Post-stroke Depression: Underrecognized and Undertreated

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I currently have funding from the National Institutes of Health NICHD/NCMRR under award number R01-HD105718 (PI: Terrill).

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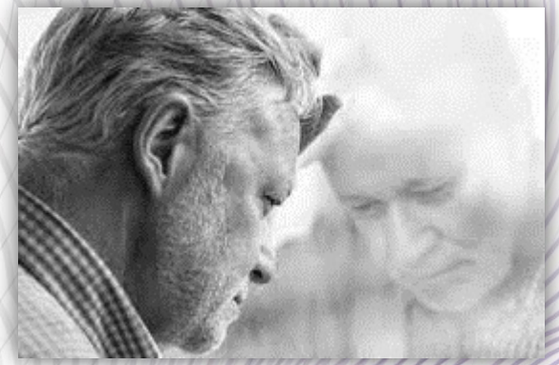
OBJECTIVES

- Describe symptoms of post-stroke depression (PSD)
- Understand factors associated with PSD
- Describe best practices to address PSD

CLINICAL VIGNETTE: DANIEL



- M, 52yo
- 6mo post L MCA stroke
- Aphasia, R-side paralysis

What's the Issue?

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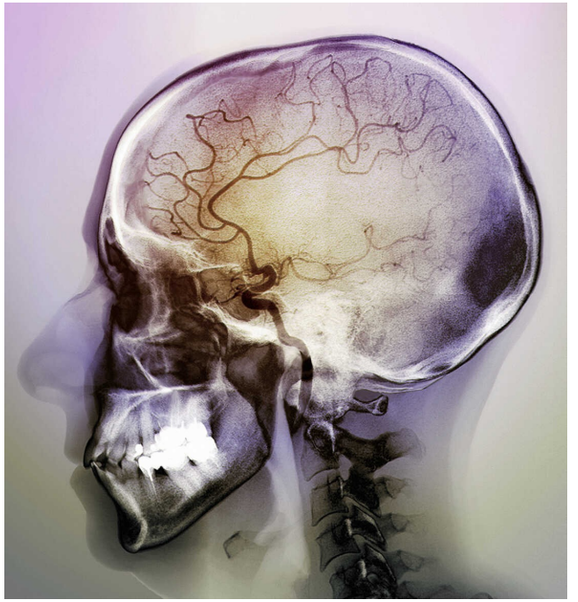
STROKE AND MENTAL HEALTH

- Mood disturbance is very common
  - Post-stroke depression is the **MOST** common
- Affects 1/3 of survivors at any one time
- Cumulative incidence: 55%



(Towfighi et al., 2017)

WHAT IS THE IMPACT?

- Increased disability (odds-ratio: 2.2)
- Increased mortality (1.6 – 1.9)
- Increased risk for stroke recurrence
- Less functional and motor recovery
- Decreased participation
- Poorer quality of life

(Kutlubaev & Hackett, 2014; Robinson & Jorge, 2016; Towfighi et al., 2017)

THE PROBLEM?

- PSD is a frequent & significant complication of stroke
- Mental health needs are not met or prioritized as part of recovery

Underrecognized and undertreated

Post-stroke depression: What does it look like

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DEFINED AS AND CHARACTERIZED BY:

"Mood disorders due to stroke with depressive features, major depressive like episode, or mixed-mood features."

DSM-5 criteria (symptoms lasting 2+ weeks):
*Depressed mood and/or irritability
*Anhedonia (disinterest/lack of pleasure in things they used to enjoy)
Changes in appetite and/or sleep
Concentration difficulties
Decreased energy
Feelings of helplessness, hopelessness, and/or worthlessness
Suicidal thoughts

Diagnostic & Statistical Manual of Mental Disorders, 5th ed (DSM-V)

CHALLENGES IN RECOGNIZING PSD

PSD symptom patterns typically involve more sleep disturbance, vegetative symptoms, and social withdrawal

- Somatic and non-somatic symptoms
- Problem of overlap with many symptoms of chronic condition

But also:

- Headache
- Pain
- GI issues
- Fatigue

NATURAL HISTORY

- Frequency highest in first year
- PSD varies across the recovery process and may have different pathophysiology and prognostic consequences

Acute vs **chronic**/late onset

Remits spontaneously
Directly affects rehab/recovery outcomes

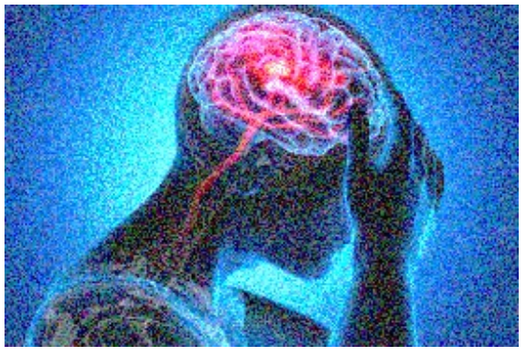
More persistent
Worse functional prognosis

Ayerbe et al., Hackett & Pickles; Towfighi et al.,

PATHOPHYSIOLOGY

- Poorly understood, but likely multifactorial…. and may vary depending on timing after the event
- Biological and psychosocial

Structural damage, neurochemical changes, type of stroke, genetics



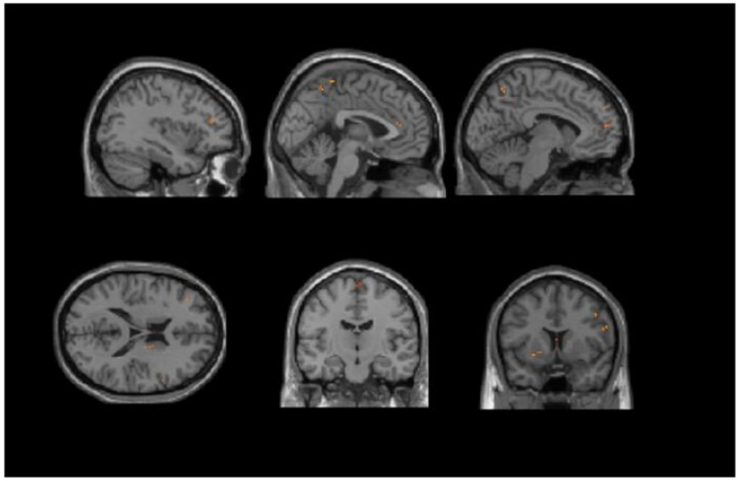
Role changes, perception of support, premorbid history, functional decline

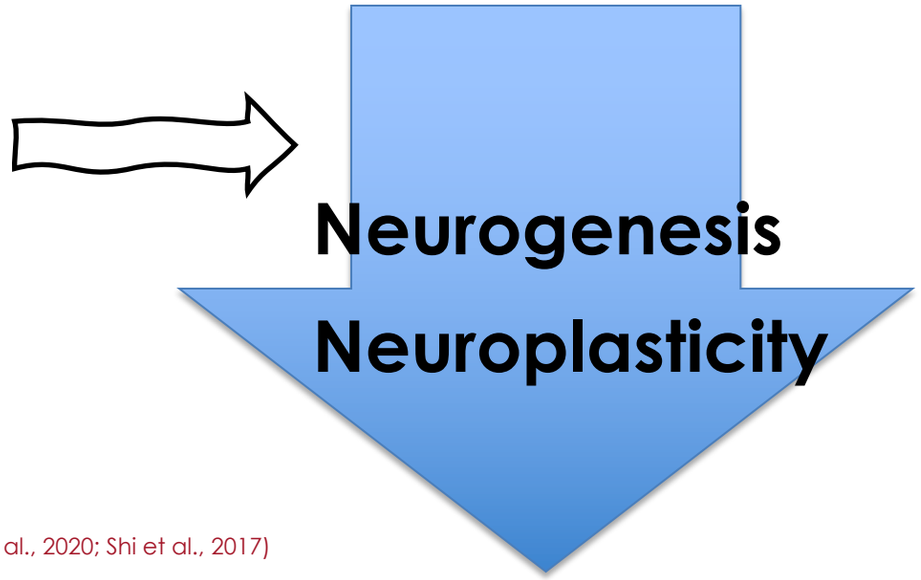
- Understanding pathophysiology may aid in management

(Robinson & Jorge, 2015; Towfighi et al., 2017)

BIOLOGICAL FACTORS

- Genetic susceptibility
- Lesion location: inconsistent
  - left frontal or left basal ganglia lesions within 2 months of a first clinical stroke.
- Inflammation (and dysregulation of HPA-axis)





(Medeiros et al., 2020; Shi et al., 2017)

FACTORS ASSOCIATED WITH PSD

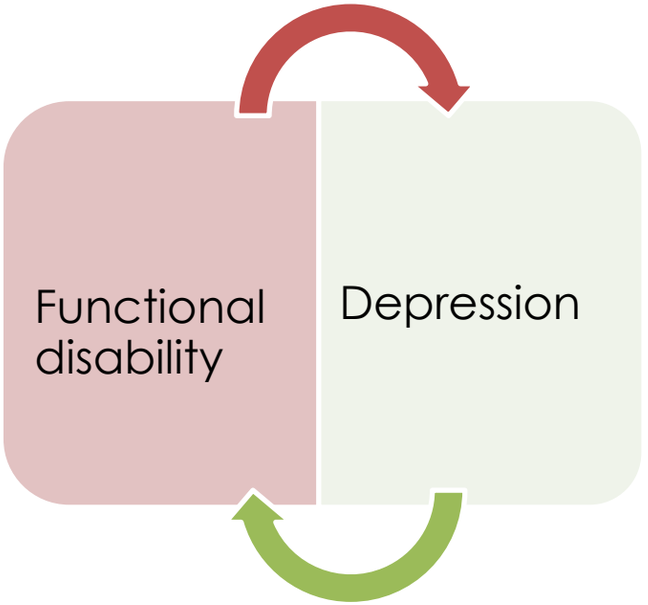
- Stroke severity
- Functional & cognitive impairment
  - Physical disability
  - ADL impairment
  - Cognitive impairment (especially executive dysfunction)
- Depression (and/or anxiety) before the stroke
- Mixed findings: age, sex, education, type of stroke
- Aphasia*

(Hackett & Pickles, 2014; Medeiros et al., 2020; Robinson & Jorge, 2015; Towfighi et al, 2017)

PSYCHOSOCIAL FACTORS

- Low social support/isolation
- Low community participation

Difficulty adapting, loss-focused



Poor medication adherence
Poor maintenance of healthy lifestyle factors (e.g. nutrition, exercise, sleep)

(Baccaro et al., 2019; Perrain et al., 2020; Wei et al., 2015)

OTHER FACTORS TO CONSIDER WHEN WORKING WITH STROKE PATIENTS

- Hypo/hyperthyroidism
- Chronic systemic inflammation
- Medication side effects

- Cognition – this is very important in terms of case conceptualization AND treatment planning
  - Insight
  - Ability to follow multi-step instructions

Screening and Treatment

PHQ-2 Questions

Over the last 2 weeks how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3

A cut-off score ≥ 3 is positive

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SCREENING: **FIRST STEP** TO TREATING PSD IS **RECOGNIZING IT**

Barriers:

- Stroke symptoms often overlap with symptoms of mental health conditions
  - Other conditions can be mistaken for PSD
  - Or otherwise hinder identification of PSD (e.g., aphasia)

- Mental health conditions can be difficult to identify during a typical visit
- Mental health concerns are typically not brought up by patients or caregivers
- May not develop until later, when there is not routine screening

(Leung et al., 2017)

SCREENING AND EVALUATION

- Use standardized psychometrically valid screening tool

- Screen repeatedly:
  - Mental health condition may develop at any time
  - Concerns often not reported to providers
  - Normalizes experience and can serve as preventative intervention

Measure	Description
Patient Health Questionnaire (PHQ-2*, PHQ-9)	2-item: two hallmark symptoms of depression: depressed mood and anhedonia. Typically used as screen in clinical settings. (Yes/no version) 9-item: severity of depressive symptoms over the previous 2 weeks. Arguably the most popular assessment tool available; adopted for a number of clinical trials, large federally funded surveys, whole federal departments (e.g., VA), and large private groups (e.g., American Heart Association, and American Psychiatric Association). Free to use.
Center for Epidemiological Studies Depression Scale (CESD)	Popular 20-item assessment tool that has wide applicability in the general population. Based on depressive symptoms used for clinical diagnosis of depression. Free to use.
PROMIS-Emotional Distress – Depression	Negative mood (sadness), views of self (worthlessness), and social cognition (loneliness), as well as decreased positive affect and engagement (loss of interest, purpose). Free to use.
Hamilton Depression Rating Scale (HDRS or Ham-D)	21-item clinician-rated scale that includes subtyping (severity). Free to use.

SCREENING WORKS… BUT NOT IF THAT'S ALL WE'RE DOING

- Systematic screening may improve outcomes, provided that processes are place to ensure there is treatment and follow-up.

- Approximately 2/3 of stroke patients who screen positive for PSD received **NO** treatment during the year.

(Dong et al, 2022)

TREATMENT STRATEGIES

Medical treatment

- Evaluation for other medical confounders (e.g., medication side effects)
- Treat (and prevent?) PSD with SSRIs
  - May improve ADLs and survival rates
- Evidence for neuromodulation is still preliminary

- Limited generalizability

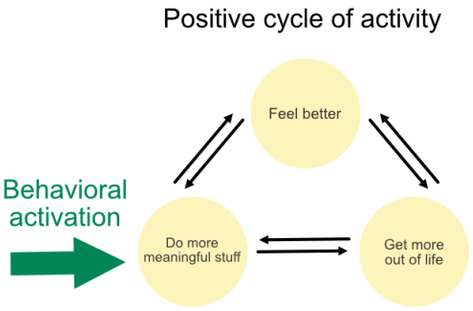
(Medeiros et al, 2020; Towfighi et al., 2017)

TREATMENT STRATEGIES

Occupational therapy

Psychological/Behavioral interventions

- Psychoeducation
- Cognitive Behavioral Therapy (CBT)
- Behavioral Activation
- Mindfulness-based therapy
- Acceptance & Commitment Therapy (ACT)
- Problem-solving therapy
- Stress management



(Lee et al., 2020; Towfighi et al, 2017)

SUMMARY OF TREATMENTS

What is the name of the treatment?	Who benefits from the treatment?	What would the treatment look like for you?
Talk Therapy		
Acceptance & Commitment Therapy (ACT)	People with anxiety or depression	You would talk with a psychologist or counselor to recognize your reactions to life events. Then you would select actions that are consistent with your goals and values.
Behavioral Activation (BA)	People with depression	You would talk with a psychologist or counselor to identify activities that you used to enjoy. Then you would try to re-engage and become more active.
Cognitive-Behavioral Therapy (CBT)	People with anxiety, depression, sleep issues, or fatigue	You would talk with a psychologist or to identify negative thoughts. Then you would finding new positive ways to think and develop new coping strategies.
Medications		
Medications for stroke and side effects of medications	People with all mental health conditions	People with mild stroke often get medications to manage their health and reduce the risk of having another stroke. In some people, their existing medications can cause side effects (like fatigue and depression). A doctor and pharmacist would evaluate your current medications and may adjust medications to improve mental health.
Medications for mental health	People with all mental health conditions	Doctor may prescribe a new medication specifically for the treatment of mental health issues.

SELF-CARE: NO PRESCRIPTION NEEDED

- Physical activity
- Sleep
- Nutrition
- Social support
  - Socialize with friends and family
  - Support groups
- Positive coping:
  - Purpose/meaning-making, sense of humor, express gratitude

CHECKING IN WITH CARE PARTNERS

- Care partners are at high risk of depression and distress
  - Social isolation and health declines
  - interference with rehabilitation, increased re-hospitalization
- Emotional well-being is interdependent in couples

Bakas et al, 2014, 2017;

SUMMARY OF TREATMENTS

What is the name of the treatment?	Who benefits from the treatment?	What would the treatment look like for you?
Self-Care		
Exercise	People with all mental health conditions	Exercise promotes good mental health. You would engage in a range of physical activity such as • Fast paced (aerobic) exercise (e.g. a brisk walk or dancing) • Strength training (e.g. lifting weights) • Stretching (e.g. yoga) You should check with your doctor to make sure it is safe to engage in different types of physical activity. Some exercises may need to be modified due to the mild stroke.
Pacing for fatigue	People with fatigue	Pacing is a strategy developed in collaboration with a health care professional. You would learn the amount of energy you have in a typical day and then plan your day accordingly.
Socialize with friends and family and continue regular routines	People with anxiety or depression	You would try to maintain your routines, like getting out of bed and getting dressed at the same time every day. You would also work to remain engaged in you previous social activities, such as going to religious services or civics groups.
Support groups for people with stroke and/or their family members	People with mental health conditions and family members	You and/or your family members would share your stroke recovery story to a group of peers. You would hear your peers' stories and learn what strategies they have found most helpful.

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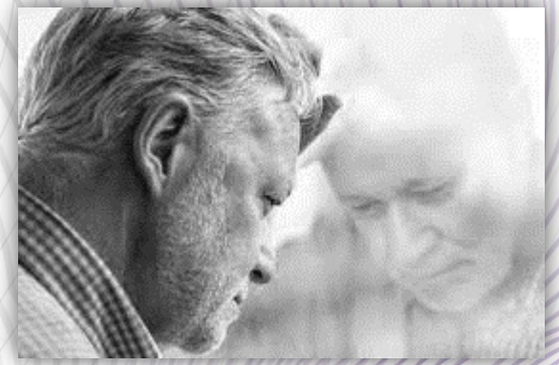

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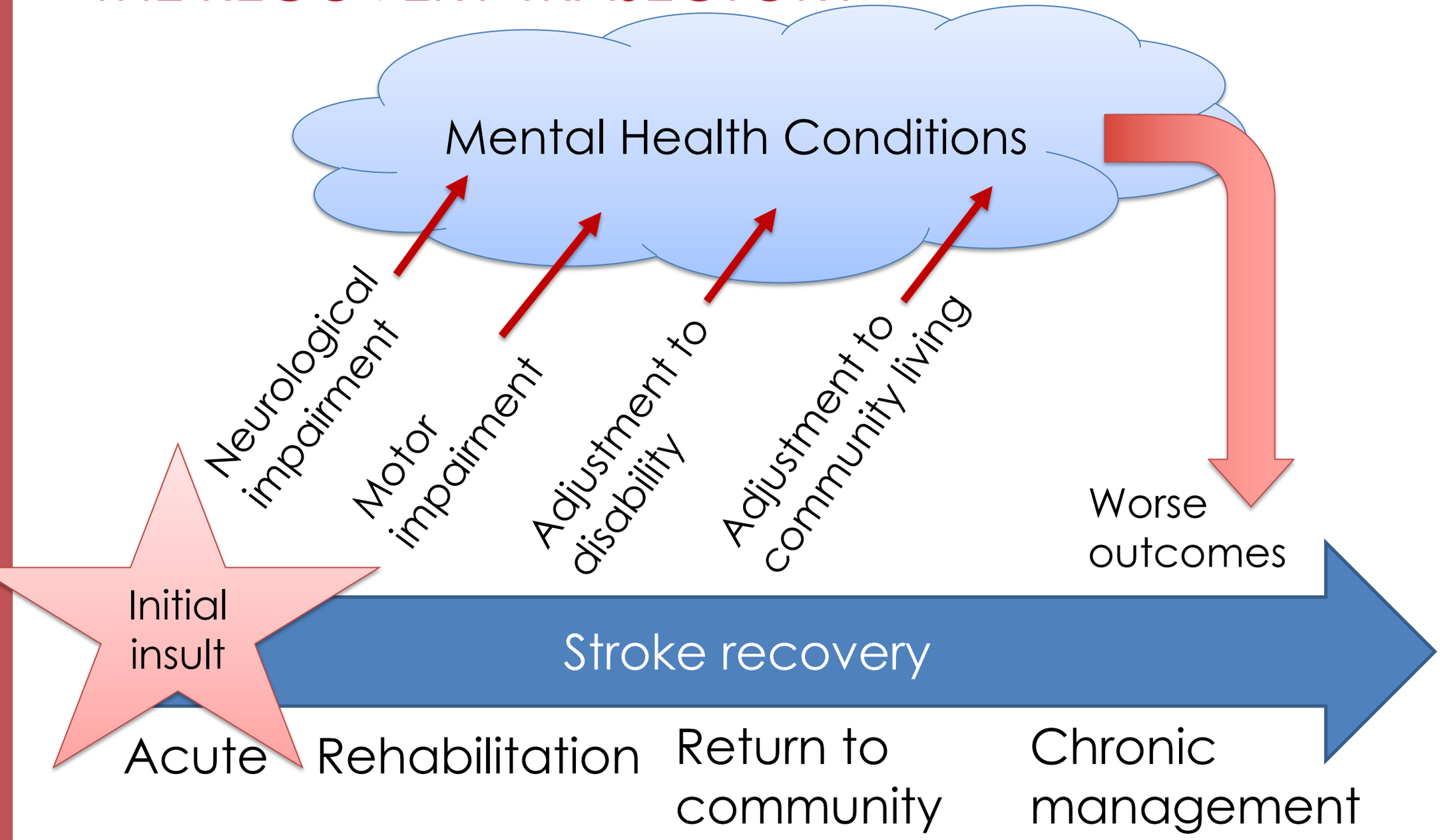
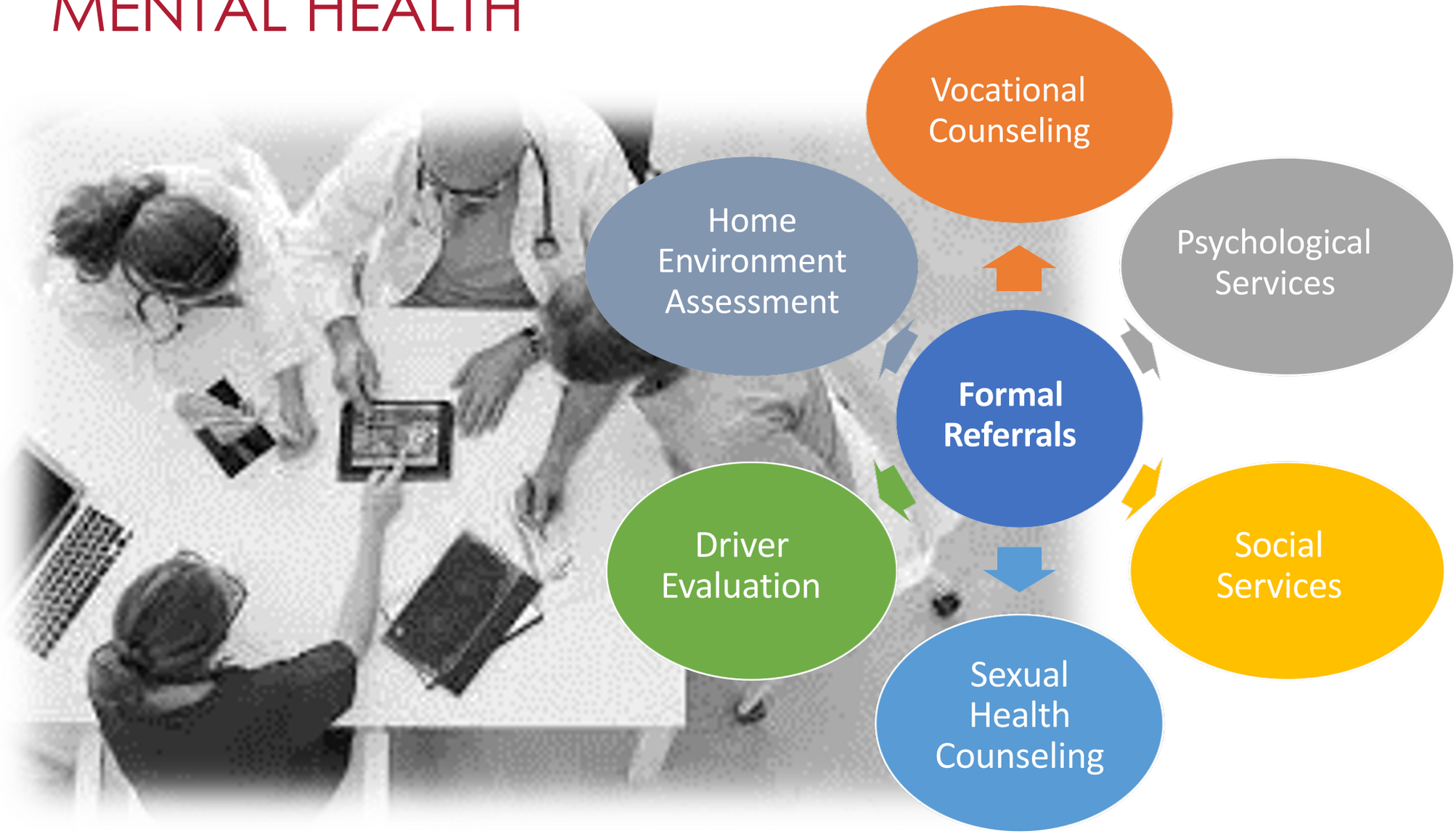
ADDRESSING MENTAL HEALTH NEEDS ACROSS THE RECOVERY TRAJECTORY



COMPREHENSIVE STROKE CARE INCLUDES MENTAL HEALTH



ReStoreD

RESILIENCE | STROKE | DYAD

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NIH NICHD/NCMRR award #R01-HD105718

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'The caregiving relationship, by definition, is made up of two people.'
-- 2008 report from the Institute of Medicine

1/3 to 1/2 of stroke survivors and their care-partners experience depression and/or anxiety

- **Resilience** –ability to bounce back; protects us against anxiety/depression

Interdependence of emotional distress in partners

- Dyadic (couples-based) interventions are promising
- The relationship is often not considered

Availability and access to support is limited

ReStoreD
RESILIENCE | STROKE | DYAD

ReStoreD -- A program designed to promote resilience in couples coping with stroke.

NIH R03 pilot study was promising

NIH R01 funded – RCT

8 – week program (active participation)

Assessments at weeks 1, 8, 16 & 40

All participation is remote

Gift cards provided

ReStoreD
RESILIENCE | STROKE | DYAD

An 8-week journey

- Reimagining Us in the Context of Stroke
- Goal Setting
- Self-care
- Communication
- Purpose and Meaning
- Connecting with Each Other
- Connecting with Others
- Looking to the Future

ReStoreD
RESILIENCE | STROKE | DYAD

MODULE 1: RE-IMAGINING US IN THE CONTEXT OF STROKE

ACTIVITIES	DESCRIPTION	WEEKLY MODULE ACTIVITY IS FEATURED
Positive Focus	Replay positive experiences	Week 1: Reimagining Us Week 4: Let's Talk About It
Goals	Identify a meaningful goal and devote time to pursuing it	Week 2: Prioritize & Plan Week 8: Looking to the Future
Savoring	Replay life's momentary pleasures, relish ordinary experiences	Week 3: Taking Care of Self
Gratitude	Be grateful for life circumstances and persons	Week 4: Let's Talk about It
Finding Meaning	Seek meaning and purpose, find the sacred in ordinary life	Week 5: Connecting with Yourself
Relationships	Strengthen relationships, make time for people and be supportive	Week 6: Connecting with Each Other Week 7: Connecting with Others
Acts of Kindness	Perform good deeds for others	Week 7: Connecting with Others

ReStoreD
RESILIENCE | STROKE | DYAD

Inclusion Criteria

3 months to 3 years out from most recent stroke

Must have a romantic partner (living together)

-- both partners must be willing to participate

Ability to read and follow instructions in English

Exclusion Criteria

Significant cognitive impairment / aphasia (unable to provide own consent)

Notes:

Mild to moderate cognitive impairment and expressive aphasia okay

Enrollment in other studies okay

This is **NOT** couples therapy

What happens next

Participant scans QR code / completes pre-screen survey

Study team will contact them

If eligible, the couple will enroll together

Randomized to an immediate or 8-week waitlist group

All participants, regardless of group assignment, will receive the intervention

ReStoreD

RESILIENCE | STROKE | DYAD

A program to promote resilience for couples coping with stroke.

Re-imagine life after stroke.

Overview

8-week program for couples

Participate at home

Improve coping & increase resilience

Earn up to $200 in gift cards

Eligibility

3 months to 3 years post-stroke

Couples must have been living together at least 9 months

At least one partner has experienced changes in mood

Supported by National Institutes of Health (NIH)
RO1 HD105718-01

IF INTERESTED, FOLLOW THE LINK BELOW OR SCAN THE QR CODE TO COMPLETE A SHORT SURVEY AND OUR TEAM WILL CONTACT YOU!

https://redcap.link/restored

Phone: (385) 799-1515
Email: ReStoreD@utah.edu

Lead Investigator: Alex Terrill, PhD
Department of Occupational & Recreational Therapies

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THANK YOU

Questions?

Interested in more information about our ReStoreD study?

Contact Us

Principal Investigator: Alex Terrill, PhD
Project Coordinator: Cathi Sparks

Phone: (385) 799-1515
Email: ReStoreD@utah.edu

MENTAL HEALTH RESOURCES FOR STROKE SURVIVORS AND CAREGIVERS

Resource	Description	Contact
National Suicide Prevention Hotline	Persons who feel like hurting themselves can reach out to the National Suicide Prevention Hotline at any time of day or night.	1-800-273-TALK (8255) https://suicidepreventionlifeline.org/
Stroke Family Warmline	Persons with questions about stroke or who just want to talk to another stroke survivor or family member, can contact the Stroke Family Warmline.	1-888-4-STROKE(7653)
National Stroke Association	People with mild stroke, caregivers, family members can speak with call-center volunteers.	1-800-STROKES (787-6537), menu option 3 http://www.stroke.org/stroke-resources/stroke-help-line
Mental Health America	Take a screening test for mental health conditions and use the database to find local mental health resources.	http://www.mentalhealthamerica.net
National Alliance on Mental Illness	Learn more about mental health conditions, treatment options, local support services, legal issues, and support for family members.	Text NAMI to 741741 1-800-950-NAMI (6264) https://www.nami.org/
American Stroke Association	Learn more about stroke and find stroke-based supports.	http://www.strokeassociation.org

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