

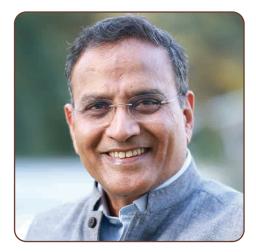
Reading glasses and livelihood

Challenges and pathways to scale access in India

August 2024



Foreword



Dr Indu Bhushan Founding CEO, Ayushman Bharat

Access to clear vision is not just a health necessity; it is pivotal for enhancing the quality of life and productivity. Uncorrected presbyopia, or age-related farsightedness, affects nearly half of the population over 30 in India. This report by The/Nudge Institute examines the multifaceted challenges and opportunities within the eyeglasses market in India, aiming to address the unmet need for vision correction.

The eyeglasses market in India presents a complex picture with various dynamics at play. The manufacturing sector, while capable, faces challenges in scaling production to meet the vast demand. Retail and distribution networks are unevenly developed, with significant disparities between urban and rural areas. Price sensitivity further complicates the market, with many potential customers unable to afford even the most basic vision correction solutions. This report delves into these intricacies, offering a comprehensive analysis of the market forces at work.

Government initiatives have attempted to bridge this gap, yet much remains to be done. Notable state-level initiatives provide hopeful examples of what can be achieved with targeted efforts, yet these need to be scaled and replicated nationwide. The role of civil society organizations is crucial in this context. They have leveraged innovative models to deliver affordable and accessible eye care, often filling the gaps left by public sector efforts.

To achieve scalable solutions, it is critical for policy interventions to streamline processes, incentivize community-level screening and distribution, and establish best practices for on-ground implementation. The private sector must expand its reach with innovative and affordable solutions, while civil society organizations and philanthropic entities can fill service delivery and funding gaps.

The report also highlights the importance of de-medicalizing eyeglasses, making them more accessible through non-medical channels. By training local entrepreneurs and integrating vision care into broader health and development programs, access to

eyeglasses can be significantly improved. Pilot programs demonstrate the potential for large-scale impact, showing that even modest investments in vision care can yield substantial economic and social benefits.

Through comprehensive analysis and strategic recommendations, this report aims to illuminate the path towards universal vision care access in India, fostering improved productivity and quality of life for its people. The challenge of uncorrected presbyopia in India is both significant and surmountable. With coordinated efforts from the government, private sector, and civil society, it is possible to provide affordable and accessible vision care to all, ensuring that every individual has the opportunity to see clearly and live fully.

This report deserves high praise for its insightful analysis and actionable recommendations on such a neglected yet vital issue. It serves as a crucial guide for stakeholders committed to making a tangible impact on universal health care and quality of life in India.

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Acknowledgements

The completion of this report was facilitated by the substantial support and cooperation of numerous individuals and organizations.

We extend our sincere thanks to the program participants in Bidar, Darjeeling, and Noida for candidly sharing their experiences with near vision deterioration and the challenges of accessing affordable reading glasses.

Our gratitude extends to the Livelihood Impact Foundation and Abigail Steinberg for their invaluable global insights and generous sponsorship of this study.

We are indebted to Dr. Indu Bhushan for his expert guidance on strategic and policy matters. His vast experience in public administration, policymaking, healthcare, and academia enabled us to explore aspects we might have otherwise overlooked.

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Special recognition goes to Jayanth Bhuvaraghan for his profound expertise in the global eyehealth acceleration, philanthropy and commerce, which significantly enhanced our understanding of the sector. His prior experiences and connections with key stakeholders enriched our perspective.

We are grateful to VisionSpring for offering a detailed understanding of the sector. The insights provided by Jordan Kassalow, Ella Gudwin, Anshu Taneja, and Rajan Kumar were invaluable.

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Among industry leaders, we appreciate the contributions of Raghavan NS of Titan Eye Plus for his perspectives on emerging trends in manufacturing and retail. Shariq Nujeeb, managing one of the largest national distributors of eyeglasses in the unorganized sector, offered valuable groundlevel insights.

This report is the result of extensive collaboration within The/Nudge Institute. Amita Yadav managed multiple aspects of the project, including research, field visits, pilot orchestration, findings compilation, and stakeholder coordination. Her dedication and strong work ethic were evident throughout. Kanishka Chatterjee provided valuable perspectives on market solutions. Tanmoy Nayak's analytical prowess gave a comprehensive market size estimate. Manoj Joshi shared his entrepreneurial experience and understanding of the unorganized distribution sector. Mohit Chelani significantly contributed with policy analysis and facilitated connections with local administration officers. Vishwanath MK and his team allocated time for field surveys and the Bidar pilot, greatly improving our practical understanding. Nappina Sampath carefully proofread the document and made numerous valuable editorial improvements.

Prathmesh Mahajani deserves recognition for his graphic design skills, which transformed our analysis into a structured and readable report. This initiative began with research spearheaded by Nirupama Kumar, whose foundational work was crucial.

We are grateful to the many others who contributed to this endeavor. Their efforts have been instrumental in advancing access to affordable reading glasses for all.

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Executive summary



Amit Gupta COO, The/Nudge Institute

Clear vision is indispensable for daily life and job performance. Whether it's the intricate craftsmanship of artisans, the bustling operations of garment factories, the precision required by tailors, or the rigorous work in tea and coffee plantations, clear eyesight is a crucial asset. However, despite being a seven-century-old technology, over 150 million Indians lack access to reading glasses, nearly half of whom are part of the workforce in occupations requiring clear near vision. This lack of access significantly impacts livelihoods and potentially reduces the country's GDP by \$14 billion annually.

While the manufacturing cost of good quality reading glasses is low, the challenge lies in reaching the target beneficiaries, screening them, and providing the glasses. This significantly increases the overall cost. A scalable solution must address this issue through appropriate policy interventions, enabling and incentivizing existing community cadres for screening and distribution, and developing best practices for effective on-the-ground execution.

To address the unmet need for reading glasses at scale within a reasonable timeframe, we must tackle large-scale distribution, unlock funding for expansion, build domestic manufacturing capacity, and create demand for market viable solutions for repeat purchases. We believe that as a nation, we can achieve this goal within a decade with a cumulative investment of around \$600 million, 90% of which can be funded through existing health and welfare schemes. This requires appropriate policy changes, earmarking of existing government funds for targeted programs, and leveraging the extensive community networks already established by some government cadres.

Philanthropic support will be crucial as a catalyst, especially for initial funding of reading glasses in the pilot phase, program management, technology development, and mass media campaigns. By engaging the right government stakeholders and departments, philanthropic capital can significantly amplify government funds, potentially leveraging up to ten times the amount.

Civil society organizations (CSOs) have done commendable work at the community level. Their grassroots efforts should continue for their community impact and expand to partnering for state-level targeted programs and supporting government community workers in training, awareness, and mobilization efforts.

While the unorganized retail sector and inexpensive imports account for much of the Indian eyeglasses market in terms of volume, the organized sector has made significant progress in the last two decades by innovating for manufacturing and distribution. This is rapidly increasing access to high-quality eyeglasses at increasingly affordable prices. In this regard, we see market players playing a crucial role in expanding their reach and adopting innovative solutions to make eyewear more accessible and affordable. With the right ecosystem support, many SMEs can make domestic eyeglass manufacturing a thriving sector, further accelerating this journey.

By working together, we can significantly improve the quality of life for millions of Indians, enhance productivity, and contribute to the overall economic growth of the country.

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Uncorrected presbyopia: The Indian context

Clear vision is essential not only for daily life but also for performing one's job effectively. Whether it's the intricate craftsmanship of artisans, the bustling operations of garment factories, the precision required by tailors, or the rigorous work in tea and coffee plantations, clear eyesight is a crucial asset. For farmers, clear vision can enhance productivity, increase income, and prolong employability.

Numerous challenges hinder the distribution of eyeglasses to impoverished communities. A significant barrier is the lack of awareness about the need for vision correction, particularly in rural areas where many live with uncorrected refractive errors (URE) and presbyopia. Common misconceptions and social stigmas further hinder the adoption of eyeglasses. Many believe that wearing reading glasses will worsen their eyesight, while others think that over-the-counter (OTC) reading glasses can harm their eyes. Cultural stigmas also play a role, as wearing glasses is sometimes viewed as a Western practice, leading to resistance until vision problems become severe. Additionally, the perception that eye care and eyeglasses are expensive deters many individuals from seeking necessary vision correction.

Limited access further compounds the issue, particularly in rural areas where eyeglasses are predominantly available in expensive urban optical shops. For rural residents, acquiring glasses often necessitates a costly and arduous journey to urban centers, forfeiting a day's wages and incurring extra travel expenses. India has a significant shortage of optometrists, with only one available for every 180,000 people, compared to one per 10,000 or fewer in developed countries. This scarcity is particularly problematic in rural or remote areas, where deploying optometrists remains economically unfeasible.

While affordable reading glasses are available online and in urban areas, distributing them in less accessible regions Global experiences suggest that most individuals are willing to allocate approximately

10% of monthly income¹

towards eyeglasses

Affordable pricing of ideally

\$2.5 per pair

for economically disadvantaged people.

Despite reading glasses being invented over 700 years ago



150 M people in India still live with uncorrected presbyopia

Visual impairments could reduce India's GDP by 0.47% to 0.7% ... amounting to INR 1,158 B

Out of the total population with uncorrected presbyopia

65-70 м บุ๊บู๊บู๊บู๊บู๊บู๊บู๊บู๊บู๊บู๊

people are in professions that require good near vision.



There is **1** optometrist for **1,80,000** people in India

There is **1** optometrist for **10,000** people in developed countries

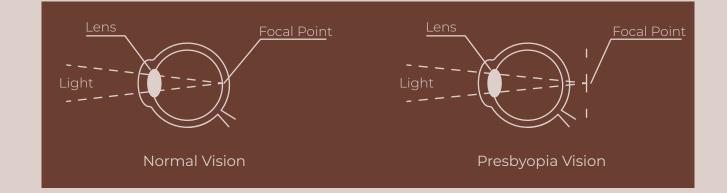
What is presbyopia?

Presbyopia, more specifically emmetropic presbyopia, is characterized by a gradual loss of the ability to see objects clearly up close, which is a normal part of the aging process. The term "presbyopia" originates from a Greek word meaning "old eye." Individuals typically begin to notice presbyopia shortly after reaching the age of 35. They often find themselves holding reading materials farther away to achieve clearer vision.

In the eye, the clear lens is situated behind the colored iris and adjusts its shape to focus light

onto the retina, enabling vision. In youth, this lens is soft and flexible, facilitating clear vision at varying distances. However, after the age of 35, the lens becomes less flexible and more rigid. Consequently, tasks such as reading, threading a needle, or performing other close-up activities become more challenging.

For those with non-emmetropic vision, solutions such as bifocals and progressive lenses are required, as these conditions cannot be corrected with simple reading glasses.





presents significant logistical challenges and costs. Organizing special screening camps requiring the presence of ophthalmologists and optometrists can increase these costs tenfold.

Due to a series of accessibility and needs assessment challenges, India has largely overlooked the issue of presbyopia among its citizens. The gradual onset of presbyopia and the belief that eyeglasses are mainly for severe vision problems have contributed to low demand for reading glasses in urban areas and a significant information and treatment gap in rural regions. Although reading glasses have been available in India for decades, market dynamics have created an imbalance between demand and available remedies.

Impact of reading glasses on livelihood

Research indicates that correcting vision with glasses not only yields immediate economic gains but also provides long-term benefits, particularly in terms of increased worker productivity and income. According to the World Economic Forum (WEF) and EyElliance (2016)², correcting vision with glasses can lead to an immediate up to 34% economic gain from enhanced productivity, along with a 20% increase in income.

Studies further illustrate the significant impact of vision correction on various occupational groups. For instance, an impact assessment by BRAC found that 90% of individuals with near-vision loss encountered work-related challenges, with 23% reporting compromised income. In Rwanda, workers who received and wore glasses experienced a threefold decrease in the likelihood of being asked to repeat work tasks, as revealed by Lifetime Consulting & Partners.

Additionally, research conducted in India by Dalberg Global Development Advisors demonstrated that adults who corrected their vision with glasses reported increased independence in movement and travel (65%) and improved work productivity (59%)³. Similarly, the PROSPER trial conducted by VisionSpring among tea garden workers in Assam revealed a more than 20% increase in relative productivity among intervention-group members, particularly older participants who experienced significant productivity gains due to the effects of corrective eyewear. Ongoing trials, such as PROSPER 2⁴, PROSPER 3⁵, and THRIFT, aim to further explore the impact of vision correction interventions on income and productivity across diverse work settings.

The RCT⁶ titled The effect on income of providing near vision correction to workers in Bangladesh: A randomized trial (Congdon, Sehrin et al, 2020) showed a 33% increase in median income for



Ella Gudwin ^{CEO,} VisionSpring

Eyeglasses do more than improve peoples' vision – they boost income. In April of this year, VisionSpring (with our partners Queen's University Belfast, BRAC and Cartier Philanthropy) published THRIVE, a randomized controlled trial that demonstrated that a simple pair of reading glasses boosted income for rural Bangladeshis by a third. And in India, the 2018 PROSPER study demonstrated that reading glasses lift productivity by 22% — up to 32% for people older than 50 – for tea workers in Assam. An investment in making eyeglasses accessible to lowincome communities is an investment in India's future.

Correcting vision with glasses can lead to

34% Productivity Assam Tea Farmers

20% Increase in income Reported 20% more than 20% increase in relative productivity with corrective eyewear



Increase in median income in 59 Bangladeshi villages participants across 59 Bangladeshi villages.

Moreover, studies like "Vision Impairment and Productivity Among Female Garment Workers in Bangladesh"⁷ shed light on the prevalence of near vision impairment among specific occupational groups, suggesting targeted interventions to address gender disparities in vision impairment and its economic ramifications.

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Overall, inexpensive treatments such as near glasses have been proven effective in improving long-term earnings, thereby contributing to poverty alleviation efforts and enhancing livelihoods, as evidenced by various research findings⁸.

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Eyeglasses market dynamics

According to Euromonitor, the total spectacles market size in India is estimated at \$3.3 billion, with a growth rate of 5% CAGR since 2018. In contrast, the US eyeglasses market is estimated at \$37 billion, despite having only one-fourth of India's population.

India's eyeglasses market is highly price-sensitive, which is predominantly controlled by numerous small retailers selling inexpensive imports from China. Branded eyeglasses constitute less than 20% of the total annual volume. Unorganized retail shops hold an 80% market share by volume, but their value share is significantly lower. According to Euromonitor, the average price of a pair of eyeglasses in India is around Rs. 770, which has remained relatively constant over the years, reflecting the dominance of the unorganized sector in the country.

The reading glasses market holds little value for top players in the eyewear industry due to the presence of numerous small players, both online and offline, leading to low margins. Most branded and organized players with retail distribution focus on the prescription eyewear business and do not prioritize the reading glasses market.





End-customer segments

Indian eyeglasses market can be divided into four distinct segments:



Urban luxury segment

This segment consists of a niche group of urban consumers who prioritize quality and design over price. These individuals seek the highest quality prescription lenses and fashionable designer frames, with expectations comparable to affluent consumers in developed countries. Although this segment is relatively small, it is experiencing rapid growth due to economic advancement and increasing disposable incomes in India. High-end retail stores in tier-1 and tier-2 cities primarily serve this market.



Urban premium segment

This rapidly growing and profitable segment demands variety, style, and quality at reasonable prices. However, it still finds designer glasses prices unreasonably high, creating a significant market opportunity that luxury brands do not address. Key players capitalizing on this gap include venture capital-backed omni-channel companies like Lenskart, specialty online retailers such as Cleardekho, and branded retailers like Titan EyePlus. To expand this segment and increase their market share, these companies are aggressively enhancing manufacturing capacity, expanding retail presence, and implementing the latest technologies and pricing strategies.



Urban value segment

This is the largest market segment, characterized by a strong demand for value for money. These consumers seek the latest styles but are largely brand-agnostic. The segment is diverse, with affordability ranging from Rs. 200 to Rs. 400, and a varied understanding and appreciation of quality. Price is the primary determinant of their purchasing decisions, followed by style. This segment is predominantly served by inexpensive Chinese imports, sold by small retailers in the unorganized sector. Large online retailers such as Amazon and Flipkart are also targeting this segment for reading glasses.



Peri-urban and rural untapped segment

Serving this segment through traditional retail channels is challenging due to the high costs and the low affordability of the consumers. Consequently, the demand within this segment remains largely unmet. Additionally, awareness about the need for eyeglasses is low among these consumers. Presently, this segment is predominantly served by government and civil society initiatives.

Eyeglasses manufacturing

Domestic manufacturing of eyeglasses in India constitutes only 20-30% of the total market volume. Additionally, many Indian manufacturers import key components like lenses and high-quality frames, assembling them locally to balance quality and cost effectively. The industry is characterized by a mix of unorganized small-scale manufacturers and larger producers of branded products.

Small-scale manufacturers

A significant portion of eyeglass manufacturing in India is managed by small-scale, often family-owned businesses. These manufacturers produce a wide range of frames and lenses, primarily serving the local market. With a strong focus on affordability, many small manufacturers utilize inexpensive materials and simpler production techniques. While this approach keeps costs low, it often results in lower quality compared to international standards.

Maintaining consistent quality is a considerable challenge for these small-scale manufacturers, which affects the overall perception of Indian-made eyeglasses. Additionally, intense competition from imported products exerts pressure on local manufacturers to keep prices low, frequently at the expense of quality. The supply chain for high-quality raw materials and components is often unreliable, further impacting production schedules and product quality.

Large-scale manufacturers

Several larger, organized manufacturers in India produce high-quality eyeglasses, equipped with superior manufacturing facilities and adhering to stringent quality standards. Both prominent Indian brands and international companies manufacture or assemble branded eyeglasses locally, utilizing advanced technology and premium materials to target the high-end market segment.

In the organized sector, there is a gradual



Image: Solar-powered lens lab at VisionSpring

adoption of advanced manufacturing technologies, such as CNC (Computer Numerical Control) machines for cutting lenses and automated assembly lines, which enhance precision and efficiency. Additionally, some manufacturers are investing in research and development to innovate in design, materials, and lens technologies, further elevating the quality and variety of their offerings.

Leading large-scale manufacturers in India include Lenskart, Titan Eye+, and Essilor India. Among these, Lenskart stands out in terms of volume, growth plans, and technology adoption. The company is shifting its Southeast Asia production to India and constructing an automated factory in Bhiwadi, Rajasthan, with an annual production capacity of 50 million eyeglasses. This facility will include a lens lab, frame manufacturing center, and distribution hub for specialized SKUs such as sunglasses. Additionally, Lenskart has invested in a highly automated distribution center capable of delivering over 200,000 eyewear products daily for both the Indian and international markets.

Titan Eye+, launched in 2007 as a subsidiary of Tata group, India's largest conclomerate. has an annual production capacity of nearly 2 million lenses and 1 million frames, with approximately 35% manufactured in India and the remaining 65% imported from China, Korea, and Taiwan. Essilor India operates two main manufacturing facilities in the country. One is a frame manufacturing facility in Bhiwadi, Rajasthan, which produces Ray-Ban and other frames for the domestic market, including for the Indian military. Essilor also has over 85 labs across India dedicated to lens coating, producing close to a million lenses annually.

Retail and distribution

The distribution network for eyewear in India is multifaceted, involving a variety of channels including distributors, wholesalers, and retailers. The retail landscape and distribution channels are evolving rapidly, driven by changes in consumer behavior and technological advancements. Despite these developments, the unorganized sector still holds the majority market share by volume, primarily serving price-sensitive customers. Retail and distribution in India can be categorized into small retailers in the unorganized sector, specialty online portals, both multi-brand and single-brand retail stores, and e-commerce retailers. This diverse

network ensures that the varying needs and preferences of consumers across different market segments are met.

Small unorganized retailers



From these wholesale hubs, small-time delivery personnel, working independently as the final link to opticians, supply the eyewear to opticians on a daily basis as per orders. In major cities, some dealers and distributors employ their own delivery personnel to meet the needs of opticians.

The exact number of these small eyeglasses retailers is challenging to determine due to the fragmented nature of the unorganized sector. However, it is estimated that there are hundreds of thousands of such retailers operating throughout India. These businesses are typically small, family-run shops or individual vendors dispersed across the country.



Hamid Optical Company

Chandni Chowk, Delhi



Diopter strength	Price
+1.25	Rs. 16
+1.50	Rs. 36 & 65
+1.75	Rs. 35 & 58
+2.50	Rs. 40
+2.75	Rs. 48 (with protective box)
+3.00	Rs. 38
+3.00	Rs. 21 (with protective box)



Specialty online retailers

Specialty online retailers for eyeglasses have become significant players in the eyewear market by leveraging the growing trend of e-commerce and digital technology. These platforms target the young urban population with rising disposable income, increasing internet penetration, changing consumer behavior towards online shopping, and the convenience of accessing a wide variety of styles and brands from home.

Lenskart pioneered this concept in 2010, leading the sector's rapid growth, driven by advancements in digital technology, improved logistics, and growing consumer trust in e-commerce. The COVID-19 pandemic further accelerated the shift towards online shopping, boosting demand for online eyewear retailers. Lenskart sells 25 million pairs of spectacles annually.

Leaders in the segment are incorporating virtual try-on features, allowing customers to see how frames look on their faces before purchasing, enhancing the shopping experience. Customized lenses and frames based on individual preferences and prescriptions have become a significant trend, offering a more tailored shopping experience. Some retailers have introduced subscription models for regular eyewear updates, catering to customers who require frequent changes. Features like home eye check-ups, free trials, and easy returns have become standard, improving customer satisfaction and trust.

Initially, these retailers began as online-only stores. However, they quickly realized that an omnichannel strategy was more effective for the Indian market. Physical stores have since become their primary sales channel, accounting for the majority of sales, while the online platform is mainly used for product discovery.

Besides Lenskart, other players in this segment include ClearDekho, Coolwinks, and SpecsMakers, although none have reached the same level of scale and success as Lenskart.



Multi and single brand retail stores

This segment includes well-established brands, large retail chains, and specialty stores offering a wide range of eyewear products, including prescription glasses, sunglasses, and contact lenses. These stores primarily cater to urban luxury and premium segment customers. Prominent retailers with a presence in multiple cities across India include Titan Eye+, Lenskart, GKB Opticals, and Himalaya Opticals. Additionally, many regional retailers have a more localized presence, serving specific parts of India or individual cities.

Titan Eye+ operates 860+ stores across 384 cities, offering frames and lenses from various brands but with a strong focus on promoting its own brand of eyeglasses. Titan Eye+ primarily targets urban areas and aims to cover as many towns as possible through physical stores, with a particular emphasis on the growing segment of school-going children with myopia.

Similarly, Lenskart, as part of its omnichannel strategy, has over 2,500 retail locations and is expanding rapidly. While Lenskart sells frames from multiple brands, it primarily promotes its in-house brands.

Other retail stores in the organized sector focus on multiple luxury brands of frames and lenses from market leaders such as Essilor Luxottica. Although these retailers have built an online presence, they have struggled to adopt technology and provide customer services as effectively as specialty online retailers.

E-commerce retailers

Leading e-commerce retailers in India, including Amazon, Flipkart, and Myntra, offer a wide selection of reading glasses and frames from various brands, including specialty players like Lenskart. The quick commerce sector in India is experiencing rapid growth, continually expanding the range of categories they offer. Prominent players like Blinkit have also started stocking a limited inventory of eyeglass frames.

These e-commerce giants leverage their extensive customer bases and robust logistics networks, making eyeglasses a natural addition to their expanding product categories. By incorporating eyewear into their offerings, these retailers are capitalizing on their strengths to meet the growing consumer demand for convenient and diverse shopping options.

Titan Eye+ operates 860+ stores across 384 cities	
Lenskart has 2,500+ stores in India.	
All major e-commerce players sell reading glasses. Even quick commerce players have started keeping limited inventory.	
rice range for pair of eyeglasses	
s, 200 to 400	

Retail channel	Price range for pair of eyeglasses
Small unorganized retailers	Rs, 200 to 400
Specialty online retailer	Starting from Rs. 299; most SKUs in Rs. 1,000+
Multi and single brand retail stores	Starting from Rs. 1,000
e-Commerce portal	Starting from Rs. 150

Source: The/Nudge research

Implications of market dynamics on reaching scale

The Indian eyeglasses market has significant growth potential, yet segments with the highest unmet demand remain challenging to serve due to their unorganized nature and logistical complexities. Without targeted intervention, these segments will see minimal growth if left solely to the unorganized sector. The current market structure, eyeglasses price trends, and distribution are all incentivized to focus on high-margin segments like prescription and fashion eyewear. This leaves essential segments such as presbyopia largely unorganized and underdeveloped.

The organized sector, which includes both manufacturing and retail, tends to prioritize more profitable and easier-to-serve segments. Companies will initially focus on saturating these segments and may prioritize exports over less profitable domestic markets. This is particularly true given the presence of global oligopolies in vision care and the aspirations of some Indian manufacturers to become global players.

From a distribution and scale perspective, evolving e-commerce channels, including large and quick commerce platforms, could be game changers for last-mile delivery of presbyopia solutions. However, existing players have limited incentives to address these segments. Dedicated efforts from non-market and new players are necessary to stimulate demand and eliminate service barriers, particularly to accelerate access for underserved rural and semi-urban areas.

Additionally, understanding the schemes, initiatives, and infrastructure deployed by various state institutions and non-governmental intermediaries is crucial. These entities can enable scaled efforts to uncover need and bring solutions to the underserved, bridging the gap left by the unorganized sector and hesitant organized players. The current market structure, eyeglasses price trends, and distribution are all incentivized to focus on

High margin prescription eye glasses

and fashion wear





... leaving majority of reading glasses sales to unorganized sector.

Estimating unmet demand in livelihood-impacting occupations

Based on the National Classification of Occupations (NCO-2004) data covering 147 occupation groups, we employed a three-step approach to estimate the size of the presbyopic population within occupations requiring visual acuity.

Criteria to identify occupations requiring clear near-vision



Impact on productivity and quality of work



Impact on the worker's career longevity



Impact on the safety of the worker or others

Selection of occupations

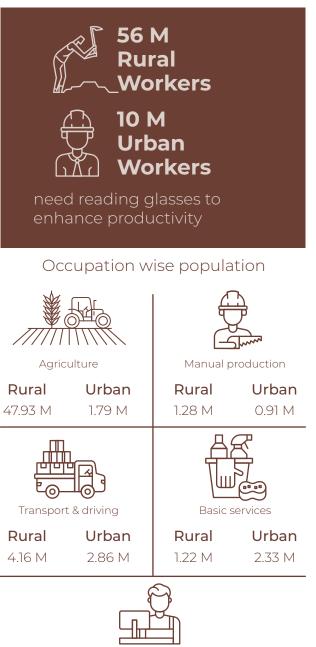
- A subset of 47 out of 147 occupations was identified based on the criteria mentioned above.
- 21 occupations were further shortlisted based on their likelihood of employing people from poor or excluded communities.

Estimating the presbyopic population in shortlisted occupations

Total Workforce in the 21 Shortlisted Occupations (PLFS 2022-23): 200 million Age Distribution:

- Younger Occupations (PLFS avg. age <35 yrs.): 30% of workers are above 40
- Older Occupations (PLFS avg. age >45 yrs.): 60% of workers are above 40
- Average Occupations (PLFS avg. age 35-45 yrs.): 45% of workers are above 40

To identify occupations requiring clear near-vision, we applied our criteria to data from the National Skill Development Corporation (NSDC). In rare cases, we found studies specifically focusing on the impact of uncorrected near vision on certain occupations.



Knowledge services

Ru	ral	Urban
1.39	M	2.46 M

Government funding and initiatives

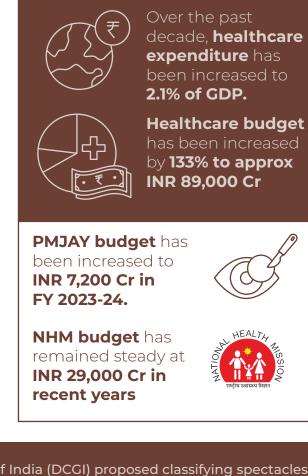
Healthcare funding

According to the National Health Policy 2017, the goal is to increase public investment in health to 2.5% of GDP. The Pradhan Mantri Jan Arogya Yojana (PMJAY), known as Ayushman Bharat covers a wide range of medical and surgical procedures, including cataract surgeries. However, the distribution of eyeglasses is not yet included in this scheme.

While the overall health budget has expanded, the budget for the National Health Mission (NHM) - which focuses on the needs of underserved populations has remained steady at around Rs. 29,000 crore in recent years.

De-medicalization of eyeglasses

The Medical Devices Rules, 2017, established under the Drugs and Cosmetics Act of 1940, regulate the sale and distribution of medical devices.



In September 2020, the Drug Controller General of India (DCGI) proposed classifying spectacles and spectacle lenses as medical devices. After public consultation, these items were excluded from the final list. This decision allows eyeglasses to be sold on e-commerce platforms and in physical stores without a prescription, making affordable eyeglasses widely available. However, government programs that offer free or subsidized eyeglasses often require a prescription from a government eye specialist, which negates the benefit of easier access. Moreover, many senior government officials and civil society leaders still lack clarity on de-medicalization guidelines.



National Program for Control of Blindness & Vision Impairment (NPCBVI)

The National Programme for Control of Blindness & Visual Impairment (NPCBVI) was launched in 1976 as a 100% centrally sponsored scheme aimed at reducing the prevalence of blindness from 1.4% to 0.3%.

Key objectives of the program are:



Reduce blindness backlog

Identify and treat blindness at primary, secondary, and tertiary levels based on the overall burden of visual impairment in the country.



Eye health strategy

Develop and strengthen NPCBVI's strategy for eye health and prevention of visual impairment by providing comprehensive eye care services and ensuring quality service delivery.



Upgradation of RIOs

Enhance Regional Institutes of Ophthalmology (RIOs) to become centers of excellence in various ophthalmology subspecialties.



Human resources and infrastructure

Strengthen existing and develop additional human resources and infrastructure to provide high-quality comprehensive eye care across all districts.



Community awareness

Increase community awareness on eye care and emphasize preventive measures.



Research expansion

Expand research efforts focused on the prevention of blindness and visual impairment.



Voluntary participation

Secure the participation of voluntary organizations and private practitioners in eye care services.

Over time, NPCBVI has made significant strides in reducing blindness prevalence to 0.36% in 2022, nearly achieving its goal. However, the program's size and budget have decreased over the years. In FY 21-22, the NPCB budget was underutilized across states, with a national average utilization rate of only 19%.

While NPCBVI primarily focuses on treating glaucoma, cataracts, and other blindness prevention procedures, it also includes provisions for free eyeglasses. The program offers free screenings and reading glasses worth up to Rs. 350 for individuals aged 45 and older. However, providing eyeglasses has not been a primary focus of the program.



ree screenings and reading glasses worth up to **Rs. 350** for individuals aged **45 and older.**

Year / Activity	2018-19	2019-20	2020-21	2021-22
Cataract (lakhs)	66.9	64.3	35.5	39.6
School Eye Screening Programme (lakhs)	8.8	8.6	1.8	2.5
Donated Eyes for corneal transplant ('000)	68.4	65.4	17.4	33.7
Treatment of other eye diseases (lakhs)	6.1	8.4	3	3.1
Training of Eye Surgeons	125	108	32	48
Overall utilized budget (Rs. Cr.)	397	332	227	140

Source: Ministry of Health and Family Welfare

Dispence

Ophthalmology Ayushman Bharat⁹

Launched in 2018, Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) is the world's largest tax-funded health insurance scheme, funded jointly by the Central and State governments. It aims to provide financial protection for lower socioeconomic strata by offering cashless hospitalization coverage of up to ₹500,000 per family per year. To date, 32.40 crore people have been issued Ayushman Bharat cards.

AB PM-JAY covers a wide range of medical treatments, including 53 eye care procedures out of nearly 2,000 packages across all medical specialties. This includes treatments for cataract surgery, glaucoma, and retinal detachment. Cataract surgery is one of the most frequently reimbursed procedures by volume among all specialties, with treatment costs ranging from INR 4,000 to 9,200. Glaucoma treatments can cost up to INR 15,000, depending on the specific condition.

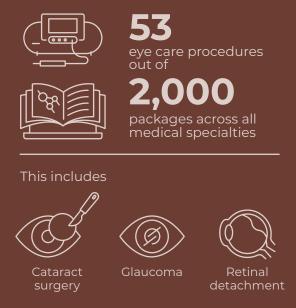
Despite its comprehensive eyecare offerings, AB PM-JAY does not cover routine eye screenings or the purchase of eyeglasses, whether reading or prescription glasses.

Notable state-level initiatives

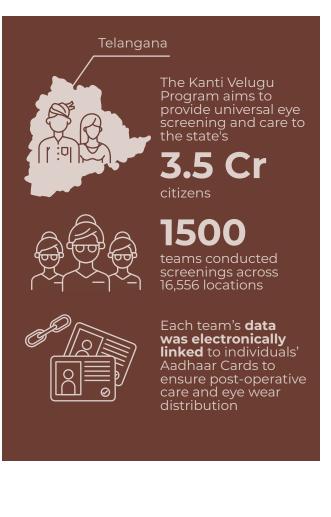
Kanti Velugu by the Government of Telangana

The Kanti Velugu Program, launched by the Telangana government on August 15, 2018, aims to provide universal eye screening and care to the state's 3.50 crore citizens, regardless of social or economic status. The program's objectives include comprehensive eye screenings, free distribution of spectacles for refractive errors, free surgeries for conditions like cataracts and glaucoma, provision of medicines for common eye ailments, and raising awareness about eye care.

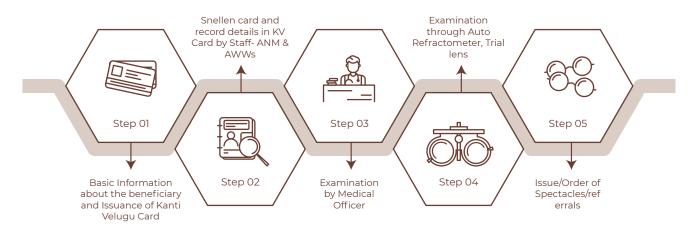
AB PM-JAY covers wide range of treatments, including



Following its initial success, the program was relaunched on January 18, 2023, by the Chief Minister of Telangana, with the Chief Ministers of Delhi, Punjab, and Kerala in attendance. The 2023 initiative ran for 100 days, excluding weekends and public



Process flow of Kanti Velugu Camps





Key Aspects of Kanti Velugu 2018 vs 2023 Program ¹⁰	Kanti Velugu 2018 Statistics	Kanti Velugu 2023 Plan/Projections
Budget	220 Crores	200 Crores
No of Teams	827	1500
Duration of the program	145 days	100 days
Overall screening	1.56 Crores	1.8 Crores (Projected)
Reading glasses distribution	24.68 Lakhs	30 Lakhs
Prescription glasses distribution	14.97 Lakhs	25 Lakhs
Autorefractometers	827	1575
Kanti Velugu Kit Bag	827	1500

holidays, with 1,500 teams conducting screenings across 16,556 locations, both urban and rural. Each team's data was electronically linked to individuals' Aadhaar cards to ensure post-operative care and eyewear distribution.

Key aspects of the 2023 program included the repair and maintenance of auto refractometers, quick response to equipment breakdowns, and improved turnaround time for distributing prescription glasses. Innovations such as a QR code-based labeling system and a mobile application enhanced efficiency and traceability. The program also emphasized "Made in India" products, with all spectacles manufactured locally, contributing to national pride and economic savings.

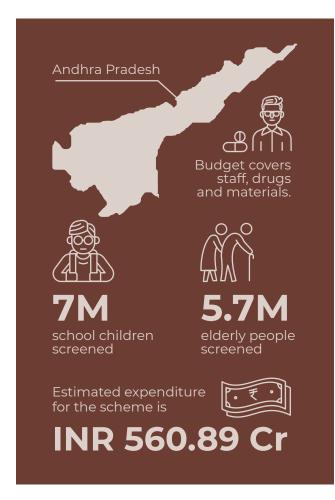
The Kanti Velugu Program demonstrates Telangana's leadership in healthcare and has become a model for other states, such as Delhi and Punjab, to replicate, benefiting economically disadvantaged populations.

YSR Kanti Velugu by the Government of Andhra Pradesh

Launched in 2019, the YSR Kanti Velugu program aims to provide universal eye care to 5 crore citizens of Andhra Pradesh through various phases. The first phase screened 70 lakh school children. The second phase, starting in November 2019, involved performing eye operations for those in need. The third phase, launched in February 2020, benefited 57 lakh elderly people.

In Phase III, eye screenings were conducted for 46,10,653 individuals, with 31,94,865 (69.29%) having normal results and 12,26,756 (26.61%) prescribed spectacles. Additionally, 1,89,026 people (4.10%) were referred for cataract surgery, with 1,74,481 (92.31%) confirmed as cataract cases and 14,545 (7.69%) for other referrals.

The scheme is planned in six phases over three years, with an estimated expenditure of Rs. 560.89 crores, funded 60% by the Government of Andhra



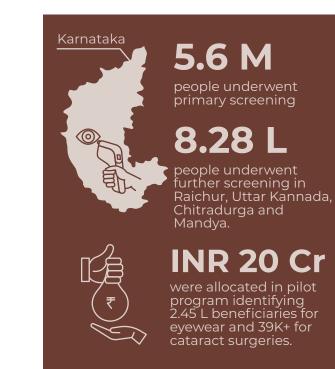
Pradesh and 40% by the Government of India. This budget covers equipment, drugs, staff, and materials.

Asha Kirana by the Government of Karnataka

The Asha Kirana program, launched by the Government of Karnataka, aims to provide comprehensive eye care services free of cost across the state. This initiative, part of the National Programme for Control of Blindness and Visual Impairment (NPCBVI), focuses on reducing avoidable blindness through services such as doorstep eye check-ups, diagnosis, distribution of spectacles, and cataract surgeries.

In the first phase, 5,659,036 people underwent primary screening, averaging 84% of the targeted population. Of these, 828,784 people received further screening in four districts: Chitradurga, Raichur, Uttara Kannada, and Mandya. The pilot program allocated over Rs 20 crore, identifying 245,587 beneficiaries for spectacle distribution and performing 39,336 cataract surgeries.

In the second phase, 5,277,235 people were screened, achieving a 71% screening rate. Out of these, 943,398 individuals were diagnosed with eye-related problems. Health personnel and ASHA workers conduct primary eye check-ups at homes, ensuring that those with eve problems are referred to Primary Health Centers (PHCs) for further examination and treatment. Spectacle dispensing centers have been established at all PHCs to facilitate easy access to necessary eye care services. The program is set to expand to more districts in future phases, including Ramanagara, Yadgir, Kodagu, and Gadag in 2024-25, followed by Chikkamagaluru, Bidar, Kolar, and Bagalkot in 2025-26.





Visit to Mandya District

We visited Mandya District in Karnataka to engage with community members and ASHA workers involved in the Asha Kirana program's door-to-door screenings.

Key observations from the field visit:

- Many individuals do not believe they have eye problems.
- There is a widespread belief that government-run systems cannot provide quality eye care.
- Attendance at eye camps has noticeably declined compared to the initial screenings conducted by ASHA workers.
- After the check-up at eye camps, there is often a prolonged waiting period, sometimes up to 6 months, for eyeglasses to be made available.
- The post-facto procurement of eyeglasses through a tender process contributes to this delay.
- Logistical challenges in the distribution process further extend the waiting period.
- There are concerns about the perceived quality of eyeglasses provided through the government system.

We also visited local optical shops to understand the price range and sales of reading and prescription glasses.

- In the surveyed area around the central hospital, there are several eyeglass retail stores, ranging from premium to low-priced options.
- Low-priced stores offer eyeglasses as inexpensive as INR 150.
- Despite the de-medicalization of eyeglasses, shopkeepers often insist on a prescription before selling eyeglasses.





Optimizing government schemes and deployments

The Government of India has made commendable investments in healthcare, focusing on infrastructure development, personnel allocation, and various public health schemes. These efforts aim to address numerous health and affordability challenges throughout a citizen's life, although balancing these priorities can be complex. One area that could benefit from additional attention is the health impact of presbyopia. Addressing this issue can positively influence marginal livelihoods, sectoral productivity, and India's overall GDP.

Currently, refractive error correction, particularly presbyopia correction, has not been as prioritized within India's expanding health infrastructure due to the focus on larger, more complex challenges. The benefits of addressing presbyopia for productivity are not widely understood or articulated, resulting in limited recognition by relevant state and central government departments. Our analysis, based on various productivity markers across industries and periodic labor force study (PLFS) reports, highlights that certain industrial and worker segments could greatly benefit from a scaled approach to providing presbyopia solutions.

A key challenge in the last-mile delivery of vision care is inefficiency and delays in the procurement and distribution processes. Many states rely on multiple institutions in a sequenced manner for last-mile eye care, leading to significant delays, especially in the provision of reading glasses. For example, in Karnataka's Asha Kirana program, ASHA workers conduct initial screenings and refer individuals for further check-ups at government hospitals or eye camps. However, 20% of these individuals do not follow up, and those who do may wait three to six months for their spectacles due to tendering delays.

To address these inefficiencies, implementing a single-window engagement layer could streamline the process, allowing local resources like ASHA workers to connect, screen, diagnose, and fulfill presbyopia needs more efficiently. This approach would ensure a seamless and efficient process, enabling ASHA workers to also recommend single-window options for more complex vision issues.

To maximize the government's efforts, it is crucial to secure buy-in from top leadership, establish the right incentive structures for community cadres, and simplify policies. Additionally, addressing presbyopia with a focus on worker productivity and livelihoods requires coordination between state government departments (such as the CMO, labor and industries, and planning departments) to onboard scale actors across sectors, provide incentives, support welfare interventions, and monitor long-term metrics for near vision glasses adoption and resultant sectoral productivity. Civil society and impact wings of various market players could play a critical role in sustaining this collective effort.



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Civil society initiatives

VisionSpring

VisionSpring, established in 2001, is a global social enterprise dedicated to increasing the accessibility of eyeglasses in emerging and frontier markets. Their mission is to expand the optical market by employing innovative distribution and service strategies to offer affordable, durable eyeglasses to individuals living on less than \$4 per day. They primarily target presbyopia by providing reading glasses on the spot.

Annually in India, VisionSpring conducts and facilitates eye screenings for more than 2.7 million people and corrects the vision of more than 1.1 million people with eyeglasses. On average, more than 73% of its program participants acquire their first-ever pair of eyeglasses through VisionSpring's initiatives:



Anshu Taneja Managing Director, India, VisionSpring

In India, 550 million (55 crore) people need eyeglasses. Clear vision through eyeglasses can help people earn and learn better and lead safer and betterquality lives. To date, VisionSpring, through its mission, has distributed over 7 million (70 lakh) pairs of eyeglasses to low-income people in India, creating an economic impact of more than \$1.5 billion (Rs. 12,450 crore). More than 73% of these people received their first ever pair of eyeglasses. Our endeavour is to make India a clear vision nation through our India Clear Vision Mission (Bharat Ujjwal Drishti Abhiyan), and thus support the Government of India's Viksit Bharat 2047 initiative.



See to earn

2.5 million people screened, 1.47 million eyeglasses dispensed, 74% first-time wearers.

See to learn

3.6 million children screened, 450,000 eyeglasses dispensed, 72% received their firstever pair of glasses.

See to be safe

600,000 drivers and transportation workers screened, 380,000 eyeglasses dispensed, 71% were first-time wearers

DARE to MATTER Be the Charge Mean We all want to build our lives with intention deliberately and insciously, so how we live r life aligns with what atters to us the most.

JORDAN KASSALOW Founder VisionSpring



Advance Social Equity



In Assam, VisionSpring aims to screen over 1 million tea garden workers and weavers/artisans and provide eyeglasses to more than 500,000 individuals by 2028, with the goal of making India the first Clear Vision Tea Growing Country. Additionally, through the Clear Vision Punjab initiative, VisionSpring plans to screen more than 1 million people over three years, providing eyeglasses to over 300,000 individuals. Since 2017, they have already screened 8.19 million people in Punjab. VisionSpring recently introduced the "Dare to Matter" line of eyeglasses, manufactured in India, which includes 88 frame styles and colors designed based on feedback from various user groups.

To date, VisionSpring has distributed approximately 7 million pairs of corrective eyeglasses in India, creating approximately \$1.5 billion in economic impact for low-income households. VisionSpring delivers on its eye health mission across 28 states, working with more than 1,000 hospitals and healthcare facilities, NGOs, state governments and agencies, and 65 corporates/CSRs.

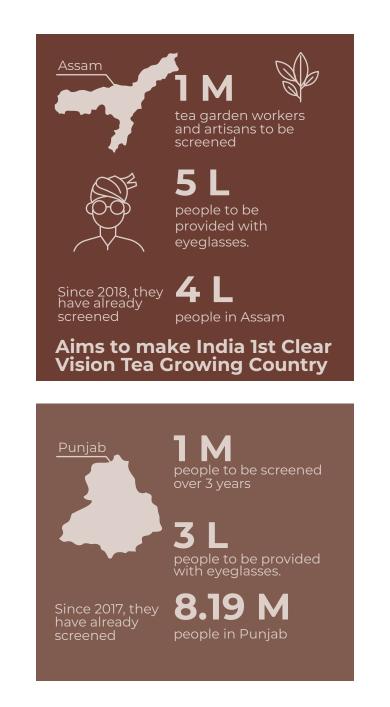
To date, VisionSpring has distributed

7 M pairs

eyeglasses in India. Creating approximately



in economic impact for low-income households.





Community outreach process

The outreach process described below pertains to the VisionSpring See to be Safe program. A similar outreach process is implemented across all programs, with adjustments made to permissions based on specific partnership agreements within each program.

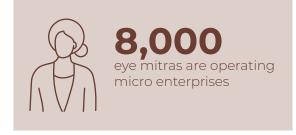
Each camp or screening site is staffed by a team of four members, consisting of two optometrists and two coordinators. On average, 60 to 70 eye screenings are conducted at each campsite. Approximately 50-60% of glasses, particularly reading glasses, are dispensed on-site. Prescription glasses are distributed later through designated access points within the specific geographic area, typically delivered within 20 days.

Referral services are available for individuals with eye issues beyond refractive errors, and the team follows up regularly on referred treatments. Additionally, helpline support is provided for individuals encountering difficulties with the adoption of eyeglasses.

Pre-outreach			
Location mapping	Permission-authority, government	Local partnership-access, referrals	Mobilization
Outreach			
Registration	Primary screening	Eye examination	Dispensing & counselling
Post-outreach			
Rx distribution	Referral follow-up-driver, ATW	Compliance, uptake of glasses	Helping support

OneSight Essilor Luxottica Foundation's Eye Mitra optician program

The Eye Mitra program, initiated in 2013, operates across several states in India including Uttar Pradesh, Rajasthan, Maharashtra, Karnataka, West Bengal, Odisha, Madhya Pradesh, Haryana, Andhra Pradesh, and Bihar. Its primary aim is to train individuals, particularly in rural and semi-urban areas, to become primary vision care providers.





Narasimhan Narayanan President, Essilorl uxottica South As

The Eye Mitra program has revolutionized primary vision care in rural areas by empowering local youth through microentrepreneurship to provide essential vision care services to communities in need who have limited access. I am extremely proud of the program's impact across the country. Notably, it has been recognized by NITI Aayog, the Indian Government's public policy think tank, as a best-practice example of a skills-building initiative.



Training and Support

Young under-employed individuals are trained over twelve months in basic vision tests and equipped with commercial skills to establish their own vision care businesses. They are provided vocational training in refraction and visual health, along with entrepreneurship skills necessary for running a successful small business.



Financial Support

Essilor, through its Vision for Life (VFL) fund, has committed 30 million euros to support the program. Additionally, the program assists trained candidates in accessing credit through government schemes and other finance options.



Partnerships

The program is implemented through partnerships with NSDC-accredited skilling organizations and various implementing partners across different regions. These partners handle candidate mobilization, enrollment, training, and support for setting up shops.



Post-Training Support

After candidates open their shops, Essilor provides branding support and ensures timely product supply. Basic instruments required for vision check-up and making spectacles are also provided.



More than 8.000 Eve Mitra opticians are currently operating micro-enterprises across India. An independent study conducted by Dalberg Global Development Advisors highlighted the significant impact of the program, including increased earnings for Eye Mitras, improved productivity for wearers, and increased revenues for local businesses. The study also emphasized individual benefits such as time savings and increased independence for wearers. The study estimated that if the Eye Mitra initiative were scaled up to cover all districts in India, it could potentially have a global impact of US\$487 million annually.

Economics of the EyeMitra Model

Income for EyeMitras comes primarily from selling glasses and sometimes from consultation fees. While most EyeMitras offer free eye examinations, some charge a nominal fee of Rs 50. EyeMitras often operate in rural or semi-urban areas, covering multiple villages.

Upfront investment

Rs. 50,000 to 1 lakh to set up the shop

Catchment area

25,000 population

Monthly expected earning

Rs. 15,000 to 20,000

Profit per pair of glasses

Rs. 50-200 depending on the type of eyeglasses

Glasses needed to be sold

100-150 pairs

Training and basic equipment are provided free of charge, and inventory is often available on credit.

Program in partnership with government bodies

General experience has been that Vision care often falls lower on the priority list compared to issues like maternal and child healthcare, cancer, and other life-threatening ailments. The National Programme for Control of Blindness and Visual Impairment (NPCBVI) allocates funds to state governments, which then distribute them to district administrations for purchasing and distributing glasses. However, this effort is minimal without strong government-led awareness campaigns.



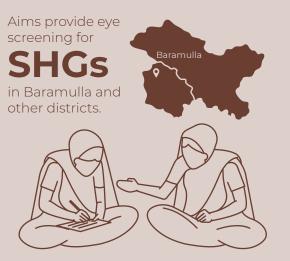
Some of their initiatives include

Asha Kirana with Government of Karnataka

In the first phase of this universal health program, **5.6 M** people have been screened. **6 M** more people. **6**

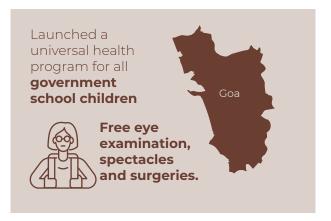
Government of Jammu and Kashmir with NRLM

Collaborated with the National Rural Livelihood Mission (NRLM) to provide comprehensive eye examinations for self-help group women in Baramulla and other districts. These examinations, supported by the Department of Health and Family Welfare, aim to enhance the productivity of women engaged in handicrafts and small-scale industries. Initially, they provided free glasses, and later informed them about available government budgets for procuring glasses through a tender process.

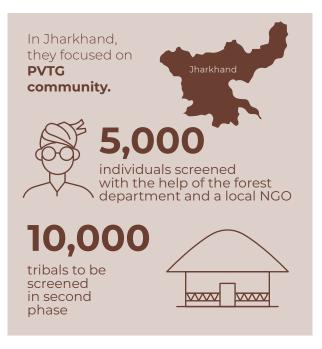


These examinations aim to enhance the productivity of women engaged in **handicrafts and small-scale industries.**

Universal Health Program with Government of Goa



Working with Vulnerable Communities



Kanti Velugu Program with the Government of Telangana

The Telangana government launched a large-scale campaign to distribute free glasses across the state. Essilor was the primary supplier, effectively meeting the high demand for glasses.

Sightsavers India

Sightsavers has been working in India since 1966 to eliminate avoidable blindness and support people who are irreversibly blind to lead independent and dignified lives. Sightsavers India collaborates with various state government departments to expand operations in three core areas: eye health, inclusive education, and social inclusion. Operating in 10 states and 100 districts. These states include Jharkhand, Bihar, UP, Uttarakhand, Rajasthan, Chhattisgarh, West Bengal, Assam, and Maharashtra.

In eye health, they focus on cataract, glaucoma, and refractive errors. Their eye health initiatives are divided into four programs - Netra Vasant, Amrita Dhriti, Vidya Jyoti and Raahi.

Key achievements include:

RRA

55 M people examined



36.4 M

eye treatments provided, including spectacles



6 M

surgeries facilitated for conditions such as cataract

Netra Vasant: Rural Eye Health Program

Sightsavers India's Rural Eye Health (REH) program focuses on raising awareness,



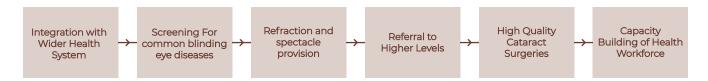
RN Mohanty CEO, Sightsavers India

Our mission at Sightsavers India is to eliminate avoidable blindness and promote equality for people with disabilities. We are dedicated to transforming lives through our comprehensive eye care programmes, including the vital work we do in addressing presbyopia. Through our static vision centres and mobile eye health vans, we have been able to reach thousands of individuals, especially those having limited access to eye care.

We are also proud of our innovative truckers' programme spread across the Golden Quadrilateral and North-South-East-West corridors of India, which focuses on providing eye care to truck drivers. Through regular eye screenings and the provision of spectacles, we aim to enhance their vision and overall safety on the roads

We work closely with government bodies and various partners to strengthen communities and ensure sustainable impact. These partnerships enhance our ability to provide comprehensive eye care, promote social inclusion, and support inclusive education. Our vision is of a world where no one is blind from avoidable causes and where people with disability participate equally in society.

providing quality eye health services, and eliminating avoidable blindness in rural populations.



Amrita Drishti: Urban Eye Health Program

Sightsavers India operates in several metropolitan cities to establish

comprehensive and sustainable eye health services for urban slums. They work closely with the Ministry of Health and the National Urban Health Mission to create systems that ensure the urban poor have access to quality eye care.



Vidya Jyoti: National School Eye Health Program

Sightsavers India launched the Vidyajyoti School Eye Health Programme to ensure optimal eye health for school children. This initiative aims to screen children in government schools to identify and prevent eye diseases and vision impairments. The programme includes health education, health services, nutritional services, counseling, creating a healthy school environment, promoting health for staff, involving family and community, and conducting research and impact assessment. These components are broadly categorized under service delivery, eye health awareness, and creating an enabling environment.



RAAHI program

Sightsavers launched the RAAHI program in 2014, focusing on vision screening for eye diseases and refractive errors among truck drivers.

RAAHI operates across 54 locations along the main long-distance haulage routes, including the Golden Quadrilateral and the North-South-East-West network. The program operates on a hub-and-spoke model with static vision centers, called 'RAAHI Drishti Kendras', and outreach camps. Services include vision screening, refraction, blood pressure checks, body weight measurement, cataract check-ups, and eye-health counseling and referrals. Outreach camps are organized in coordination with transport unions and fleet owners. To reduce waste from non-collected custom-made spectacles, the program introduced Ready2ClipTM (R2C) spectacles.

Screens over **7 M people** within 100 days. Reading glasses cost around **INR 160.** Myopia glasses cost around **INR 260-280.**



Care netram

Established in 2017, Care Netram, in collaboration with Good Vision Glasses from Germany, endeavors to enhance access to vision care and eyeglasses for underprivileged communities, particularly in rural and semi-urban areas with limited eye care services. Through free vision campaigns conducted in these communities, the program aims to provide eye exams to individuals who have never before received one, thereby addressing a critical gap in healthcare access.

Furthermore, Care Netram's initiative contributes to livelihood improvement by creating job opportunities in regions facing a shortage of primary eye care providers. These local eye care providers offer eyeglasses to their communities at affordable prices, facilitating access to essential vision correction tools.

The distribution of prescription glasses includes spherical lenses with diopters ranging from -10 to +10, as well as reading glasses, all made in India with German technology. The eyeglasses feature lightweight, flexible, and durable metal frames manufactured using hypoallergenic spring-steel wire sourced from Germany. The lenses, made from hardened polycarbonate, are prefabricated clip-ins, ensuring both quality and affordability.

Care Netram conducts training programs for rural youth to become opticians, with training materials designed by One Dollar Glasses from Germany. In Odisha alone, 70 Rural Opticians have been trained, enabling them to conduct vision screening events in villages and dispense appropriate spectacles. Additionally, women self-help groups in villages are being trained to become opticians and eyewear producers, further empowering local communities.

In Odisha alone, **70 rural opticians** have been trained.

SHGs

are being trained to become opticians and eyewear producers.



Prashant Pachisia Founder, Care Netram

At Care Netram, we believe that everyone deserves the gift of sight. Our mission is to bridge the gap in access to affordable and quality eye care services, particularly for those in underprivileged communities. We strive to empower individuals and communities through better vision, not only improving their health but also their opportunities for education, employment, and a brighter future.

Care Netram started its operation 7 years back and since than it has conducted free eye test to the tune of 4,00,000+ people and have provided spectacles to 1,00,000+ people at a very low cost by conducting 12,000+ community outreaches and from our permanent vision centers. Care Netram has also partnered with eye hospitals to help take vision care to the last mile. Their partnership enables us to refer patients for cataract surgeries and also for other diseases which we come across while conducting eye tests.

Care Netram with its on field team of 130+ conducts 300+ outreaches, screening 15000+ people every month.



The program's distribution model, inspired by One Dollar Glasses, employs a modular assembly system for eyeglasses, ensuring fast, individualized, and cost-effective care. Following free eye screenings, patients in need of glasses receive them in real time, eliminating the need for expensive grinding equipment and second consultations, thus saving time and transportation costs.

Care Netram operates on a blended model of revenue and philanthropic capital, leveraging both sustainable business practices and social impact initiatives to maximize its reach and effectiveness in serving underprivileged communities' vision care needs.

Care Netram focuses on eye care in rural areas in collaboration with the Good Vision Institute based in Germany. They employ a sustainable long-term model by training rural people as vision technicians and organizing affordable eye camps. Vision centers are set up to generate profit and support operations, positioning Care Netram as a social enterprise.

Each team comprises 4-5 vision technicians and one optometrist, operating in 15-16 districts in Odisha. They travel to villages to set up vision camps, supported by local volunteers for awareness campaigns. Camps utilize paperless applications and auto refractometers for basic eye screening, conducting door-to-door micro-camps and larger camps, particularly in schools and factories.

The model has been proven and is now scalable after extensive experimentation. Legalities around vision screening are unclear, but they employ tele-optometry with optometrists available on call or physically present. The application used is being modified for tele-optometry, and they also conduct free cataract check-ups with free doctor consultations in cities.

Vision technicians start with a minimum wage plus incentives. Without subsidies, sustainability is challenging. Currently, 5 out of 15-16 teams are sustainable without subsidies.



A team of **120** operates across Odisha, Jharkhand, and parts of West Bengal.

Vision technicians, mostly girls trained at their Bhubaneswar vision center, work alongside optometrists to conduct eye camps in villages, work sites, and slums.

Over the last 7 years, they have conducted 3.5 lakh camps Dispensing 1 Lakh+ glasses





There is need for awareness as many believe they can manage without glasses.



Camps utilize paperless applications and auto refractometers for basic eye screening, conducting door-to-door micro-camps and larger camps, particularly in schools and factories.

Cost of

assembled glasses is INR 170 - INR 180 while other vendors' glasses cost INR 80 - INR 90



Funding for subsidies, travel, camps, and salaries is provided by partner **CVI in Germany.**



Swades Foundation

Established in 2013, the initiative operates under the Health and Nutrition vertical, focusing on building a robust network of community health workers known as 'Swades Mitras.' They play a crucial role as liaisons between the community and various public and private healthcare facilities, offering paramedical assistance to villagers and strengthening healthcare access in underserved areas.

With a commitment to addressing all vision-related issues, the program targets low-income communities, ensuring that no individual is left behind in accessing essential eye care services. Utilizing three fully equipped mobile vans, they conduct diagnostic screenings for eye defects conducted by ophthalmologists. Through these screenings, they identify and advise on necessary treatments for various eye diseases, providing critical interventions for those in need.

For individuals diagnosed with refractive errors, the initiative provides spectacles

free of cost, enabling them to regain clear vision and improve their quality of life. Additionally, those diagnosed with cataracts are accompanied to partner hospitals, including Laxmi Charitable Trust and HV Desai Eye Hospital, where they receive free surgical interventions.

The efforts of the program are entirely philanthropic in nature, driven by a commitment to improving the well-being of underserved communities. To date, they have distributed 1,13,345 spectacles free of cost.

This program targets **Low** Income Communities utilizing

3 Mobile Vision Care Vans

Provides spectacles **free of cost.**



lo date, they have distributed 1,13,345 spectacles free of cost.





Mobile vision care program

- Mobile vision care program with 3 vision vans and community health volunteers known as Swades Mitras. These are unpaid volunteers.
- Swades Mitras complement ASHA's work, focusing on eye screening, congenital health issues, and maternal child health.
- Vision Vans are equipped with necessary instruments, including AR machines.
- Swades Mitras conduct pre-screening for villagers over six years old. Identified individuals are then referred to mobile vision vans for detailed screening by optometrists.
- Beneficiaries are mostly adults aged 35-40 for reading glasses and 45+ for bifocal glasses.
- Reading glasses provided on the spot in the vision van. Prepared by partners and sent via India Post.

- Nominal Charges are collected for services to ensure value and sustainability.
- Partnerships with Sankara Eye Hospital (Panvel) and Tulsi Eye Hospital (Nashik) for cataract cases and optometrist training.
- Setup Vision Centers for sustained support post-Swades exit, operating on a 70% free and 30% paid model.
- They prioritize sustainability over scale.
- So far they have screened 4.5 lakh people and given eyeglasses to 1.1 lakh people. In addition they have performed 21,000 cataract surgeries so far.

India Vision Institute - Eye see & I work program

Established in 2012 and operating across 18 states, the India Vision Institute (IVI) is an independent, not-for-profit trust dedicated to enhancing the country's primary eye care capacity. With a focus on serving adults and children from underprivileged backgrounds, IVI conducts a range of initiatives aimed at addressing vision-related issues:



Vision Screening Programs

IVI organizes vision screening camps through flagship programs like Eye See & I Learn and Eye See & I Work. These camps have been conducted across 18 states, facilitating vision screening for over 2.8 lakh individuals, including children and adults.



Partnerships

IVI collaborates with organizations like the Montfort Community Development Society (MCDS) to conduct vision screening programs in suburban and rural areas of Greater Chennai and Kanchipuram districts. They also partner with the Krupa Foundation for logistics coordination and the Essilor Vision Foundation for providing free spectacles.



Capacity Building

IVI is committed to building capacity, enhancing skills, and fostering leadership development within the Indian Optometry sector.



Government Campaign Support

IVI supports various government campaigns as an implementation partner, further extending their reach and impact in addressing vision-related issues across the country.



Free Distribution of Glasses

As part of the Eye See & I Work campaign, IVI distributes free spectacles to underprivileged community workers and industrial workers in various regions. For example, they distributed 384 spectacles to community workers in KovilThottam, AnnaiSathyaNagar, Bethel Nagar, S K Puram, and Chemmenchery, as well as 260 spectacles to industrial workers in Chennai's Ambattur Industrial Estate.



Advocacy and Awareness

IVI conducts advocacy and awareness programs to emphasize the importance of wearing spectacles, especially in addressing Uncorrected Refractive Errors (URE).

Through these diverse initiatives and partnerships, IVI is actively working towards its vision of improving primary eye care accessibility and addressing vision challenges among underprivileged communities in India.

Pilot with Economic Inclusion Program participants

To better understand on-the-ground realities and assess the potential impact of addressing presbyopia, we conducted a pilot in Karnataka's Bidar District with our Economic Inclusion Program (EIP) participants.

Profile of pilot participants

303

694

participants participants

of reading Female

distributed

717

558

155

time wearers

referred for cataract & other eye condition



Annual household income: **Rs. 30-35K**

Primarily landless individuals reliant on daily

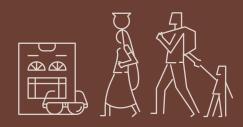
Age: 35 years +



Occupation	No of participants	
Engaged in various part-time occupations	Agricultural/Construction laborers	598
Housewives & senior	Housewives	160
citizens actively participate in a range of domestic and semi-professional tasks	Senior citizens	191
	Tailors	15
	Others (cleaner, cook, driver etc)	18

Pilot outcome and key takeaways

A significant number of people (66%) are aware of their vision problems, experiencing difficulties with near vision, persistent headaches, and eye irritation or watering. Cases of early-onset presbyopia have been reported, including a 22-year-old daily wage laborer and three other daily wage workers aged 31 to 34. Additionally, the age and diopter distribution below indicates a skew towards younger individuals requiring higher diopter power than usual. Among



Among those who received reading glasses in this pilot, over 75% needed glasses with up to +2 diopter strength.

Age	Typical	# of	Diopter distribution amongst Bidar pilot participants					
group diopter	participants	0	+1.0	+1.5	+2.0	+2.5	+3.0	
<35	0	8	50%	37.5%	12.5%	0%	0%	0%
35-40	+1.0	247	38.1%	46.6%	6.9%	0.8%	0.4%	0%
41-45	+1.5	139	9.4%	30.9%	52.5%	2.9%	0.7%	0%
46-50	+2.0	155	5.8%	1.3%	27.5%	56.1%	1.3%	0%
51-55	+2.5	134	0.7%	0%	6.7%	44.0%	30.6%	0%
56-60	+3.0	105	1.0%	0%	4.8%	37.1%	38.1%	1%
61-65	>+3.0	59	3.4%	0%	0%	23.7%	47.5%	0%
66-70	>+3.0	49	0%	0%	4.1%	24.5%	32.7%	6.1%
71-75	>+3.0	57	0%	0%	1.6%	15.8%	24.6%	17.5%
>75	>+3.0	44	0%	0%	0%	18.2%	22.7%	9.1%

those who received reading glasses in this pilot, over 75% needed glasses with up to

There is growing awareness and concern about vision problems and their impact on livelihoods, particularly among local tailors and agricultural laborers. For

+2 diopter strength.

example, 26% of affected individuals had to stop working due to eye issues. More than half of the program participants recognize the need to visit a doctor or an optical shop. Presbyopia is the most prevalent type of vision problem, with about half of those who visited a doctor being diagnosed with it.

Cost of the pilot			
Cost component	Amount		
VisionSping team cost	Rs. 90,300		
Travel, accommodation, food etc.	Rs. 40,500		
Field operations cost & logistics	Rs. 17,670		
Cost of reading glasses	Rs. 1,48,400		
Administrative cost	Rs. 44,531		
Total cost	Rs. 3,41,401		
Total cost per reading glass	Rs. 341		

Despite widespread awareness, two-thirds of the population have never had their eyes tested, often due to concerns about the cost of screening or managing without eyeglasses. The majority believe that eye screenings cost at least Rs. 1000, and 90% think eyeglasses are priced above Rs. 1000. This perception is reinforced by the experiences of those who have sought eyeglasses, with most reporting costs exceeding Rs. 1000 after visiting a doctor. Eyeglasses at the nearest optical store, typically one per district, start at Rs. 500.

Although numerous NGOs and private hospitals organize eye screening camps in the region, the eyeglasses offered are often priced beyond the means of ultra-poor households. The added costs from intermediaries make reading glasses unaffordable. In our limited pilot, even without a focus on operational efficiency or cost reduction, the effective cost per distributed pair of reading glasses was two-thirds of the current market price for participants.

Among those who did visit a doctor, about half were diagnosed with presbyopia. The absence of vision centers in nearby areas forces people to rely on Primary Health Centers (PHCs) or Community Health Centers (CHCs) at the block level for eye tests. For 75% of respondents, an eye clinic or an optical shop is more than 10 km away.

This experiment reveals that awareness and willingness to use reading glasses is high, especially when affordable solutions are available. This trend may be attributed to Karnataka's relatively higher literacy rates and progressive nature. However, access and affordability remain significant issues, driving up costs for households. The prices they face are more than double those of quality options available from Lenskart, Titan Eye+, and various online channels.



2/3 of the population in our study have never had their eyes tested often due to concerns about the cost of screening

90% think eye glasses are priced above INR 1000.



About 50% of those who visited a doctor were diagnosed by presbyopia.

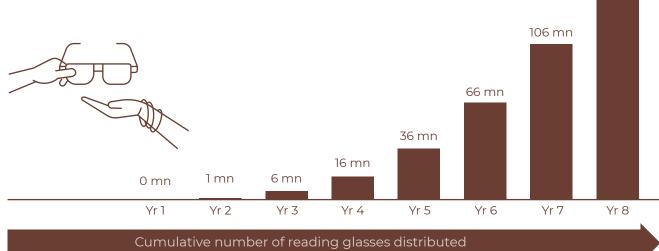
Willingness to use reading glasses is high, if

Affordable solutions are available

Eight-year roadmap to provide universal access

To address the unmet need for reading glasses for 150 million Indians within a reasonable timeframe, we must tackle large-scale distribution, unlock funding for expansion, and build manufacturing capacity domestically. We believe this goal can be achieved within eight years by partnering with the government to implement appropriate policy changes, allocate funds from existing health and welfare schemes, and leverage the extensive community networks already established by some government cadres.





This approach necessitates a careful and phased implementation, beginning with small-scale pilot projects to fine-tune the operational model on the ground. As standard operating procedures, robust training, and incentive systems for community workers are crafted, and as technology is integrated into screening, digital workflow management, and program monitoring, the pace of expansion can be accelerated.

	Ecosystem Building	Direct Implementation
Phase 1 (Year 1)	Policy changesFunds mobilization	ASHA-led pilot
Phase 2 (Years 2-8)	 Mass-media campaigns Tech development Domestic manufacturing development 	 ASHA-led program scale Other community cadre based model Expand sales & distribution to market-based retail channels

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Phase 1: Ecosystem Building

Policy changes

Following key policy changes are needed:

- Remove the requirement for screening by an eye specialist to avail reading glasses through government schemes
- Include screening and distribution tasks for reading glasses in the ASHA cadre's approved task list, with appropriate compensation

Based on our discussions with several civil society organizations and our study of government-run programs, we found that limited experiments using ASHA-led models had mixed results. One reason cited was the numerous responsibilities ASHAs have. To address these challenges, it is crucial to offer attractive compensation to ASHAs to ensure they

prioritize screening.

Funds mobilization

Providing universal access to reading glasses will require over \$600 million, according to our estimates. Philanthropy funding alone cannot get to this level of scale, so our proposed approach relies heavily on government funding. Our model suggests that more than \$500 million should come from the government, with the remainder from philanthropic sources. While philanthropic contributions will initially be higher to kick-start the process, covering a larger share in the first two years, they will eventually decrease to 10% of the government funding in the later years.

A significant portion of the NPCB budget allocated to states remains unutilized. As illustrated in the table below, this unused budget could fund the screening and distribution of over 20 million reading glasses, meeting the entire unmet demand within seven years.

Total unused annual NPCBVI budget in FY 21-22	Rs. 640 cr.
Per pair screening cost	Rs. 200
Per pair reading glasses cost	Rs. 100
# of reading glasses unused NPCB budget can fund	21 million
Time taken to fulfill unmet demand through this budget	7 years



Providing universal access to reading glasses will require over

\$600 million



Philanthropy funding alone cannot get to this level of scale, so our proposed approach relies heavily on



Our model suggests that **more than \$500 million** should come from the government, with the remainder from philanthropic sources. Securing government funding for this initiative requires support from both central and state governments. The central ministry can either allocate special funds for this purpose or amend NPCBVI policies to include funding for eyeglasses.

Philanthropic support will be crucial as a catalyst, especially for initial funding of reading glasses in the pilot phase, program management, technology development, and mass media campaigns. By engaging the right government stakeholders and departments, philanthropic capital can significantly amplify government funds, potentially leveraging up to ten times the amount.

Many mission-aligned market players, particularly those in vision care, can provide valuable CSR funding for tactical needs. Additionally, companies whose productivity is affected by presbyopia would also be strong partners in supporting this initiative.

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Phase 1: Direct Implementation

ASHA-led operating model and evidence building

The primary objective of this workstream is to develop a scalable package of practices for ASHA cadre-led screening and distribution of reading glasses and to generate evidence of the model's effectiveness. Key points to be tested include:

- The ability of ASHA workers to learn and effectively conduct screenings.
- The effectiveness of technology (such as the Peek app) in aiding screenings.
- The model for on-the-ground community mobilization.
- Incentives and motivation for ASHA workers to conduct screenings and distributions.
- On-the-ground logistical challenges.
- Uptake and adoption of reading glasses.
- Impact post-distribution.
- Cost and economics of on-the-ground implementation.

During our field visits and discussions with government officials, we observed that inefficiencies and delays in government processes hinder the program's effectiveness. Additionally, there is a general perception that the quality of eyeglasses provided through government schemes is poor. Leaders from CSO organizations also mentioned their unsuccessful attempts to leverage government community cadres. These issues need to be addressed during the pilot phase, focusing on key operational aspects such as:

- Improving the quality of ASHA training.
- Enhancing campaign and community mobilization efforts to dispel myths and inhibitions.
- Establishing a robust monitoring mechanism to track progress and effectiveness.
- Securing buy-in from top state leadership.
- Ensuring timely payment of ASHAs.
- Procuring high-quality reading glasses.
- Ensuring the upfront availability of reading glasses to avoid delays in distribution after screening.



Phase 2: Ecosystem Building

Mass media campaigns

To dispel myths and reduce the stigma associated with reading glasses, a mass media campaign will be highly effective in supporting community mobilization efforts by on-the-ground cadres. India has a proven track record of successful government-led campaigns that capture public attention and achieve high recall. We recommend prioritizing a campaign for reading glasses.

Harnessing public trust in leadership and the mass appeal of dignitaries from the sports and entertainment industries will significantly boost this initiative. Historically, TV and radio endorsements by popular celebrities have been powerful mediums for such campaigns. While TV, especially Hindi, regional, and cricket channels, remains relevant, radio and print media may not have the desired reach.

With the increase in internet access through mobile devices, video content consumption has significantly shifted from TV to mobile phones. Therefore, creating web campaigns on popular video content sites will achieve better reach and engagement. We recommend leveraging these platforms for a more effective and far-reaching campaign.

Philanthropy-funded mass media campaigns should complement government efforts, further enhancing overall effectiveness.

Technology development

For a large-scale, standardized, and error-free implementation, an app-based digitally enabled approach is essential. Pilots will help clarify the workflow for ground cadres, establish Learning and Development (L&D) requirements, and define Management Information System (MIS) and dashboard needs for various stakeholders.



TV and radio endorsements

by popular celebrities to harness trust.



Leveraging internet via **mobile phones** for better reach.

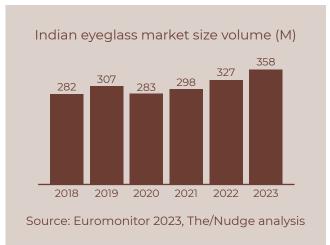
The app should include the following features:

- Modular and scalable architecture to support millions of users if needed.
- Digital training capsules and FAQs for the community.
- Integration of a screening app similar to Peek.
- End-to-end digitized workflow for community cadres.
- Inventory and reading glasses order management.
- · Dashboards for different stakeholders.

This comprehensive digital approach will ensure efficiency, accuracy, and scalability, facilitating the successful implementation and management of the initiative.

Policies to promote domestic manufacturing

In 2023, nearly 350 million pairs of eyeglasses were sold in India, with only 70-80 million pairs manufactured domestically, while the rest were predominantly imported from China. Major players from the organized sector dominate domestic production, mainly catering to urban segments. The underserved market is largely handled by numerous small-scale manufacturers who face challenges with quality consistency, cost competitiveness, and demand predictability.



To achieve the goal of providing reading glasses to 150 million people over eight years, a significant increase in supply is necessary, especially after the initial ramp-up of on-the-ground implementation. This can be accomplished by promoting small and medium-scale manufacturing through:

- Implementing policies to support small and medium manufacturers.
- Enabling easier access to credit for business expansion.
- Introducing relaxations in labor laws to facilitate growth.
- Offering tax incentives to encourage production.

Phase 2: Direct implementation

ASHA-led operating model scaling

Key objectives and activities during this phase include:

 Onboarding various state governments for program rollout, including securing funds for community outreach, ASHA cadre remuneration and reading glasses

- Implementing a tech solution for screening, program management and tracking
- Establishing central procurement processes at the state level
- Developing processes and KPIs for execution excellence.

Central procurement at the state level will follow a standard tendering process, inviting all industry players and selecting based on government criteria. Scaling up domestic manufacturing initiatives for reading glasses will take time. In the interim, securing alternative sources is crucial to build momentum.

Short-term imports from China remain the most viable option to meet large-scale needs. To ensure the required quantity of good quality reading glasses at competitive prices, the entity responsible for program management should consider facilitating procurement through imports.

Key steps include:

- Central procurement will be conducted at the state level through a standardized tendering process, ensuring transparency and competitiveness.
- While domestic manufacturing scales up, importing from China will address immediate large-scale needs.
- Ensure procurement of high-quality reading glasses at competitive prices through careful selection and negotiation.

Training can be conducted by CSO or market partners, or at existing centers where ASHAs are trained for other primary care services. Additionally, entities supplying reading glasses can provide training where applicable.

Other community cadre-led operating model

Partnering with other government departments that have extensive on-the-ground cadres can significantly accelerate access to reading glasses. Collaborating with the Ministry of Rural Development (MoRD), which oversees a large SRLM cadre across states and over 12 million Self-Help Groups (SHGs) with 100 million members, can greatly increase coverage. These cadres can be trained and incentivized for screening and distribution, similar to ASHA workers. Furthermore, these cadres can work alongside ASHA workers, with SRLM cadres focusing on community mobilization while ASHA workers handle screening and distribution. This combined effort can enhance the reach and effectiveness of the program.

To implement this model effectively, several key actions are necessary:

- Secure commitment from relevant ministries to include reading glasses screening and distribution in their agenda and budget.
- Ensure the reading glasses initiative is integrated into other projects and activities managed by the community cadres.
- Provide incentives to organizations at various levels to prioritize this initiative.

Expand sales & distribution to market-based retail channels

To gradually reduce dependency on government and philanthropic support, it is essential to establish widespread awareness about the need for reading glasses and ensure their availability at affordable prices. Once awareness and utility are well-established, leveraging existing retail channels such as kirana shops, medical shops, local tea stalls, and community workers will become effective avenues for distribution.

Individuals will be able to determine their diopter power and purchase reading glasses with the same or next diopter lens as easily as they would buy a toothbrush or paracetamol. Given that reading glasses are low-value items with limited SKUs, existing channels will not require substantial working capital or space to stock a few pairs. Although reading glasses are not frequent purchases and may not generate significant revenue, their inclusion will enhance the overall Collaborating with MORD overseeing 12 M SHGs, 100 M members can accelerate access to reading glasses.

distribution along with **ASHA workers.**

value proposition of these retail channels by offering added convenience to customers.

Community workers, motivated by a spirit of service, will be willing to sell reading glasses as long as they do not incur costs. Additionally, the expanding coverage of e-commerce in India will play an increasingly important role in second-pair purchases once awareness and demand are established.

To develop these modes of sales and distribution, manufacturers must expand their reach through these channels, emulating the successful strategies of FMCG and telecom companies. This approach will also involve leveraging e-commerce and social commerce channels, as demonstrated by many small-scale entrepreneurs.



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