# Manufacturing Africa – Nigeria

Health and Nutrition Investment Portfolio Support | Final Deliverable

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# Executive summary

### Context

For health commodity manufacturing in Nigeria, this document covers prioritisation of subsectors, pharmaceutical value chain analysis and political economy analysis

### Subsector prioritisation within health commodity manufacturing

- There are 7 building blocks in the health sector, out of which commodities has the strongest link to manufacturing. Within commodities, 5 potential subsectors (pharmaceuticals, medical devices, medical consumables and supplies, dermocosmetics and animal health) were explored for local manufacturing
- Subsectors were prioritised based on their economic impact (e.g., contribution to GDP), development impact (e.g., health impact, linkages), product complexity and attractiveness to foreign investors (e.g., market demand, competitive landscape)
- Outcomes of the prioritisation exercise suggest pharmaceuticals as the highest priority category for investment promotion, followed by animal health and medical consumables

### Pharmaceutical value chain analysis

- Currently, pharmaceutical finished-goods manufacturing in Nigeria is highly fragmented and quality standards are still considered a challenge. There is opportunity for foreign investors to set up large-scale, high-quality production capacity, particularly in the mass market of generic and over-the-counter (OTC) products for common symptoms
- The existing pharmaceutical finished goods manufacturing capacity varies across product categories, but overall there is a large white space which is currently met by imported products, particularly in the mass market of generic and OTC products for common symptoms (preliminarily estimated at a billion-scale investment). A large-scale manufacturing facility (with 2-3Bn doses for solid tablet plant) could result in ~15% cost competitiveness against imported products and ~20% against current locally manufactured products
- This investment opportunity can be captured by foreign investors in 3 forms: 1) self-buildout, 2) local partnership (e.g., contract manufacturing) and 3) financial investment – each of which has a different investment rationale and fit for investor archetypes. These investment opportunities will guide an effective selection of foreign investors with highest likelihood of success

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# Out of the 7 building blocks of the health sector, commodities has the strongest link to manufacturing

Relevant to manufacturing

| Building blocks | Description |
|---|---|
| Financing | A national health financing mechanism that allocates resources, purchases goods and services in ways that improve quality and equity |
| Service delivery | Includes infrastructure (e.g., hospitals) that is necessary to deliver quality and safe health services at affordable prices |
| Workforce | Includes the health workforce required to provide medical services and a policy framework for health workforce development |
| Health information systems | Digital tools that facilitate the generation, analysis, dissemination and use of information in a timely and reliable fashion across the health sector |
| Commodities | Includes health commodities (e.g., pharmaceuticals, animal health commodities and medical devices) that are of assured quality and safety |
| Governance | A health governance mechanism that ensures the existence of strategic policy frameworks and enables effective oversight and accountability |
| Access | A system that allows for equitable access to essential medical products, vaccines and technologies and includes procurement, supply, storage and distribution |

Source: https://www.who.int/healthinfo/systems/WHO_MBHSS_2010_full_web.pdf

# Within commodities, there are 5 potential subsectors that could be explored for local manufacturing

Pre-COVID-19 (2016-18) / Post-COVID-19 (2019-20) — High — Medium — Low

**PRELIMINARY**

**Market size,** $Mn per year

| Subsectors | Description | Total domestic demand | = | Local manufacturing | + | Import | − | Export |
|---|---|---|---|---|---|---|---|---|
| **Pharma-ceuticals** | Branded or generic chemical products, vaccines and biological products used for medical purposes in humans | ~560 / ~2,300 | | 116 / 202 | | 441 / 2,122 | | 1 / 3 |
| **Medical devices** | Instruments, machines or apparatus used for disease prevention, diagnosis or treatment | ~80 / ~1,300 | | 0 / 1 | | 83 / 1,296 | | - |
| **Medical consumables and supplies** | Non-durable medical devices and supplies that cannot withstand repeated use, are usually disposable, and generally used only for treating illness or injury[1] | ~50 / ~200 | | ~5-10 / ~5-10 | | 49 / 202 | | - |
| **Dermo-cosmetics** | Specialised skincare products that are either sold OTC or with a prescription from a medical doctor | ~30 / ~40 | | ~15 / ~20 | | 15 / 23 | | 1 / 0 |
| **Animal health** | Medicinal products used for the management of disease conditions in livestock | ~10 / ~10 | | ~0 / ~0 | | 7 / 8 | | - |

## Key takeaway

Our initial hypothesis of priority commodities

- **Pharmaceuticals is the highest priority,** where the demand is by far the largest
- **Medical consumables and supplies is a potential 2nd priority,** where COVID-19-related products could be prioritized

1 Including, but not limited to, bandages, antiseptics, skin preparations and personal protective equipment (PPE) such as masks (community and medical or surgical), goggles, face shields or safety visors, respirators (N95 and filtering face piece), gloves (examination and surgical), gowns, garments, coveralls and clean air suits.

Source: IHS; Trade Map; World Bank; press search; expert interviews

# Selection criteria were developed to prioritise subsectors within health

| Evaluation parameter | Criteria | Description | Metrics | Source of data |
|---|---|---|---|---|
| **Economic impact** | Contribution to GDP | The subsector's impact on economic growth | Share in GDP (%) | World Bank Open Data |
| | Import substitution potential | Reduction in imports due to subsector value addition | Size of import ($) | UN Comtrade, Trade Map |
| | Job-creation potential | Impact on new job creation | Number of jobs | ILO, industry associations |
| | Foreign direct investment (FDI) growth | Expected FDI in the subsector | Total FDI expected in subsector (qualitative) | Expert interviews |
| **Development impact** | Health impact | Level of unmet health needs and the ability of local products to meet them | Qualitative (H/M/L) | Expert interviews, FCDO inputs |
| | Linkages | Amount of indirect output support by the sector | Qualitative (H/M/L) | Expert interviews, FCDO inputs |
| | Sustainability impact | Magnitude of environmental harm and likelihood of implementing green manufacturing methodologies | Qualitative (H/M/L) | Expert interviews, FCDO inputs |
| **Product complexity and attractiveness to foreign investors** | Market demand | Size and growth potential of Nigeria and relevant export markets | Expected size of the market ($) | IHS Markit, Fitch Solutions, Trade Map, previous MA work |
| | Competitive landscape | Ease of foreign players to establish a competitive position in the market | Qualitative (H/M/L) | Expert interviews |
| | Barriers to entry into local manufacturing | Difficulty of launching a manufacturing business in the subsector | Qualitative (H/M/L) | Expert interviews |
| | Input availability | Ease of access to raw materials required for the production of the commodity | Qualitative (H/M/L) | Expert interviews |

# Initial priority assessment results suggest pharmaceuticals as the highest priority

Deep dive on next pages

**PRELIMINARY**

**Comparison of attractiveness across subsectors**

High | Medium | Low

| Evaluation parameter | Criteria | Pharmaceuticals | Medical devices | Medical consumables and supplies | Dermo-cosmetics | Animal health | Comments/rationale |
|---|---|---|---|---|---|---|---|
| **Economic impact** | Contribution to GDP[1] | ~100 | ~0 | ~5-10 | ~15 | ~0 | Pharmaceuticals have the largest contribution to GDP (0.4% of GDP) |
| | Import substitution potential[2] | ~440 | ~80 | ~50 | ~15 | ~5 | All subsectors rely mostly on imports, but largest value for pharmaceuticals |
| | Job creation potential | | | | | | Largest employment in pharmaceuticals[4]; consumables growth due to COVID-19 |
| | FDI growth | | | | | | Existing FDI stock primarily in pharma |
| **Development impact** | Health impact | | | | | | Unmet health needs and ability of local products to meet them |
| | Linkages | | | | | | Value chain similar across subsectors. Animal health affects multiple sectors |
| | Sustainability impact | | | | | | All health product manuf. drives waste, but newer plants are often cleaner |
| **Product complexity and attractiveness to foreign investors** | Market demand[3] | ~560 | ~80 | ~50 | ~30 | ~10 | Based on estimated medium-term demand in the post-COVID-19 world |
| | Competitive landscape | | | | | | Need for advanced tech in pharma; 4 players cover 80% of syringe market |
| | Barriers to entry into local manufacturing | | | | | | Pharma production tech/talent already exists for mass-market drugs |
| | Input availability | | | | | | APIs[5] currently imported in large quantities; materials for syringes limited |

1. Numbers represent pre-COVID-19 size of local production ($Mn)
2. Numbers represent pre-COVID-19 size of import ($Mn)
3. Numbers represent pre-COVID-19 size of local demand ($Mn)
4. 600,000 currently
5. Active pharmaceutical ingredients

Source: IHS; Trade Map; World Bank; WHO (2016); press search; previous MA work; expert interviews; stakeholder interviews

# Supply is currently reliant on imports, with domestically-manufactured pharmaceuticals expected to have the highest impact on import substitution

| | Pharmaceuticals | Medical devices | Medical consumables | Dermo-cosmetics | Animal health | Key takeaways |
|---|---|---|---|---|---|---|
| **Local production** ($Mn) | 112 108 127 214 189 | 0 0 0 1 1 | *N/A – very small due to limited cost competitiveness* | *N/A – small* | *N/A – very small due to unreliable volume forecast* | **Limited health commodities manufacturing** with some pharmaceuticals manufactured locally **offering an opportunity for investment in large-scale manufacturing** |
| **Imports** ($Mn) | 495 338 489 1,433 2,811 | 41 41 166 2,472 120 | 48 42 57 209 195 | 18 16 11 10 37 | 7 9 6 7 9 | Nigeria's **heath commodities market is dependent on imports,** with **pharmaceuticals and medical devices having the highest opportunity for import substitution** |
| **Exports** ($Mn) | 1 1 1 5 0 | 0 0 0 0 0 | 0 0 0 0 0 | 1 2 1 0 0 | 0 0 0 0 0 | Nigeria exports a limited amount (~$2Mn/year) of pharmaceuticals and dermocosmetics with no significant exports of other health commodities |
| | 2016 17 18 19 2020 | 2016 17 18 19 2020 | 2016 17 18 19 2020 | 2016 17 18 19 2020 | 2016 17 18 19 2020 | |

Source: HIS; Trade Map; World Bank; press search; expert interviews

# Rationale for development impact assessment

ILLUSTRATIVE

## Health impact

### Definition

Magnitude of unmet health needs and ability of local products to satisfy them

### Assessment rationale

- **Pharmaceuticals** will have the largest impact across 3 aspects
  - Access to the ‘right’ set of products that address Nigeria’s disease burden
  - Quality and safety
  - Affordability
- **Medical devices** has an increasing demand for quality products but the cost competitiveness of local production is limited
- **Medical consumables and supplies** can improve the supply of COVID-19-related products in the short term, but the sustainability of demand is questionable

## Linkages

### Definition

Amount of indirect output that is supported by the sector, which can be interpreted as the ease through which money flows to other sectors connected to the value chain

### Assessment rationale

- **Pharmaceuticals, medical devices and medical consumables and supplies** have a similar value chain structure, where the raw materials are imported and the finished goods are brought to the market through a set of ~5,500 distributors
- **Animal health** products are smaller in size, but the improvement in supply and quality could impact the broader livestock industry and linked food and agriculture value chains

## Sustainability impact

### Definition

Magnitude of the environmental harm that manufacturing can cause and the likelihood of implementing green manufacturing methodologies to mitigate it

### Assessment rationale

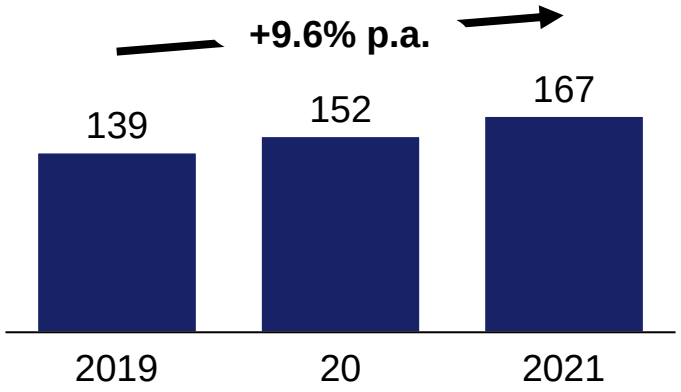
- **All subsectors** can be harmful in terms of waste streams from manufacturing (chemicals, etc.)
- However, newer, higher-quality plants have potential to reduce pollution compared to the existing facilities
- **Animal health** has been given a lower rating considering that green manufacturing is generally prioritized in pharmaceuticals rather than in animal health, especially in Africa

Source: Expert interviews

# Medical devices: Despite steady demand growth, the lack of cost competitiveness against imported products hinders local production

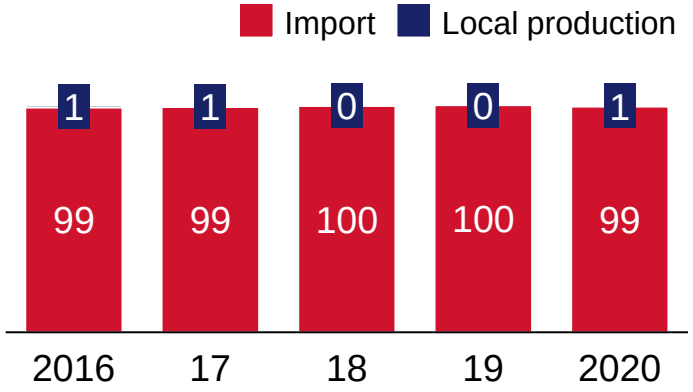
## Nigeria's demand for medical devices is growing fast …

Market size, $Mn



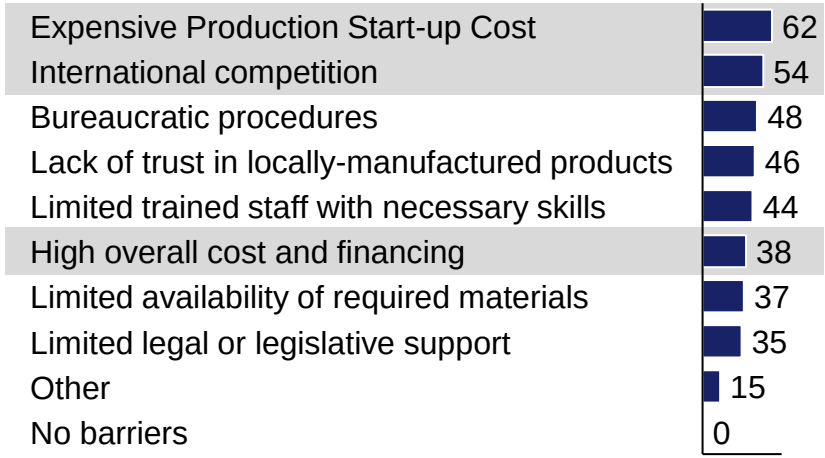

## … but is entirely served by imported products …

Percentage of import vs. demand




## … primarily due to the lack of cost competitiveness of local production

Barriers to local manufacturing, percent, n=52




## Growth drivers

- Development of the health system and health access
- Improving patent regime which encourages import

## Top import origin countries

- China (36%)
- Germany (10%)
- France (9%)
- India (8%)

Medical device manufacturing is almost non-existent in Nigeria, because the **cost of importing is significantly lower** due to the **lack of infrastructure and capability**

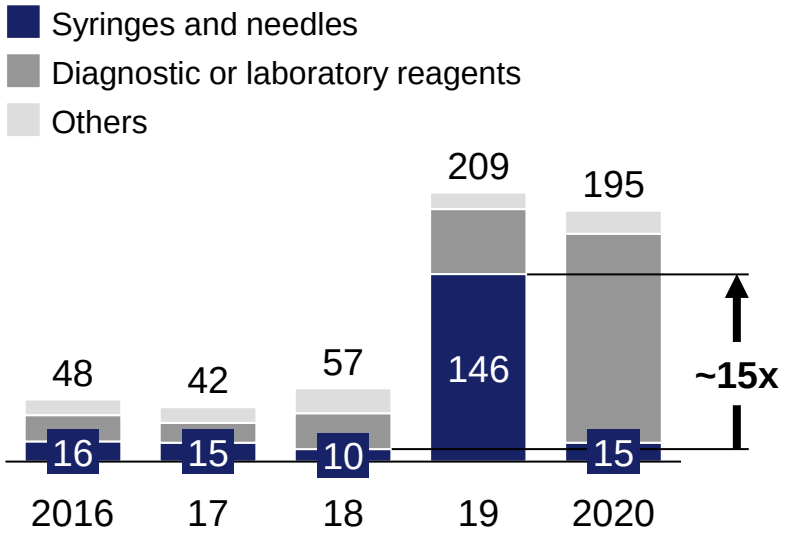
Nigerian health sector expert

Source: Informa Markets; Trade Map; WHO (2016); expert interviews

# Medical consumables: Although local manufacturing is nascent in Nigeria, recent governmental mandates will impact future growth

## COVID-19 pandemic has increased Nigerian demand for syringes and needles …

**Nigeria's import of medical consumables and supplies[1]**, $Mn




## … and the Nigerian Government has started pushing for local production

- In February 2021, the **senate warned** that the majority of **imported syringes and needles** are **substandard and unsterile** (used and rewashed syringes from Asia)
- 2 months later, the senate asked the federal government to implement a policy that will ensure **all government-funded hospitals and health centres in the country procure their needles and syringes from local manufacturers**

"

One of the manufacturers in Nigeria, **Jubilee Syringe,** of which I am the MD, **is the largest manufacturer** of syringes in Africa. We have just been approached by **other countries in Africa to export our syringes** to them. There is no doubt about having the capacity

President, Medical Devices Manufacturers Association of Nigeria, Akin Oyediran
(in public news article)

Although the **pre-COVID-19 demand level for the commodity is not large**, **1) responding to COVID-19 demand in the short term** and **2) substituting regional import in the medium term** could be an interesting opportunity

1. Increase of imports in 2019 and 2020 can be attributed to stockpiling led by the government

Source: Trade Map; press search

# Pharmaceuticals: Nigeria has a sizeable pharmaceutical industry with opportunities for investment in large-scale manufacturing

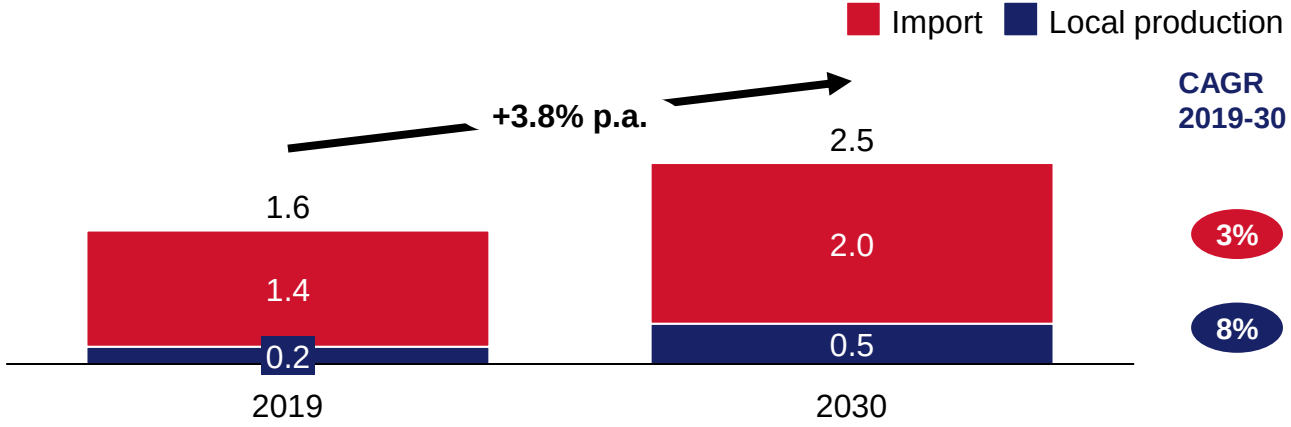
## Country context

- Nigeria is the **most populated country in Africa,** with a population of 200Mn[1]
- Nigeria **has the largest labour force** and working age population in Africa – 110Mn people of working age with a significant tilt towards younger demographics
- Nigeria also has been the **largest economy in Africa** over the last 7 years, with a GDP of >$440Bn in 2019 and projected to grow at CAGR of 2.5% over next 5 years
- Currently, the **Nigerian Government is introducing new policies** to promote the diversification of the economy and **development of the manufacturing industry**

## Overview of pharmaceutical manufacturing industry

- Nigeria's **pharmaceutical industry is valued at $1.8Bn with >85% served through importation of raw materials**
- Pharmaceutical manufacturing sector contributes **0.4% of GDP** and creates jobs for **>600,000 people in Nigeria**[4]
- There are >**150 local manufacturers** out of which only **4 are WHO-GMP certified**[5]
- Nigeria accounts for ~**60% of health commodities production in the Economic Community of West African States** (ECOWAS) by volume[2]

### Nigeria's pharmaceutical market projection,[3] $Bn




## Key takeaways

- There is an **opportunity to invest in large-scale manufacturing** targeting local demand with a possibility of also exporting to neighbouring countries
  - Nigeria's pharmaceutical industry is **heavily reliant on imports,** creating an **opportunity for import substitution**
  - In addition, Nigeria is the largest exporter of health commodities in the ECOWAS region offering **additional market opportunity through exports**

1.World Bank 2019 estimate
2.https://www.who.int/medicines/publications/druginformation/WHO_DI_28-4_Prequal.pdf
3.Derived from previous MA manufacturing work
4.https://www.nigeriapharmaexpo.com/press_release.php
5.Chi Pharmaceuticals, Evans Medical, May & Baker and Swiss Pharma Nigeria

# Investments in the local pharma manufacturing sector could have 5 main effects on the country

| | | Rationale |
|---|---|---|
| **Health** | **1 Access to the 'right' set of products** | **Access to drugs for diseases that disproportionately affect Nigeria: I**ocal manufacturing of drugs for which Nigeria has an outsized disease burden, e.g., malaria |
| | **2 Quality and safety** | Given the domestic orientation of the pharma industry in Nigeria, investments in operational excellence and manufacturing quality may lead to **improved drug quality** in the country |
| | **3 Affordability** | **Large-scale local manufacturing in Nigeria could be cost competitive:** ~20% cheaper than imports in the private channel (2018); however, from an end-consumer perspective, Nigeria could save 7% on product costs by 2027 |
| **Economic** | **4 GDP growth** | Total annual GDP impact likely to be positive at ~$230Mn by 2027, equivalent to ~0.8% of Nigeria's GDP growth from 2026-27. May also reduce the need for forex |
| | **5 Skilled jobs** | Increased local manufacturing is expected to result in ~2,000 new jobs in 2027, representing <0.1% of the college-educated population |

# Pharmaceuticals upstream consists of 3 value chain steps, where access to inputs and scale to compete against imports will be key

## Pharmaceuticals upstream value chain

Manufacturing value chain


Market consists largely of generic and OTC drugs. Typically R&D is done globally by multinationals

Currently, there are no API manufacturers active in Nigeria, which is fully reliant on imports from countries such as India, China and the UK

More than 150 manufacturers (multinational and local companies) producing finished health commodities (e.g., tablets, capsules, injectables and topical products)

## Key considerations

| | |
|---|---|
| **Inputs** | Access to reliable supply of raw materials, machinery spare parts and other inputs for manufacturing |
| **Scale** | Scale of manufacturing output necessary to ensure economic viability |
| **Product complexity** | Manufacturing and regulatory requirements to market product in Nigeria and other neighbouring countries |
| **Infra-structure** | Access to reliable electricity, clean water supply and transportation routes |
| **Talent** | Availability of skilled workforce at competitive wages |
| **Investment needed** | Required investment to establish manufacturing plants |

# Finished goods production is the most feasible option, particularly because of access to inputs and required scale

● High feasibility ◔ Low feasibility ▭ Most feasible step of value chain for local manufacturing

Manufacturing value chain →

| Feasibility assessment | R&D | API | Finished goods |
|---|---|---|---|
| 1 Access to inputs | | ◔ **Limited access to refined high-quality petrochemical inputs**[1], given the maturity of the petrochemical industry | ◑ **Access to imported APIs and other inputs**, though the speed and reliability is a challenge |
| 2 Required scale | | ◔ **Given local demand size, hard to compete against global players** (e.g., India or China). Process industry where the **economy of scale is critical** | ◕ **Sufficient and stable demand** in generic and OTC drugs for **common symptoms**, supported by local disease pattern |
| 3 Product complexity | | ◑ Technology currently not in place, but can be imported | ◕ Existing production technologies for simple forms of products (e.g., tablets, capsules and unsterile liquids) |
| 4 Infra-structure | | ◔ Requires higher standards for access to infrastructure (i.e., electricity and water) | ◑ Although the cost of electricity is still a challenge, local products are cost competitive with imports |
| 5 Talent | | ◔ Due to nascent industry, the skilled talent pool is very limited | ◑ Talent pool of university graduates is limited, but on-the-job training programmes are provided in some local companies |

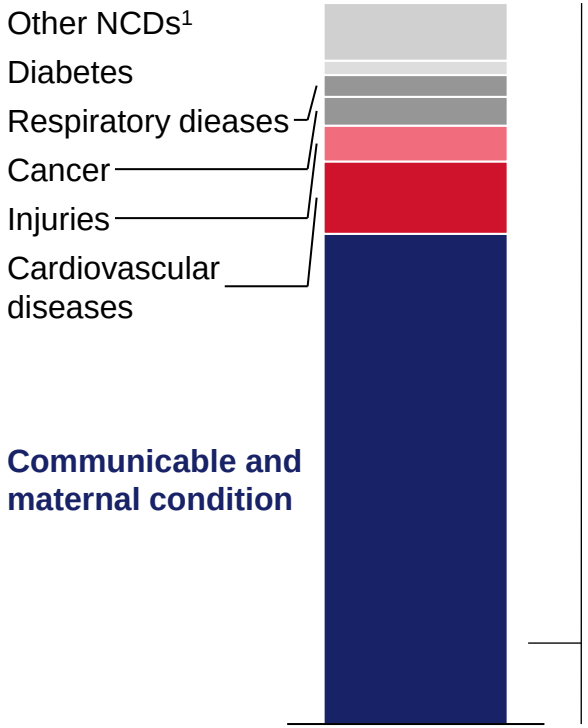
1. Chemicals are used in 2 ways: APIs which furnish pharmacological activity in the body and passive ingredients (fillers and excipients) to bind all the other substances together. Producing petrochemicals for pharmaceuticals will require a higher level of treatment and certification (e.g., lower levels of impurities) as well as a tighter audit process from authorities

Source: Expert interviews; press search

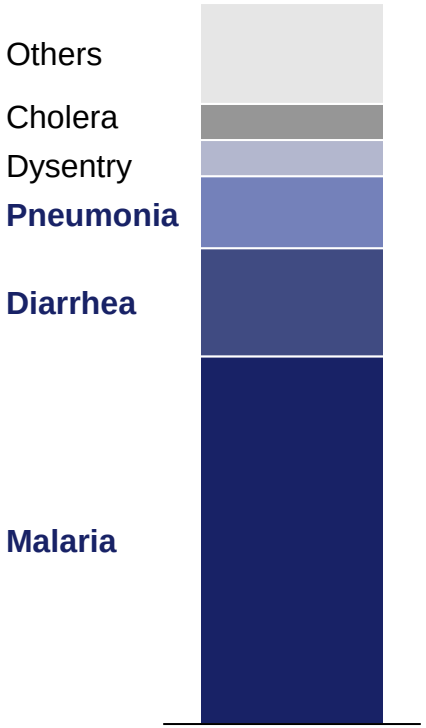
# Reflecting the disease burden, the Nigerian pharma market consists largely of generic and OTC drugs for common symptoms

## Disease burden in Nigeria

### Disease types




### Sources of infection




## Locally manufactured drugs, percent market share

| Drug names | Market share | Primary form |
|---|---|---|
| Analgesics/antirheumatics/antipyretics | 25 | Tablet |
| Antibiotics and antibacterials | 15 | Tablet, capsule |
| Multivitamins and haematinics | 15 | Tablet |
| Antimalarial medicines | 14 | Tablet |
| Antihypertensives | 8 | Capsule |
| Antiretroviral medicines | 6 | Tablet |
| Cough and cold preparations | 5 | Liquid |
| External/topical preparations | 5 | Cream, liquid |
| Anti TB medicines | 4 | Tablet |
| Others | 3 | |
| **Total** | **100%** | |

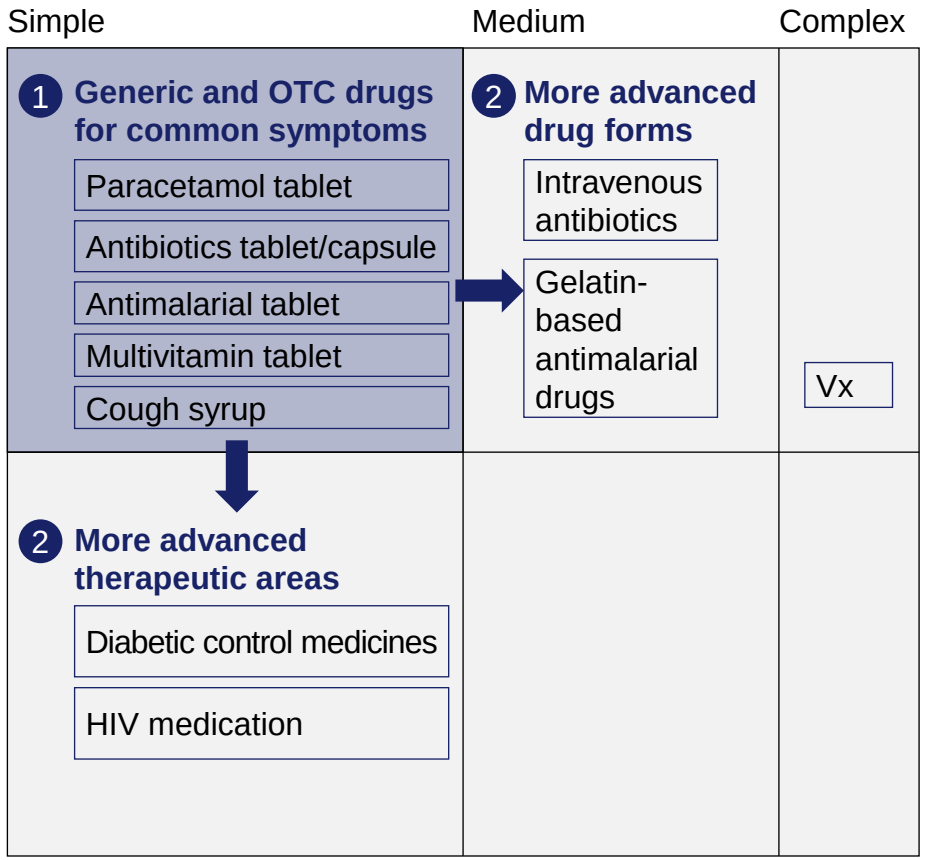
1. Non-communicable diseases

Source: High Commission of India (2020)

# A significant opportunity for foreign investors could be to focus on generic and OTC drugs for common symptoms, with differentiation through technology

## Potential market entry strategy for foreign investors

Area of local manufacturer's focus  Example of products to manufacture




1 **Development of large-scale production facilities** for manufacturing generic and OTC drugs for common symptoms at competitive prices for the mass market

2 **Provide advanced technologies** in drug production, to attract **local partners** looking to move into new technologies and skills

## Implication to investor portfolio

- Priority could be given to **generics companies** who would be interested in the mass market
- Considering the potential opportunity to differentiate, pharma companies with products in **more advanced therapeutic areas (e.g., diabetes)** and **advanced drug forms (e.g., gelatin)** would contribute more to building local industry
- Vaccines manufacturing may be more difficult to establish due to the complexity of production processes, but investment could initially target support processes such as packaging

Source: Expert interviews

# There are 4 investor archetypes exist that could be targeted for investment into pharmaceutical manufacturing

NOT EXHAUSTIVE

| Archetypes | Description | Examples | Investor rationale |
|---|---|---|---|
| **Innovators with generic manufacturing subsidiaries** | Subsidiaries of large innovator pharmacos that produce generic pharmaceutical and consumer (i.e., OTC) products | MERCK, Pfizer, SANDOZ A Novartis Division | Accelerate the technological advancement of the Nigerian pharmaceutical manufacturing sector by bringing innovator companies with strong R&D and manufacturing capabilities into Nigeria |
| **Generic pharmaceutical companies** | Companies that focus on generic (i.e., off-patent) products, with international geographic footprint and large-scale manufacturing capabilities | Mylan, Cipla, AUROBINDO, SUN PHARMA | Increase access to essential medicines and grow the pharmaceutical market with a potential to generate export revenues |
| **Large distribution companies operating in Nigeria** | International and regional distributors (i.e., wholesalers, retail chains) operating in Nigeria interested in investing or partnering with local manufacturers[1] | Imperial™ beyond possibility, BIOFEM | Develop the local pharmaceutical manufacturing value chain by enabling distributors with strong financial resources and local understanding to partner and co-invest in scaling up local manufacturing capabilities |
| **Other potential investors** | Development partners and private equity firms interested in investing or partnering with local manufacturers[1] | IFHA INVESTMENT FUNDS FOR HEALTH IN AFRICA, VENTURE, TATA CAPITAL We only do what's right for you, AVCA African Private Equity and Venture Capital Association | Enable access to financial resources for local manufacturers to scale up manufacturing capabilities by bringing stakeholders interested in investing into Nigeria's pharmaceutical industry |

1. Examples of local manufacturers include Sterling Products Nigeria, Fidson Healthcare, Greenlife Pharmaceuticals, May & Baker, Afrab Chem Limited, etc..

# Contents

# Executive summary

### Context

This chapter examines the health manufacturing value chain with a focus on the pharmaceuticals manufacturing subsector, which was identified as the most promising health subsector in the previous chapter. It provides an overview of the critical dynamics in the subsector and identifies specific areas for investment opportunities

### Pharmaceutical value chain analysis

- *Value chain structure:* the pharmaceutical value chain consists of 4 steps: raw material supply, finished goods manufacturing, distribution and retail – each of which has a very fragmented player landscape
- *Raw materials* are mostly sourced internationally. Some of the foreign players manufacturing in Nigeria purchase APIs through global procurement arrangements, which leads to cost competitiveness against local players. Local production of APIs is gaining attention in Nigeria partially due to the government's push, but it is likely to be a longer-term play involving cross-sectoral development with the petrochemical industry
- *Finished goods* manufacturing is highly fragmented and quality standards are still considered a challenge. There is opportunity for foreign investors to set up large-scale, high-quality production capacity, particularly in the mass market of generic and OTC products for common symptoms. Contract manufacturing is increasingly becoming a common practice for foreign investors expanding their presence in Nigeria, enabling reduced risk exposure to forex fluctuation and boosting local capabilities through technology transfer
- *Distribution* is even more fragmented, with a few sizeable players (e.g., Worldwide Healthcare) which handle both imported branded products and locally-produced generic products. Foreign manufacturers typically partner with those few sizeable players to secure offtake volume

### Investment opportunity

- The existing finished goods manufacturing capacity varies across product categories, but overall there is a large white space which is currently met by imported products, particularly in the mass market of generic and OTC products for common symptoms (preliminarily estimated at a billion-scale investment). A large-scale manufacturing facility (with 2-3Bn doses for a tablet plant) could result in ~15% cost competitiveness against imported products and ~20% against currently locally manufactured products at subscale
- This investment opportunity can be captured by foreign investors in 3 forms: 1) self-buildout, 2) local partnerships (e.g., contract manufacturing) and 3) financial investment – each of which has different investment rationale and fit for investor archetypes. Using this categorisation, we can prioritise investors that have the highest potential for investment in manufacturing in Nigeria

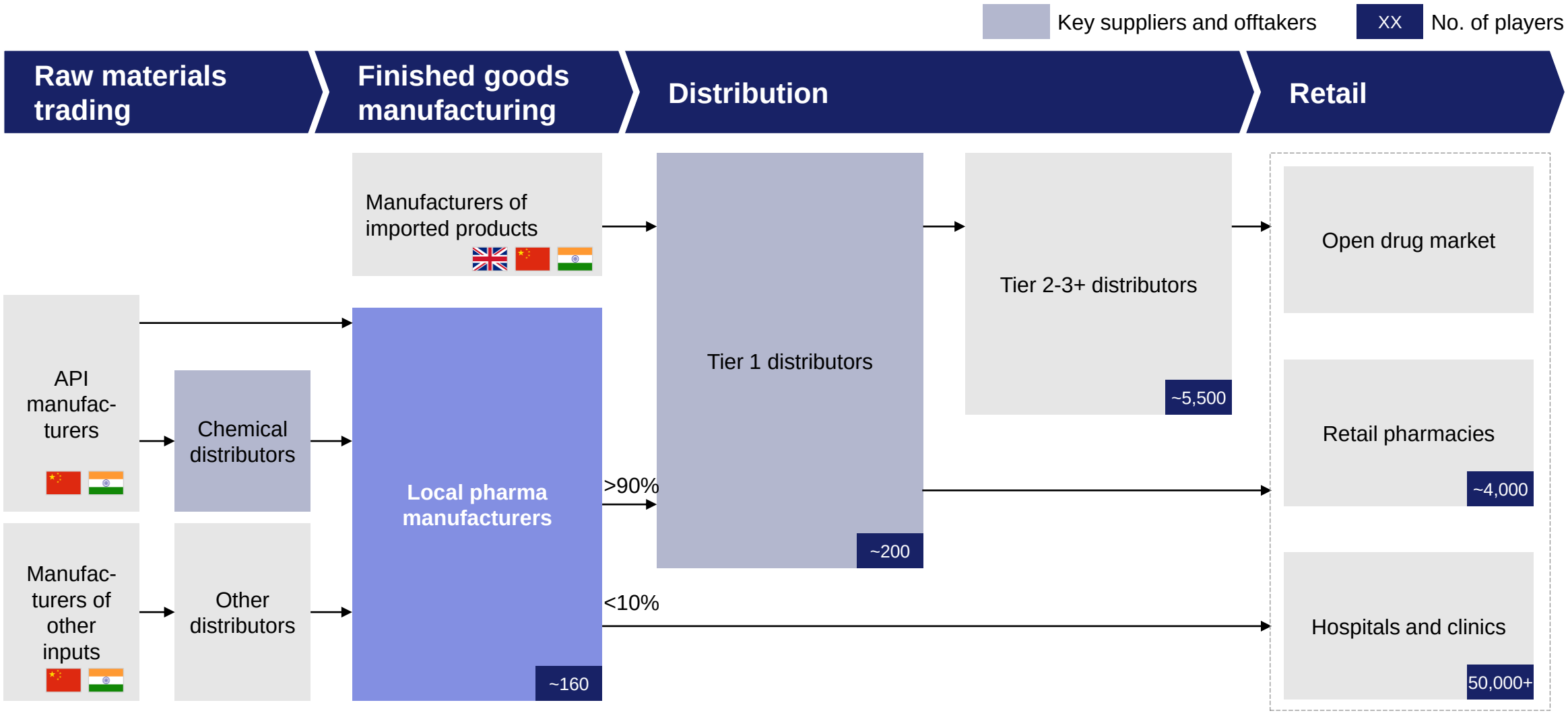
### Key success factors and challenges

- *Risk and mitigation*: industry challenges exist at each stage of the value chain. These are being mitigated via several innovations and interventions. Key risk areas for foreign players in setting up manufacturing plants and businesses include competition with imported products and weak regulation, amongst others. Identifying the correct local partners could help alleviate some of these challenges

### Conclusion

- This analysis has identified 3 key areas of deals for pipeline building: (1) contract manufacturing deals to boost investments into large-scale, high-quality production facilities, (2) financial investment into local players to do the same and (3) backward integration investments by the existing players which are prominent in the local market

# The pharmaceutical value chain consists of 4 steps, each of which has a fragmented player landscape



# Overview of the pharmaceutical finished goods manufacturing landscape

| | |
|---|---|
| **Existing manufacturers** | Amongst a **fragmented landscape** of ~160 companies that manufacture and distribute pharmaceuticals in Nigeria, there are only ~15 players with revenues >$10Mn |
| **Product range** | Existing production is **skewed towards generic and OTC drugs for common symptoms** and there is limited capacity for a wider range of products |
| **Market trend** | **Contract manufacturing** is an increasingly common practice for foreign players expanding their presence in Nigeria<br>Leading players are moving toward **backward integration of API production**, which requires cross-sector development together with the petrochemical industry |
| **Key constraints** | Local manufacturers are increasingly obtaining **quality certifications,** but this is still considered a challenge (i.e., only 4 players are WHO-GMP certified) |

Source: WHO; UNIDO; Expert interviews

# Pharmaceutical manufacturing is highly fragmented, with only ~15 players exceeding $10Mn revenue

xx Number of production facilities in Nigeria

Associated with a foreign pharma manufacturer

## Estimated revenue of top 20 pharma manufacturers, $Mn, 2019

| | | | |
|---|---|---|---|
| 1 | Emzor Pharmaceutical Industries | 74 | 4 |
| 2 | GlaxoSmithKline Nigeria | 56 | 1 |
| 3 | Fidson Healthcare | 44 | 1 |
| 4 | Juhel Nigeria | 40 | 2 |
| 5 | Swiss Pharma Nigeria | 31 | 1 |
| 6 | May & Baker Nigeria | 25 | 1 |
| 7 | Vitabiotics Nigeria | 20 | 1 |
| 8 | Chi Pharmaceuticals | 19 | 1 |
| 9 | Reckitt Benckiser Nigeria | 18 | 1 |
| 10 | Ranbaxy Nigeria | 18 | 1 |
| 11 | Nigerian-German Chemicals | 18 | 1 |
| 12 | Afrab Chem | 14 | 1 |
| 13 | Fareast Mercantile | 12 | 1 |
| 14 | Orange Drugs | 12 | 1 |
| 15 | Evans Medical Group | 11 | 2 |
| 16 | Chemiron International | 10 | 1 |
| 17 | Neimeth International Pharmaceuticals | 7 | 1 |
| 18 | Tuyil Pharmaceutical Industries | 7 | 1 |
| 19 | PZ Cussons Nigeria | 7 | 1 |
| 20 | Dana Pharmaceuticals | 7 | 2 |

Source: Asoko Insight; NAFDAC; Company websites; Capital IQ; Euromonitor

The Nigerian pharmaceutical manufacturing space is highly **fragmented**

Out of the ~160 inspected manufacturers, there are **only ~15 local manufacturers exceeding $10Mn revenue**. Majority of the rest are medium- or small-sized, with <$5Mn in revenue

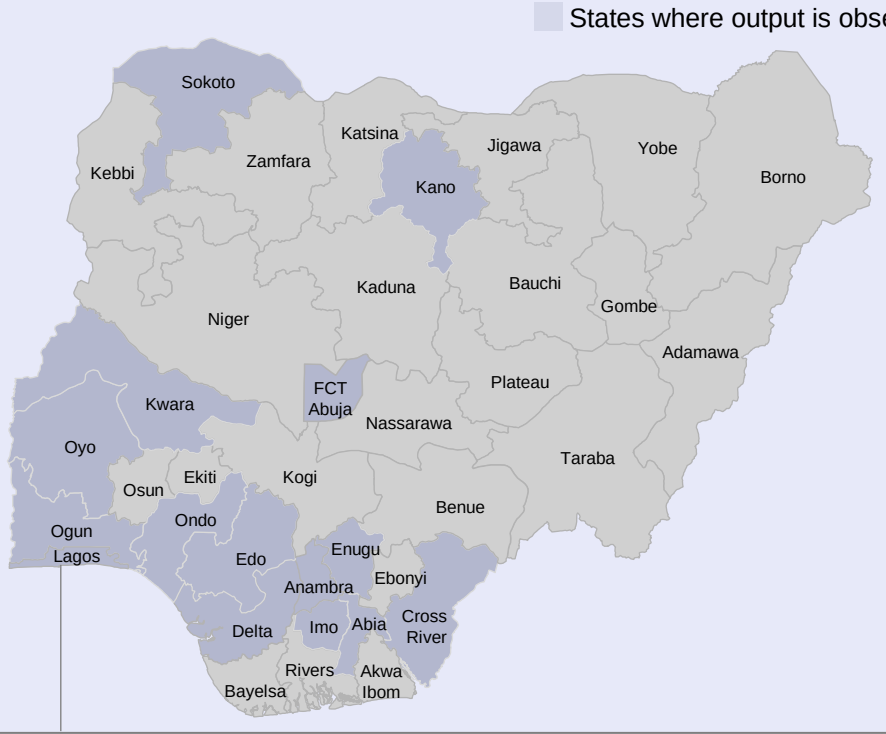
**5 out of 10** top players are **foreign pharma companies** from Europe or India

# Manufacturing activity is concentrated mainly in Lagos and other southern states

| State | Description of activity |
|---|---|
| **Lagos** | A major **concentration of pharma producers are headquartered** in Lagos, including GlaxoSmithKline, Fidson Healthcare, Vitabiotics and Emzor |
| **Ogun** | Headquarters of Ranbaxy and Drugfield, among others. Additionally, manufacturers like Fidson and Emzor **operate pharmaceutical factories** in Ogun |
| **Enugu** | Moderate concentration of production facilities and also the headquarters of Vadis and Juhel |
| **Kano** | The **planned Kano Economic City** is expected to include a pharmaceutical hub<br>Kano's Investment Promotion Agency flagged pharmaceuticals as an investment opportunity. Kano has also inaugurated a steering committee for the Sustainable Drugs Supply System Scheme |

Source: D&B Hoovers; Asoko Insight; Kano State Government

## Presence of manufacturing activity by state




Largely concentrated in Lagos where the majority of leading companies are headquartered, often with factories situated in Ogun

A 2nd hub of producers is located in the south, including Enugu, Anambra and Imo states

# Contract manufacturing is becoming an increasingly common practice for foreign players expanding their presence in Nigeria

## What is contract manufacturing?

- Contract manufacturing is the practice of **hiring local companies** to produce products
- **Typically no financial investment** is made by foreign investors, but they offer **long-term contracts to mobilise local capital**
- **Technology transfer** through **regular production audits** and **supplier audits** are key components of this arrangement

## Increasing trend in contract manufacturing of pharmaceuticals in Nigeria

| Entrant | Year of entry | Recent activities |
|---|---|---|
| gsk | 1982[1] | • Established in 1971; built a production facility in 1982<br>• **In 2019**, announced a plan to shut down its plant in Ogun state by 2021 to switch to contract manufacturing of respiratory and wellness products by **Fidson** |
| SANOFI | ~2004 | • **In 2019**, Sanofi signed a contract manufacturing agreement with **May & Baker Nigeria** to use the latter's WHO-prequalified manufacturing facility to produce its products |

Historically there has been a **gap between local manufacturers and importers**. Local manufacturers tend to stick to their own products, which has resulted in **lower utilisation** rates of their facilities

**Contract manufacturing can create a win-win situation** for both importers and local manufacturers

Manager, Nigerian local pharmaco

This partnership [between GSK and Fidson] **justifies the investment** made in our cGMP-compliant factory and will certainly promote the transfer of **technical know-how and technology** while improving **access to quality medicines** for people of the **West African subregion** and **beyond**

Managing Director/ CEO of Fidson (in public news article)

1. Year of starting local manufacturing

Source: Expert interviews; company websites; press search

# Local manufacturers are increasingly attaining quality standards, but gaps still exist

## Nigerian landscape detail

| Company[1] | Year of establishment | Number of products | Type of manufacturer (API[2], DP[3], packaging) | GMP certification[4] National GMP (2019) | cGMP (2019) | WHO GMP (2019) |
|---|---|---|---|---|---|---|
| GlaxoSmithKline Nigeria | 2000 | 10 | DP | ✓ | ✗ | ✗ |
| May & Baker | 1944 | 34 | DP | ✗ | ✓ | ✓ |
| FIDSON | 1995 | 36 | DP | ✓ | ✓ | ✗ |
| Emzor | 1984 | 140 | DP | ✓ | ✓ | ✗ |
| JUHEL | 1987 | 100 | DP | ✓ | ✗ | ✗ |
| Evans Medical PLC[5] | 1954 | 31 | DP | ✓ | ✓ | ✓ |
| swipha Swiss Pharma | 1976 | 30 | DP | ✓ | ✓ | ✓ |
| Nigerian-German Chemicals[5] | 1964 | 65 | DP | ✗ | ✗ | ✗ |
| RANBAXY[5] | 1987 | 46 | DP | ✓ | ✓ | ✗ |
| chi | 1996 | 21 | DP | | | ✓ |

1.Top 9 companies according to Nigeria Pharmaceutical Sector Profile, UNIDO Report and Chi Pharmaceuticals
2.Active pharmaceutical ingredient or drug substance can include the cell bank development, manufacturing process development and scale-up
3.Drug product: filling of the drug substance into the primary container
4.Good Manufacturing Practice – GMP indicates certification with at least 1 GMP certification (e.g., PIC/S GMP, Nigerian GMP, cGMP)
5. Data as at 2016

Source: UNIDO, WHO, Pharmacists Council of Nigeria, company websites, press searches

## Key observations

- Top **domestic manufacturers focus on drug production** rather than API/drug substance production
- Nigerian manufacturers have been working to reach international quality standards; **4 local drug manufacturers are currently WHO GMP certified**: Chi Pharmaceuticals, Evans Medical, May & Baker and Swiss Pharma Nigeria
- **GMP-compliancy provides several advantages,** including eligibility for international tenders for medicines, improved brand image and reduced manufacturing costs due to improved capacity utilisation
- Whilst a road map exists to upgrade existing manufacturing facilities, **quality remains a challenge amongst domestic manufacturers**

# Multiple experts have confirmed the need and potential for investments in large-scale, high-quality production facilities

## Key investment areas in pharma manufacturing

### Quality

**Focus on quality** through:

- Investments in state-of-the-art plants
- Investments in quality raw material suppliers
- Strengthening of national regulatory capacity

### Portfolio and production capacity

**Build plants with sufficient scale** (annual output of 2-3Bn for tablets[1]) to drive **economies of scale** and enable production of a diverse portfolio of products to address Nigeria's disease burden

### Flexibility

Establish production facilities that allow **flexible changes of product lines** as the **market evolves** into wider range of products

> "There's a clear need for large-scale plants to serve the demand in Nigeria and even in the regional market of Western Africa. Recommend to start small, then expand to see the viability"
>
> Former GM, pharmaco in Nigeria

> "Cost competitiveness improves as you invest in sufficiently large scale production facilities"
>
> Manager, Nigerian local pharmaco

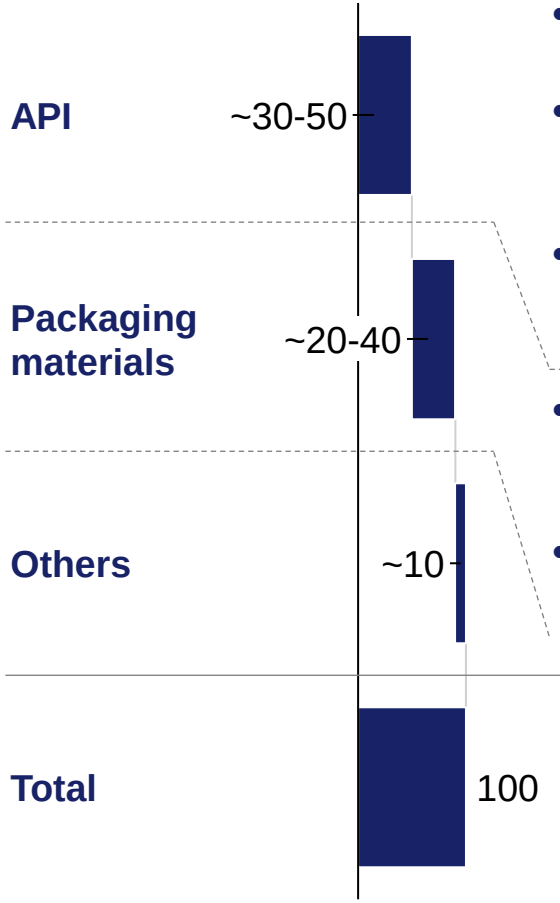
> "Differentiation by bringing technologies is key. Recommend to invest in large-scale, but flexible facilities as you create demand in the market for a wider range of products over time"
>
> Director, pharmaco in Nigeria

1. Most of the existing plants are at the scale of several hundred million tablets

Source: Expert interviews

# Sourcing: Raw materials are mostly sourced internationally, with global procurement agreements enabling cost-competitive access

## Typical direct material cost breakdown, percent




## Sourcing situation for Nigeria

- **Currently ~100% dependent on imported products,** mainly from India and China (no local manufacturers produce APIs)
- Procured primarily through international **chemicals distributors**, but a handful of the largest players procure directly from manufacturers
- Most **multinational manufacturers** in Nigeria purchase APIs through **global procurement arrangements**, which leads to **cost competitiveness** against locally-grown manufacturers

- **Mostly dependent on imported products**, with a small portion of packaging materials sourced domestically (secondary and tertiary packaging materials)
- **Primary packaging materials account for the majority** of packaging material cost and are currently mostly imported given their **impact on product safety**

## Examples of local suppliers

- Ozah Chem and Pharm
- Macjames Eco-friendly Products

- Primary – PrimePak Industries
- Secondary and Tertiary – NICAPACO

Source: Expert interviews

# Local production of APIs is gaining attention in Nigeria, but is likely to be a long-term opportunity that involves multi-sector development

Deep dive follows

## Recent tailwind for local production of APIs

### Government's push for local API production

- In 2021, the Nigerian Government announced a **new National Drug Policy** which emphasises local production of raw materials and finished goods
- The **Central Bank of Nigeria** (CBN) announced a **new financing scheme** targeting the local production of pharmaceutical raw materials

### Positive industry response

- **Emzor** announced an API manufacturing technology transfer and licensing agreement with **Mangalam Drugs and Organics Limited (India)** to locally manufacture and distribute **API for antimalarial drugs** (August 2021)

## Feasibility assessment

| Criteria | Feasibility 2020 | Feasibility 2025 | Rationale |
|---|---|---|---|
| Access to inputs |  | | • Requires coordinated development with petrochemical industry; the Nigerian Government has already started industry engagement |
| Scale to compete |  |  | • West African demand is small compared to the global demand that multinational API players currently capture<br>• There is a possibility that the Nigerian Government applies import restriction or tariff measures to discourage imports as domestic capacity ramps up |
| Funding |  | | • CBN's funding commitments for pharma investment are documented, but most manufacturers source funding independently |
| Infrastructure |  | | • API manufacturing requires higher standards for access to infrastructure than finished goods manufacturing |
| Talent |  | | • Since the industry is nascent, the skilled talent pool is very limited and training will require sustained long-term investment |

High feasibility
Low feasibility

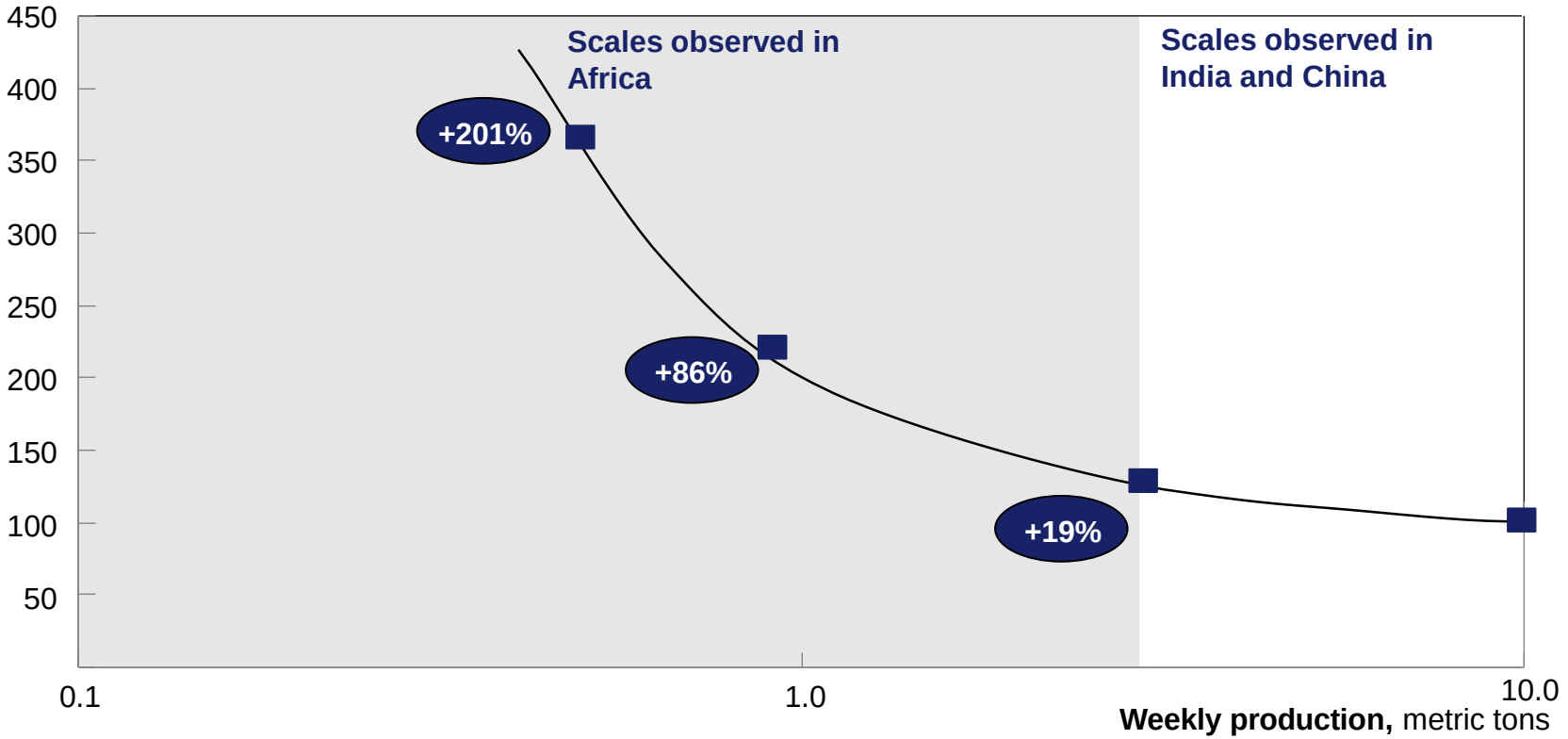
Source: Expert interview; press search

# Today, African manufacturers struggle to attain competitive pricing vs. Chinese and Indian manufacturers, largely due to economies of scale

XX Increase in unit cost vs. a 10MT-scale manufacturing unit

**Estimated unit cost of 1 kg of API Nevirapine based on the scale of the production unit**

$ per kg




Source: National and international expert interviews

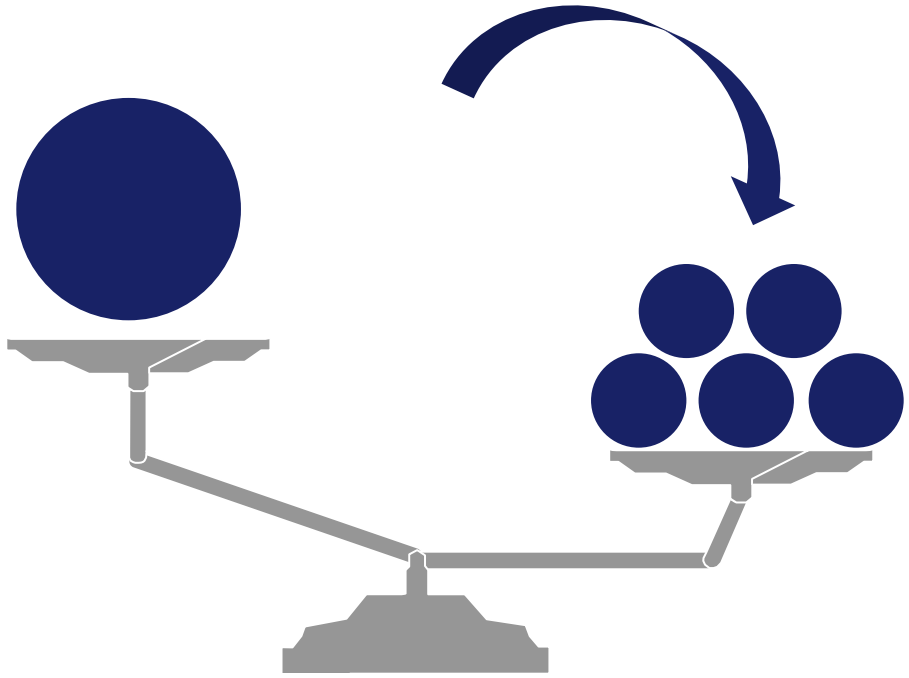
**Production costs are multiplied by 2 or 3 on average for a tonne of API produced in Africa vs. China or India**

In addition to economies of scale, factors such as average utilisation, labour productivity, availability of inputs, access to talent and technological capabilities also impact overall competitiveness

# The launch of local API production would be a heavy lift – there would be room for a few large players, but likely not for ~10 players

## Traditional challenges in local API production

- **Scale to compete** against imported products produced at 10MT scale in India and China
- Access to high-quality local inputs



## What you need to believe to boost local API production

- **A handful of local players have the will and capability to invest in large-scale production plants** in a **coordinated manner** (to avoid over-investment in excess capacity) and create access to regional markets in Africa through their combined effort
- **Coordinated development with the petrochemical industry** to enable local, quality inputs and fully indigenous production which is free from the burden of acquiring forex
- **Effective intervention by the government** to provide incentives and facilitate cross-industry coordination
- Forex market continues to be unfavourable for importing APIs

Source: Expert interview; press search

# Since there are no current plans by petrochemical players to supply raw materials to API manufacturers, discussions could be pursued immediately to enable backward integration

## API manufacturing depends on inputs from the petrochemical industry

- Petrochemical industry is the key source of raw materials for API manufacturers, providing the organic building blocks used as base products for API manufacturing
- Local Nigerian pharmaceutical players can benefit from the developing petrochemical industry to source the required raw materials

## Local petrochemical players could expand their capacity to supply inputs to API manufacturers

- Local pharmaceutical manufacturers, such as Emzor, are already on their way to establishing local API manufacturing plants
- Once operational, these players would require petrochemical-derived raw materials
- Current petrochemical players could think about expanding into manufacturing of raw materials for API manufacturers
- This would require establishing new dedicated plants as retrofitting existing petrochemical plants would not be possible
- Investment required would be at the scale of ~$10,000/MT and will likely be a long-term opportunity

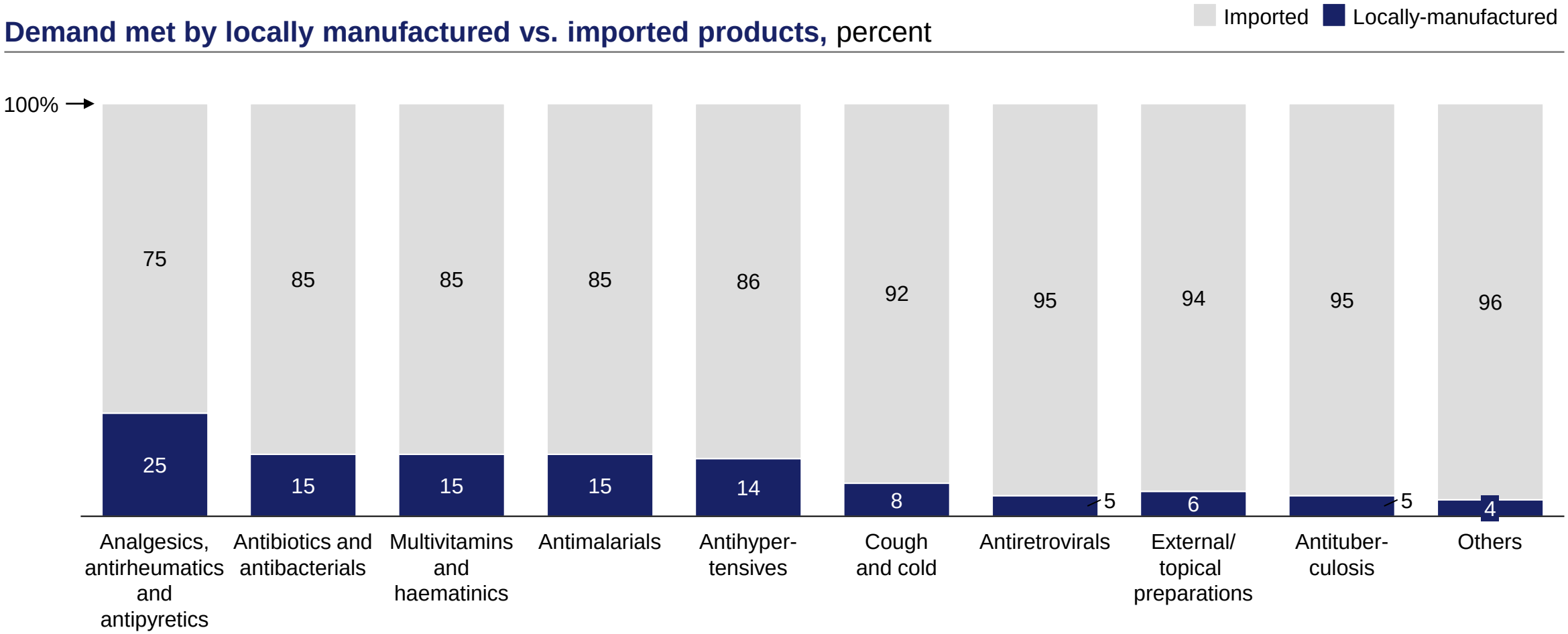
## Backward integration with the petrochemical industry would enable reliable supply of inputs and drive cost competitiveness

- Local players going into API manufacturing would initially need to rely on imported raw materials
- However, there is opportunity for discussions between potential API producers and key oil and gas companies (e.g., Dangote Group) to develop supply agreements

Source: Expert interviews

# Investment opportunity: Despite variation among product categories, there is significant opportunity for import substitution

## Demand met by locally manufactured vs. imported products, percent

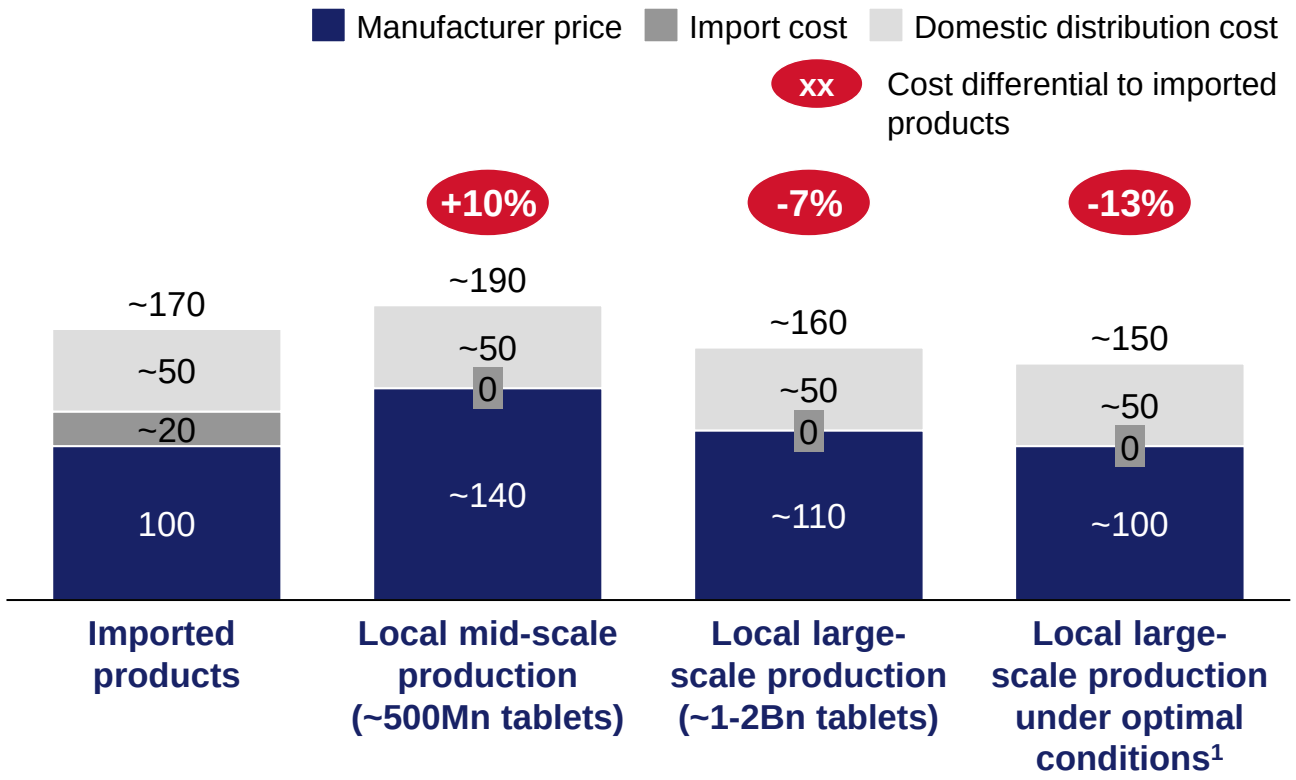



Source: Asoko Insight

# Large-scale manufacturing facilities could have a cost advantage vs. both imported and locally manufactured products

## Total cost comparison of tablet products manufacturing

Indexed to imported products' landed price




**Current state observed in the market**

## Factors contributing to cost competitiveness

**Economies of scale**

**Sufficiently large production facility** (~2-3Bn tablets p.a.) drives a decrease of unit costs

**Direct procurement of API at scale** is currently conducted by a handful of large players

**Government incentives**

The government provides broader support and incentives to local manufacturing though its **implementation level is varied** (e.g., CBN sets higher priority in official forex rates allocation to raw materials import, however not all of requests are satisfied)

**Infrastruc-ture**

Although it is mitigated by careful selection of factory locations by companies, **access to low-cost electricity** and other infrastructure is a burden for local manufacturing

1. Based on independent cost analysis that assumes an application of global best practices in local business environment (e.g., labour cost)

Source: Expert interviews

# There is a sizeable investment opportunity, with investment needs at a billion-dollar scale

High-level estimate of investment opportunity in large-scale production of pharmaceuticals in Nigeria

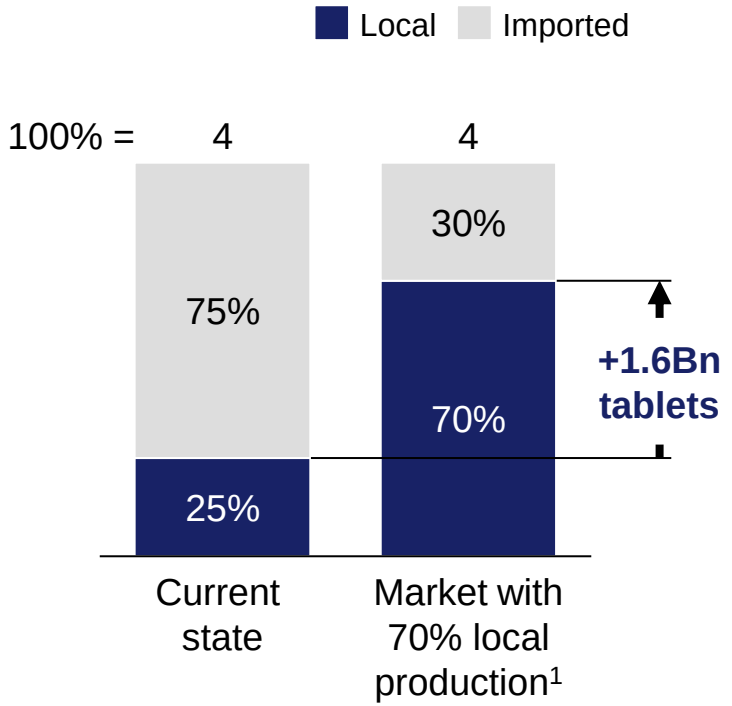
**PRELIMINARY**

## Locally manufactured drugs, percent market share

| Drug names | Market share |
|---|---|
| Analgestics, antirheumatics, and antipyretics | 25 |
| **Antibiotics and antibacterials** | 15 |
| Multivitamins and haematinics | 15 |
| Antimalarial medicines | 14 |
| Antihypertensives | 8 |
| Antiretroviral medicines | 6 |
| Cough and cold preparations | 5 |
| External/topical preparations | 5 |
| Anti-TB medicines | 4 |
| Others | 3 |
| **Total** | **100** |

## Investment opportunity for import substitution of antibiotics and antibacterials

### Required production capacity increase,
Bn tablets per year, percent of demand




### Investment opportunity

**Large-scale plant**

~2-3Bn tablets annual production

~$150/100Mn for greenfield/brownfield investments

**Import substitution for antibiotics alone would require 1 large-scale plant**

To achieve the same across multiple product categories, **investment needs would be at a billion-dollar scale**

1. 70% local production is the GoN target per Nigerian National Drug Policy (2006)

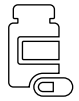
Source: Expert interviews; Nigerian Federal Ministry of Health; WHO; Nigeria Centre for Disease Control

# This investment opportunity can be captured by foreign investors in 3 ways

| Investment archetype | Description | Investment rationale | Past examples |
|---|---|---|---|
| 1 **Self-buildout**  | Establish investors' **own manufacturing facility** for their products (including investment under joint venture with local players) | • Better localise own products, company brand and operation<br>• Invest in advanced production capabilities beyond those of local contract manufacturers<br>• Allow for large-scale plants on new sites | gsk |
| 2 **Local partnership (i.e., contract manufacturing)**  | Partner with local **contract manufacturers** to enable long-term **investment by local players** | • Leverage locally-available capital to hedge forex fluctuations while transferring technologies and knowledge<br>• Reduce the risk exposure to demand fluctuation, regulatory changes and supply chain issues | SANOFI |
| 3 **Financial investment**  | **Invest** in the local manufacturers (**not necessarily** for the purpose of manufacturing **investors' products)** | • Capture the growth of the pharmaceuticals market in Nigeria and in Africa<br>• Create synergy with upstream and downstream value chain | AMETHIS (South Africa) |

Source: Expert interviews; press search

# Industry challenges exist at each stage of the value chain; these are being mitigated through several innovations and interventions

| Value chain step | Main challenges perceived widely | Innovations and Interventions |
|---|---|---|
| **Raw materials: packaging and chemical inputs**  | Lack of local production for key inputs drives **reliance on imported active pharmaceutical ingredients and excipients,** amongst other inputs<br>• This drives up prices and **increases forex risk**<br>• **Delays in importing raw materials** drive low utilisation<br><br>Competition<br>• Difficulty competing with international firms that **source raw materials at lower prices** from their home countries rather than from domestic manufacturers | **A few large players** are moving into **local production of APIs** together with the local petrochemical industry to build a **fully integrated value chain** which is free from the burden of acquiring expensive forex<br><br>Manufacturers use **inventory management** techniques, e.g., upfront bulk purchases and forward planning<br><br>Tariff-based incentives and import bans on some raw materials and finished goods[1] drive local products' competitiveness |
| **Manufacturing**  | Regulations<br>• Delays in product approvals or GMP inspections by NAFDAC<br><br>**Infrastructure**<br>• **Unreliable access to electricity requires expensive generators**<br>• **Water treatment facilities** must be installed to obtain a **supply of high-quality water for production**<br>• **Pharmaceutical waste** is not categorised into hazardous and non-hazardous streams and is **poorly managed** by ~90% of manufacturers<br>• Poor transportation infrastructure and **delays in accessing imported goods** limit productivity | Ongoing efforts by NAFDAC to standardise the pharmaceutical industry<br><br>Companies tend to set up **manufacturing plants in** areas such as Lagos where **clean water is** much **easier to obtain**<br><br>**Cost of electricity** is generally lower in industrial areas where most factories are located and **becomes negligible** in terms of unit cost if the **production scale increases to billions of tablets** |
| **Distribution**  | High levels of counterfeits (17%), substandard drugs in Nigeria due to a lack of meaningful patent legislation, and pricing and reimbursement systems | NAFDAC instituted an aggressive campaign against substandard health products which has seen a reduction in the trade of counterfeit drugs |

1. E.g., import bans on some essential medicines and higher tariffs on selected imported finished formulations

Source: Business Monitor International; UNIDO; expert interviews

# Other risks and mitigation factors

**NOT EXHAUSTIVE** **PRELIMINARY**

| | Potential risk factor | Potential mitigation factor |
|---|---|---|
| **Competitive landscape** | **Cost competition from several sources:** imported products from China and India and other low-cost producers, parallel imports and counterfeit products | Work with regulatory partners to curb the influx of counterfeit and illegally-traded drugs<br>Build factories with sufficient scale to drive competitiveness; partner with multinationals as local manufacturing partners |
| **Regulation** | **Regulatory oversight:** current regulatory enforcement of standards is limited | Develop NAFDAC capabilities to provide stringent quality inspections and oversight, e.g., partnerships and sponsorships |
| | **Policy uncertainty impacting long-term planning:** e.g., multiple tariff regime changes[1] | Implement policy changes to enable access to raw materials, e.g., for local API production |
| **Macro and market dynamics** | **Drug price control policy:** prices are unregulated and set by market forces. End-user prices vary significantly depending on distribution markups | Control the supply chain end-to-end |
| | **Stigma of substandard health products:** this affects international marketing and the acceptance of medicines produced in Nigeria | Invest in high-quality infrastructure to attain WHO pre-qualification standards. Promote marketing of locally-manufacturing health products. Partner with international firms<br>Regulators could consider incentives (e.g., tax breaks) for locally manufactured drugs |

1. E.g., in 2015 the ECOWAS CET initially granted imported drugs a tariff exemption, 0% on imports of finished forms of dosing and 5-20% tariffs on pharmaceutical raw materials. The policy was reversed in 2016 with a 20% import adjustment

# Contents

# Executive summary

### Context: medical consumables and supplies

As a subsection of the health value chain analysis, this chapter provides an overview of the medical consumables and supplies value chain in Nigeria, highlighting a small but meaningful investment opportunity. We define medical consumables and supplies as items for medical use that are suitable for use in a healthcare facility or in the home, that are disposable or semi-disposable and are typically non-reusable. Products include reagents (e.g., diagnostic reagents, testing kits), surgical equipment (e.g., syringes, IV products, sterile surgical catgut and cotton wool) and personal protective equipment (e.g., gloves, face masks and protective clothing)

### Value chain analysis: the subsector is nascent, but growing

- *Demand*: although demand for medical consumables and supplies is smaller (~$60Mn) than pharmaceuticals, it is expected to show steady growth even in the post-COVID-19 pandemic world, driven by growing demand for quality care in hospitals
- *Player landscape*: the major portion of demand is currently met by imported products (70-100% depending on the category), but there is also an emerging local manufacturing landscape of ~20 players including Jubilee, Wemi, Mikano, Plasti Surge, Crown and Transgreen
- Because of the high manufacturing quality standards required for sterile products, local production capacity is mostly limited to niche low-tech segments that do not require high-quality standards such as cotton wool and facemasks. This has recently expanded to non-sterile syringes and needles
- *Distribution*: the government has a larger influence on this sector than on the pharmaceutical sector, given that ~60% of the demand is driven by public hospital tenders. Although the government has a policy to prioritise local products, in reality procurement largely focuses on imported products due to quality concerns

### Investment opportunity: size is small, but foreign players can play an important role

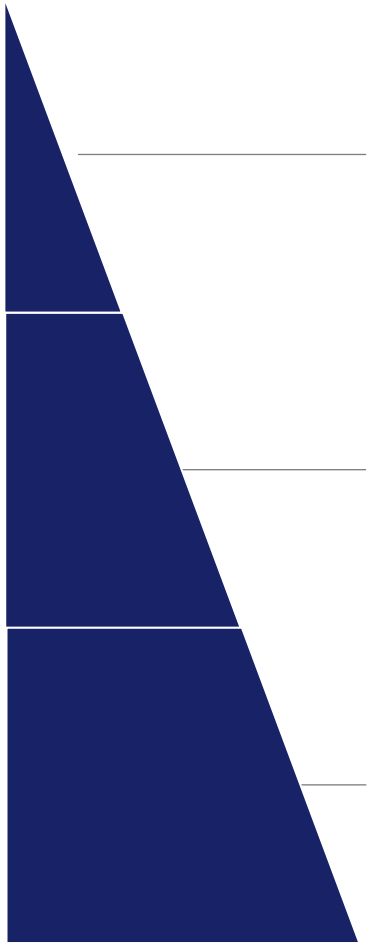
- The opportunity lies in expanding local production capacity to manufacture a greater volume of high-tech, sterile products. Foreign investors, by partnering with a few leading local players, could play a pivotal role in transferring necessary technology and knowledge and providing access to the regional market
- Size of the investment required would be ~$30Mn per deal to establish an at-scale plant with sufficient quality standards. It could take ~3 years to become fully operational given the need to source raw materials and build distribution channels

### Challenges and risks: managing lower margins and public tenders are challenges for most manufacturers

- Challenges could include lower margins due to price competition with imported products (especially in the private hospital market, which is becoming highly cost sensitive) and dealing with government public tender processes

# The government has a strong influence over the sector through public hospital tenders

Healthcare facilities in Nigeria



| | No. of facilities | Percent public | Type of facilities |
|---|---|---|---|
| **Tertiary healthcare** | 47 | 72 | • Teaching hospitals |
| **Secondary healthcare** | 3,768 | 24 | • District hospital<br>• Comprehensive health centre<br>• Specialist and general hospitals |
| **Primary healthcare** | 29,854 | 13 | • Dispensary and health posts Health centre<br>• Clinics |

**Political economy risk for foreign entrants would be high** given that ~60% of demand is through public tenders

Government policy is incomplete; although the government has a policy to prioritise local products, in reality imported products are still procured due to quality concerns

Source: Makinde et al. (2016); expert interviews

# Although the pre-COVID-19 demand is smaller than for pharmaceuticals, there is an emerging group of local manufacturers

Deep dive follows

| Category | Products | Market size, $Mn, 2018 | Imports, percent | No. of local manufacturers | Overview of local manufacturing landscape |
|---|---|---|---|---|---|
| **Reagent** | • Diagnostic reagent<br>• Test kit | ~30 | 100 | 0 | • The market is dominated by branded products which are ~100% imported (e.g., PoC devices)<br>• There are currently no local manufacturers and potential entrants are also very limited |
| **Surgical equipment** | • Syringe<br>• Sterile surgical catgut<br>• Cotton wool | ~15 | ~90 | 5-10 | • Syringes: local production is emerging in response to the Nigerian Government's procurement restriction of imported products<br>• Cotton wool: there is a small but established presence of local manufacturing |
| **PPEs** | • Hand glove<br>• Face mask<br>• Protective gear | ~15 | ~70 | ~5 | • Gloves: there are currently no local players<br>• Face masks: 5 local players are currently present, manufacturing simple disposable masks. The number of players increased due to the COVID-19 demand spike |
| **Total** | | **~60-65** | | | |

Source: Fitch Solutions; Trade Map; expert interviews

# Current local manufacturing is limited to non-sterile product categories due to the lack of technology required to meet quality standards

xx No. of local manufacturers | Deep dive follows

| Category | Product | Local manufacturing landscape | |
|---|---|---|---|
| Surgical equipment |  Syringes | ~5 | • Historically it has been highly import-dependent with a **limited number of local players** (e.g., Jubilee). **Post-pandemic**, the government's **procurement restriction on imported products triggered new entrants**<br>• The majority of demand is in traditional reusable syringes (rather than self-destruct syringes) which require less-advanced technologies to produce |
| |  IV products | 0 | • There are **no local players** due to sterile technology requirements<br>• Players manufacturing syringes also have the potential to enter the market if they attain quality standards |
| |  Sterile surgical catgut | 0 | • There are **no local players** due to sterile technology requirements |
| |  Cotton wool | ~5+ | • There are **many players** (e.g., Dele) who typically also manufacture diapers and sanitary pads. The market is relatively crowded but there is still room for investment |
| PPE |  Gloves | 0 | • There are **no local manufacturers** due to the high competitiveness of Asian products (e.g., from Malaysia) which are superior in quality and price<br>• Raw materials, such as rubber, are available locally |
| |  Face masks | ~5 | • **Only ~5 local manufacturers:** Wemi, Mikano, Plasti Surge, Crown and Transgreen<br>• Current players in this space are already planning their exit strategy due to low expectations that the current demand spike will continue |
| |  General PPE | 0 | • **No local players:** local players are not actively looking to manufacture PPE, believing the current demand spike will not remain sustainable |

Source: Expert interviews

# Expanding local manufacturing of sterile products is an investment opportunity

## Opportunity

- **Partnership with local players in the syringe or face mask space** to expand into sterile product manufacture (including technology transfer as part of the deal)
- Market opportunity lies in the **import substitution of sterile products,** e.g., IV products, valued at ~$50Mn domestically. Total market would be more when factoring in the potential regional export market

## Challenges and risks

- **Weak business case**: lower margins due to price competition with imported products. Some of the larger offtakers, e.g., private hospitals, are highly cost sensitive
- **Political economy risk**: dealing with the government public tender process could be challenging for foreign investors

## Investment details

- The opportunity is **smaller in size** than for pharmaceuticals, however investment needs are therefore also smaller, e.g., a new midsize plant with appropriate quality standards could cost **~$30Mn**
- Could take **~3 years** to become fully operational given the need to source raw materials and build distribution channels

## Potential industry players

- Local players – Jubilee, Wemi, Mikano, Plasti Surge, Crown and Transgreen
- Foreign investors – Zhejiang Jinghuan Medical Apparatus Co., Ltd (China), Hindustan Syringes & Medical Devices Ltd. (India)

Source: Expert interviews

# Contents

# Animal health: The subsector has broad development impact and is tied to the growing livestock industry

## Development impact

**Growth of the livestock sector** will be significant – e.g., poultry population may increase by a factor of 5 in the next 10 years, driven by an increasingly protein-based diet (Nigeria's consumption of egg and poultry is expected to increase 10x by 2040)

**Quality and affordability** of animal health products is currently considered a challenge for farmers, leading to low usage or mis-usage and low productivity

**One health**: improved animal health management will have large public health implications for humans, including reduced risk of infectious diseases and antimicrobial resistance

## Livestock sector accounts for a sizeable portion of the Nigerian economy

**13Mn households own livestock**

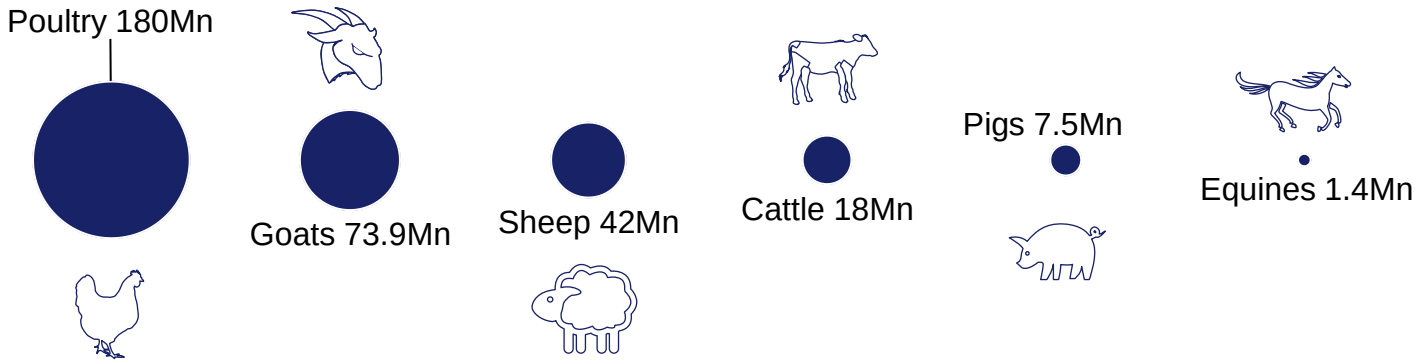
**42%** of population

**Agriculture value add**

**21%** of GDP

**Livestock value add**

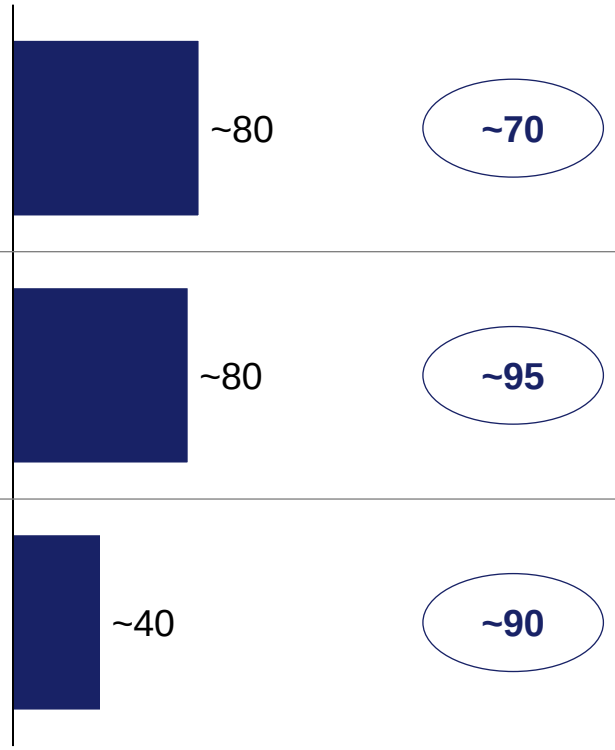
**9%** of agricultural GDP




Source: USAID; USDA; NVRI; press search

# However, the animal health sector has been given low priority in domestic manufacturing by the Nigerian Government and is largely import-dependent

| Products | Market size, $Mn, 2020 | Imports, percent | Local manufacturing landscape |
|---|---|---|---|
| **Antibiotics** | ~80 | **~70** | • There are **only 2 notable local manufacturers**: Diversity Solutions Ltd and Turner Wright Ltd, each with ~$10Mn revenue<br>• Almost no local pharmaceutical manufacturers produce animal health products due to the competitiveness of **low-priced, imported products**, with a high proliferation of counterfeit products in the market |
| **Vaccines** | ~80 | **~95** | • Currently there is **only 1 producer** of veterinary vaccines in Nigeria, the National Veterinary Research Institute (NVRI), which is a **government-owned research laboratory**<br>• The production volume is only ~10% of 1 mid-sized local production facility in the local pharmaceutical industry |
| **Others[1]** | ~40 | **~90** | |
| **Total** | **~200** | | |



> “Animal health has been overlooked by the industry and public-sector stakeholders. NVRI is the only entity that has veterinary research capability. Lack of quality researchers is a prime challenge for Nigeria to develop the sector further

Manager, foreign animal health player

1. Includes feed additive, dewormer, multivitamin and anti-stressor.

Source: Expert interviews

# The privatisation of veterinary vaccine production has been discussed by the Nigerian Government, but has not been implemented

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## Stakeholders call for privatisation of animal vaccine production

By **Joke Falaju, Abuja**

15 November 2019 | 2:41 am

In 2019, **stakeholders in the poultry sector** called on the federal government to ease the importation of animal vaccines and drugs into the country, even as they called for **privatisation of the vaccine manufacturing** unit of the NVRI

The stakeholder group included:

- NVRI
- Nigeria Veterinary Medical Association (NVMA)
- Smallholder Poultry Forum (SPF)
- Zygosis Nigeria Limited

However, privatisation has not yet materialised. Experts suggest this is primarily due to the **weak business case** and **political sensitivities**

It is expected that until privatisation happens there will be limited room for other players. However, once this happens the market will likely experience significant growth

Source: Press search

# Zoetis, the world's largest player in the field, has been actively supporting the development of laboratory capabilities

**The African Livestock Productivity and Health Advancement (ALPHA) initiative** is a partnership for better diagnostics in Nigeria and Uganda to improve animal health and positively impact farmers' livelihoods in the region

- Funding is through a $14.4Mn grant from the **Bill & Melinda Gates Foundation**
- The initiative uses **Zoetis's** business operations, animal health expertise and additional resources

In 2018, the initiative helped open a **new veterinary diagnostic centre** with one of the leading poultry producers in the country, CHI Farms Ltd. The new lab will offer a range of innovative, quality animal care services: scientific research programmes, genetics tests, biodevices, diagnostic products, medicines and vaccines

Source: Press search; expert interview

# An investment opportunity lies in helping local pharmaceutical players expand their product portfolio into non-vaccine veterinary products

## Opportunity

- **Partnership and technology transfer deals** between **local pharmaceutical players** and foreign animal health specialists
- Market opportunity lies in capturing the growing demand for animal **antibiotics products**
- There is also a longer-term opportunity to expand into broader product categories such as **generic dewormers** and **topical preparations** for flea and tick treatment

## Investment details

- Investment need is relatively small (~$10Mn) as it only involves an upgrade of existing production facilities, and is therefore a **lower-risk** investment
- An upgrade of the existing production facilities can typically be completed within a year

## Challenges and risks

- **Weak business case:** while the animal health market is expected to demonstrate steady growth in the medium term, the current market size is smaller than that of human medicine products
- **Route to market**: distribution channels are different from human medicine products. The pool of specialised talent is also smaller

## Potential industry players to be involved

- Local pharmaceutical players – Emzor, Fidson, May & Baker, Juhel, etc.
- Foreign animal health specialists – Zoetis, Norbrook, Boehringer Ingelheim Animal Health, Merck Animal Health

Source: Expert interviews