



BLINDNESS, VISUAL IMPAIRMENT AND ACCESS TO CARE

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Collaborators



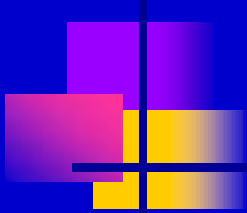
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 - University of Baltimore
- Jennifer L. Wolfe, Ph.D.
 - Johns Hopkins Bloomberg School of Public Health
- Emily W. Gower, Ph.D.
 - Dana Center, Johns Hopkins University
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 - University of Pennsylvania
- Kevin D. Frick, Ph.D.
 - Johns Hopkins Bloomberg School of Public Health
- Funding Provided by Prevent Blindness America

Objective



- This study uses a nationally representative dataset to describe the association between visual impairment and blindness and access to medical services.

Data



- Medical Expenditure Panel Survey (MEPS) – 2002 through 2004
- Adults over the age of 40 – to correspond to recent US estimates of visual impairment and blindness
- The pooled sample consisted of:
 - 36,666 individuals with no visual impairment
 - 3,750 individuals with some visual impairment and non-visually impaired person
 - 277 individuals with blindness

Definition of Visual Impairment

- MEPS self-reported vision status

- **No Visual Impairment**

- **Visual Impairment**

- Have some difficulty seeing but can read newsprint

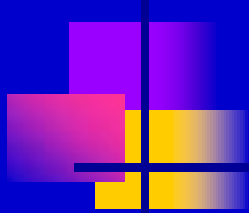
- Have some difficulty seeing, cannot read newsprint, can recognize familiar people

- Have some difficulty seeing, cannot read newsprint, cannot recognize familiar people

- **Blind**

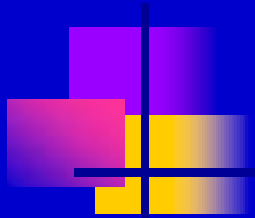
Collapsed
Into one
group

Access to Care Measures

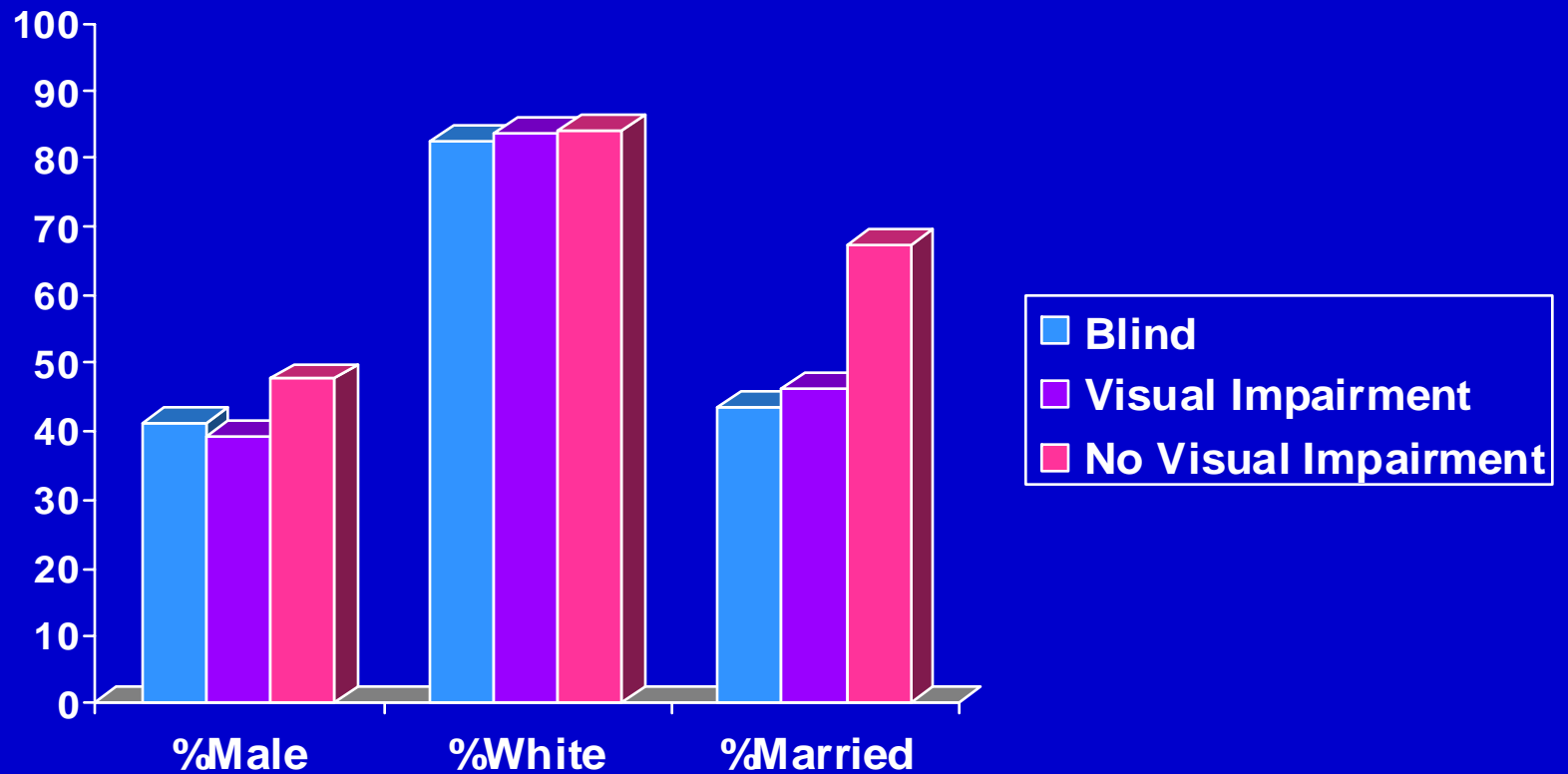


- Usual Source of Care
- Delay or inability to obtain necessary care
- Delay or inability to obtain necessary prescription medications
- Delay or inability to obtain necessary dental care

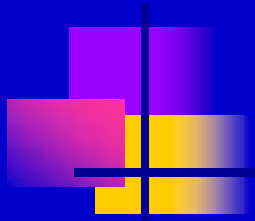
Demographics



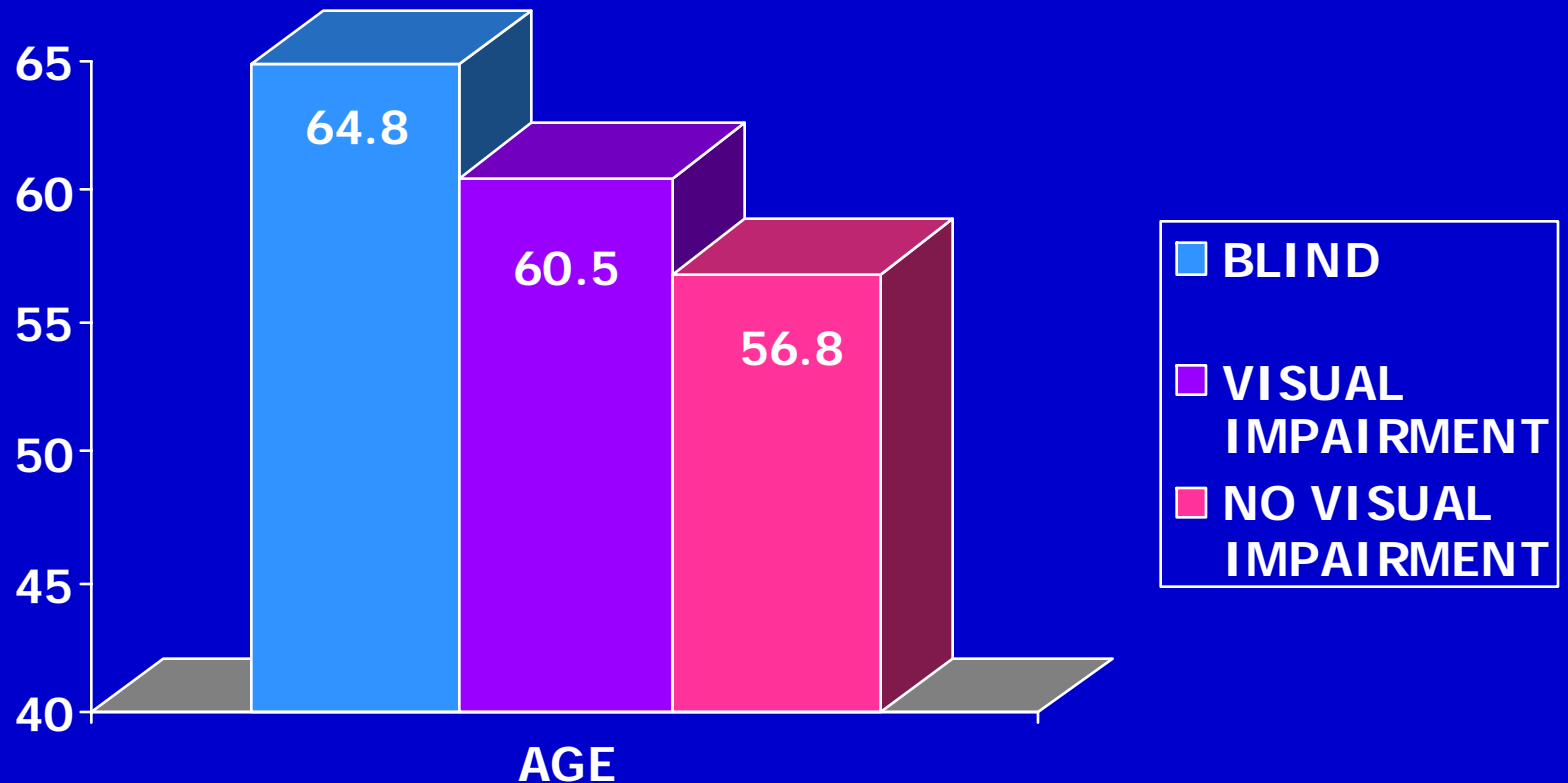
Percent



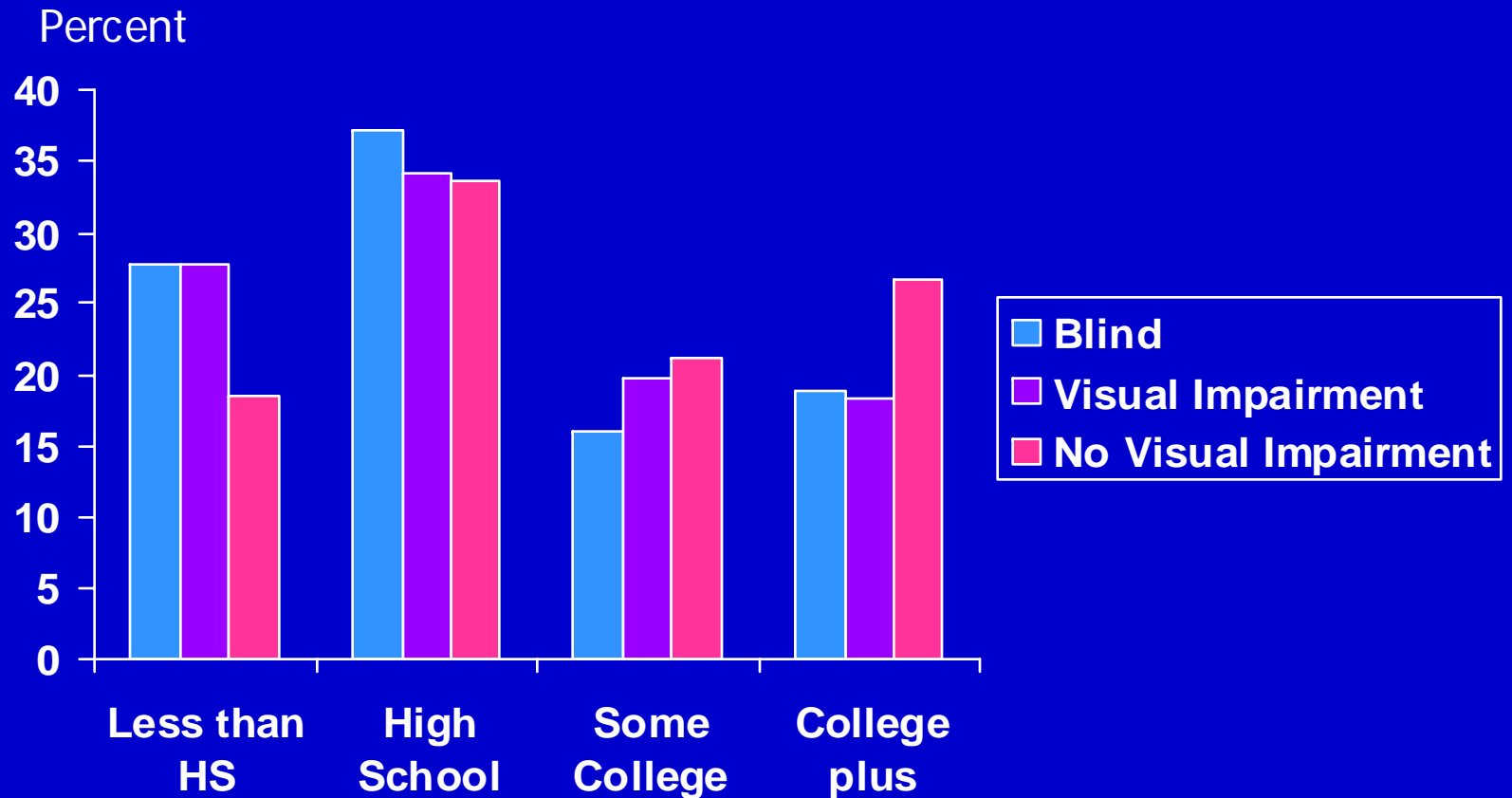
Average age by Vision Status



Percent

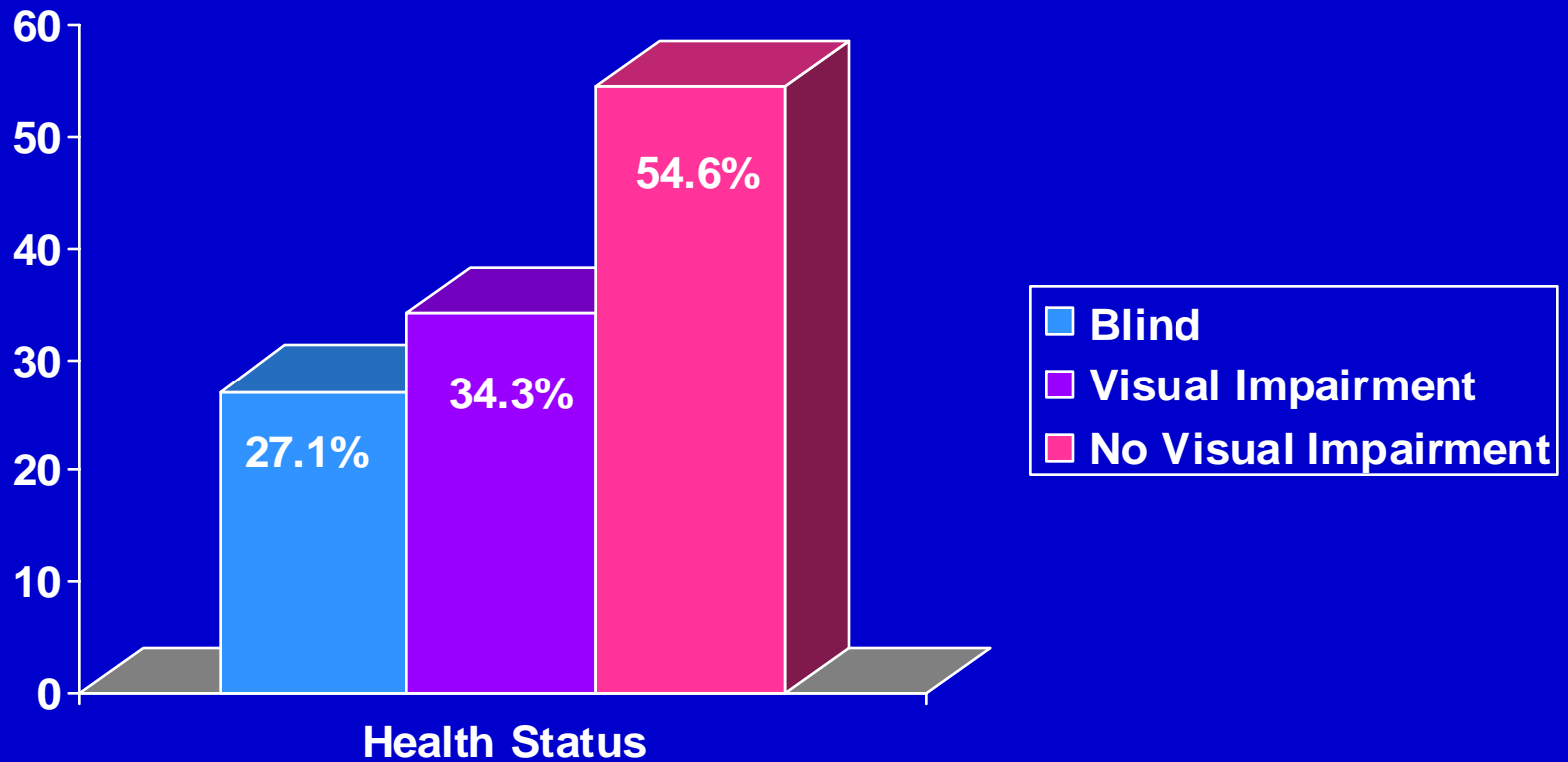


Education Status

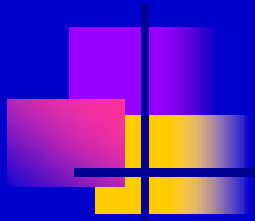


Health Status: Excellent or Very Good

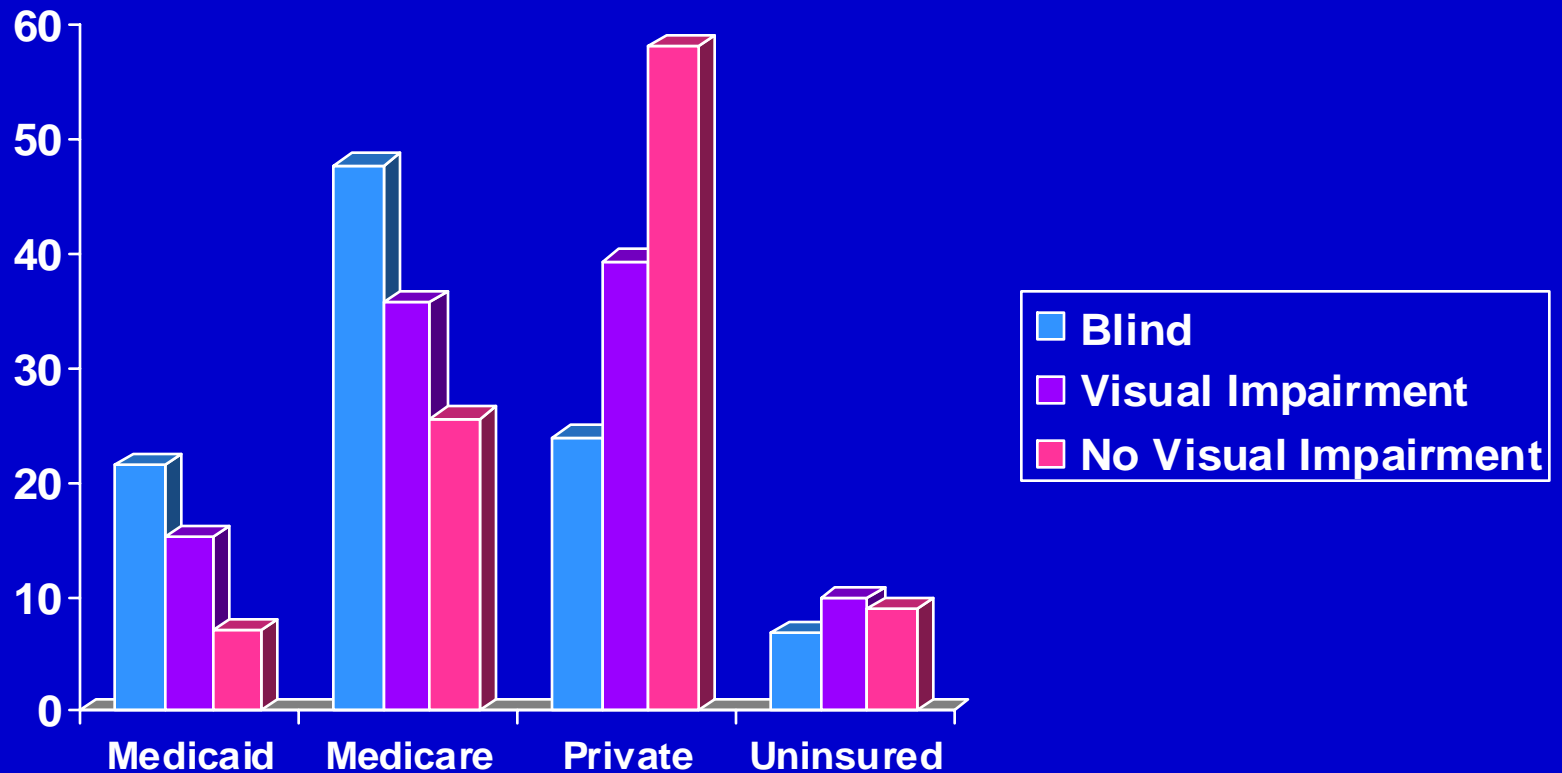
Percent



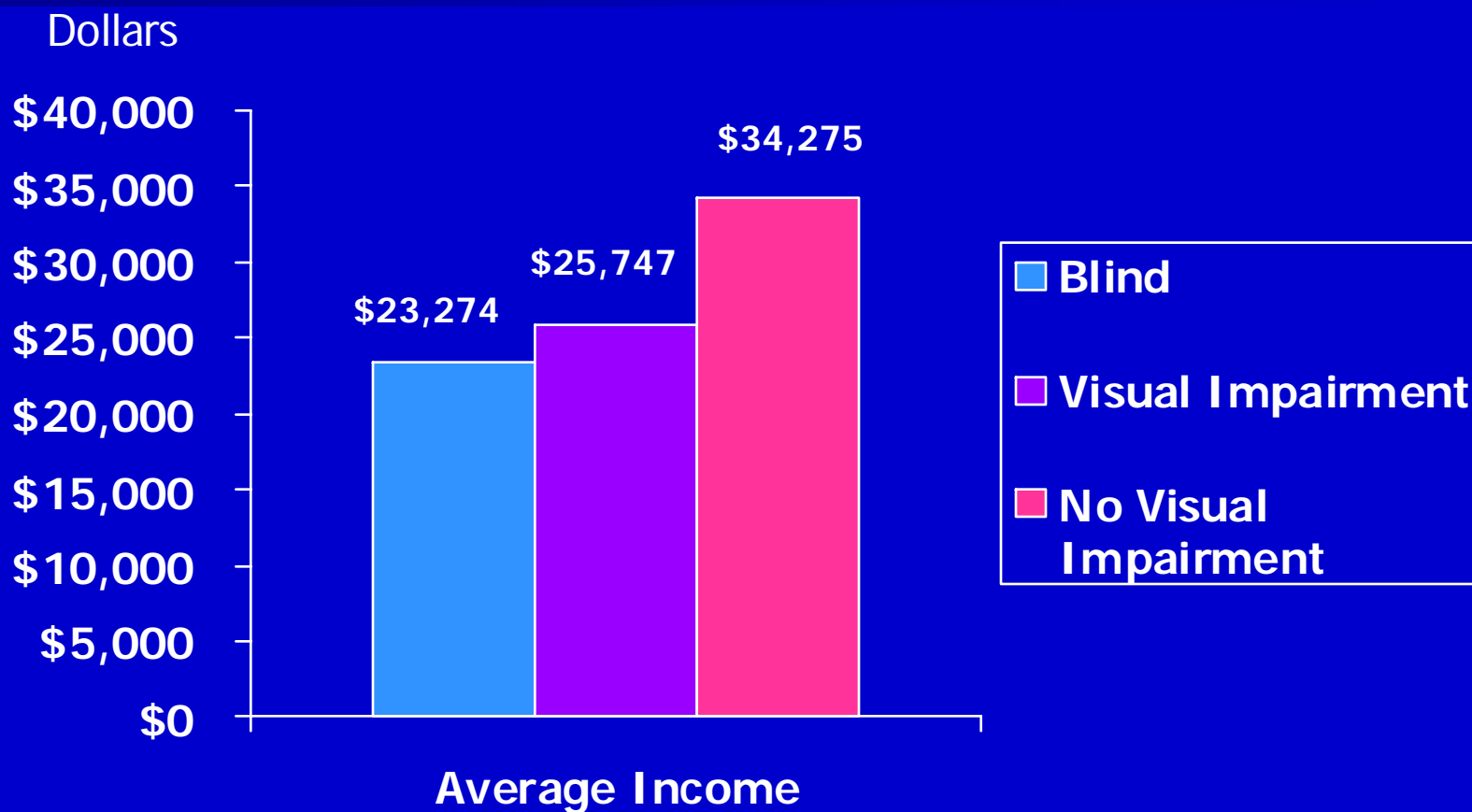
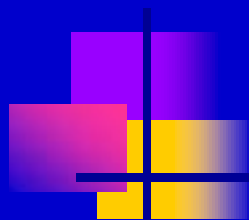
Insurance Status



Percent

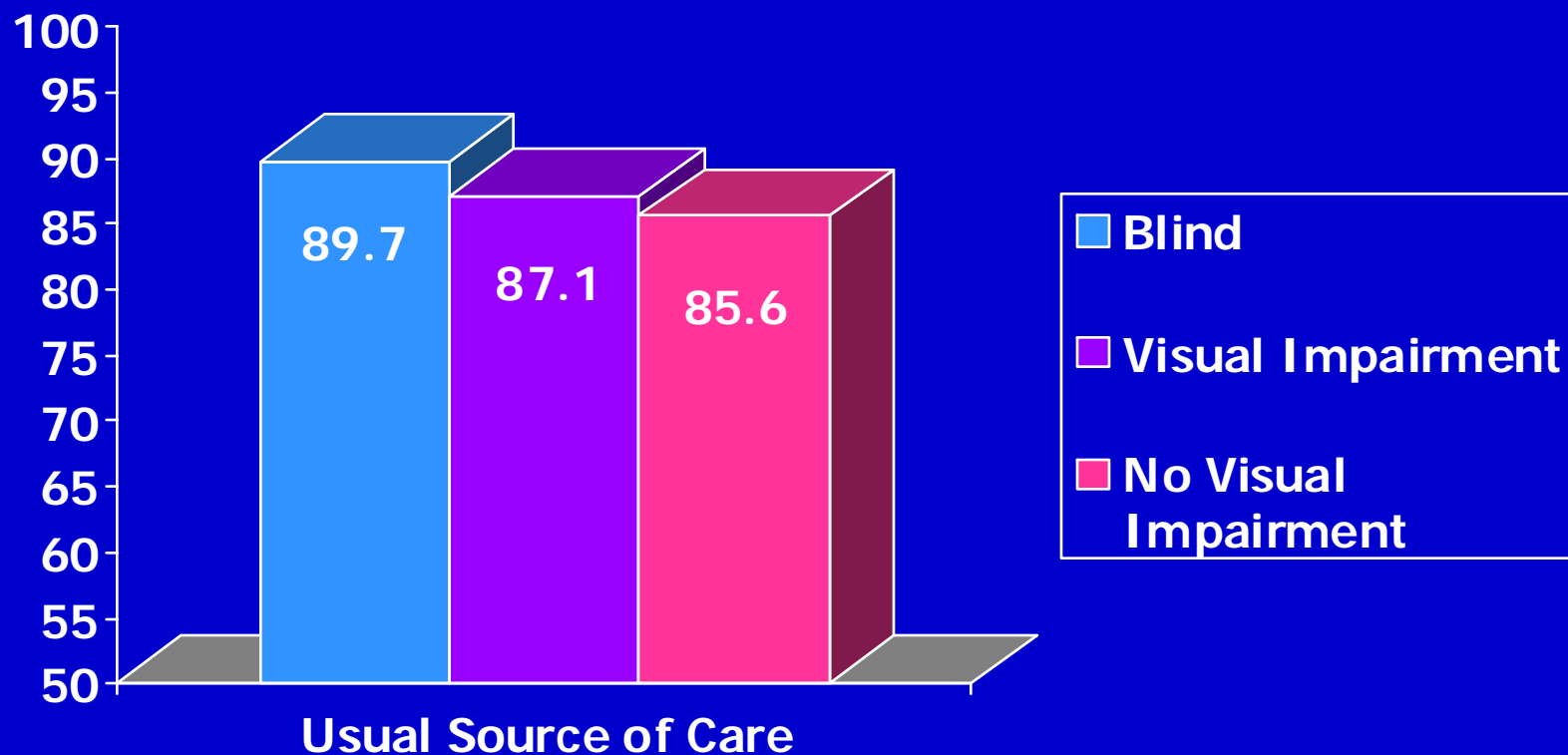


Total Income



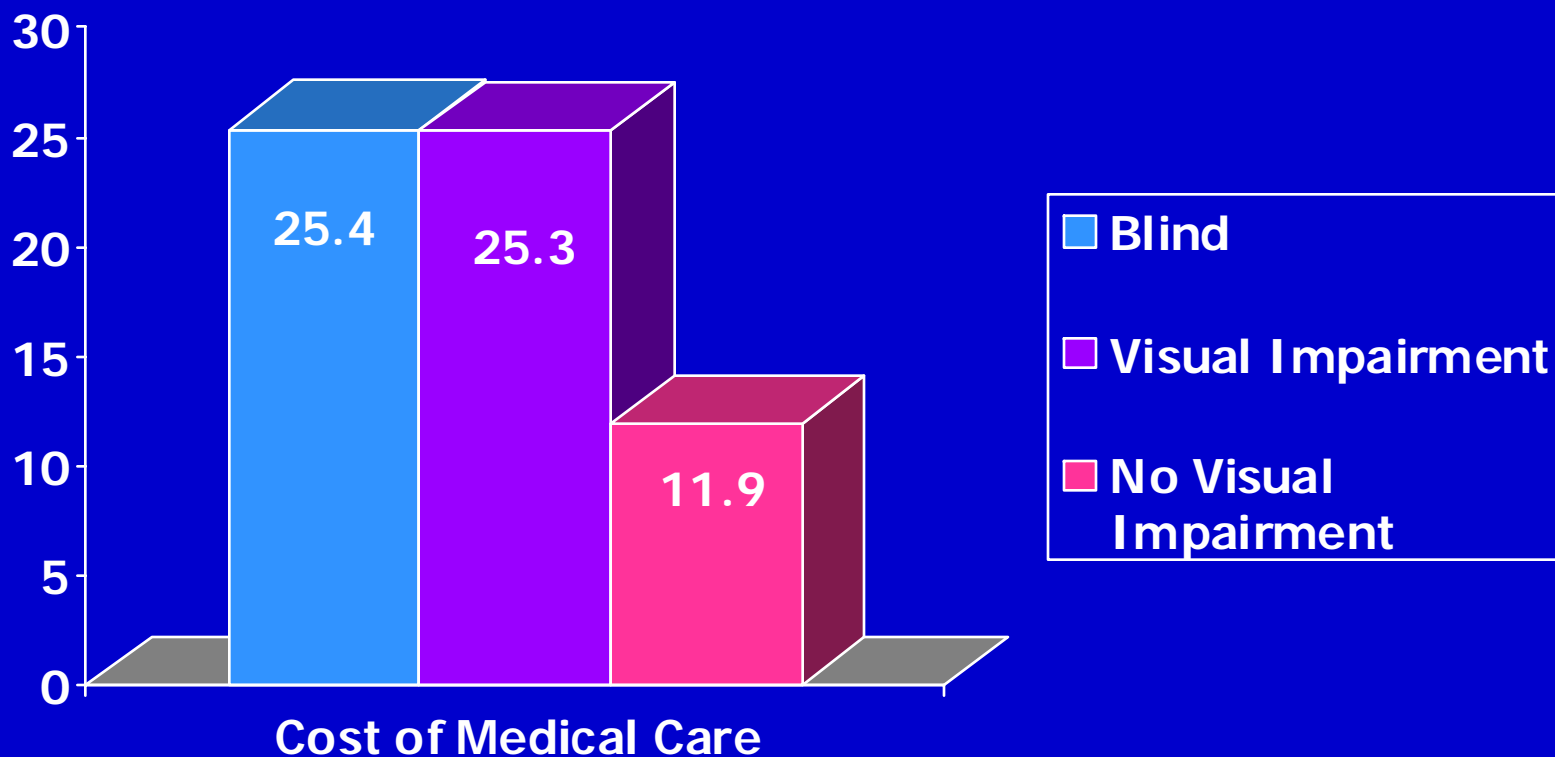
Has a Usual Source of Care

Percent



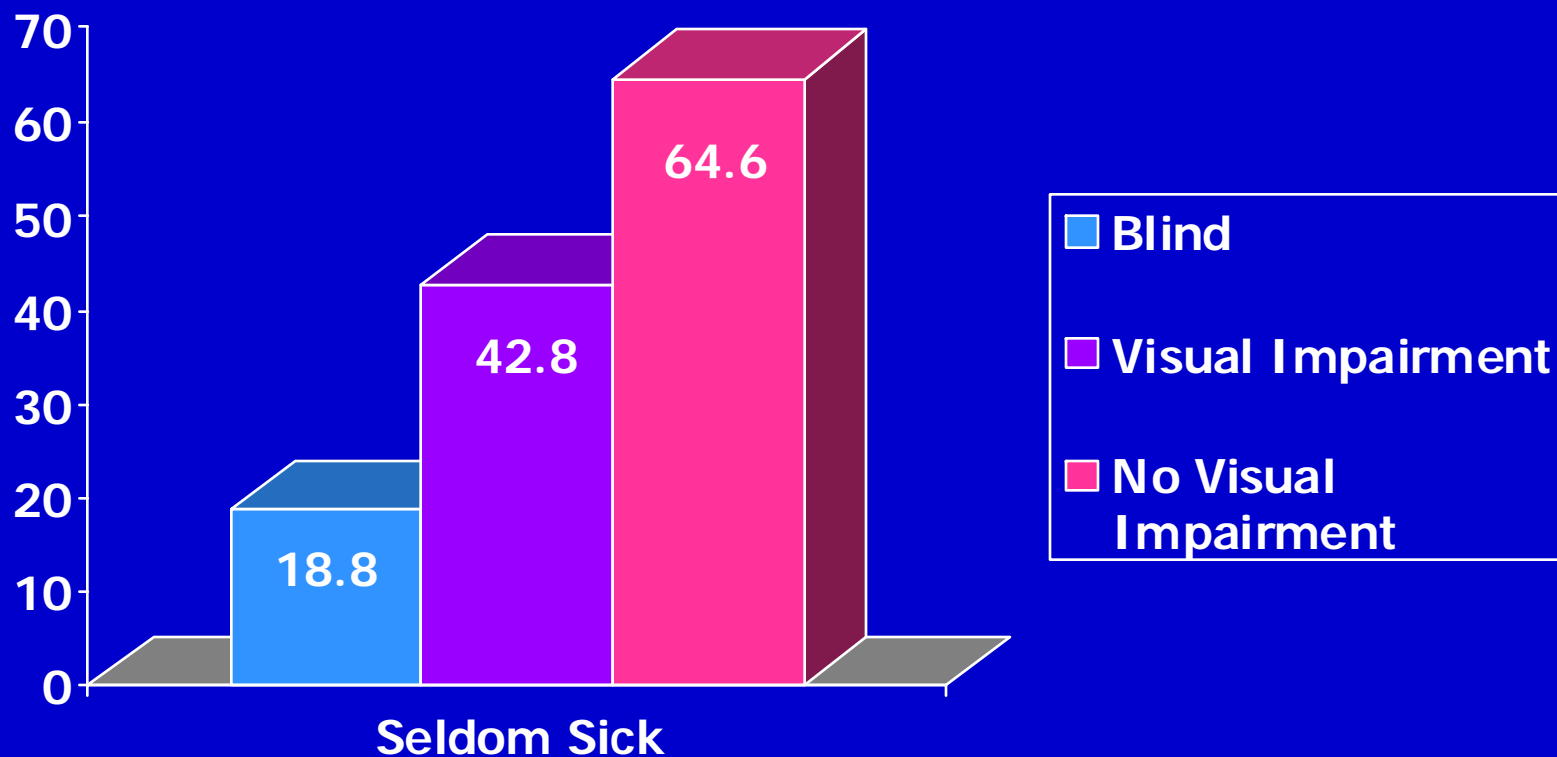
Main Reason has NO Source of Usual Care: Cost

Percent



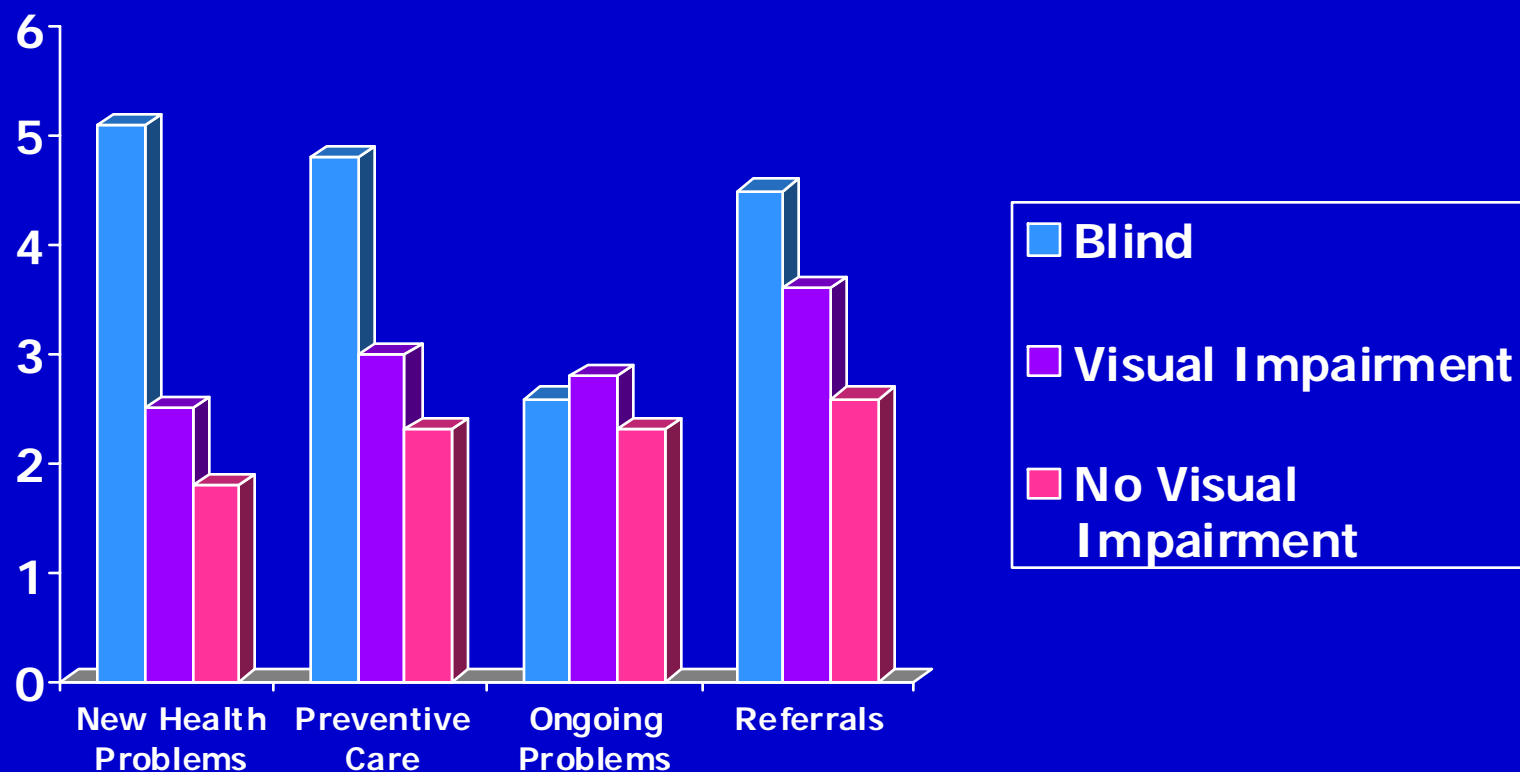
Main Reason has NO Source of Usual Care: Seldom Sick

Percent



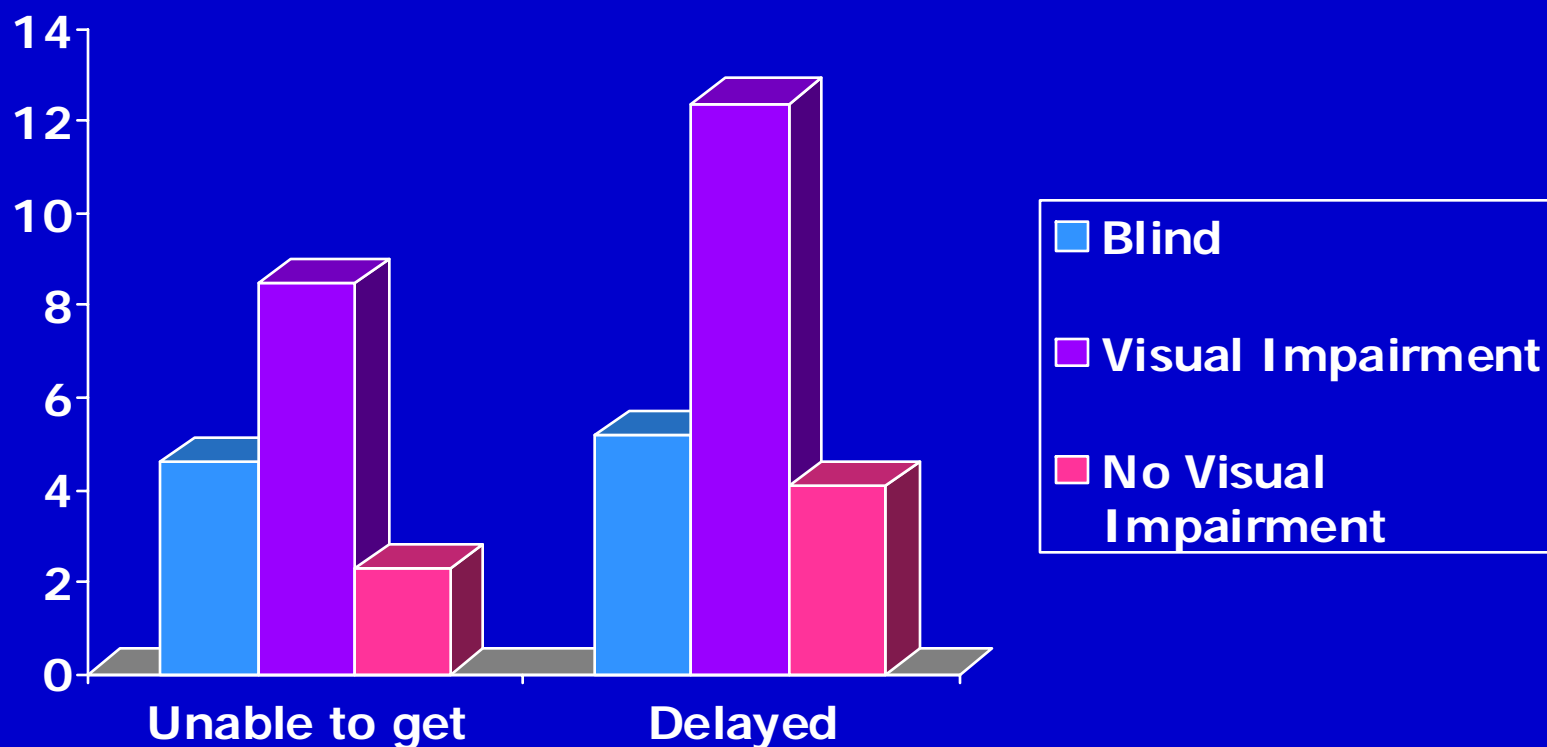
Continuity of Care Measures: Would not go to a USC for:

Percent



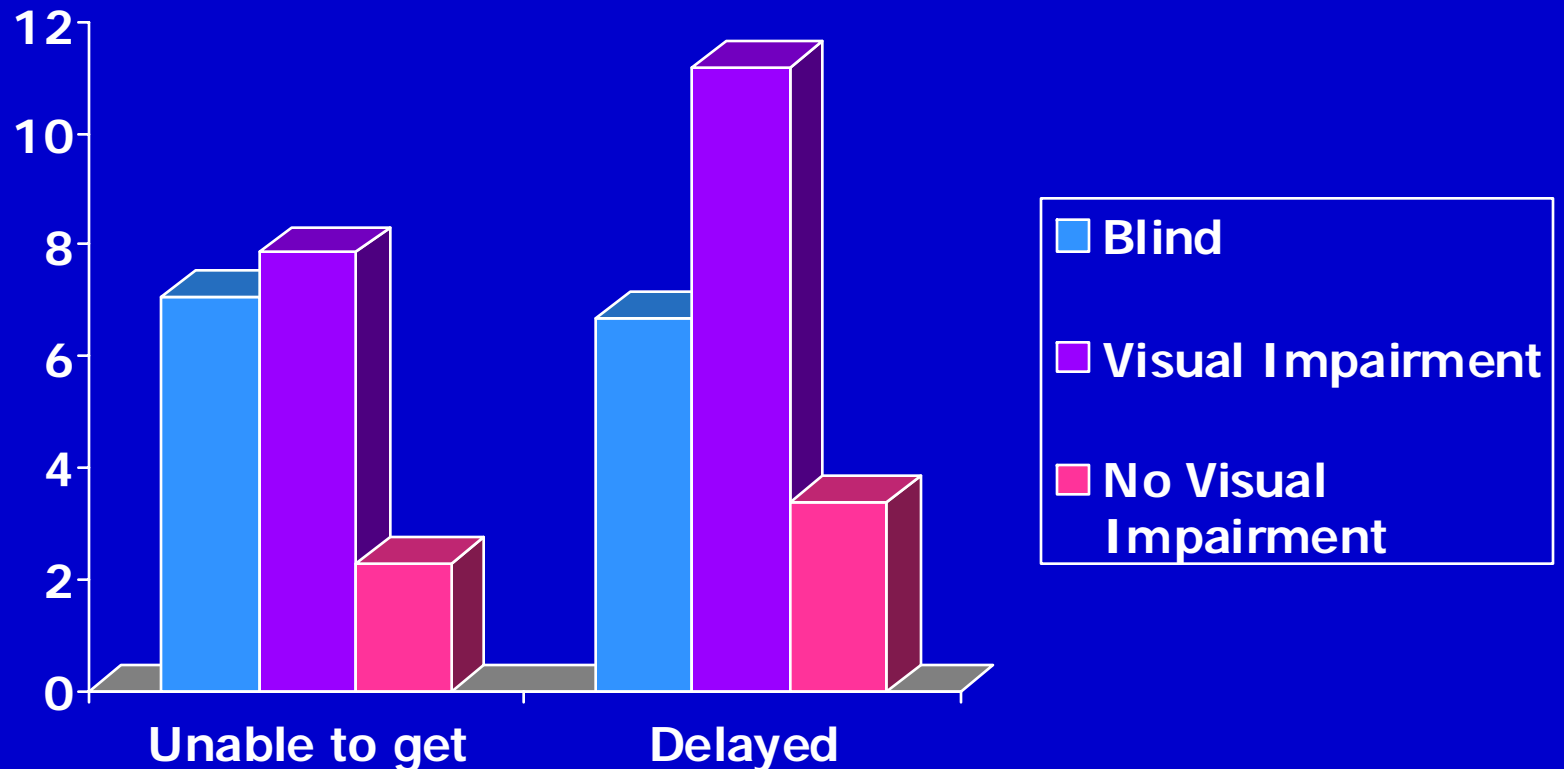
Access to Care Problems: Necessary Care

Percent

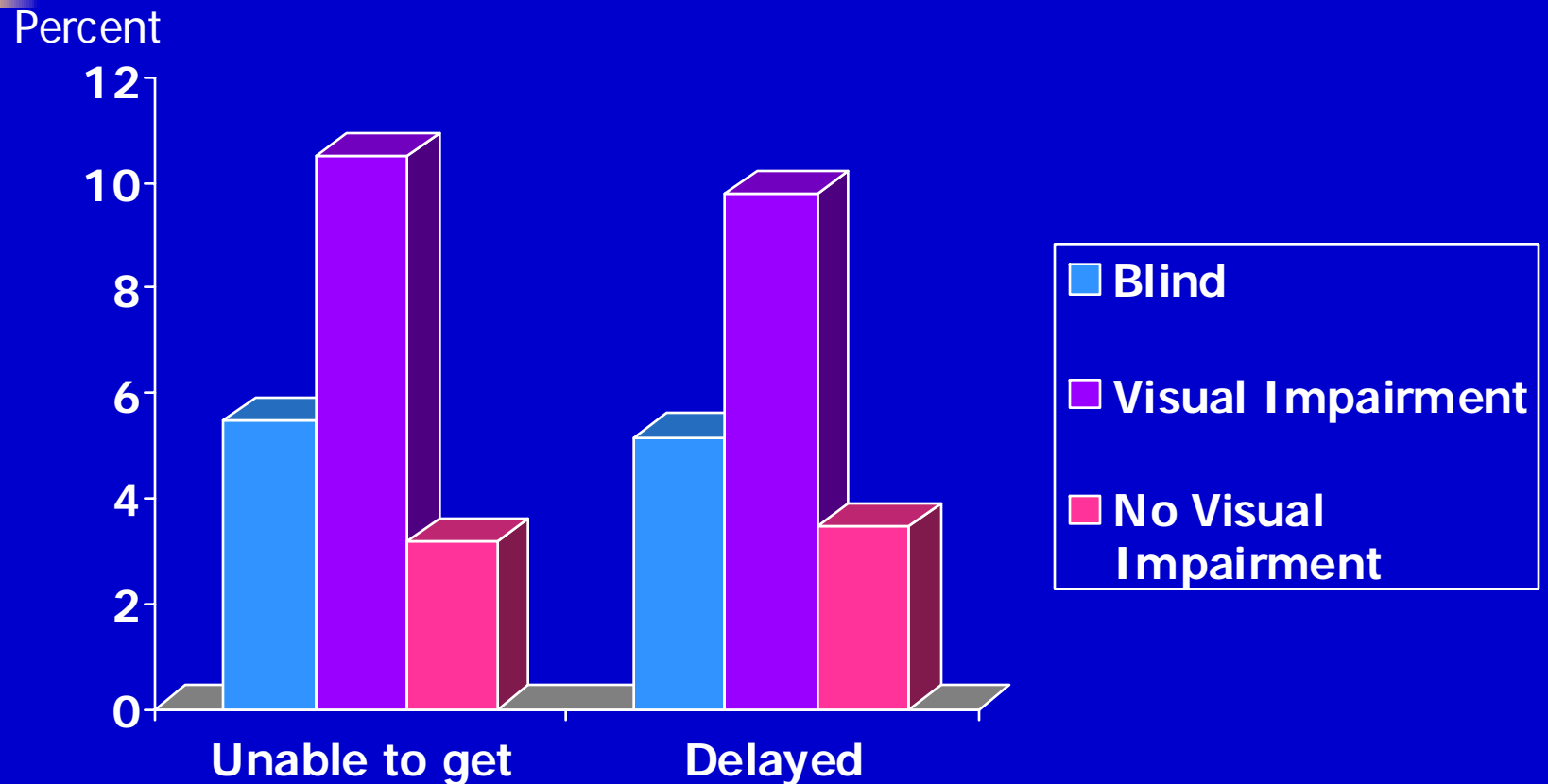


Access to Care Problems: Prescription Medications

Percent

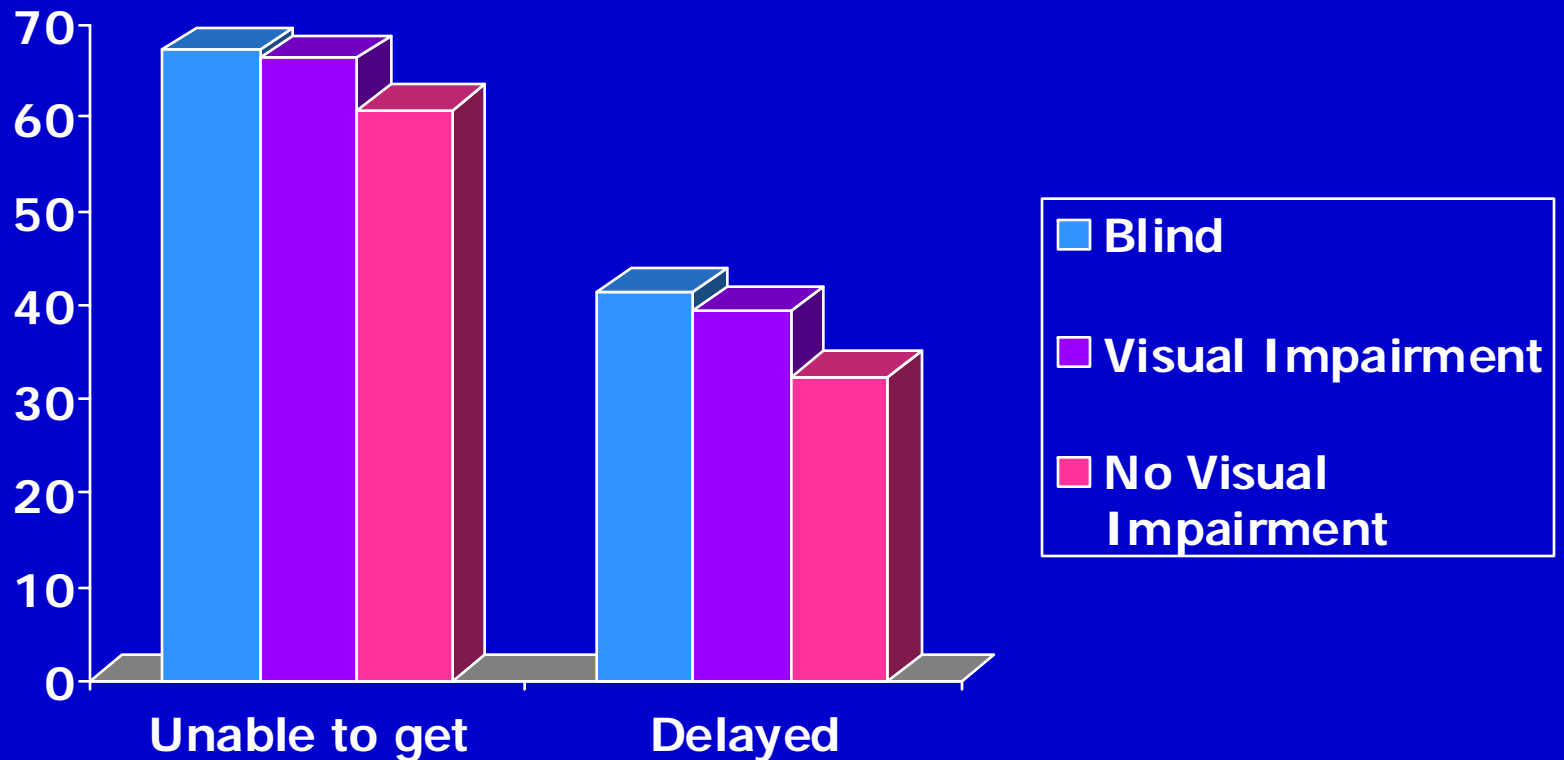


Access to Care Problems: Dental Care



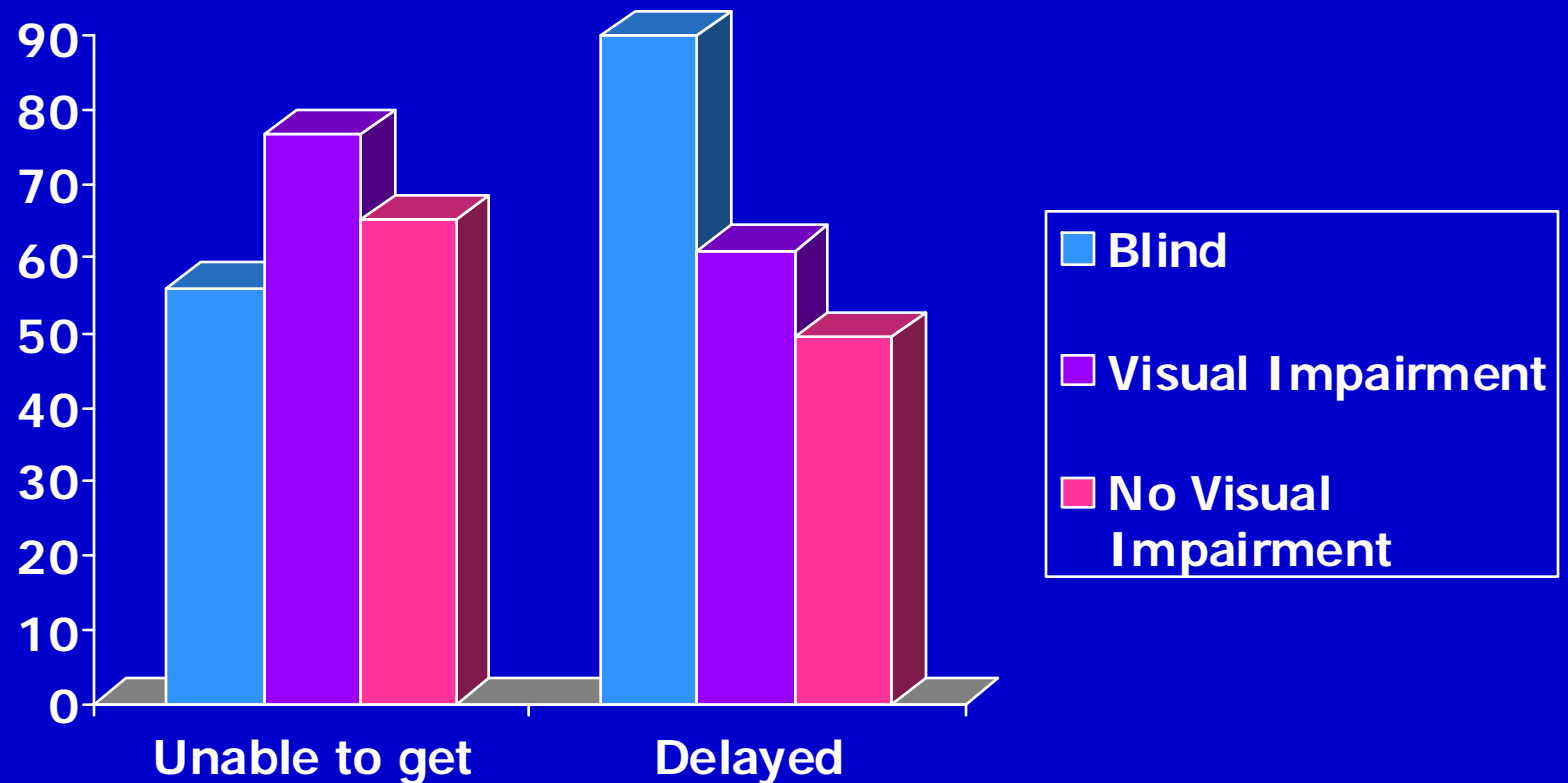
Access to Care Problems: Cost of Necessary Care

Percent



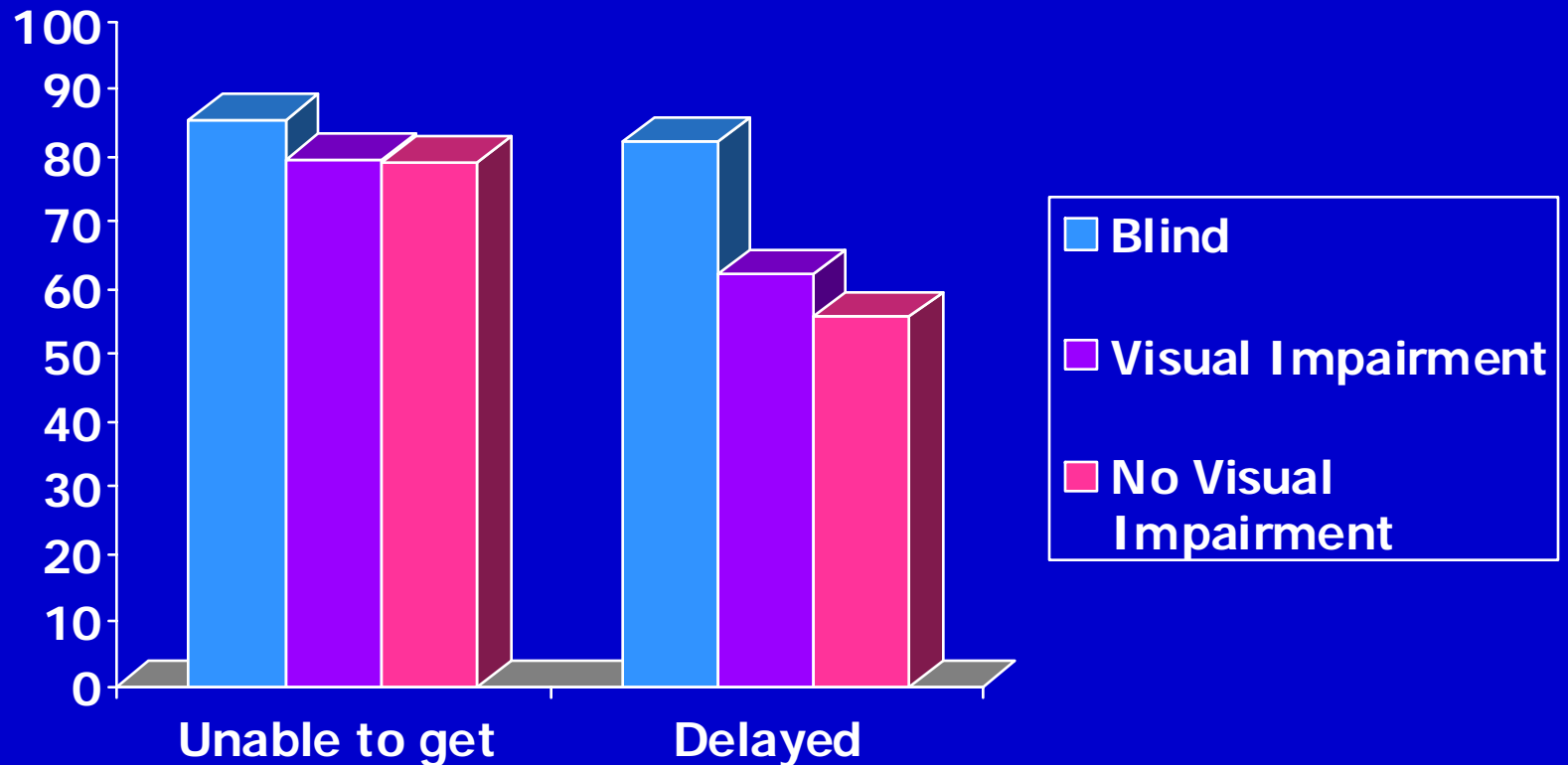
Access to Care Problems: Cost of Prescription Medications

Percent



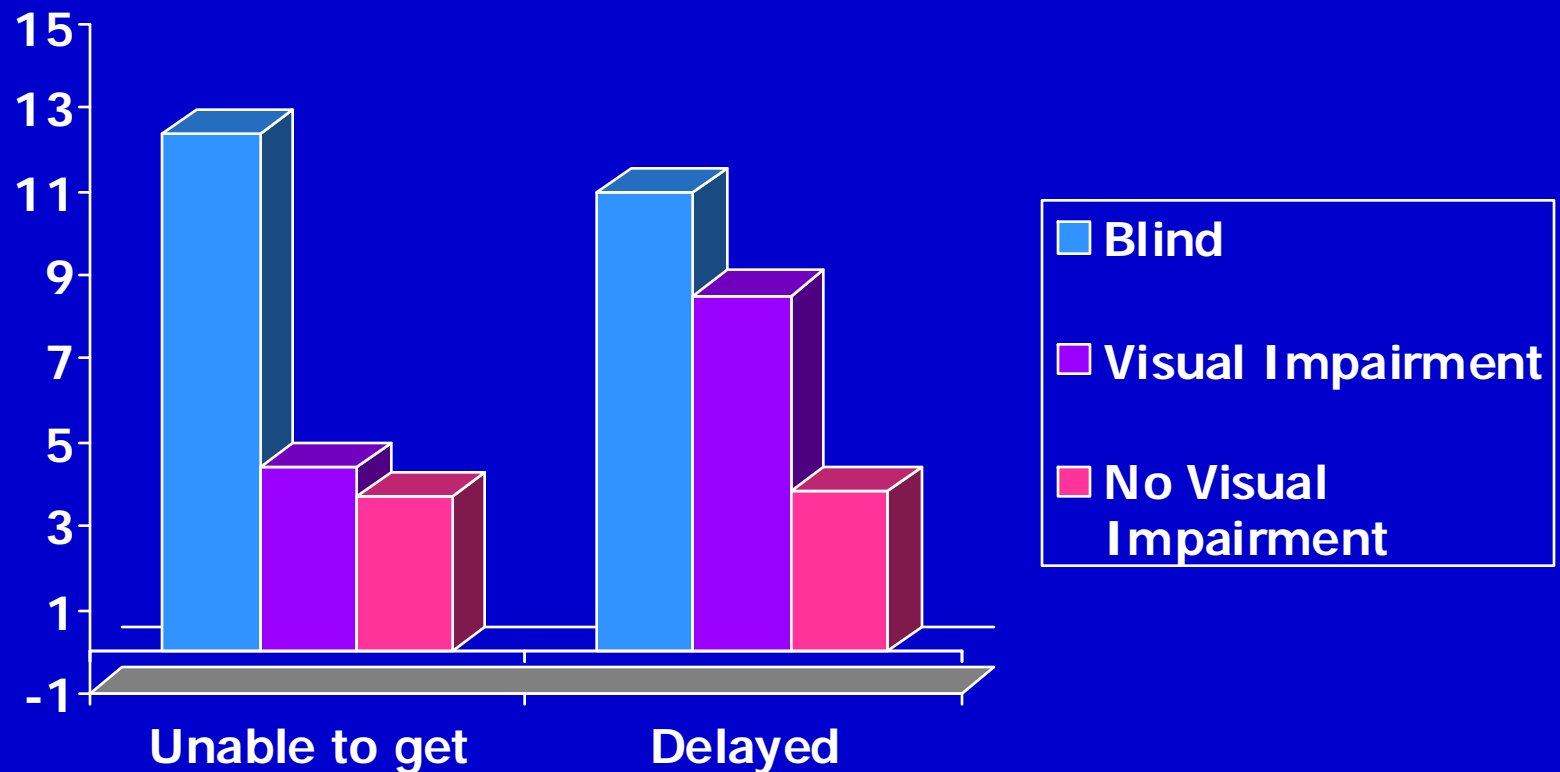
Access to Care Problems: Cost of Dental Care

Percent



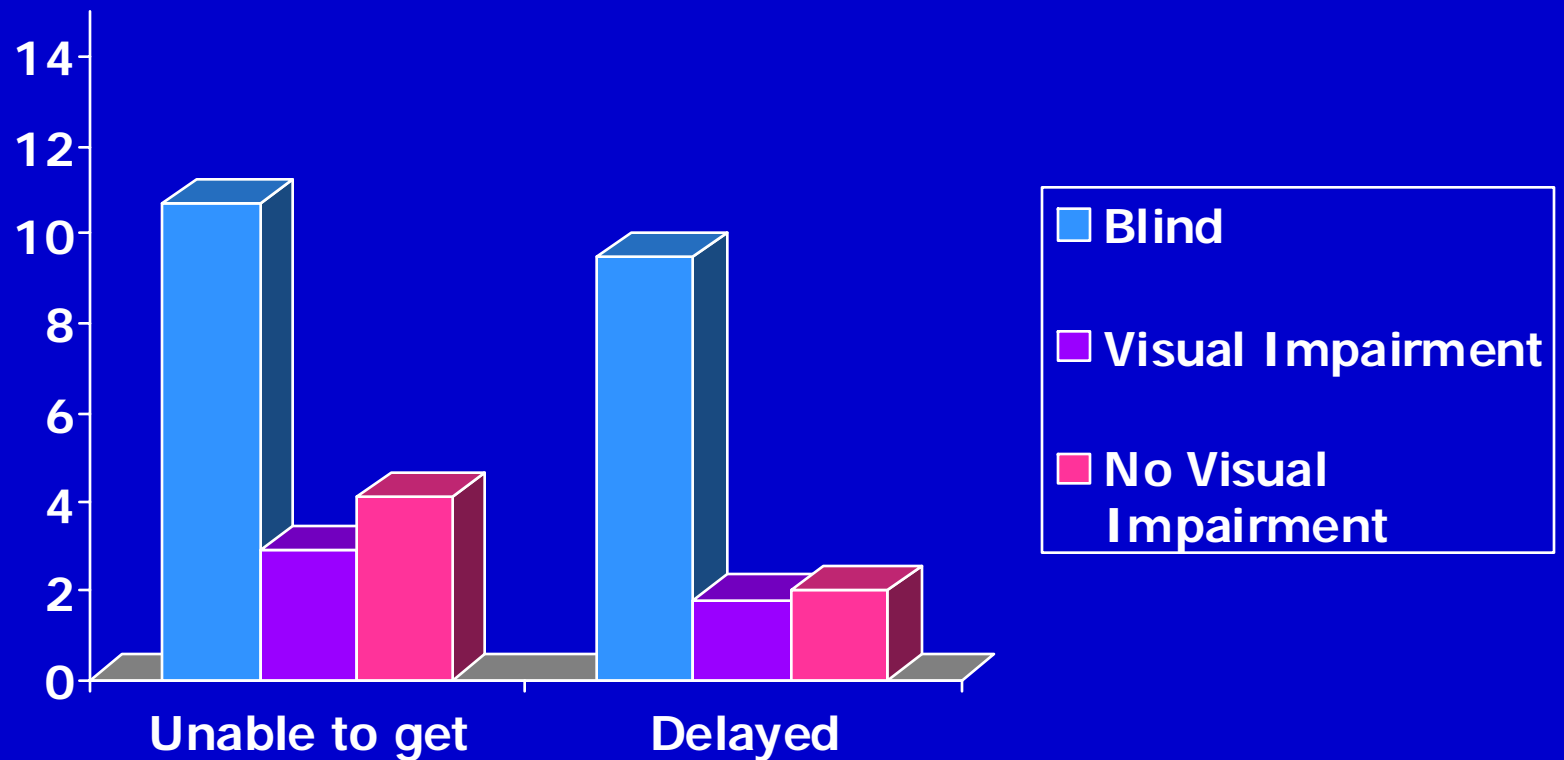
Access to Care Problems: Transportation to Necessary Care

Percent



Access to Care Problems: Refused Necessary Care

Percent



Statistical Analysis



- Dependent Variables
 - Vision Measures: Blind or Visually Impaired
- Independent Variables
 - Various Access Measures (listed next slide)
- Control Variables
 - Gender, race, education, insurance status, age and family size
- Statistical Program to account for complex sample design
 - SAS® Version 9

Statistical Analysis



- Logistic Regression

- *Computed Odds Ratios*

- *Access Measures*

- Have a Usual Source of Care
- Usual Source of Care is ER
- Unable to get or Experienced a Delay in getting Necessary Medical Care
- Unable to get or Experienced a Delay in getting Prescription Medications
- Unable to get or Experienced a Delay in getting Necessary Dental Care

Statistical Analysis:

Results Usual Source of Care

| | | Odds Ratios Compared to Not Visually Impaired | 95% CI (LB-UB) |
|-----------------------------------|-------------------|---|----------------------|
| Have a Usual Source of Care | Blindness | 1.183 | (0.641- 2.184) |
| | Visual Impairment | 1.005 | (0.864- 1.167) |
| Usual Source of Care is ER | Blindness | 1.518 | (0.392- 5.878) |
| | Visual Impairment | 1.203 | (0.733- 1.977) |

Statistical Analysis: Results Necessary Medical Care

| | | Odds Ratios Compared to Not Visually Impaired | 95% CI (LB-UB) |
|---|----------------------|--|----------------------|
| Delay in getting Necessary Medical Care | Blindness | 1.041 | (0.540-2.007) |
| | Visual Impairment | 2.313*** | (2.017-2.653) |
| Unable to get Necessary Medical Care | Blindness | 1.356 | (0.749-2.456) |
| | Visual Impairment | 2.218*** | (1.887-2.606) |

*** $p < .001$

Statistical Analysis: Results

Prescription Medications

| | | Odds Ratios Compared to Not Visually Impaired | 95% CI (LB-UB) |
|---|----------------------|---|-----------------------|
| Delay in getting Prescription Medications | Blindness | 1.382 | (0.813-2.349) |
| | Visual Impairment | 2.211*** | (1.880-2.601) |
| Unable to Get Prescription Medication | Blindness | 2.131** | (1.231-3.688) |
| | Visual Impairment | 2.104*** | (1.793-2.468) |

** p < .01 ; *** p < .001

Statistical Analysis: Results

Necessary Dental Care

| | | Odds Ratios Compared to Not Visually Impaired | 95% CI (LB-UB) |
|--|----------------------|--|----------------------|
| Delay in getting Necessary Dental Care | Blindness | 1.244 | (0.591-2.619) |
| | Visual Impairment | 2.293*** | (1.976-2.661) |
| Unable to get Necessary Dental Care | Blindness | 1.224 | (0.607-2.467) |
| | Visual Impairment | 2.316*** | (1.989-2.696) |

*** $p < .001$

Summary



- Compared to the non-visually impaired, visual impairment had a stronger relationship with access to care variables than did blindness.
- Individuals with visual impairment were more likely than persons without visual impairment to :
 - **DELAY** seeking Necessary medical care, prescription medications and dental treatment, or be
 - **UNABLE TO OBTAIN** Necessary medical care, prescription medications, and dental treatment .

Summary



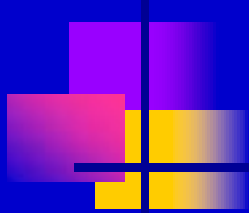
- Discrimination may create some lack of access
- Continuity of Care more of a problem for individuals who are blind or have visual impairment
- Visual Impairment is a greater risk factor for lower access to basic medical, dental and prescription services than blindness.
- Individuals with blindness may access services and benefits that are not necessarily available to individuals with visual impairment.
- Despite high levels of insurance (public) cost of care still presents significant barrier to care (lower income)

Policy Implications



- Recommend programs targeting individuals with visual impairment to improve access to care in this vulnerable group
- Focus on provider attitudes toward visual impairment and blindness
- Focus on out-of-pocket costs of care

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