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Practice Insights: Rethinking vision care in the small towns of Uttar Pradesh

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Key lessons

- **Small and transitioning towns expose a growing blind spot in urban health planning.** As these settlements expand, preventive health systems will need to evolve faster to keep pace with populations that are becoming urban before service capacity fully catches up.
- **The real constraint is the lack of last-mile care.** Expanding screening without strengthening confirmation, referral, and treatment pathways risks identifying needs that the system is still unable to resolve.
- **Integration can matter more than innovation.** Embedding new tools within existing programmes, workforces and financing mechanisms can make them more sustainable than creating parallel delivery systems.
- **Technology should strengthen system capability, not create new dependencies.** The more an intervention can be owned, operated and sustained by existing public health teams, the more likely its value is to outlast a pilot.

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Create awareness, screen early using technology, confirm the need, refer appropriately and connect people to care through the existing public health system.

A 12-year-old girl in a government school in Ghaghsara Bazar, Nagar Panchayat of Gorakhpur district in Uttar Pradesh had begun sitting closer and closer to the blackboard. What initially seemed like a minor difficulty gradually started affecting her classroom participation. She struggled to read what the teacher wrote from a distance, copied from classmates and became hesitant to take part in activities that involved reading from afar. Her family did not see this as a health problem requiring attention. Like many families living in smaller and rapidly changing urban settlements, accessing specialised eye-care services is not easy, and the problem becomes part of everyday life.

A school-based vision screening initiative changed that. A handheld autorefractor (device used to detect common vision problems) flagged a possible refractive error and the child was referred to a government health facility for further assessment. An optometrist subsequently conducted a subjective refraction- an eye test in which different lens powers are tried to determine which correction provides the clearest vision - and confirmed the need for spectacles. Through an existing government scheme, she received corrective lenses.

The solution was simple. But the journey was not.

Why the last mile matters in small towns

Refractive errors are common among children: a recent systematic review and meta-analysis of Indian schoolchildren estimated a pooled prevalence of approximately ~11% ([Kumar](#)).

Earlier evidence has also found higher prevalence of refractive error and myopia among children in urban settings than rural settings ([Sethu](#)). India's urban health challenge is no longer confined to its biggest cities. Over the next decade, millions more people will live in smaller towns, expanding peri-urban settlements and newly urbanising areas. By 2036, nearly 600 million Indians are projected to live in urban areas-about 40% of the country's population ([World Bank](#)). As towns grow, so does the need to ensure that essential health services keep pace with where people actually live, study and work.

India already has platforms for identifying eye and vision problems. Rashtriya Bal Swasthya Karyakram ([RBSK](#)) provides screening and follow-up for children from six to 18 years, while the National Programme for Control of Blindness and Visual Impairment ([NPCBVI](#)) addresses vision loss and eye-care needs across the population. *The challenge is to make these systems work seamlessly at the last mile: identifying a possible problem, confirming it, referring to the person when needed, and ensuring that the recommended correction-often as simple as a pair of spectacles-is actually received.*

It was in this context that **"Sunetram"**, designed by Samyak in collaboration with the government health department and technology partners ([Forus Health](#)), was tested as a practical model for bringing vision screening closer to communities while keeping the intervention anchored within the public health system.

It was implemented in five Nagar Panchayats of Uttar Pradesh (Renukoot in Sonbhadra, Ghaghsara Bazar in Gorakhpur, Ma Kamakhya in Ayodhya, Kaiserganj in Bahraich and Mohanlalganj in Lucknow) and at five locations within Mathura Municipal Corporation.

What remains behind

Health innovations are often run as standalone pilots. A new technology arrives, an external team conducts screenings, thousands are reached, and when the pilot ends the device may sit unused and the team moves on.

The real test of an innovation, therefore, is not simply what it can achieve during a pilot, but whether the health system can own it, use it and sustain it afterwards. Sunetram was designed around this principle. The Sunetram model followed a simple but deliberate pathway: create awareness, screen early using technology, confirm the need, refer appropriately and connect people to care through the existing public health system.



A health worker screens a schoolchild with a handheld autorefractor under Sunetram in Uttar Pradesh. (Photo/Samyak)

How Sunetram worked

In schools, children first took part in sensitisation sessions and activities, including drawing and essay competitions on screen use and eye health, and on the role of green leafy vegetables in a healthy diet.

The aim was to make eye health part of the school conversation rather than a one-time medical event. The RBSK team then screened children with a handheld autorefractor, and those needing follow-up were referred to government facilities, where optometrists carried out subjective refraction and prescribed spectacles.

At government health facilities, visitors could undergo the same objective screening and, where needed, be assessed by facility-based optometrists. Eligible people could then obtain spectacles through the existing NPCBVI mechanism.

The approach was therefore grounded in making a medical activity engaging. It recognised that early intervention is more meaningful when people understand why it matters and when schools, families, communities and health facilities are connected to the same pathway of care. The device was an enabler, not the centre of the programme. An autorefractor can flag a possible error, but it cannot provide eye care. The finding must be interpreted, refraction done, spectacles prescribed and, most importantly, delivered. Technology creates value only when the system around it can act on what it finds.

The intent was that technology, skills and processes remain with government teams, so the capability can outlast the pilot.

What we saw in the first year

During implementation, over 11 months, nearly 38,000 people were screened and over 1,000 were referred for further evaluation. So far, 461 people have received spectacles: 300 school children and 161 people identified through community and facility-based screening.



A health worker screens a woman with a handheld autorefractor under Sunetram in Uttar Pradesh. (Photo/Samyak)

We do not present these as achievements alone. A screening that ends with a referral slip is an incomplete intervention, and the gap between people referred and people who have spectacles in hand is exactly the last-mile gap this piece is about. Closing it is the work that matters, and this is the part of the model we are examining most closely.

That is why the integration of “Sunetram” with RBSK, Community Health Centres, facility optometrists and NPCBVI is significant. It created a pathway from identification to correction using systems that already exist within government.

There is also an economic argument for taking this approach seriously.

Correcting refractive errors is one of the simplest interventions in healthcare, yet its impact can extend far beyond better eyesight. For a child, clearer vision can mean greater participation and better learning; for a worker, improved ability to work with confidence and productivity; and for an older adult, greater independence and mobility.

These benefits cannot be reduced to a price tag. The true value of better vision lies in the educational opportunities, livelihoods, independence, reduced caregiver burden and dignity it can help restore.

An indicative social-return assessment of the Sunetram intervention estimated 46.1 Quality-Adjusted Life Years (QALY) gained. Based on a per-capita GDP-based valuation, the estimated social return ranged from approximately ₹1.17 crore under a conservative scenario to ₹3.50 crore under an optimistic scenario.

But perhaps the strongest argument for this model is not economic; it is institutional.

India is entering an era of digital diagnostics, point-of-care devices and AI, and the excitement is understandable. But public health should ask a harder question: **can the health system own and sustain what it is given?**



Students during a school-based vision screening initiative in Uttar Pradesh. (Photo/Samyak)

A sophisticated technology that depends permanently on an external operator may offer limited value to a government system. A simpler one that an existing health worker can use confidently, linked to an existing referral pathway and backed by an existing programme, may ultimately do more. So beyond accuracy and the number screened in a pilot, we should ask whether government workers can use it, whether the system can absorb it, whether patients can move through the pathway, and whether services continue after funding ends. That is the difference between a technology demonstration and a public health intervention. Sunetram demonstrates that technology creates value when embedded within government systems-leveraging RBSK and NPCBVI teams for screening, referral, spectacles and follow-up. Its impact is therefore measured not by children screened, but by the number successfully linked to appropriate care, particularly in underserved small and transitioning towns.

Much of the architecture for urban preventive health already exists: schools, Urban Primary Health Centres, Community Health Centres, RBSK teams, facility optometrists and national programmes. What is often missing is the connection between them. The next generation of urban health innovation may need to focus less on new parallel projects and more on making existing public systems more capable.

Somewhere in Ghaghsara Bazar, that 12-year-old can now read the board from her own seat. A spectacle is a small intervention, but for the person who could not see clearly, it can change a classroom, a workplace or an entire day. The most sustainable innovation may not be the one that builds a new system. It may be the one that helps the existing system see, and serve, its people better.

This was derived by comparing the estimated economic value of the benefits from improved child and adult vision—including better productivity and fewer learning losses—with the amount invested in the programme, while considering how much of these benefits can be attributed to the programme (vs extraneous factors).

We'd love to hear what you want to read, or what you'd like to share. Write to us info.samyak@collectivegood.in

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A clinician and public health expert with over 19 years in healthcare, He has contributed to organizations like Piramal Swasthya, Population Services International, National Health Mission and ministries and government departments. His expertise spans hospital and healthcare management, quality assurance, project management, and client relations. A Lean Six Sigma Black Belt, he has received the prestigious “D.L. Shah National Award for Quality” from the Quality Council of India, along with multiple accolades from state governments and renowned institutions.