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Situation analysis of the social enterprises engaged in refractive error services delivery in Kenya

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Abstract

Aim To conduct a situational analysis of the social enterprises (SEs) engaged in refractive error services delivery in Kenya.

Methods This was a sequential mixed method study conducted with commercial enterprises (CE), eye care professional's representatives from the Ministry of Health ophthalmic service unit and representatives from SEs. The study was undertaken in two phases with phase one aimed at identifying the SEs while phase two aimed at exploring the SEs. The participants were recruited purposively and through snowball sampling with data collected telephonically and through online Google form survey. The qualitative data was collected until thematic saturation was achieved. The descriptive data was presented in figures, as well as reported in terms of frequencies.

Results Out of the 196 (28%) CE, only 49 (7.1%) reported referral and vision screening as some of the support they provide to SEs. The key barrier to SE integration into refractive error service delivery in conjunction with other eye care providers in Kenya, was lack of awareness on SE ($n=12$; 41.4%) while cash flow was noted as the least cited barrier to SEs integration ($n=2$; 13.8%). Reasons for the success of SE in the broader eye health ecosystem constituted mission, leadership skills and creativity. Policy regulation reported by the SE representatives ($n=14$; 48.3%) was the key factor influencing the operations of SEs in Kenya. Factors negatively influencing integration of SE into refractive error service delivery in Kenya were categorized into unhealthy competition, inadequate human resources, predator SE ($n=19$; 65.5%) and lack of proper policy regulation. Partnership, technology, cross-subsidization and skills development were identified as ideal for SE integration.

Conclusion This study found that SEs are worthy for integration into the eye health ecosystem to complement the dominant CE for effective refractive error service delivery. However, establishment of policies recognizing SEs and integration into the eye health ecosystem is desirable to address the challenges experienced by the SEs.

Keywords Social entrepreneurship, Refractive error, Integration, Barriers, Kenya

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Introduction

Globally, 2.2 billion people are estimated to suffer from poor vision due to uncorrected refractive error (URE) when its correction, in most cases, simply requires a pair of spectacles [1, 2]. Addressing URE in developing countries such as Kenya by the public sector is marred with challenges around resources and corruption [3] making the public sector to be incapacitated to effectively deliver refractive error (RE) services to the population in dire need. In effect, the public sector in developing countries embraces the potential of the private sectors to engage in healthcare delivery [4]. However, social enterprise (SE) which is an organization participating in business ventures through a commercial approach in order to fulfill a social purpose [5] is desirable for integration into the eye health ecosystem, minimal information exists on such SEs. Therefore, identification of the existing SE operating in Kenya and exploration of the potential of such SE in the provision of RE services in Kenya is desirable.

A World Bank [6], survey revealed that SEs depend mostly on donations and subsidy of services for sustainability. For instance, the LV Prasad Eye institute in India declined donor funding and funds from other organizations with tough repayment terms and conditions [7]. This was to ensure that the pressure attributed to repayment is eliminated and this has made the LV Prasad Eye Institute to be one of the most successful SEs in the world today. Therefore, a good SE should be able to generate profit and re-invest it back for successful delivery and sustainability. However, minimal information exists on the approaches adopted by the existing SEs in Kenya in ensuring sustainability.

In Scotland, the existing SEs are provided with a supportive environment as their activities are important for improving health and significant as public health interventions [8]. In the United Kingdom, a mental health social enterprise, reported that 96% of the patients receiving the services improved in their condition [9]. In developed countries such as Australia, the existing SE administer an insurance scheme to the base of the economic pyramid population so as to control fiscal spending through welfare budget and ensures a more successful delivery of RE services [10]. Therefore, exploring the existing SE in Kenya is desirable to showcase the worth of SE in addressing the burden of URE.

In Kenya, the economic and social sectors are addressed independently by the national policy and regulation without addressing social enterprises. Panum & Hansen [11], contend that most social enterprises in Kenya began after the year 2000. Since then, over 44,000 social enterprises operate in Kenya. Kenyan Social Investment Exchange was launched in 2011 to drive social enterprise activities with the Social Enterprise Society of Kenya established to support the development of the social enterprise sector [12]. It seeks to do this by offering funding, advisory services, training, research, relevant resources and networks [13]. Again globally recognized social entrepreneurs such as Ashoka and Schwab Foundation have established their offices in Kenya leading to formation of East African Social Enterprise Network in 2010 [12]. To ensure an effective ecosystem for social enterprises in Kenya, a social enterprise called ScocEntLab was established to advocate for the need of SEs partnership with the public sectors.

The East African Social Enterprise Network was established to ensure development and networking of social enterprises in East Africa [12]. Training institutions such as Strathmore University are providing incubation for the concept of social entrepreneurship in Kenya. Even though social enterprise concept is taking shape in Kenya, a legally recognized entity still misses. The social enterprises in Kenya lack support from government and accessing finance for development is still a challenge [14]. However, little is known on the current social enterprises delivering RE services in Kenya. Hence an in-depth investigation is desirable to ascertain the organizations operating as SEs in the delivery of RE services in Kenya.

In Kenya, the European Union launched a social business initiative to support the development of SE and key stakeholders in the social economy [15]. This initiative was intended to address the dire need for SE in developing countries in enhancing accessibility, affordability and awareness of healthcare service such as RE. With RE being a global challenge, Vision 2030 intends to make Kenya a globally competitive and prosperous country with a high quality of life for all citizens [16]. This implies that each and every Kenyan should be able to access and afford the available healthcare services including RE services. As a result, approaches inclined towards social impact and profit generation for sustainability such as the SE could be desirable. Although SE in Kenya remains unrecognized and faces various other challenges limiting their full potential in scaling healthcare delivery [17–19], SE still manages to deliver services across the economic pyramid. Therefore, this study intends to assess the situation of SE in Kenya engaged in RE service delivery.

Methods

This was a sequential mixed method study conducted from September 2022-May 2023. The study was conducted in two phases. Phase one of the study entailed identification of SEs currently involved in RE services delivery in Kenya. To accrue a comprehensive list of SE engaged in RE service delivery in Kenya, commercial organizations engaged in eye care delivery in Kenya, eye care professionals and ophthalmic service unit Kenya representatives were included. The contact details for CEs was accrued online and through snowball sampling,

while that for eye care professionals was accrued from the Optometrist Association of Kenya, Ophthalmological Society of Kenya and Ophthalmic Clinical Officers Association. Finally, the contact details for representatives from the Ministry of Health ophthalmic service unit, was facilitated by the head of the department. The rationale for engaging this population was to ensure that a comprehensive list is accrued given that there are eye care professionals who work for different SEs in Kenya. Thereafter, an online form was created using Google forms to enable the aforementioned to identify organizations that they perceived were operating as SEs in Kenya (Supplementary 1). The survey was sent to 714 individuals from commercial enterprises, ophthalmic service unit and eye care professionals. Based on the input received, a preliminary list of organizations possibly operating as SEs focusing on eye care was compiled and contact made with them telephonically to ascertain if they met the following thresholds:

1. Organizations whose core impact mission encompasses social outcomes and involves the generation of profit to sustain their operations and serve more people.
2. Organizations whose source of income from grant funding is less than 75% or who have specific social entrepreneurship projects.
3. Organizations re-investing the profit for sustainability reasons.
4. Organizations serving the base of the economic pyramid.

In addition, after the initial SEs were identified, snowball sampling was used to get a list of additional SEs also involved in RE service delivery in Kenya that were not initially identified. The identified additional organizations were contacted to ensure that they met the inclusion criteria outlined above. A final list of SEs engaged in RE service delivery in Kenya was compiled.

During phase two, the identified SEs were contacted again and requested to provide a list of all eye care professionals involved in the delivery of eye care services within the organization to participate in a semi-structured interview. After the list was provided, a simple random sampling was used to select one eye care professional for each SE. The rationale for inclusion of eye care professionals was to ensure that they provide a specific clinical perspective without being influenced by the management perspective. A total of 29 eye care professionals from each SE were included during this phase. This phase was intended to explore the SEs engaged in RE service delivery in Kenya. A questionnaire was developed for the interviews which included the following constructs; characteristics, reasons for the success in enhancing accessibility to RE services, reasons for the success in the broader healthcare service delivery channels, SE and the wider healthcare terrain, barriers to integration which is the action of combining two or more things in an effective way, factors influencing the eye health ecosystem, factors influencing integration into RE service delivery, and the characteristics of models desirable for the integration into RE service delivery (Supplementary 2). The questionnaire was piloted to check for issues such as incorrect wording, phrasing or sequence of questions. The piloting was also intended to ensure content validity including that the questions were understandable and non-ambiguous. Once finalized, data was collected telephonically, via a semi-structured interview guided by the questionnaire.

The data collected was cleaned, coded and imported to SPSSv29.0.0 for analysis. Frequencies and percentages were computed to present descriptive results. A chi-square test was conducted to test for association between categories and level of awareness on social enterprises. Fisher's exact test was conducted for cells with counts less than 5. A two-sided p value less than 0.05 was considered to be statistically significant. The responses to the open ended questions were analyzed thematically using NVivo Software, Version 11 (QSR International Pty Ltd).

Results

Phase one

A Google form survey was sent to 714 (100%) individuals comprising of eye care professionals, commercial enterprises and ophthalmic services unit representatives yielding a response rate of 96.5%. There was a statistically significant difference between the category proportions 514 (72%) eye care professionals, 196 (27.5%) commercial organizations and 4 (0.5%) representatives from ophthalmic service unit ($p < 0.001$). Most eye care professionals ($n = 481$; 69.8%) were working in commercial enterprises with a small proportion working in a social enterprise sector ($n = 8$; 1.2%). There was no statistically significant difference between the eye care professionals' aware of the social enterprises 234(34.0%) and those who were not aware 255(37.0%) of the existing social enterprises in Kenya ($p = 0.061$). A significant proportion of the respondents ($n = 399$; 57.9%) were not aware of any social enterprise delivering refractive error services in Kenya. Table 1 details the awareness of SE among the categories.

Table 1 Awareness of social enterprises

Category	Awareness of SE		*P*-values
	Yes	No	
Eye care professional	234(34.0%)	255(37.0%)	0.061
Organizations/Businesses	52(7.5%)	144(20.9%)	0.017
Ophthalmic service unit Kenya	4(0.6%)	0(0.0%)	0.002

Table 2 details the list of the identified SEs engaged in RE service delivery in Kenya.

Phase two

Characteristics of social enterprises

A total of 29 representatives of the SE identified, were interviewed with just over half (n = 17; 58.6%) of them operating at regional level. The mean duration of operation for the associated SE was 8.8 years (SD = 1.227) with under half (n = 12; 41.4%) of the SE having been in existence for between 1 and 5 years. A little more than half of the SE (n = 17; 58.6%) operated on a non-profit basis. In addition, almost half of the SE (n = 14; 48.3%) were at the operational stage of development where the model of delivery had been validated and ascertained. Regarding the source of startup capital, just over two-thirds of the SE (n = 20; 68.9%) started with donor funding with only 3 (10.4%) acquiring their funds from equity investments.

The respondents reported that their services were provided in about 24 counties out of 47, cumulatively. Most SE (n = 17; 58.6%) were operating in Nairobi County followed by Mombasa (n = 4; 13.8%) and the rest (n = 8; 27.6%) were operating in the remaining counties. Table 3 details the characteristics of the SE with respect to priority, sustainability, focus group and source of income.

The majority of SE prioritized profit and social mission, ensure sustainability by re-investing profits, are focused on the low income population and acquire no more than 24% of their income from grant funding.

Social enterprise and refractive error services accessibility

All of the SE representatives (100%) interviewed agreed that SE have the potential of ensuring access to refractive error services to the base of pyramid population in a society. Three quarter of the SE representatives (n = 22; 75.9%) reported establishment of vision centres as a reason behind their ability in ensuring access to RE service delivery among the low-income population (quotes 1–2).

> *1. "Setting up of low cost rural optical access points supported by effective supply chain. Also setting up access points within public hospitals as its more*

Table 2 List of social enterprises delivering refractive error services in Kenya

Name of SE	Year established	Main activities
Kisii Innovation	2012	Offer high quality affordable and accessible comprehensive world class eye care services among the underserved in rural and peri-urban areas
Kilimanjaro Blind Trust		Provision of low vision care
Lions Sightfirst eye hospital	1997	Deliver high quality eye treatment regardless of socio-economic status.
Operation eyesight universal	2007	Prevent blindness and restore sight in Kenya
Lapaire Glasses	2018	Provision of free vision test and affordable glasses option to the underserved population
VisionSpring	2018	Provide eyeglasses, vision screening and training for nonprofit social enterprises
Eye Rafiki	2018	To bring affordable vision care to low income population
SeeKenya	2013	To reduce blindness through provision of high quality specialized treatment to underserved population
Dot Glasses	2014	Provision of vision kits to dispense glasses
City eye hospital	2015	Deliver high quality and affordable eye care to all through advanced technology
Know The Glow		Awareness creation through digital platforms
Peek vision	2012	Provision of tools for screening and referrals
Fred Hollows	2004	Accessibility and affordability of eye health among the underserved population
Sight Savers	1952	Prevent avoidable blindness and advocate for equality and change
Sight by Wings	2001	Mobile eye clinic to underserved in rural areas
Sight Aid International	2010	Eye screening
Salus oculi		Provide eye health education to visually impaired learners
OneSight EssilorLuxottica Foundation		Access to vision care for the base of pyramid population
Kwale eye hospital	1993	To offer quality, affordable and accessible comprehensive eye care
Mombasa eye hospital		Provide world class eye care
Christoffel Blinden mission		Low vision
Upper Hill eye and laser centre	1998	Provision of specialist eye care in areas where such services are not available
Know The Glow		Awareness Creation on Retinoblastoma
Let Our Children See		School Eye Health
Orbis International		Advocacy for access to eye health
CharityVision		Vision screening and subsidized eye services with modern technology
Eyes for East Africa	1993	Support activities of Kwale Eye Hospital
Kenya Society for the Blind	1956	Fight against blindness
VOSH		Eye screening in communities in Kenya once in a while

Table 3 Characteristics of social enterprises

Variables	Frequency *n* (%)
Priority	
Profit and social mission	26 (89.7%)
Social mission	3 (10.3%)
Sustainability	
Re-investing profits	27 (93.1%)
Donor funding	2 (6.9%)
Focus group	
Low income population	17 (58.6%)
Middle income population	12 (41.4%)
Income from grant	
0–24%	18 (62.1%)
25–49%	6 (20.7%)
50–74%	3 (10.3%)
75–100%	2 (6.9%)

Source: Authors own work

affordable within the government set up"-Optometrist#
2. "Our organization advocates for accessibility, affordability and sensitization through the vision centre approach."-Ophthalmologist#

Most of the representatives (*n* = 26; 89.7%) interviewed also reported that they have the potential of enhancing accessibility of RE services to the low-income population via continuous community vision screenings (quotes 3–5)

3. "During events like world sight days where we do free screenings and donations of frames and lenses, we ensure that we that the lowest income groups have free access to our services."-Optometrist#
4. "Further we do offer our daily screening services for free and can also be done at affordable rates to the same group"-Ophthalmic Nurse#
5. "Screening activities in the communities to ensure that access challenge is addressed."-SE#

Reasons for social enterprise success in the broader eye health sector

All of the representatives (100%) agreed that SE are appropriate when it comes to integration of RE service in the broader eye health sector. Majority of the representatives (*n* = 25; 86.2%) reported that their success in eye health is linked to their mission inclined towards accessibility, availability and affordability (quotes 6–10).

6. "Sustainability and promotion of ownership culture, Competitive Pricing and accessibility to affordable services."-Optometrist#
7. "First our mission is more inclined towards creating a nation with good vision second they are not more interested in profit but creation of a difference in the society"- Optometrist#
8. "We are more into creating a positive impact of the low income population, making it easier for many to access their services"- Optometrist#
9. "Plenty of businesses offer services to the wealthy. A lot of money can be made. But if the goal is to provide eye and vision care to everyone, including the poor, then other arrangements need to be made. We must work with communities and community organizations in partnership."-Ophthalmologist#
10. "Social enterprises are flexible and are easily accepted by donors whose missions are similar of creating an impact on the underserved population"-Ophthalmologist#

Almost half (*n* = 13; 44.8%) of the representatives also reported that the success of their SE in delivering refractive error services was as a result of the leadership skills existing among social entrepreneurs (quotes 11–12).

11. "Leadership in social enterprises makes them thrive, endorsement of activities, co-hosting of launching and distribution"- Ophthalmologist#
12. "The existing social enterprises in eye health continuously engages relevant stakeholders and experts with experience to ensure that the activity under consideration is achieved"- Ophthalmologist#

Just over a quarter (*n* = 8; 27.6%) of the representatives reported that creativity existing among social entrepreneurs is a major contributor to the success of SE in eye health delivery (quotes 13–14).

13. "The magnitude of creativity in social entrepreneurs makes our services successful"- Ophthalmologist#
14. "In social enterprises we are seeing solutions to the world that none has imagined"-Optometrist#

Social enterprise service delivery channel

All of the SE representatives (100%) agreed that SE have a specific channel when it comes to RE service delivery to the underserved populations. Statements expressed by the representatives revealed four main approaches applied in the delivery of RE services including philanthropy, free community screening, community engagement and vision centres (quotes 15–18).

15. "Both through philanthropic programs for donations and Inclusive Business conducting both mobile and fixed access delivery of refractive error services"-Optometrist#

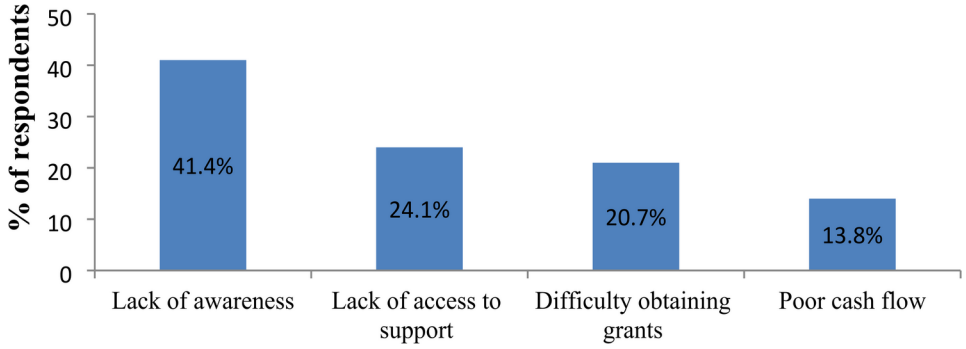

Fig. 1 Representatives perceptions of the barriers to social enterprise integration

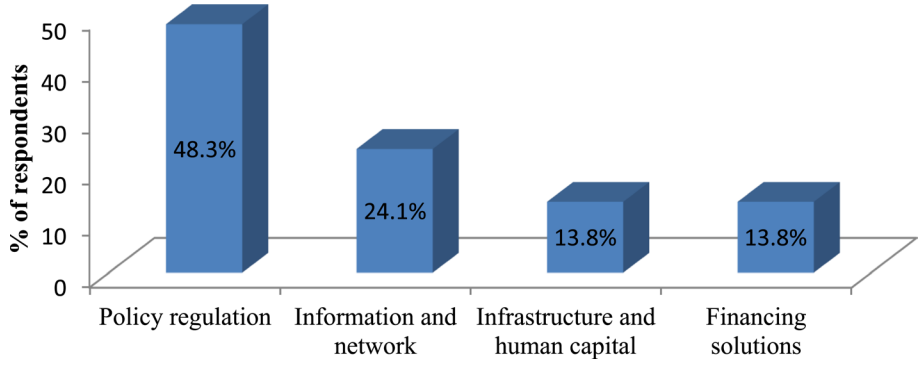

Fig. 2 Representatives perceptions of the factors influencing social enterprises ecosystem

16. "Mobile clinics offering free vision test, online shop, free delivery and flexible payments for underserved population"- Optometrist#
17. "Eye health providers can identify gaps and inequalities in their services. People who would have been invisible to health services are made visible, so that nobody is left behind"- Optometrist#
18. "Clinics established within communities to serve the low income population"- Optometrist#

Social enterprises and wider healthcare

Just over half of the SE representatives ($n=$ 17, 58.6%) reported that their organizations were working together with the wider healthcare system. They reported that they do engage in partnership relationships, funding and referral activities (quote 19).

19. "We partner to support the wide healthcare system whenever our donors avail glasses for low income groups"-Ophthalmic Nurse#

Barriers to social enterprise integration

Almost half of the SE representatives ($n=$ 12, 41.4%) reported that lack of understanding and/or awareness of SE among general public/customers was the main challenge. Results for this and other barriers mentioned are shown in Fig. 1.

Factors influencing the social enterprises ecosystem

Almost half of the SE representatives ($n=$ 14, 48.3%) denoted that policy regulation was the leading factor negatively influencing the operational ecosystem (Fig. 2).

Factors influencing integration of social enterprises into refractive error services

All of the representatives (100%) agreed that they had experienced challenges in integrating SE into RE services at some point. The respondents identified certain factors which they had ascertained to influence integration of SE into RE services negatively. The factors were categorized into four themes as shown in Table 4.

Theme 1: unhealthy competition A quarter ($n=$ 7; 24.1%) of the representatives reported that unhealthy competition influences the optimal integration of SE into RE service delivery (quotes 20–22).

20. "Discouragement of patients from commercial enterprises not to seek our services as they misguide them that we offer low quality"-Optometrist#
21. "Lack of proper understanding among the existing commercial enterprises on the dire need of social enterprises and this leads to slow acceptance"-Ophthalmic Nurse#

Table 4 Factors influencing integration of social enterprises into refractive error services delivery

Theme no	Major themes	Number of coded segments
Theme 1	Unhealthy competition influences the integration of social enterprises into refractive error service delivery	4
Theme 2	Inadequate human resource influences the integration of social enterprises into refractive error service delivery	12
Theme 3	Predator "social enterprises" influences the integration of social enterprises into refractive error service delivery	2
Theme 4	Lack of proper regulation and policy framework influences the integration of social enterprises into refractive error service delivery	4

22. "The feeling of competition by commercial enterprises thinking that social enterprises want to divert all their customers."-Optometrist#

Theme 2: inadequate human resource Majority of the representatives (n = 28; 96.6%) raised concern over inadequate human resource as a key factor influencing integration of SE into RE service delivery (quotes 23–25).

23. "Cash flow difficulties, in which there is a concentration of particular types of resources, leading to resource gaps for social enterprises and stage growth"- Ophthalmologist#
24. "It can be expensive to ship reading glasses, sunglasses, and frames from long distances"- Optometrist#
25. "Time and resource consuming to transfer information from one community to another due to inadequate personnel"- Ophthalmologist#

Theme 3: predator "social enterprises" Majority of the representatives (n = 19; 65.5%) reported that the existence of predator "social enterprises", which are organizations claiming to be engaged in fulfilling a social mission when their real mission is to exploit the underserved population, negatively influences the integration of SE into RE service delivery (quotes 26–27).

26. "Existence of predator social enterprises using their name to exploit hence tarnishing the image of social enterprises"- Optometrist#
27. "Distrust among community members following past experience from initial social enterprises in case they were not pleasing"- Optometrist#

Theme 4: lack of proper regulation and policy framework Some representatives (n = 17; 58.6%) raised concerns regarding lack of proper regulations and policy frameworks as a key factor influencing the integration of SE into RE service delivery (quotes 28–29).

28. "Lack of clear legal status to legitimate social enterprises, concessional debt phase where returning loans becomes difficult"- Optometrist#
29. "Absence of united representation of the SE community. Provision of readymade solutions by support based organizations is not good and they should be engaged in assessing the need and providing flexible support as social enterprises ventures are prone to risk"- Optometrist#

Factors that can facilitate the integration of refractive error services into eye health ecosystem via social enterprise

All of the representatives (100%) agreed that the integration of SE into RE service delivery is desirable with the organizations identifying various factors that could facilitate this. The majority (n = 26; 89.7%) advocated for a strong partnership (quotes 30–31), just over half (n = 13; 44.8%) for reliable technology (quote 32) and slightly less (n = 12; 41.4%) for cross-subsidization (quotes 33–34), a third (n = 10; 34.5%) for skills development (quote 35), some (n = 8; 27.6%) for vision centres (quote 36), and the majority (n = 28; 96.6%) for consensus on the definition of a social enterprise (quote 37).

30. "Partnering with other sectors including government, offering services that other governmental organization does not offer making our services affordable and accessible to many"- Ophthalmologist#
31. "Public-private partnership to allow each to focus on its strengths"-Optometrist#
32. "Integrating information technology system between social enterprises and existing eye care units"- Ophthalmic Nurse#
33. "Making spectacles not to have a standard price as this ensure that each and every one in need can get them. Again screening patients at a cost each can afford"- Ophthalmic Nurse#
34. "It is reasonable to charge for services but the charge must be within the means of the recipient."- Ophthalmic Nurse#
35. "Training experts from social enterprises to work within government facilities such that when a patient cannot afford the rates within the facility then the representative can provide for the patient"- Ophthalmic Nurse#
36. "Social enterprises to have vision centres"- Ophthalmologist#
37. "A clear definition of what are social enterprise and what it entails so that organizations can support their cause"- Optometrist#

Characteristics of a model for integrating social enterprises into refractive error service delivery

All the representatives (100%) had a suggestion on the type of model that should be used in the integration of SE into RE services delivery issues. The majority ($n = 25$; 86.2%) suggested that a model for integrating SE into RE services should have a major focus on service delivery. The model should prioritize timely delivery of RE services (quotes 38–39) which could ensure that the base of pyramid population access these services just like any other persons, hence instilling the sense of equality.

38. "I think the time at which services are delivered should be reduced to ensure that the poor people get the service faster and move to other activities."- Ophthalmic Nurse#
39. "To ensure that patients does not give up very fast, time they spend to get services should be considered and anything limiting this should be avoided"- Ophthalmic Nurse#

Over half ($n = 16$; 55.2%) of the SE representatives reported that the service delivery focus should be efficient and effective so as to enhance continuity in delivery of RE services (quotes 45–46).

45. "The model should focus on maximizing the available resources and everyone should be attended to"- Ophthalmic Nurse#
46. "The model be designed in such a way that it can ensure accessibility, affordability and availability so that all available resources can be explored"- Ophthalmologist#

Some SE representatives ($n = 11$; 37.9%) also reported that the model should enhance advocacy on RE services delivery. The model through advocacy should be inclined towards enhancing equity (47–48). An equitable model enhances quality provision of services and is thus desirable in RE service delivery.

47. "The model should include an approach where many can be given quality services without any discrimination"- Ophthalmic Nurse#
48. "It should ensure that services are provided without interruption and it should be equitable"- Ophthalmic Nurse#

Most ($n = 23$; 79.3%) of the representatives reported that advocacy for a replicable model is desirable for integration of SE into RE service delivery (quotes 49–50). A replicable model is important as it allows for adoption in the case of success in service delivery.

49. "The model should be made in a way that it can replicated and applied by all stakeholders in eye health"-Optometrists#
50. "It will be good if the model is designed in a way that it can be replicated to other eye health sectors" –Ophthalmologist#

Finally, the majority ($n = 24$; 82.8%) of the representatives reported that the model should be designed in a way that it strengthens policy to allow for sustainability (quotes 51–52). Provision of refractive error services does not require seasonal models that only work for a short period of time but rather a model that has the capacity to sustain itself thereby ensuring continuity in service delivery and this can only be achieved through strong policies.

51. "The model for integration of refractive error services into eye health should always remain sustainable for long operation and success in eye health"- Clinical Officer#
52. "I think eye health and refractive error requires a sustainable social enterprise model that ensures continuity in service delivery especially among the poor population who cannot afford refractive error services"-Optometrist#

Discussion

The social entrepreneurship concept is firmly established in developed countries including recognition as an alternative approach when it comes to healthcare service delivery [10, 17], but it is still slowly emerging in developing countries. In Kenya, however, there are already around 44,000 SE operating in different sectors [20], an indication that the concept of social entrepreneurship is definitely taking shape. Despite this, the current study showed that the level of awareness on SE remains low among stakeholders in eye health in Kenya, with only approximately 29 SE currently delivering RE services in Kenya. With the global burden of URE on the rise [2, 21, 22], the current dominant commercial entrepreneurship approach may not address this burden as it focuses more on profit generation with minimal efforts towards fulfilling a social mission thus clearly warranting the need for SE. Even though this study has found that CE provide referral centres and support vision screening events for SE, enhancing social mission among the low-income population still remains a distinct characteristic of SE when it comes to RE service delivery. This could be attributed to the fact that RE services from CE remain expensive with only the apex of pyramid population being able to access these services [23]. In contrast, SE emphasizes the need for everyone across the economic pyramid to access and afford the available RE services. Therefore, to effectively address the increasing burden of URE in developing countries such as Kenya, awareness

creation on the concept of social entrepreneurship and support for SE by CE is desirable.

Being that the concept of social entrepreneurship has not been understood properly in Kenya, the majority of commercial entrepreneurs still believe that SE are more into provision of free services with no profit generation [24]. While this should not be the case as higher institutions are providing incubation to the concept of social entrepreneurship and research is underway in this sector, attention should be directed towards maximizing the potential of social entrepreneurship [12]. The current study findings reveal that SE have the potential of enhancing accessibility of RE services through the vision centre approach and community engagement. This is attributed to the fact that the dominant commercial entrepreneurship in the eye health ecosystem majorly operates within the urban areas limiting access to the base of pyramid population who reside in rural areas [25]. As a result, the current study findings indicate that the reasons for the success of SE in the broader eye health ecosystem include leadership skills, creativity and abiding to the mission of enhancing accessibility, availability and affordability. This is attributed to the commitment of social entrepreneurs towards addressing URE using different innovative avenues as opposed to commercial entrepreneurs who are instead driven by profits. Therefore, with the potential of SE in addressing URE, eye care professionals should be at the forefront in establishing SE and advocating for the need of recognizing SE in the eye health ecosystem.

In Kenya, the spectacle coverage is very low with a high demand within the informal settlements due to the uneven distribution of RE services [26]. This is attributed to the facility based delivery approach predominantly utilized by the dominant CE who target those who can afford their RE services. This warrants the need for enterprises with a public health delivery approach to ensure that the underserved populations in rural areas access and afford the available RE services. This study has noted that SE adopt various delivery channels such as the philanthropy, free community vision screenings, community engagements and vision centre approaches to deliver RE services to the underserved populations. This suggests that SE embrace a public health delivery approach as opposed to the dominant facility-based delivery approach. Even though the public health delivery approach reported in this study differs from the facility-based delivery approach majorly utilized by CE, the current study has identified partnership, referral of patients and funding as some of the relationships SE have with the private sector in Kenya. This shows that the existing SE in Kenya work closely with the some CE. Therefore, advocacy for a strengthened partnership between CE and SE is desirable to ensure adoption of public health delivery approaches to address URE.

According to Courtright et al. [27], there is a dire need of an action to address the deficits of eye care services in Africa as only 10–20% of those needing services in the continent, have access to currently available services at all levels (primary, secondary or tertiary) with the remaining 80–90% being beyond reach with the current strategies. As a result, cost effective and innovative approaches should be prioritized by SE so as to scale effective RE coverage. The current study has identified lack of awareness of SE by the general population, lack of access to support, obtaining grants and cash flow as barriers experienced by most SE in Kenya when it comes RE service delivery. Even though the World Health Organization report on vision advocates for universal health coverage which can be achieved through good leadership and governance; human resource, financing of healthcare and effective health care delivery [28] are key barriers to SE fulfilling their mission. However with over one billion people residing in different parts of the world with majority in need of a pair of spectacles residing in developing countries [29, 30], such barriers should be addressed through establishment of policies recognizing SE. Addressing these barriers requires that all stakeholders in eye health recognize SE as a viable alternative approach for the delivery of RE services. Therefore, with the potential of the SE, more innovations should be introduced to scale service delivery across the economic pyramid.

In developed countries like Scotland, SE are provided with a supportive environment for operation [8]. This could be attributed to the fact that in developed countries, the government have established well-structured framework with policies to guide the operations of the existing SE. The findings from the current study revealed that the ecosystem of SE in Kenya is influenced by policy regulation, financial solutions, human resource and information and network. These results are similar to that of a case study in Egypt in which access to finance was a challenge as the financial institutions saw SE as focusing more on short-term projects [31]. However, for any business to be successful in any ecosystem, policy regulations should be designed in a way that creates a conducive ecosystem for operation. Although lack of recognition exposes SE to various challenges, Kenya has made strides by establishing the Kenyan Social Investment Exchange and Social Enterprise Society of Kenya to drive activities of social entrepreneurs and support the development of the social enterprise sector, respectively [12]. However, these established bodies should be at the forefront in advocating for the need for the government to recognize and develop policies to guide the operations of SE in Kenya. Therefore, through partnership of stakeholders in eye health, a suitable ecosystem should be established to ensure smooth operation of not only SEs but all sectors engaged in RE service delivery.

For effective RE coverage to be achieved, integration of various approaches should be embraced [32]. This is particularly required considering the challenges around addressing URE in developing countries such as Kenya in which human resources remain limited [33]. The current study findings showed that most SE in Kenya denote unhealthy competition, inadequate human resource and existence of predator 'social enterprises' as some of the factors negatively influencing social enterprise integration into RE service delivery. Due to differences in the missions of CE and SE, the dominant sector may oppress the emerging sector, hence establishment of policies recognizing SE is worthy of attention. However, with around 2.5 billion people globally, who account for one third of the world's population today, being in need but unable to access and/or afford a pair of spectacles [34], efforts of SE will only be optimized if they are integrated within the RE service delivery ecosystem. Therefore, this study, through an informal situation analysis, has identified partnership, technology, skills development, cross-subsidization and establishment of vision centres as factors desirable for effective integration of SE into RE service delivery. Hence a team approach between SE and other stakeholders in eye health should be prioritized for effective RE coverage in Kenya.

While the social entrepreneurship concept remains an emerging concept in Africa, Kenya seem to embrace the concept and has come up with Vision 2030 to increase the nation's health infrastructure, in rural and the underserved population by involving the community members in delivery of healthcare [35]. This study finding has shown that the level of awareness on SEs remains significantly low among commercial enterprises with eye care professionals and representatives from the ophthalmic service unit Kenya being significantly aware of SEs in Kenya. The representatives from the ophthalmic services unit Kenya awareness on SEs could be attributed to the fact that they engage SEs during their blueprint phases. While the low level of awareness among CEs could be attributed to the fact that majority are trained in commercial institutions on aspects of commercial entrepreneurship hence adopting the concept in practice. Given that CE are more into profit generation, minimal focus is directed towards SE who are more in fulfilling social mission. Although in developed countries [12], the concept of social entrepreneurship has been promoted in different sectors such as health and eradication of poverty among the population at the base of economic pyramid, the concept of social entrepreneurship hasn't received enough recognition in developing countries like Kenya. At the same time, in developed countries, both commercial and social entrepreneurship concepts are recognized by the government [36] making entrepreneurs to decide on which path to venture in. Therefore, awareness on SEs by different stakeholders in eye health in developing countries can only be achieved if the existing governments establish policies recognizing SEs [37]. This will enable entrepreneurs to decide prudently on whether to concentrate on social entrepreneurship or commercial entrepreneurship as policies recognizing both will exist.

Given that the study only included the clinical team, some information provided might have been over-estimated warranting the need for further studies involving exploration of the characteristics of SE from beneficiaries' perspective. Notwithstanding, inclusion of the administrative team in future studies is desirable to provide finer details about SE impact on RE service delivery. Finally, future studies should be undertaken to understand the private and public sector views on the relevance of SE in RE service delivery in Kenya.

Conclusions

Social enterprises remains unique and suitable in synergizing the dominant commercial enterprises efforts towards scaling effective RE coverage. While SE faces various challenges which limits their full potential in scaling RE services across the economic pyramid, establishment of policies recognizing SE and integration into the eye health ecosystem is desirable.

Abbreviations

CE	Commercial enterprise
RE	Refractive Error
SE	Social enterprise
URE	Uncorrected Refractive Error

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions

SM: conceptualization; formal analysis; writing—original draft; writing—review and editing; visualization. KN: conceptualization; review and editing; visualization; supervision. RH: conceptualization; review and editing; visualization; supervision.

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Data availability

The datasets used and/or analyzed during the current study available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was performed in accordance with the Declaration of Helsinki, and has been approved by the Biomedical Research Ethics Committee (BREC/00004105/2022) and Maseno University Ethics Review Committee (MUERC/1051/22). Oral form informed consent was approved by the

Institutional Review Committee of Maseno University and the University of KwZulu-Natal. Informed consent to participate in the study was obtained from all participants.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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