Market Entry Plan

SJJ Solution – Zero Residual Syringes

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Content

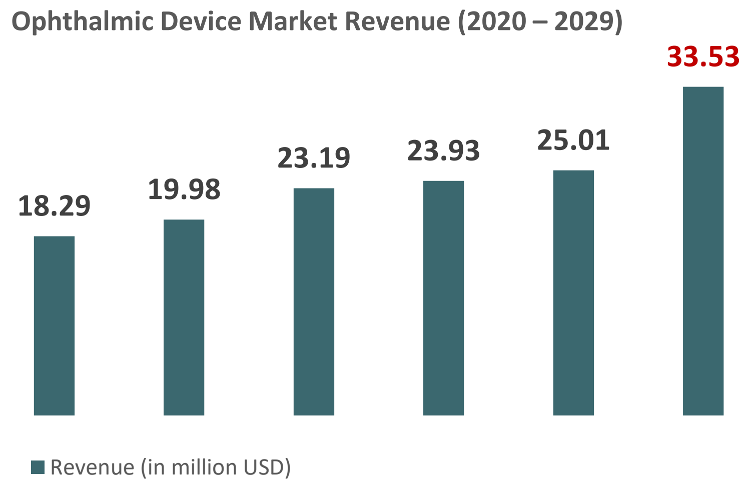
Ophthalmic Care Market Overview

Ophthalmic Devices Market is expected to reach **USD 33.53 million** by 2029, with a **CAGR of 6.04%** in next 4 years.

Related Market & Projections

Eye Care eCommerce:
Projection - USD 4.7 million by 2028
CAGR – 12.9% (2024 – 2028)

Eye Care Pharmaceutical:
Projection – USD 1.19 million by 2029
CAGR – 1.22% (2024 – 2029)



The increase in awareness of the Eye Health by the Kenyan government and NGO's is driving the growth in Ophthalmic Care Sector especially the affordable and accessible over the counter eye care products

Major Growth Trends

1. Increasing Prevalence of Eye Diseases
   - In a cohort study among people aged 50+, the cumulative incitements of DR was estimated to be 224.7 per 1000 among those with diabetes at baseline.
   - Diabetic Retinopathy among diabetic patients ranges from 36% - 41%, in which approx. 10% is reported to have sight threatening condition.
2. Technological & Economical Advancement
   - Growing adoption of advance technologies like Remote Monitoring, using smartphones, Telemedicine and Eye care eCommerce.
   - The steady growth in the middle class and increasing affordability YoY
3. Government and Private Initiatives
   - Kenyan Government have initiated some major strategic plans to help the people get better access to ophthalmic care, medicines and awareness to prevent and diagnose conditions
   - Free eye Screening, Training for health care workers
   - Establishing Eye Care Centers and Spreading awareness

Opportunities	Challenges
• Investment in Infrastructure (healthcare) • Manufacturing and Export Opportunities • Collaborations with NGO's	• Limited Access to Specialists • Cost Barriers • Infrastructure Issues

Sources: Statista, Ministry of Heath Kenya, Peak Vision Report,

Target Market and Insight on Institutions

As ophthalmic care is advancing in Kenya the growth in both private and public sector are increasing, but still the availability and affordability is nowhere near the actual requirement.

Current Environment in terms of Facilities and Accessibility

- WHO study shows out of 39 million people living with blindness over 224,000 people are from Kenya, A study conducted by Rapid Assessment for Avoidable Blindness (RAAB) during 2022 – 2023 cites the same numbers
- Approximately 30 of the Ophthalmologists out of 50 in Kenya are located in Nairobi.
- There is only close to 100 ophthalmic clinical officers (ratios)
    - Ophthalmologist to population ratio 1:600,000
    - Ophthalmic clinical officer to population ratio 1: 300,000
- In a Public-Private partnership CBM constructed a modern eye unit in Kajiado County Referral Hospital, expected to serve at least 1.1 million people and act as a referral centre.
- According to Kenyan Health Facility Census Report (2023) there are approx. 165 health care facilities providing eye care services (public + private).
- With a majority of 400 trained optometrists in Kenya work in the private sector, leaving the accessibility of good care.

Roles | Attributes	
Private Sector	**Public Sector**
• Quick Technology Adaptation • Exceptional Standard of Service	• Accessibility and Coverage • Funding and Resources • Awareness and Affordability

Major Institution Names	
Private Sector	**Public Sector**
• City Eye Hospital • Nairobi Eye Hospital • Kenyatta National Hospital • Aga Khan University Hospital	• Ministry of Health • Christian Blind Mission (NGO) • Operation Eyesight Universal (NGO) • County Health Departments

Initiatives		
NGO	**Government**	**Collaboration**
• National Eye Health Strategic Plan (2020 – 2025) • Vision 2030 • Diabetes & Eye Care Integration • Public Eye Health/Checkup Campaigns • Training Programs	• Vision Impact Project (VIP) • CBM's Inclusive Eye Health Programs • NGO – Government facility partnerships • Awareness and Free checkup Campaigns	• Public Private Partnerships (PPPs) – government initiated Private and NGO partnerships (*Public-Private partnership CBM constructed a modern eye unit in Kajiado County Referral Hospital*) • Service and Technology Integration

Sources: Statista, EHSA Kenya Report, MoH Kenya, BMC

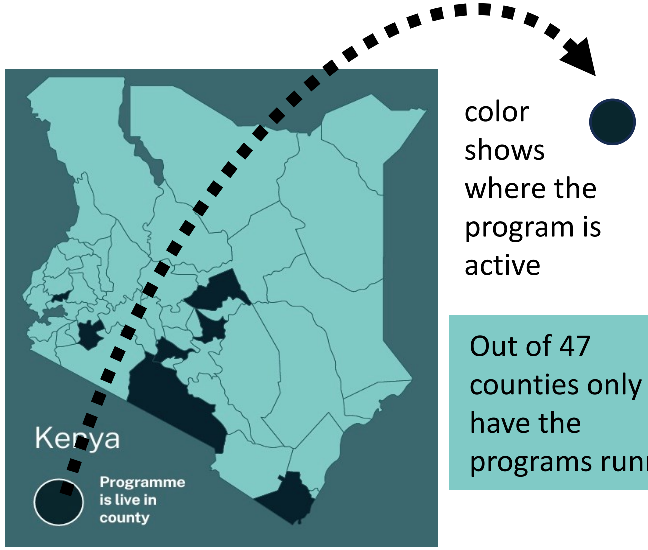
Current Market Conditions of Health Care Sector

International Diabetes Federation (IDF) estimates that around 2.3 million people in Kenya is diabetic., and among the diagnosed prevalence of diabetic retinopathy ranges from 36% - 40%.

Healthcare Regional Distribution

A major part of the investments and resources, especially in terms of advancements and awareness is focused on these region.

Health Care Facility Availability				
County	Total Facility	Private	Government	NGO Led | Faith
Kajiado	307	~180	~92	~35
Homa Bay	221	~147	~36	~11
Nakuru County	372	~156	~141	~75
Nairobi	866	~520	~121	~226



Out of 47 counties only 4 -5 have the programs running

Vision Impact Project Map 2023

Kenya Diabetic Retinopathy Market 2045

According to IDF the number of diabetic patients is expected to reach 3.5 million by 2045.

Year	Diabetic Population	DR population % (Est)	Actual Population	Annual Cost (Est)	Market Size (Est)
2021	2.1 million	35%	0.825 million	USD 500	USD 412.85 million
2045	3.5 million	35%	1.25 million	USD 500	USD 625.25 million

With diabetic population expected to grow by ~66% the Market is expected to reach **~ USD 625.25 by 2045**

According to Peak Vision Annual Report 2023 - 16% i.e. 7.5 million people in Kenya require eye health services, but 79% of them i.e. 5.9 million have no access to it

Diabetic Retinopathy Prevalence

- Approximately 9% - 14% of the patients with DR require laser eye therapy.
- It is estimated that about 10% of the patients with diabetes are prone to sight-threatening DR that require treatment.

Sources: Peak Vision, VIP report, CBM report

Product and Players Insight

Auto-Disabled Syringes are the most used syringes in Kenya, but when it comes to intravitreal injections were advanced syringes are used.

Syringe Type	Major Manufacturer/Suppliers	Price Point
BD Plastipak	Becton Dickinson (BD)	USD 0.10 to USD 0.30
Omnifix- F	B. Braun Medical Inc	USD 0.10 to USD 0.30
Tribofilm Staclear	Revital Healthcare EPZ Ltd MedSource Group Kenya Medical Supplies Authority	USD 0.10 to USD 0.30
Prefilled Syringes	Revital Healthcare EPZ Ltd BD Sandoz (Novartis) Fresenius Kabi	USD 0.10 to USD 0.30
Auto Disable Syringes	Revital Healthcare EPZ Ltd	USD 1000 to USD 2000 per dose

Kenyan Syringe Market

- Revital Healthcare EPZ is the 1st and only African manufacturer to achieve WHO prequalification for its AD syringes, they also produce PFS syringes for immunization programs.
- According to Volza Kenya Import data, 639 shipments of syringes happened from Mar 203 to Feb 2024, between 231 foreign exporters and 174 Kenyan buyers.
- The imports grew by ~69% compared to last year, Major importers being Indian, China and Spain.

Kenyan Anti-VEGF Market

- Anti-VEGF injections are mostly found in vial form, and the most commonly used anti-VEGF in Kenya is Bevacizumab.
- Bevacizumab is one of the cheapest and most used anti-VEGF for diabetic retinopathy, PFS are also getting acceptance in the market but the cost is still a factor.

Anti-VEGF	Known Name	Cost	Dosage	Note	Use
Ranibizumab	Lucentis | Patizra	~ USD 550	10mg/ml	Vial Form | Most expensive	ADM, Diabetic Retinopathy
Aflibercept	Eylea	~ USD 300	2mg/2ml	Vial Form	Diabetic Retinopathy
Bevacizumab	Avastin | ABVEMY	~ USD 4	25mg/ml	Vial | Commonly used as its cheap	Diabetic Retinopathy

The use of vials still prevails in the Kenyan market for most of the commonly used Anti-VEGF's because of the ease of use, flexibility, established clinical practices and Cost effectiveness

Sources: Statista, MoH Kenya, Local Medical ecommerce website data, National Health Library of Medicine

Findings and Opportunities

The ophthalmic care sector in Kenya is advancing rapidly, the advancements though concentrated in specific regions will spread as the public sector resource allocation improves in time.

Syringe Type	Residual Volume (assumed)	Wastage Rate	Total Dose (assumed)	Wastage dose	Cost of Wasted Dose (estimation)
Prefilled Syringe	0.07 ml	~10%	1000	100 doses	USD 100,000
Vials	0.05 ml	~25%	1000	250 doses	USD 250,000
Zero Residual Syringes	0.015 ml	~3%	1000	30 doses	USD 30,000

Estimations:

Compared to Vials Zero Residual Syringes can save up to ~88% in terms of cost in long term(yearly), and compared to PFS it can save up to ~70% cost.

Challenges

- The lack of resources in all the sectors, public, private and NGO's.
- Market Expansion - Accessibility of health care though is increasing, its concentrated in certain parts of the country.
- The use of vials is still prevalent in the sector because of the flexibility in usage (doses). Though PFS are being introduced the affordability is still questioned.
- The lack of advancement in public health care sector and the unaffordability of private care is slowing down the adaptation of new technologies.
- Lack of awareness about the new technology among the people. And the initial cost
- Lack of human resource and trained staff in specialized technology like Zero Residual syringes, availability is also an issue.

Opportunities

- Increasing diabetic retinopathy cases and awareness about diabetic and eye health-based conditions and treatments.
- Advancement in countries economical status, increasing middle class and youth creating affordability and disposable income.
- The adaptation of new technology by private sector
- Increasing eye care clinics and diabetic clinics and initiatives like VIP trying to spread the awareness and care to underprivileged regions
- Long Terms cost effectiveness and efficiency of the zero residual syringes will help reduce the cost in long term.
- As the market is expected to grow and adapt in long term through public and private initiatives in long term, possibilities for vide adaptation is huge for Zero Residual Syringes, depending on the cost and availability

Sources: Druf Bank, Local Ecommerce sites, CEH Journal on Anti-VEGF

Thank You