

Vision Loss and Depression

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Focus on Eye Health

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Disclosure Statement

NO COMMERCIAL RELATIONSHIPS

Direct Medical Costs of Vision Conditions¹

Visual Condition	Direct Costs (\$ billion)	Direct Costs (%age of total)
Refractive error	16.1	24.7
Cataract	10.7	16.4
Vision problems	10.4	16.0
Ocular physical disorders	8.9	13.7
Retinal disorders	8.7	13.4
Glaucoma	5.8	8.9
Other vision	4.5	6.9
TOTAL	65.1	

Total =\$139 billion of which direct costs, above, represent 48%. Indirect cost, not shown, represent 52%

Vision Loss & Aging

- Between 13% and 20% of community-dwelling older adults report functional vision problems.
- Significantly higher prevalence in institutionalized population
- Gradual onset with a slow decline
- Seldom results in total blindness

Vision Loss & ADLs

- Decline in vision status is associated with lower emotional, physical and social functioning²
- 39% of legally blind individuals experience ADL limitations, compared to 7% of those with better vision³
- Onset of legal blindness results in a 78% increase in the likelihood of ADL limitations⁴

Hospital Patients with Vision Loss

- Vision loss often overlooked during inpatient stay
- Have excess hospital length of stay
- Experience more problems after discharge⁵
- Are 4 times more likely to have rehabilitative care prescribed on discharge⁶
- Less satisfied with their healthcare⁷

Vision Loss adds to Healthcare Cost

Whether occurring alone or as a comorbidity:

- Generally overlooked as a contributor to excess health care cost⁹
- Medicare HCC methodology consistently underestimates costs for patients with vision loss – as much as 17%⁹
- Medical condition vs. functional status

Visual Function - Acuity

- Acuity is the most common measure of visual function (a high contrast target available for unlimited viewing time)
- Other measures address components of vision and are often co-morbid – e.g., acuity loss with loss of contrast sensitivity or reduction of visual fields

Visual Function - Contrast Sensitivity¹¹

- Contrast sensitivity loss as well as decline in visual acuity affects performance in everyday activities
- Contrast sensitivity decline had greater impact on everyday functioning than acuity loss
- Overall, the levels at which loss of vision function affects performance have not been established

Functional Vision

- Visual function = functioning of the **ocular system**
- Functional vision = functioning of the **person** in activities that require vision¹²
- Intact visual function may not result in adequate functional vision
- Blurred vision even once or twice a month can have a significant impact on everyday functioning¹³
- **Impaired functional vision results in inability to perform activities and disability**

Vision loss is Complex

- Age at onset
- How rapidly a person loses vision – gradual or sudden
- How long have they had vision loss – i.e., duration
- Type– central, peripheral
- Degree of vision loss - mild, moderate, severe
- Availability of social supports
- Adequacy of rehabilitation ...etc...etc...etc

Patients Complaints are Key

- Aspects of vision function for which consensus standards have not been established may be of critical importance in terms of functional abilities
- Everything about a person's vision loss and functional vision is relevant
- Ignoring patients' perceptions of their vision does a disservice and contributes to excess morbidity

A Patient's Perspective¹⁴

You don't realize how important some of the mundane tasks you do every day become until you can't do them. Things like going to the grocery store to pick up a loaf of bread...may sound like a pain in the butt when your wife asks you to do it and you are in the middle of a football game, but you would give your left arm to do it under different circumstances

Depression – DSM/ICD criteria

- Depressed mood
- Markedly and enduring diminished interest/pleasure in activities
- Significant weight loss/ change in appetite
- Insomnia or hypersomnia
- Fatigue or loss of energy
- Feelings of worthlessness
- Diminished ability to think or concentrate
- Recurrent thoughts of death

Major Depressive Syndrome following significant loss

- An expectable, culturally sanctioned response
- Duration >6 months with substantial functional impairment or specific diagnostic criteria
- Prevalence ranges from 29%- 58% one year after loss
- Time since onset of vision loss and degree of loss may be significant markers
- Does vision loss inevitably result in depression beyond depressive syndrome?

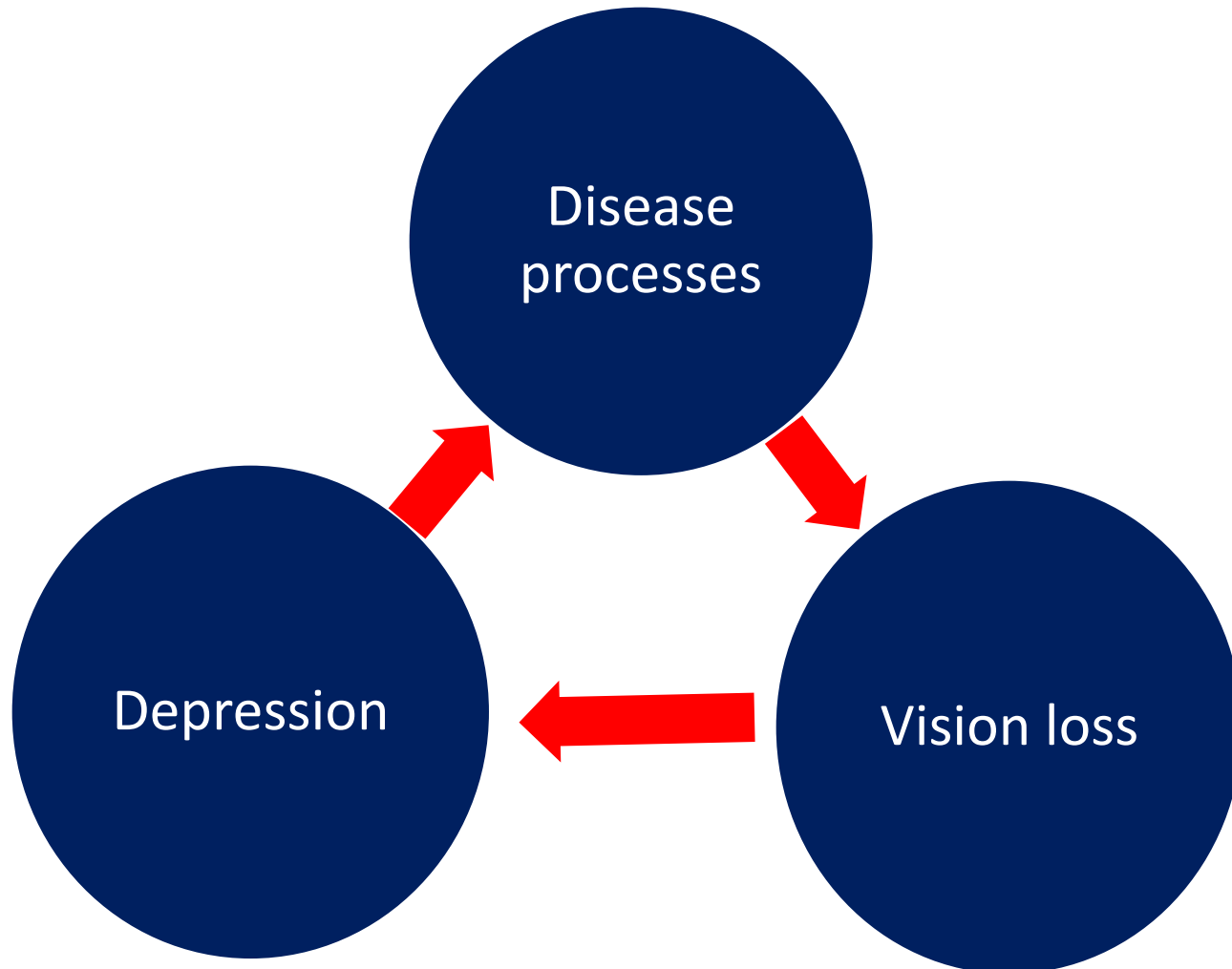
Depression¹⁵ (con't)

- Self-reported vision loss is significantly related to depression, but objective acuity is not
- Prevalence:
 - 4.8% of individuals without vision loss
 - 11.3% of individuals with self-reported vision loss
- Task performance, but not visual function, is implicated in depression

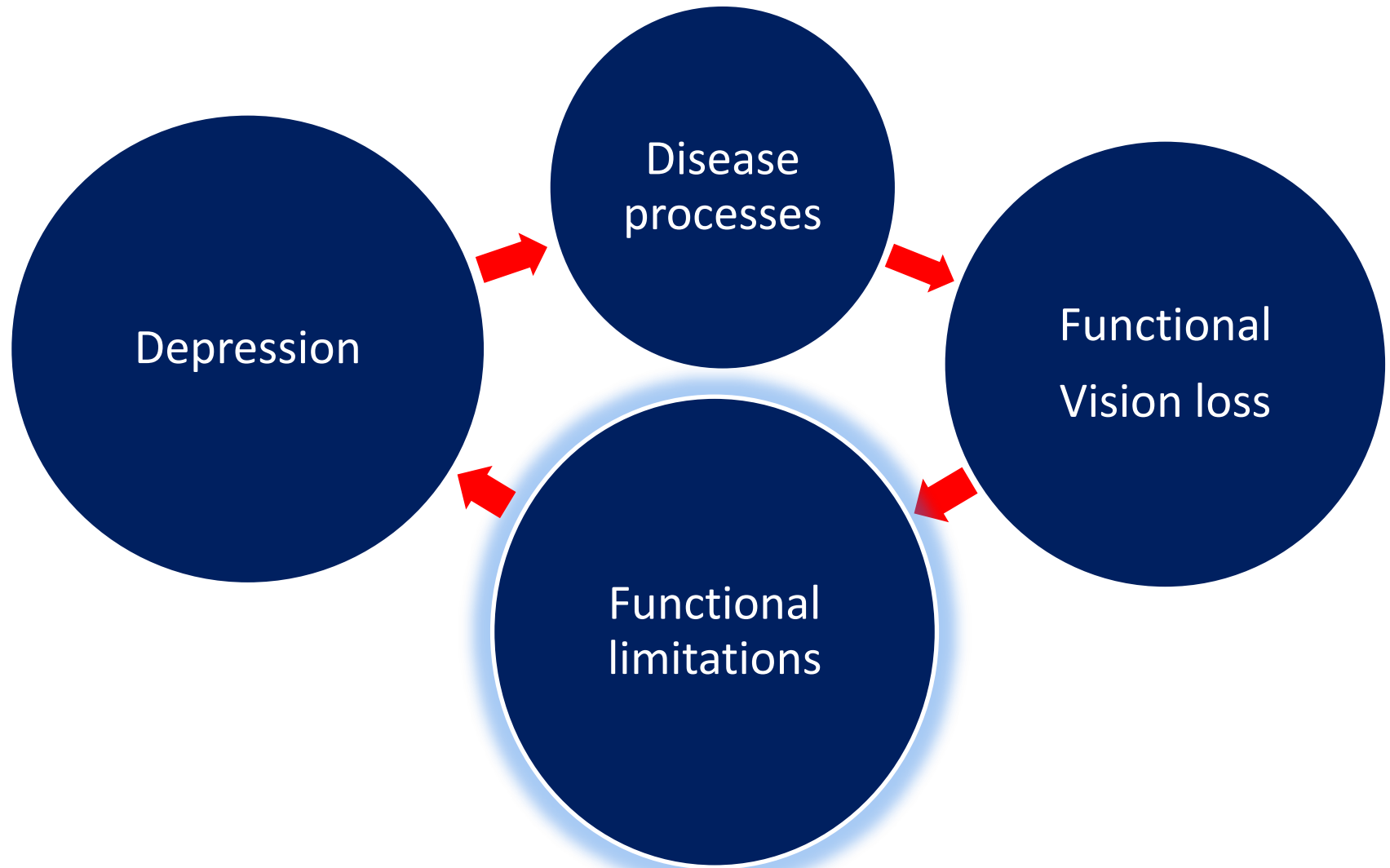
Depression (con't)

- Vision loss is a risk factor, but not inevitable cause, of depression
- Depression accompanying vision loss may result from sequelae of vision loss, but...
- Other causes of depression may also be present
- When depression isn't improved after rehabilitation, referral for mental health treatment is essential

A Model of Depression with Vision Loss



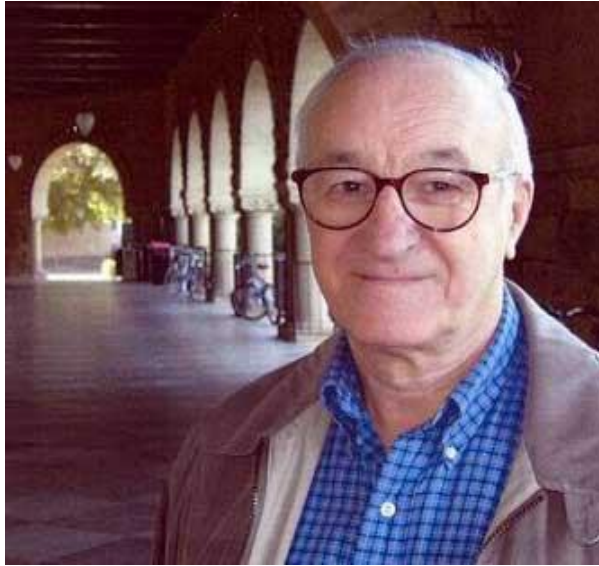
A Model of Depression with Vision Loss



Is There More?

- Self-Efficacy
- Activity Restriction

Self-Efficacy



People may perform poorly because they lack ability, or they have ability but they lack the perceived self-efficacy to make optimal use of their skills

Albert Bandura, PhD, Stanford University

Perceived self-efficacy = beliefs about self-control. Contributes to motivation and task performance

Lack of efficacy results in self-doubt. Contributes to decline in performance

Perceiving yourself as competent allows you to be competent

Activity Restriction¹⁶

- Older adults with vision loss are 3 times more likely to report difficulty in:
 - Walking
 - Managing medications
 - Preparing meals
- Depression with vision loss often follows a decrease in mobility
- The essential element is a decrease in the ability to perform everyday activities

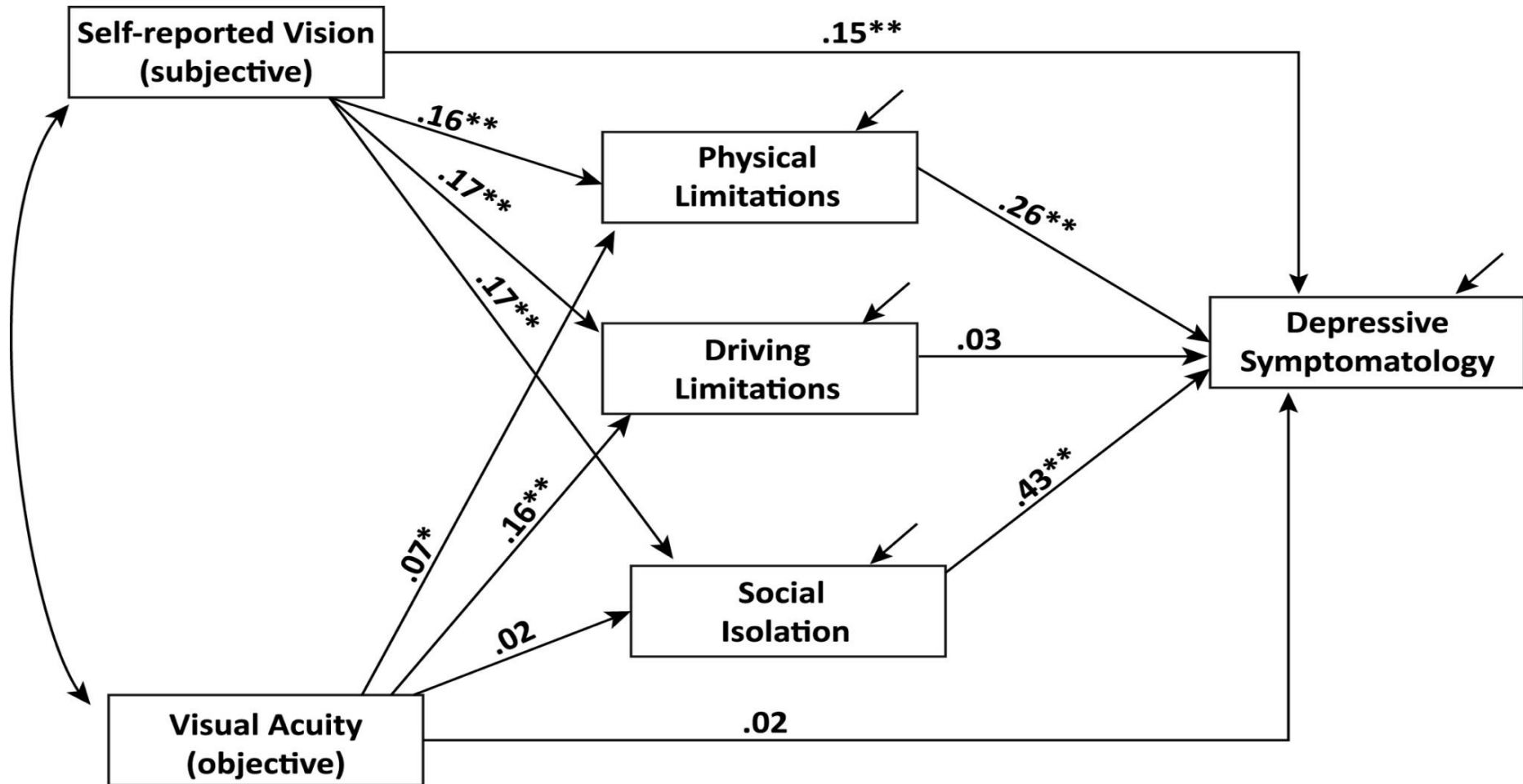
Activity Restriction¹⁷ (con't)

- Impact of VI on walking and reduced physical activity was \geq all systemic conditions including obesity, COPD, arthritis, stroke, and CHF
- Decreased physical activity is associated with numerous adverse health and quality of life outcomes
- VI is associated with lower levels of objectively measured physical activity

Activity Restriction¹⁸ (con't)

Impaired mobility may be a primary pathway leading to increased disability in patients with vision loss

Activity Restriction Model¹⁹



Activity Restriction Model

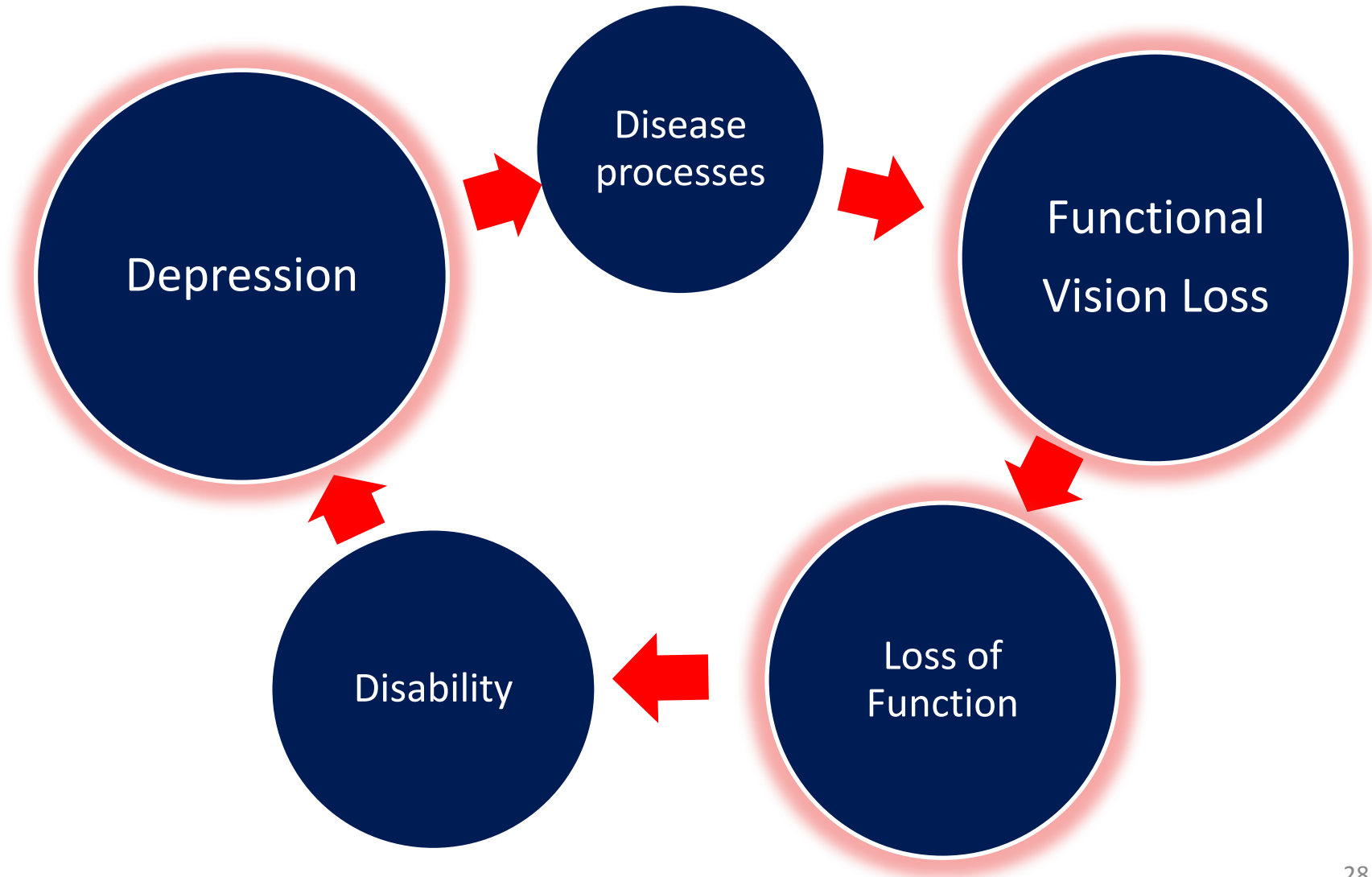
So what does that tell us?

- Poor self-rated vision is related to:
 - Inability to perform ADLs and IADLs
 - Increases feelings of social isolation
 - Results in actual social isolation and further depression (negative feedback loop)
- Interventions should focus on promoting adaptation to vision loss while maintaining or enhancing physical and social functioning

What Explains Excess Depression?

- Functional loss
- Loss of mobility
- Loss of self-efficacy
- Decreased social supports & relationships

A Model of Depression with Vision Loss



Rehabilitation

- Potent psychological processes underlie success in rehabilitation; none are more potent than patient motivation and self-efficacy
- Offer realistic hope by discussing treatment and rehabilitation options as early as possible
- Don't wait until patients are "ready" for rehabilitation; there is no evidence for this

Rehabilitation (con't)

- Patients can look forward to the next step in their care, rather than deal with the aftermath of a “failed” course of treatment
- Adjust expectations to promote engagement in care, recovery and rehabilitation
- **Communicate that rehabilitation is a part of good care, rather than something necessitated by the failure of care**

Conclusion

1. Depressed patients have disability beyond that related to their vision function²⁰
2. Rehabilitation will help address and alleviate functional concerns
3. Depression is most often a function of loss of ability to perform activities, but may not be
4. Addressing vision function without addressing functional vision will not be successful in terms of depression, nor will mental health treatment

Thank you for your attention

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Vision+Health

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Vision Loss Classified – ICD 10

Classification	Presenting distance acuity	
	Worse than:	Equal to or better than:
Mild or no visual impairment		6/18 20/70
Moderate visual impairment	6/18 20/70 (low vision-US)	6/60 20/200
Severe Visual Impairment	6/60 20/200 (Legal Blindness -US)	3/60 20/400
Blindness	3/60 20/400	1/60 5/300 (20/1200)
Blindness (Light Perception)	1/60 or CF @ 1 meter 5/300 (20/1200)	Light Perception
Blindness (NLP)	No Light Perception	