Refractive Errors
A solution in sight

Dr. S. Aravind
This presentation will focus on

- Overview
- Some lessons learnt
- Service delivery models
- Costs associated
- Financing the services
Current Status in India

- Low use of spectacles in the presence of significant refractive error
  - Amongst Children who need spectacles: 7 - 8% have them
  - In the 50 yrs and above age group: 10% to 15% have them
Reasons for low usage

- Grouped into those attributable to
  - The provider
  - The consumer / community
Possible Reasons for Low Levels of Spectacle usage

Those attributable to the Providers:
- Failure to create awareness
- Failure to reach out
- Failure to create an easily accessible delivery system
- Affordability
Possible Reasons for Low Levels of uptake

- Those attributable to the community & customer:
  - Lack of desire to use spectacles
  - Social/Cultural Barriers
Some lessons learnt

- Usage levels are very low
- There is a willingness to pay for the spectacles
- Particular about the looks – “Vanity” element is important even amongst rural, poor
- Has an impact on productivity
Models to reach the community

- School eye health camps – **Children**
- Office & Industry Refraction camps – **Productive age group**
- Comprehensive eye camps – **Older age group**
Spectacles & Productivity
- a study (design)

- A study was done in a Textile Industry with support from “Adaptive Eye Care Ltd, UK”
- 238 workers representing spinners & winders were studied
- Baseline productivity was recorded
- Glasses were provided to all those who needed them and were followed up
- Quantitative data was used to assess productivity
- Qualitative assessments using focus group and semi-structured interviews were done on the employers and the workers
Spectacles & Productivity
- a study (Results)

- 71% of the workers were 40 years or older
- 79% (187 of the 238 workers) required spectacles and of these
  - 4% (7) were wearing appropriate spectacles
  - 4% (8) were having incorrect spectacles
  - 92% (172) have never worn spectacles
Spectacles & Productivity
- a study (Results)

- The study showed higher overall productivity - estimated at 10%
- Workers reported improved efficiency and better quality of life
- The employers wanted the service to be provided to all employees
Some examples of Community based interventions

Principles
Use all opportunities
Make it affordable
Refraction services in regular Community Eye Camps

- Refraction & dispensing of glasses is now an integral part of the camp
- Camp publicity mentions refraction service and that the glasses will be made available at reasonable price
- Optical Sales Counter and dispensing facilities for immediate delivery
Improvised Refraction space
# Refraction Services in Eye Camps

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>No. of Regular Eye Camps</strong></td>
<td>1,442</td>
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<tr>
<td><strong>Total Patients screened</strong></td>
<td>411,486</td>
<td></td>
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<tr>
<td><strong>Glasses advised</strong></td>
<td>64,270</td>
<td>15.6%</td>
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<tr>
<td><strong>Ordered &amp; Acceptance rate</strong></td>
<td>51,586</td>
<td>80%</td>
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<tr>
<td><strong>On the spot delivery</strong></td>
<td>39,410</td>
<td>76%</td>
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Refraction Eye Camps for Industries & Offices

- Contacting the Management and selling them the idea
- Finalizing the financial details – payment for the glasses
- Fixing a date and examining the staff/workers
- On the spot dispensing – Readymade, Edged & Fitted
- Follow-up on usage and satisfaction – workers & Management
## Refraction camp details for the year 2006

<table>
<thead>
<tr>
<th>Particulars</th>
<th>NO</th>
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<tbody>
<tr>
<td>Eye camps conducted in Mills</td>
<td>124</td>
</tr>
<tr>
<td>Employees screened: &lt; 40 yrs</td>
<td>16,204</td>
</tr>
<tr>
<td>&gt; 40 yrs</td>
<td>11,182</td>
</tr>
<tr>
<td>Total</td>
<td>27,386</td>
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<tr>
<td>No. of Prescriptions: &lt; 40 yrs</td>
<td>2,199</td>
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<tr>
<td>&gt; 40 yrs</td>
<td>5,435</td>
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<tr>
<td>Total</td>
<td>7,634(28%)</td>
</tr>
<tr>
<td>Total No. of Glasses ordered</td>
<td>6,691(88%)</td>
</tr>
<tr>
<td>Delivery of Spectacles:</td>
<td></td>
</tr>
<tr>
<td>Edged, Fitted and dispensed on the spot</td>
<td>4,669(70%)</td>
</tr>
<tr>
<td>Readymade</td>
<td>227(3.4%)</td>
</tr>
<tr>
<td>Sent by post (Direct)</td>
<td>1,795(26.8%)</td>
</tr>
</tbody>
</table>
School Screening – Glasses for Children

- Only 1 in 15 have refractive errors or other eye problems
- Trained teachers screen all children
- 2nd Level screening by the Oph. Assistant
- Fixing a date for final examination so that parents can be present
<table>
<thead>
<tr>
<th>Schools covered</th>
<th>91</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers trained</td>
<td>297</td>
</tr>
<tr>
<td>Students screened by teachers</td>
<td>104,828</td>
</tr>
<tr>
<td>Students with eye defects – by teachers</td>
<td>15,470</td>
</tr>
<tr>
<td>Students with eye defects – by Oph. Assts</td>
<td>9,054</td>
</tr>
<tr>
<td>Students with defects – by Oph.</td>
<td>6,443</td>
</tr>
<tr>
<td>% of students with confirmed eye defects</td>
<td>7%</td>
</tr>
</tbody>
</table>
Costs associated – Provider

- Cost towards creating awareness and acceptance to wear spectacles
- Cost of screening and providing refraction services
Costs Associated – Patient

- Cost of spectacles (US$ 3+)
- Cost of getting glasses (travel, fee & time - US$ 3 to 10) Involves 2 to 4 trips:
  - Examination
  - Ordering the glasses
  - Getting the glasses
  - Ensuring that the glasses are right
- The above costs can be reduced to 0 with the strategy of free examination and on the spot delivery
Pattern in the Dispensing of Glasses

- On the spot delivery - 85%
  - Readymade - 9%
  - Edged & Fitted on the spot - 76%
- Orders taken and delivered later - 15%
Financing the Refraction Correction services

- In our experience, the patients are the sustainable source

- Average value of spectacles ordered:
  - In Regular Community camps: US$ 3.50
  - In Industry Refraction camps: US$ 6.00
  - In Free Hospital: US$ 4.00
  - In Paying Hospital: US$ 10.75
Financing the Refraction Correction services

- Patient revenue can cover the costs of providing the Refraction Service and the cost of Spectacles
- For the poor surplus from the above or external subsidies may be used
Summary

Refraction services can be promoted by:

- Using all current patient contacts at the hospital, community and school to promote refraction services
- Providing refraction correction to Industries & Offices
- Adapting low cost methods to provide “on the spot” delivery of spectacles