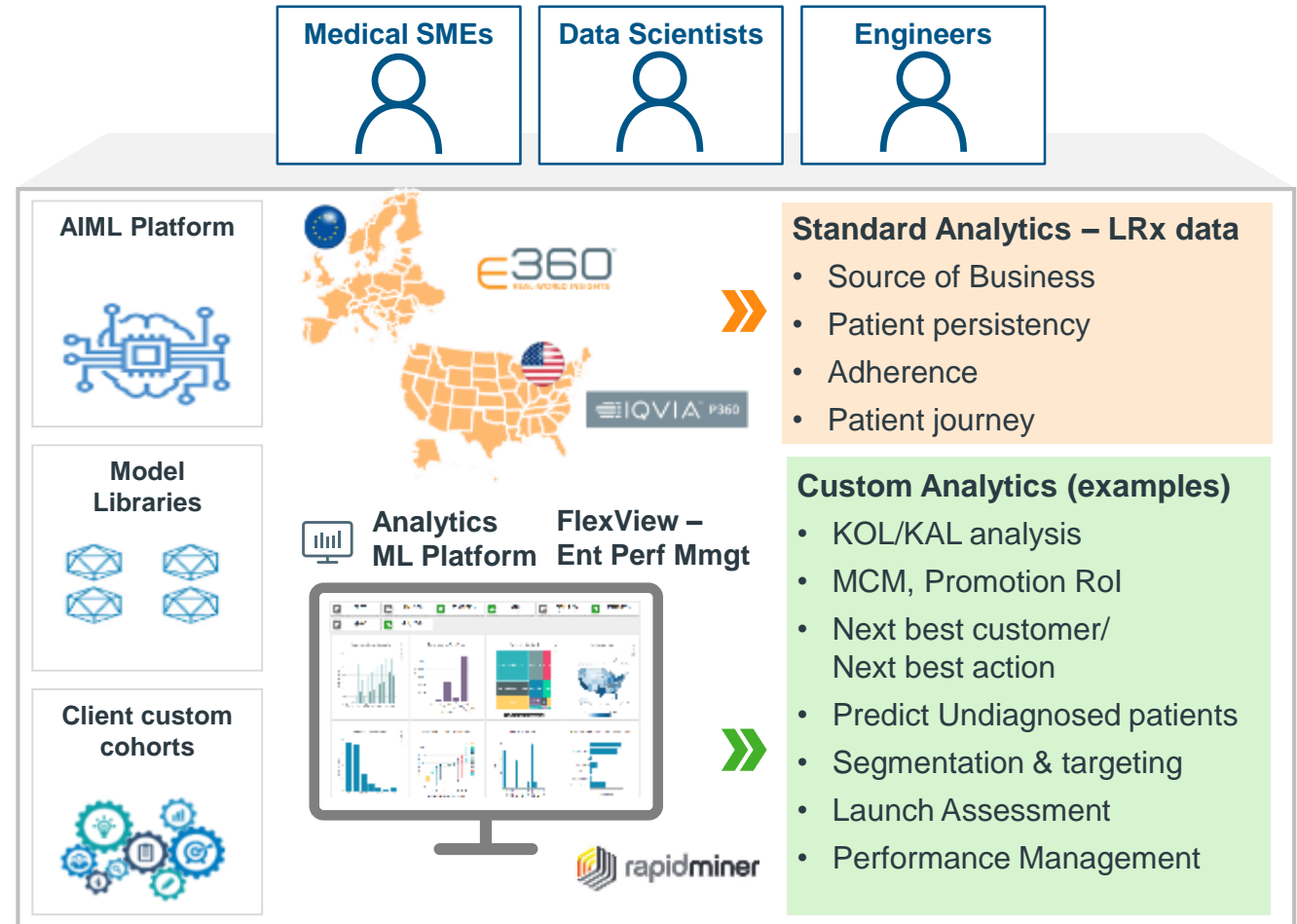
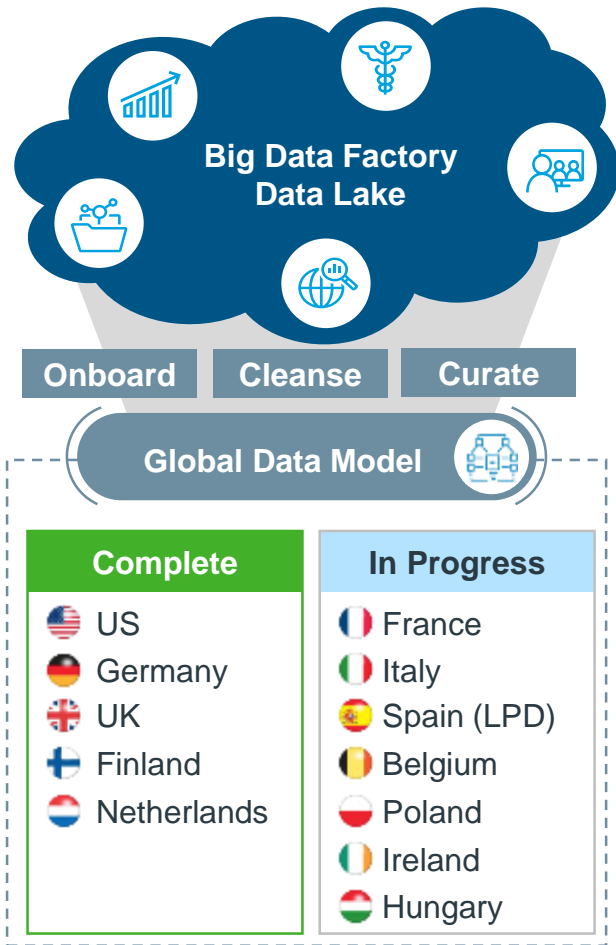
 <p>Singapore Government Hospital Singapore Combined</p> <p>Singapore Government Hospital represents sales to government &amp; institution hospitals.</p> <p>Singapore Combined represents sales into dispensing doctors, clinics, retail pharmacies &amp; private sector hospitals.</p>	<p>Malaysia Government Hospital Malaysia Combined</p> <p>Malaysia Government Hospital represents sales to government &amp; institution hospitals.</p> <p>Malaysia Combined represents sales into dispensing doctors, clinics, retail pharmacies &amp; private sector hospitals.</p>
<p>Korea Retail Korea Clinic Korea Hospital</p> <p>Korea Clinic represents sales from dispensing doctor clinics to patients. Clinics in Korea are facilities with less than 30 beds.</p> <p>Korea Hospital represents sales from wholesalers to Hospitals. Hospitals in Korea are facilities with more than 30 beds.</p>	<p>Brazil Retail Brazil Non-Retail</p> <p>The Non-Retail panel for Brazil is also presented on MIDAS and cover the following channels within the country:</p> <ul style="list-style-type: none"> <li>Government Institutes</li> <li>Public Hospitals</li> <li>Private Hospitals</li> <li>Private Clinics</li> <li>HMOs and PBMs</li> </ul>

### Achieving financial sustainability

- IQVIA has internal expertise and on the ground salesforce to support the development of business models across channels and customer segments to achieve financial sustainability (e.g. building value-add services or generating market insights)

# IQVIA owns global data lakes and use integrated advanced analytics platforms to create commercial offerings for healthcare clients

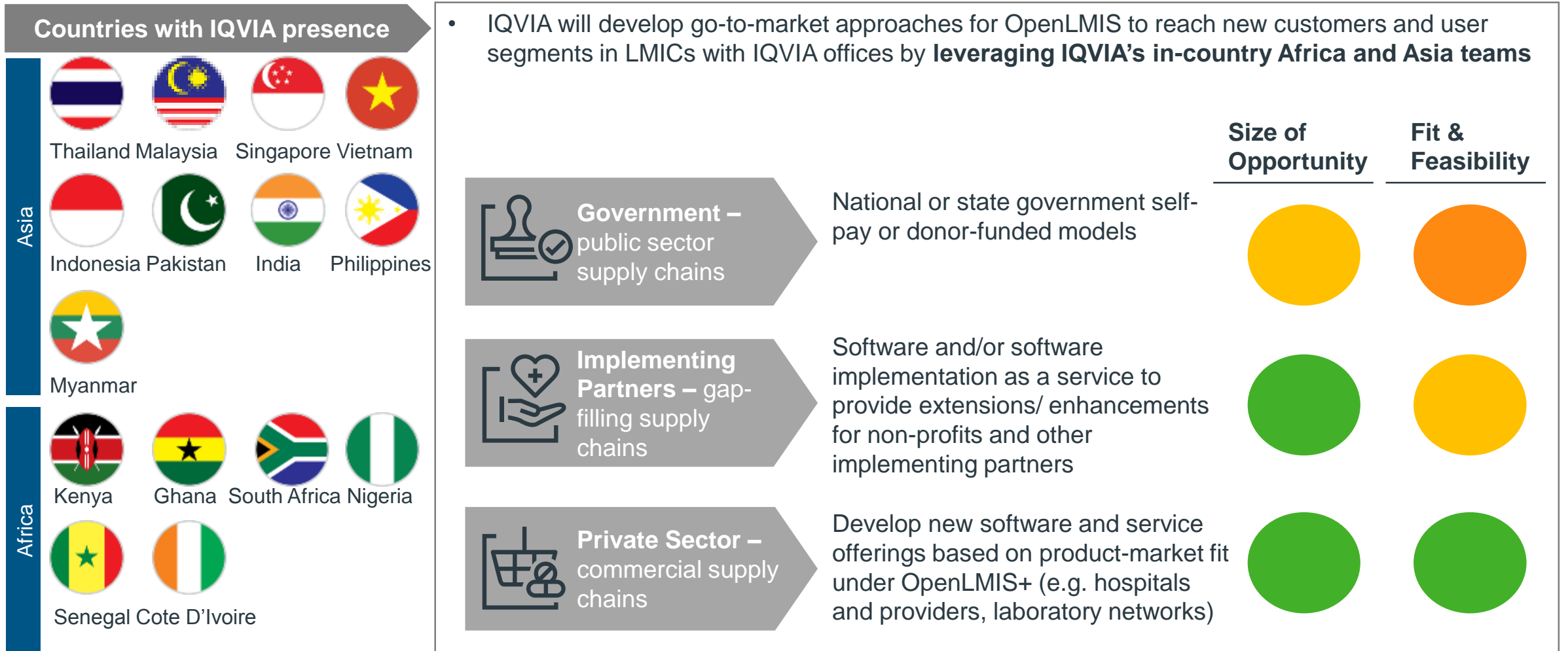
*Modern Data Science Platform, Global Data Lakes, Machine Learning Cluster & SMEs*





# IQVIA will market OpenLMIS in 15 new countries to public and private sector clients by leveraging existing in-country sales teams


## *IQVIA's go-to-market approach to OpenLMIS+*



# In countries with existing OpenLMIS implementations, IQVIA will collaborate with in-country partners to reach new clients

## *IQVIA's go-to-market approach to OpenLMIS+*

**Countries with OpenLMIS**








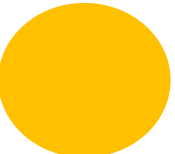
Guinea C. d'Ivoire Tanzania Zambia  
Benin Mozambique Angola Malawi

- Government – public sector supply chains**

Ad hoc development for new functions, modules or requests for further integration/interoperability
- Implementing Partners – gap-filling supply chains**

Software and/or software implementation as a service to provide extensions/ enhancements for non-profits and other implementing partners
- Private Sector – commercial supply chains**

Develop new software and service offerings based on product-market fit under OpenLMIS+ (e.g. hospitals and providers, laboratory networks)

	Size of Opportunity	Fit & Feasibility
		
		
		

# IQVIA believes OpenLMIS has an important role in the rapidly changing landscape of technology-enabled health product distribution

## Impact for Health Market Update 2019



Innovations in Health Product Distribution in Sub-Saharan Africa  
Market Update | September 2019 | Overview

IMPACT FOR HEALTH

- This report looks at three emerging types of innovations in product distribution in Ghana, Nigeria, Kenya and South Africa citing **lack of end-to-end visibility as a key challenge**
- Technology-enabled distribution to providers is likely to grow, though most of these **innovators (with few exceptions) are nascent and very small**



IQVIA is a key discussion partner for many of the emerging innovators in health product distribution and information systems to develop relevant data insights

# Table of Contents

Overview of IQVIA public health

01

Our approach to IQVIA Technologies

02

Our understanding of synergies with OpenLMIS






03

Next steps

04

# IQVIA's in-kind resource commitment to OpenLMIS represents an annual commercial value of ~\$900K, requiring significantly less donor funding

## OpenLMIS+ Contribution

	<b>Core Product: OpenLMIS</b> Maintain as open-source and free to use	<b>Premium Product: OpenLMIS+</b> Develop as commercial product for new segments	<b>IQVIA Contribution (USD)</b>
 <b>Product</b>	<ul style="list-style-type: none"> <li>Existing clients will continue to have access to the OpenLMIS product developed to date</li> </ul>	<ul style="list-style-type: none"> <li>Existing and new clients will have access to the same core OpenLMIS product for free, with option to access OpenLMIS+ features for a fee</li> </ul>	<p style="text-align: center;"><b>~\$900k</b></p> <p>IQVIA will commit support from 15 in-country teams and 2 regional teams;</p> <ul style="list-style-type: none"> <li>Technology</li> <li>Public health</li> <li>Go-to-market / client services</li> <li>Legal, HR, finance</li> </ul>
 <b>Maintenance and support</b>	<ul style="list-style-type: none"> <li>Basic maintenance will be provided</li> </ul>	<ul style="list-style-type: none"> <li>IQVIA service team will arrange service level agreements with clients and troubleshoot accordingly</li> </ul>	
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 <b>Value-add services</b>	<ul style="list-style-type: none"> <li>Value-add services like analytics, insights &amp; reporting can be provided as part of data sharing arrangements</li> </ul>	<ul style="list-style-type: none"> <li>IQVIA will explore opportunities to develop data offerings and support services (e.g. advisory, analytics)</li> </ul>	

# We have considered potential risks and mitigating actions related to this transition period

## *Risks and mitigating actions*

Risk	Potential causes	Solutions
<b>Lack of clarity on governance structure and contracting</b>	<ul style="list-style-type: none"> <li>• Insufficient detail on contractual obligations regarding liability, data or IP</li> </ul>	<ul style="list-style-type: none"> <li>• IQVIA will work closely with OpenLMIS Core Stakeholders to ensure specific service level agreement</li> </ul>
<b>Break-even for open-source version is not achieved by the end of the transition period</b>	<ul style="list-style-type: none"> <li>• Lack of product-market fit</li> <li>• Insufficient product development to create a competitive product in the market</li> </ul>	<ul style="list-style-type: none"> <li>• IQVIA will provide regular updates on go-to-market efforts to OpenLMIS Core Stakeholders</li> <li>• IQVIA and OpenLMIS Core Stakeholders will jointly review any required additional investments to maintain public good objective</li> </ul>
<b>Turnover of key project staff</b>	<ul style="list-style-type: none"> <li>• Resignation/reassignment of key OpenLMIS staff or community</li> </ul>	<ul style="list-style-type: none"> <li>• IQVIA will engage VR and OpenLMIS software developers early in knowledge transfer and capacity development</li> </ul>
<b>Poor integration with IQVIA Technologies</b>	<ul style="list-style-type: none"> <li>• Integration is delayed, coordination is time-consuming due to geographical base</li> </ul>	<ul style="list-style-type: none"> <li>• Leverage existing experience of integrating newly acquired technologies and collaborating with technology partners</li> </ul>

# IQVIA is well-positioned as a partner to steward the future of OpenLMIS and navigating the path to sustainability

## Concept Note Summary

### Key Considerations

- **Organizational capacity:** Does this partner have a proven track record of managing grant and investment funds and successfully running a businesses in the tech/software arena in LMIC country settings?
- **Sales force and channel partner strategy:** Do they already have a sales force or channel partner relationships to sell in our target markets?
- **Product Synergy:** Do they have other product offerings for private health clinics, hospitals, pharmacies, or government health ministries? Or anything similar/adjacent/synergistic?
- **Open Source Compatibility:** Do they have experience working with open source software? Do they commit to keep OpenLMIS open, including with dual-licensing, compatible with our values?
- **Community Partnership:** Will they be able to work with the existing OpenLMIS community and implementations to support and involve them?

### Why IQVIA

- IQVIA is a global **health data science company** with six decades of experience and **operations in over 100 countries**
- IQVIA has **in-country sales force** in key emerging markets across **Africa and Asia**
- IQVIA **serves 5,000+ organizations** and decision makers including government agencies, donors, policymakers, researchers, life science and healthcare companies, providers and payers
- IQVIA Technologies includes a **suite of solutions that operate across the healthcare system**, and includes technology partners operating in similar emerging market contexts
- IQVIA's internal strategic **Big Data Factory (BDF) is built heavily using open-source technologies** and we're comfortable working with open-source technologies

# Appendix



# A well-performing healthcare system must ensure high-quality medicines are properly procured, distributed and prescribed

## *Data ecosystem for flow of medicines*

How do we assess the national budgetary impact of medicines and diseases?

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How do we promote appropriate use of generics and monitor impacts of drug pricing policies?

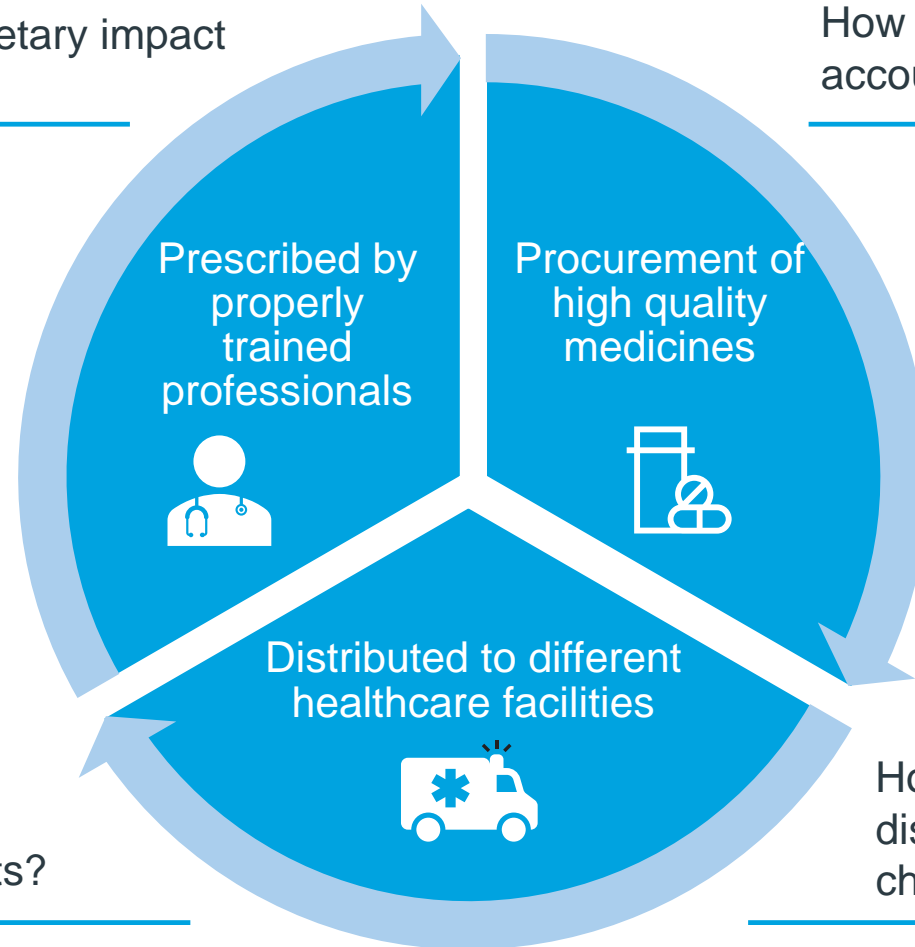
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How do we compile input and feedback from providers & pharmacists on the patient journey?

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How do we track on-shelf product availability from service delivery points?

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How do we develop a transparent and accountable procurement system?

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How do we monitor the quality of medicines, minimizing counterfeit & substandard products?

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How can we evaluate market health and overall supply chain market dynamics?

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How do we analyze medicines distribution & access across sectors, channels, and local regions?

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# Healthcare stakeholders often make decisions based on fragmented and/or incomplete data that is often collected ad hoc

## Existing data sources for flow of medicine

Existing Limitations	Potential Implications	Examples
<b>1</b> Data sources are fragmented	<ul style="list-style-type: none"><li>Limited collaboration and intersectoral discourse on data partnerships</li><li>Data governance models are lacking to incentivize &amp; support healthcare stakeholders to share data</li></ul>	Medicines dispensing data from private and public pharmacies are not integrated
<b>2</b> Data sources are not standardized	<ul style="list-style-type: none"><li>Medicines data is often not standardized and coding &amp; bridging is required for databases to be interoperable</li></ul>	Medicines data does not always follow standardized WHO ATC coding
<b>3</b> Data is often incomplete	<ul style="list-style-type: none"><li>Data cleaning &amp; processing is required to resolve data quality &amp; completeness issues from across the healthcare delivery spectrum</li><li>Insights to measure trends over time is difficult to generate</li></ul>	Facilities rely on paper based reporting forms, which are not always digitized
<b>4</b> Primary data is collected ad hoc	<ul style="list-style-type: none"><li>Recruiting, training &amp; deployment of large ad hoc field teams is expensive and time consuming; data collect can often take months to complete</li><li>Limited use of digital healthcare data</li></ul>	Donors issue RFPs given limitations of routine data collection

Improving the current data ecosystem & governance for medicines data in LMICs will lead to more evidence-based decision making, greater transparency and minimize overall waste

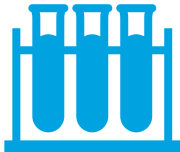
# IQVIA's market dynamics data informs economics of supply and demand of medicines, measures of market health



## Market Dynamics Offerings

### IQVIA Data Offerings

### Use Cases



#### National Drug File (NDF)

Master list of national drugs sold in 100+ countries



- Baseline analysis for understanding access to novel medicines and drug regulatory process
- Master data management including organization of pharmaceutical data.



#### MIDAS

Total manufacturer sales by therapy area and channel of distribution from over 90 countries, captured in a standardized way on a quarterly basis



- Conduct sales analysis to understand private and public sector case load and indications of consumption



#### National Sales Audits

Information from more than 550 suppliers including nearly 100 pharmaceutical manufacturers on national sales activities



- Understand the supply, demand, and price of specific drugs to project disease trends and market dynamics

# IQVIA's medicines use data and offerings can assess whether patients received clinically appropriate medication



## Medicines Use Offerings

### IQVIA Data Offerings

### Use Cases



#### OneKey

Comprehensive database of over 9 million healthcare providers and 680,000 healthcare organizations



- Study of density & distribution of HCPs in a country or region to assess medicines & services access



#### Drug Distribution Data (DDD)

Monthly reporting of all registered pharmaceutical drugs in retail and non-retail drug sale



- Measure the impact of public health interventions on rational medicines use at a service delivery level



#### Prescription Audit

Patient demographics, product name, diagnoses, treatment recommendations



- Evaluate the adoption of new medicines and prescription patterns of existing medicines
- Compare prescription audit to overall disease burden & treatment rates to understand gaps in the patient journey



#### Hospital Databases

Real world data including clinical records and treatment outcomes



- Assess clinical practices, product usage patterns, and impact of specific interventions
- Opportunity to conduct additional observational studies on medicines use and specific therapy areas

# IQVIA has worked with a diverse group of public health stakeholders



# Patient understanding and market analysis of anti-TB drugs in private sector channels in Indonesia for global health donor

## Case study

Background	Approach	Takeaway
<p>USAID engaged IQVIA to understand the landscape of TB treatment in both public and private channels, and quantitatively validate the role of private channels in Indonesia</p> <ul style="list-style-type: none"> <li>• Patient journey from initiation, diagnosis, treatment, and control</li> <li>• Pain points for patients</li> <li>• Understand provider (HCPs, pharmacist, and labs) awareness, behavior, and preference</li> <li>• Identify opportunities to improve TB interventions</li> <li>• Analyze total market for anti-TB drugs</li> </ul>	<p><b>TB patient and market understanding:</b></p> <ul style="list-style-type: none"> <li>• Qualitative research:               <ul style="list-style-type: none"> <li>– 10 In-depth interviews with providers (HCPs, pharmacists, and lab directors)</li> <li>– 8 Focus Group Discussion with patients and HCPs</li> </ul> </li> <li>• Quantitative research:               <ul style="list-style-type: none"> <li>– Face to face interviews using structured questionnaire with 200 patients and 240 providers</li> <li>– Coverage: 4 cities in Indonesia</li> </ul> </li> </ul> <p><b>Market analysis of anti-TB drugs in private channels in Indonesia:</b></p> <ul style="list-style-type: none"> <li>• Data extraction and analysis from existing IQVIA data assets</li> <li>• Quantitative: additional sales audit and face to face interviews with 120 channels</li> <li>• Geographical coverage: Jakarta and Surabaya</li> </ul>	<ul style="list-style-type: none"> <li>• Developed actionable insights on how to improve TB intervention design</li> <li>• Engaged with key stakeholders working on TB programs in Indonesia to better leverage data</li> <li>• Identify the gap between prevalence and diagnosis at national and city level</li> <li>• Map the type and size of private channels that currently covers TB treatment</li> <li>• Understanding product preferences i.e. originator vs generics, combined vs single molecule</li> </ul>

# Workforce Effectiveness in Public Health Supply Chain in Pakistan



## Case study



### Background

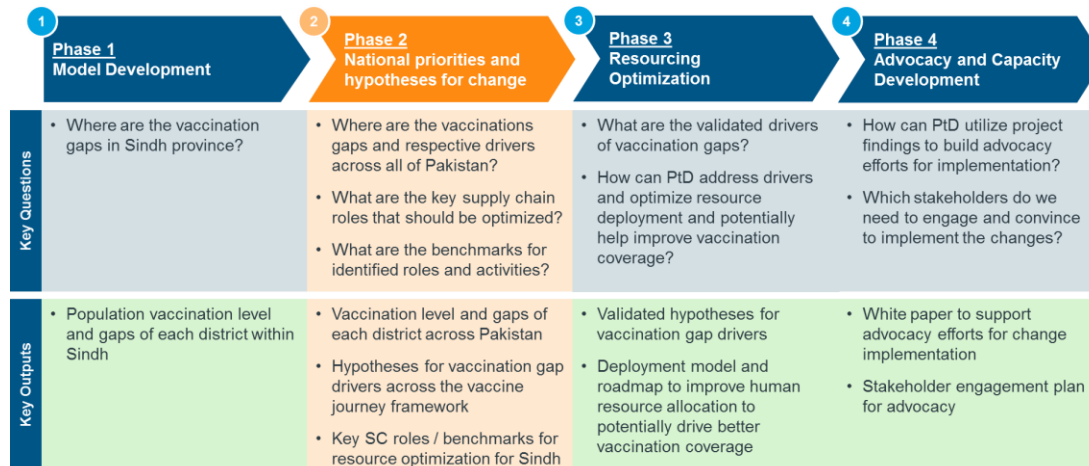
- National governments and international NGOs face complex challenges in managing health supply chains, drugs and other health supplies
- Many fail to optimize delivery to the targeted patient population – health supplies in the form of drugs and vaccines do not reach patients who need them
- This project is focused on quantifying the resources and resource constraints in public health supply chain

### Approach

#### Objective

- Conduct country-level, structured quantitative analysis for workforce development in the public health supply chain sector, using Pakistan as a pilot country to develop the framework and tools to replicate analysis to other developing countries

#### Approach



### Takeaway

- Conducted analysis to pinpoint optimal distribution of human resources for health supply chains in selected country or region, and potentially replicate analysis for other developing countries
- Developed a replicable methodology for the quantitative analysis of the public health supply chain workforce – involving a structured approach to baseline data collection, segmentation, management and analysis
- Created a customized Excel tool to present results of the analysis and simulate different workforce scenarios that can be applied to different countries

# 10-year roadmap development on improving medicine quality in the Southeast Asia region



## Case study



- US Pharmacopeia, a non-profit institution sought to look for opportunities to support the improvement of medicine quality in the Southeast Asia region
- A roadmap is needed to tackle the right issues with the right approach with the right counterparts

- IQVIA assessed pharmaceutical market in terms of geography, Rx vs OTC, manufacturer type, originator vs generic
- Unmet needs in terms of pre-marketing control, post-marketing control, safety surveillance, advocacy, capacity building
- Identify strategic implications of unmet needs above for the client

Overall Maturity of SEA Countries

Implementation theme	Infrastructure	Awareness	Systemic maturity
Country 1	Progress bar	Progress bar	Progress bar
Country 2	Progress bar	Progress bar	Progress bar
Country 3	Progress bar	Progress bar	Progress bar
Country 4	Progress bar	Progress bar	Progress bar
Country 5	Progress bar	Progress bar	Progress bar

Implementation theme	Initiative category	Initiative details	Rationale	Significance of initiative	Focus customers
Infrastructure	Standards & Guidelines	Provide guidance to regulators to update guidelines and conduct more formal dissemination sessions to manufacturers and healthcare institutions	Compliance can be a challenge due to overlapping guidelines from different organizations	>	✓
	Channels & systems	Help authorities build communication channels that can reach the masses	Reach of current communication is limited as consumers lack awareness and motivation to visit BPOM website	>>	✓
Awareness	Educational programs	Support targeted educational programs e.g. in safety of medicines	Limited materials to educate consumers on quality of drugs and ways to identify substandard drugs	>	✓
	Awareness campaigns	Run awareness campaigns to enhance detection frequency	Detection of illegal sales of prescription drugs by unlicensed drugstores and doctors can be improved	>	✓
		Run awareness campaigns on importance of PV	There are still improvement areas in PV processes among many local manufacturers and large hospitals	Investigation processes after substandard medicines are reported take months and reactions are rarely immediate	>>
		Run awareness campaigns in collaboration with NGO involvement	Notices are sent to companies only when there are quality lapse detected, and consumers are usually not informed about these lapses	>	✓

- Unmet needs in terms of drivers to improved medicine quality are identified across the target countries
- Initiatives over the next 10 years are identified
- Priority initiatives are identified to ensure least effort with highest impact