



Patient Navigation for Traumatic Brain Injury

Emily R. Rosario, PhD

Director of Research

*Casa Colina Centers for
Rehabilitation*



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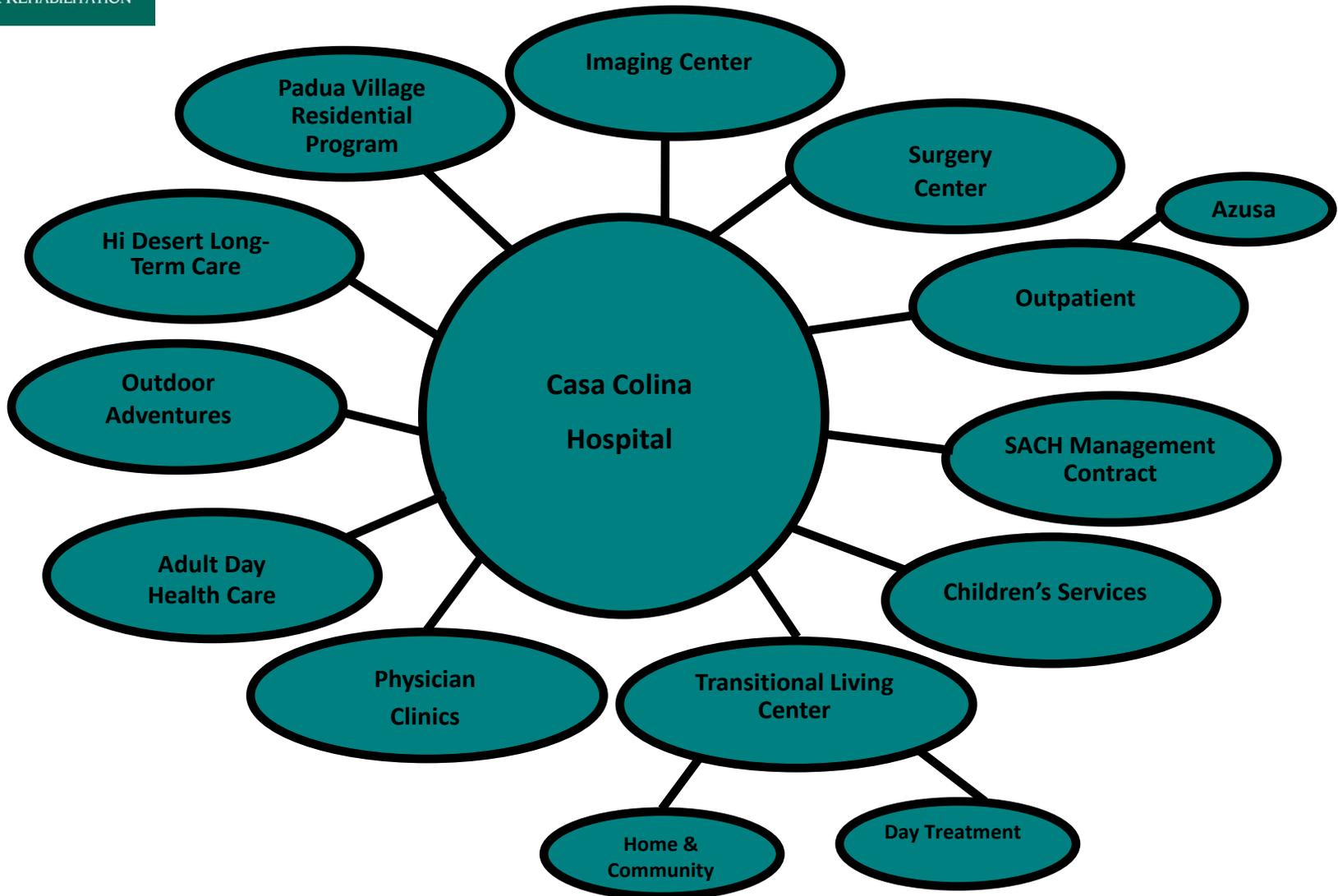


Casa Colina Hospital for Rehabilitative Medicine

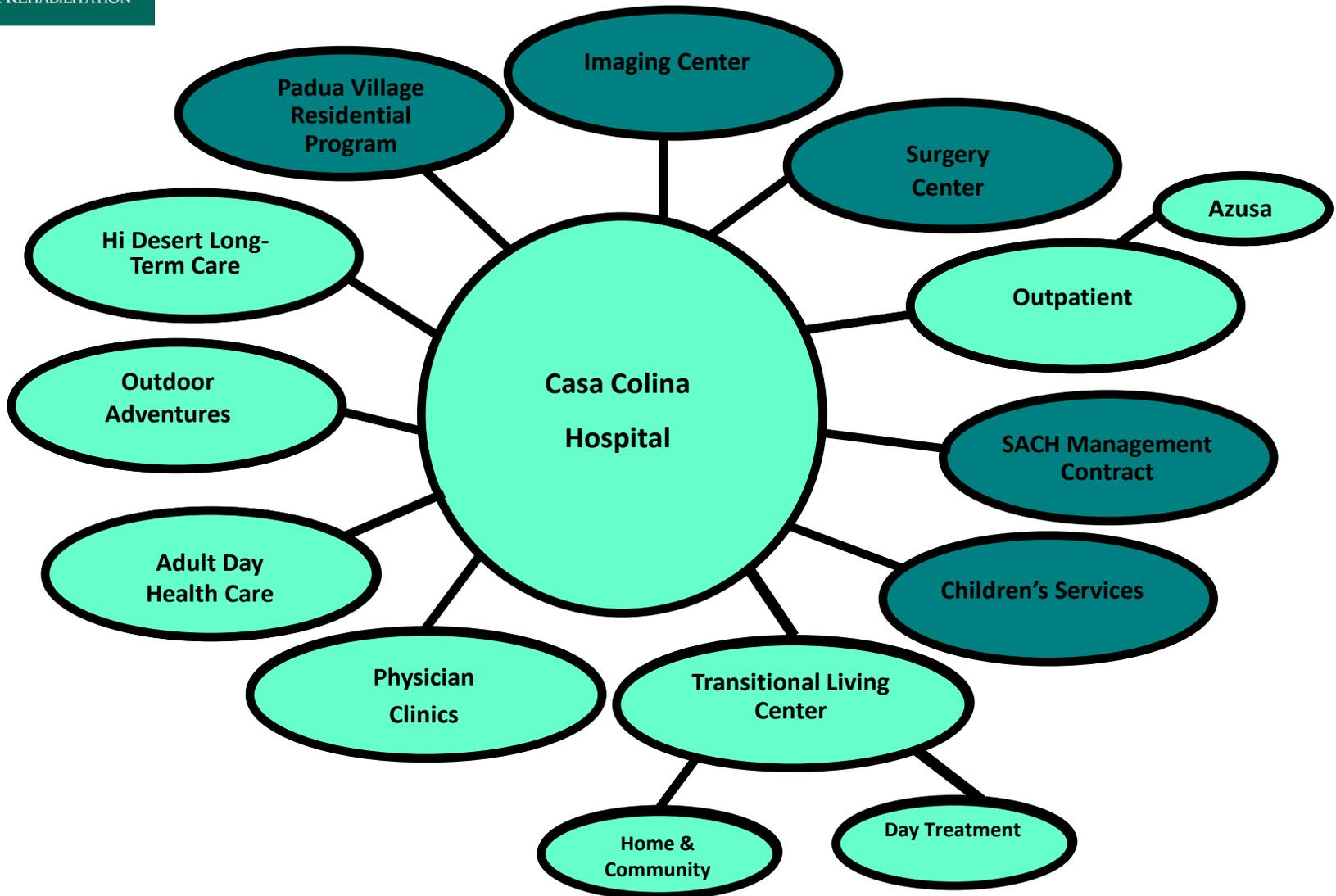
- ◆ Established in 1936
- ◆ 75 years of excellence
- ◆ Mission and Values



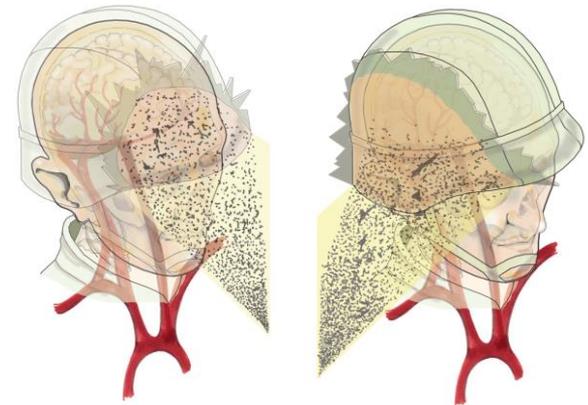
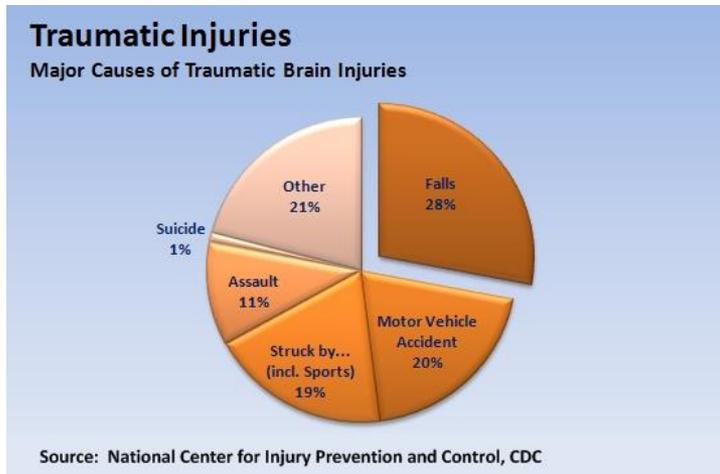
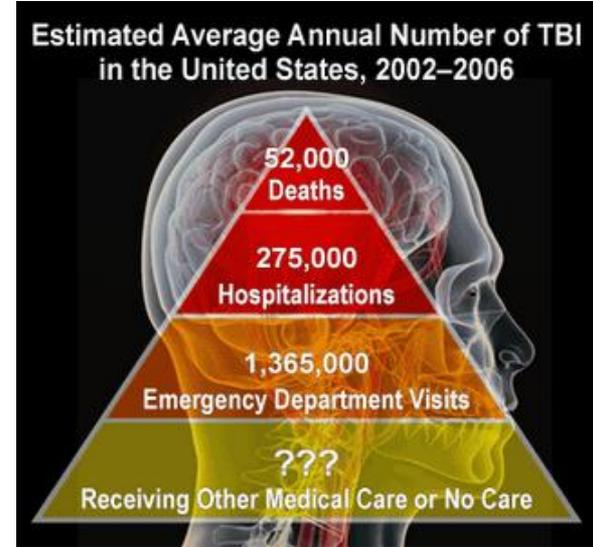
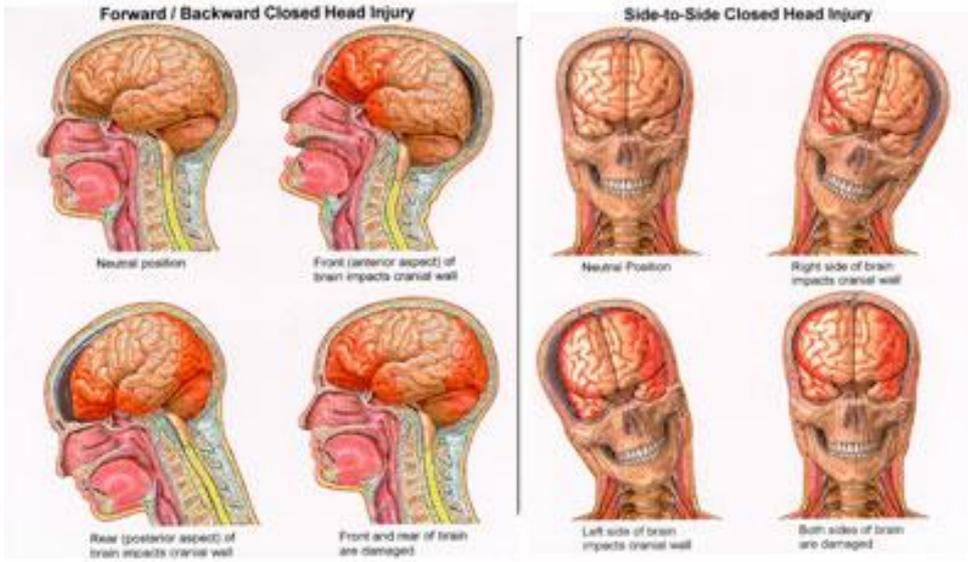
Casa Colina Centers for Rehabilitation



Casa Colina Continuum of Care



Traumatic Brain Injury



Between 2003 -2007 over 40,000 combat-related brain injuries were diagnosed



Patients with TBI often experience problems after discharge

- Increased hospital readmission rates
- Higher rates of depression and suicide and/or suicidal ideation
- Alcoholism and/or drug abuse
- Higher divorce rates
- Higher rates of unemployment and inability to return to meaningful activities
- Poor compliance with medications and follow-up treatment
- Social Isolation

Presentation Outline

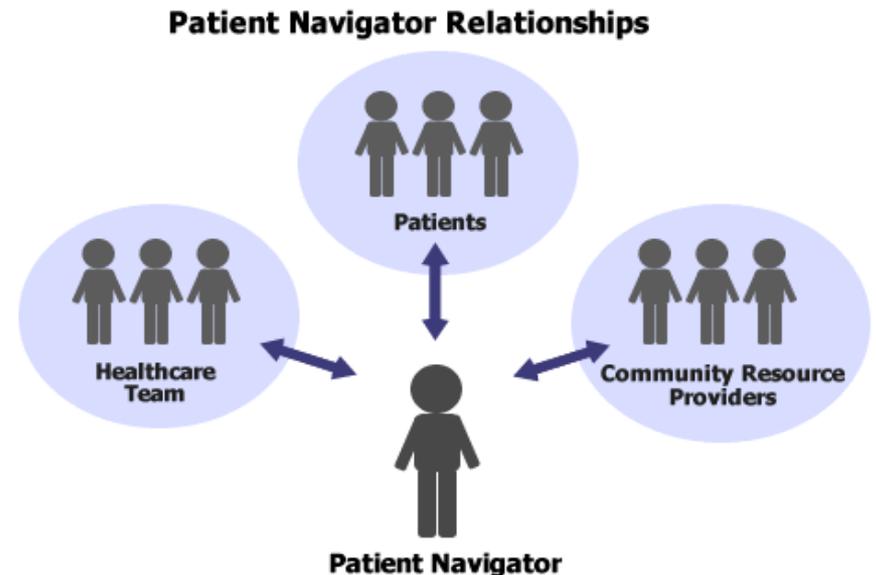


- Potential role of patient navigation in post-acute rehabilitation for TBI.
 - What is Patient Navigation
 - Patient Navigation for TBI
- Evaluation of cognitive, physical, psychosocial, and physiological needs of people suffering from TBI over the course of their recovery.
- Clinical program development and outcomes research



What is Patient Navigation?

- History of navigation: identifying and addressing barriers to quality and timely health care
 - Oncology
 - Mental health



Navigation for TBI

Rationale



- TBI can result in cognitive, behavioral, emotional, and social deficits and chronic disabilities.
- These disabilities will impact quality of life, and may prevent successful community re-integration following discharge.
- Negative outcomes are common including falls, unemployment, re-hospitalizations, and depression.
- Patient navigation, is used to assist with identifying and addressing barriers to quality and timely health care in addition to providing support.

We propose to introduce this idea of a patient navigation to post acute rehabilitation for TBI.



Casa Colina Navigation Program

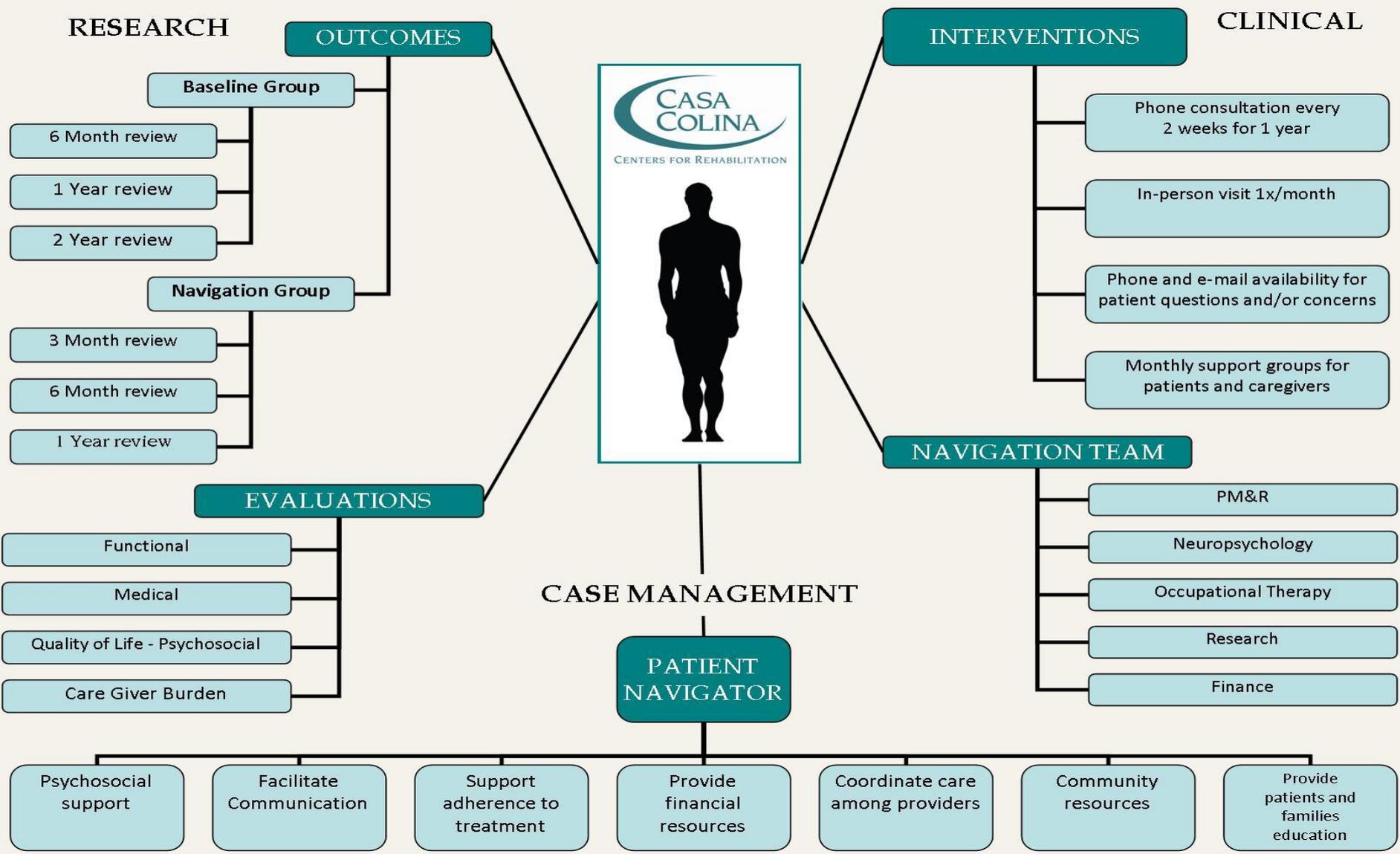
Program Objectives:

1. To create a program that will allow patients with TBI to seamlessly transition to the community after discharge from the hospital (prevent negative outcomes following discharge).
2. To better understand the cognitive, physical, psychosocial and physiological needs of people suffering from TBI over the course of their recovery and adaptation.

Overall Goal:

1. Within two years we will identify the key interventions and predictive variables for successful sustained integration in the home and community. Leading to the creation of a navigation tool that can be used for patients with chronic disabilities.

The 3 Segments of the Patient Navigation Program





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Evaluation of Patient Navigation: Outcome measures

- Global recovery outcomes
- Medical outcomes
- Neuropsychological impairment
- Psychological status
- Behavioral impairment
- Activities of Daily living
- Social role participation
- Family impact
- Quality of Life
- Biomarkers for injury

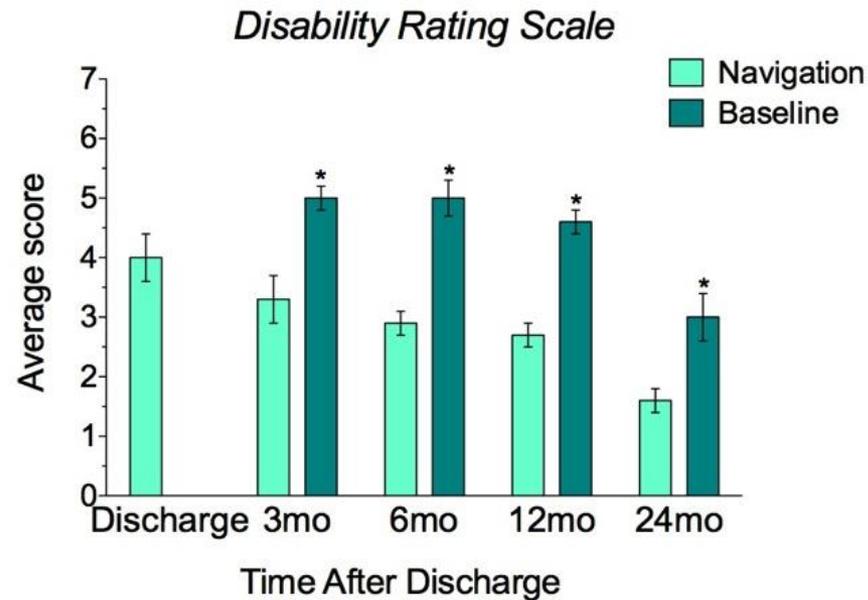


Study Participants

<i>Study Group</i>	<i>Sample size</i>	<i>Age</i>	<i>Sex M/F</i>	<i>Marital Status</i>	<i>Employment status</i>
<i>Navigation</i>	20	35.5 ± 16.2	73% M 27% F	62.5% Single 37.5% Married 11% Divorced	5% Employed or students 84% unemployed 11% Retired (age or disability)
<i>Baseline 3 mo post discharge</i>	19	46.4 ± 14.3	86% M 14% F	42% Single 42% Married 11% Divorced	5% Employed or students 84% unemployed 11% Retired (age or disability)
<i>Baseline 6 mo post discharge</i>	17	45.5 ± 15.3	80% M 20% F	29% Single 59% Married 6% Divorced	30% Employed or students 29% unemployed 41% Retired (age or disability)
<i>Baseline 12 mo post discharge</i>	19	45.1 ± 12.3	100% M 0% F	26% Single 74% Married 0% Divorced	43% Employed or students 11% unemployed 47% Retired (age or disability)
<i>Baseline 24 mo post discharge</i>	27	44.3 ± 17	96% M 4% F	59% Single 37% Married 4% Divorced	22% Employed or students 15% unemployed 63% Retired (age or disability)



Preliminary data suggests that Navigation promotes good recovery

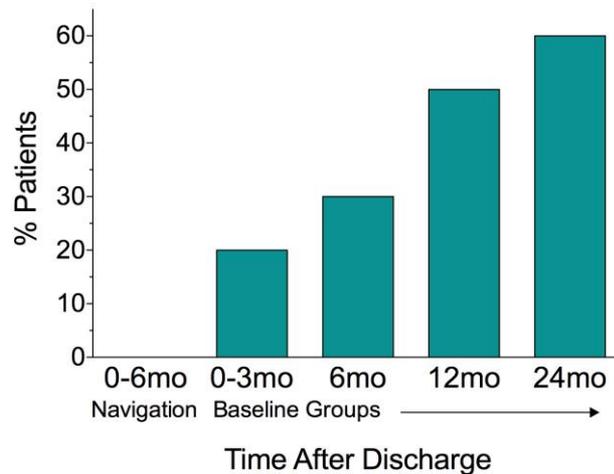


- ◆ Recovery as measured with the GOS-E and DRS show good improvement in the navigation group.
- ◆ When compared with the baseline group at the same time frame, navigation participants show better recovery.

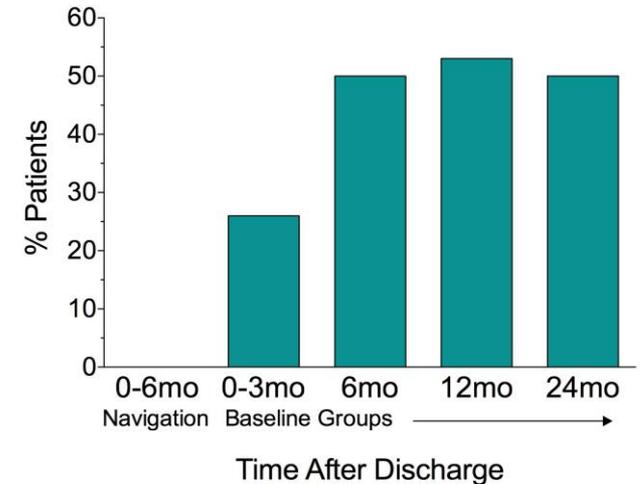


Re-hospitalizations and Falls Increase with time

Re-hospitalizations following discharge



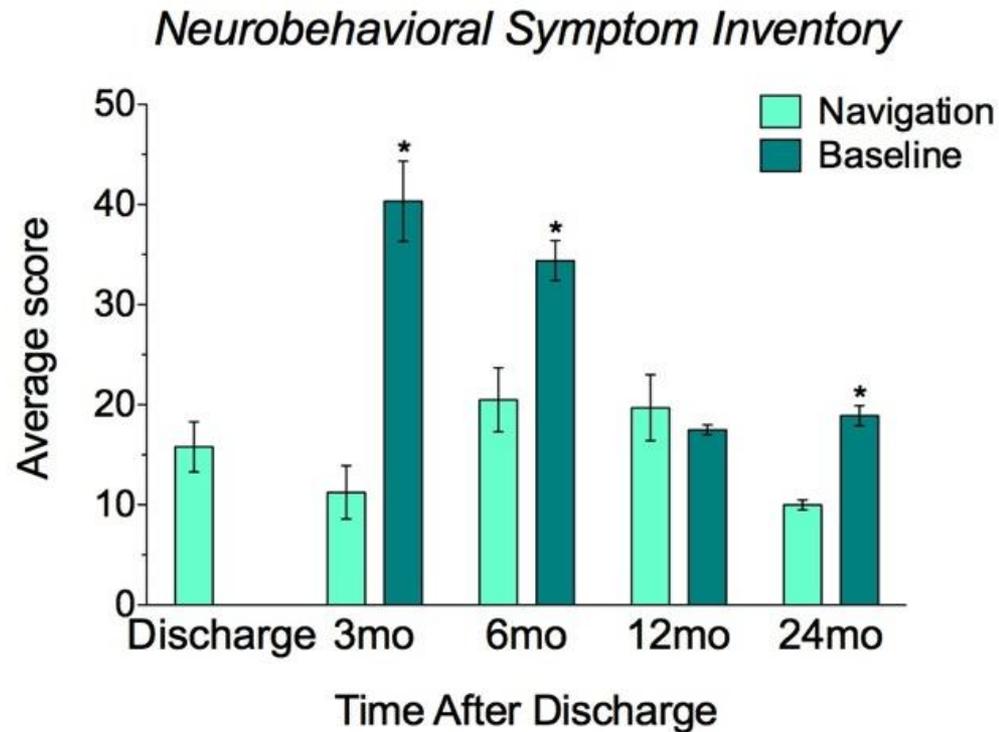
Falls (1 or more) following discharge



- ◆ Re-hospitalization rate and falls increases following discharge
- ◆ When compared with the baseline group at the same time frame, navigation prevents re-hospitalizations and falls.
- ◆ This baseline data is consistent with the current literature regarding **re-hospitalizations** post discharge. (Cifu, Kreutzer et al. 1999; Marwitz, Cifu et al. 2001)



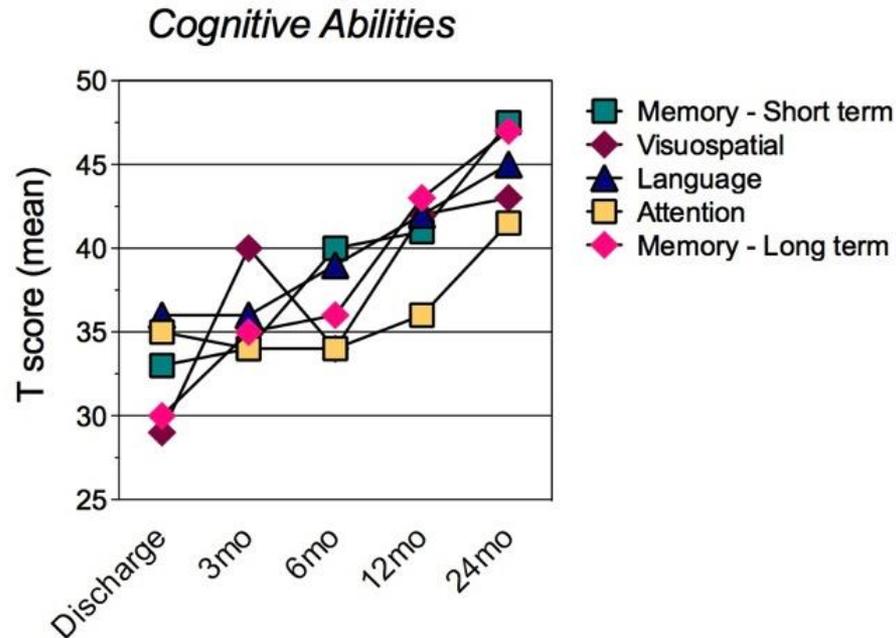
Neurobehavioral symptoms appear to be reduced with Navigation



- ◆ Symptoms such as headaches, nausea, vision problems, hearing difficulties, fatigues, etc., appear to be reduced with navigation as compared with the baseline participants.



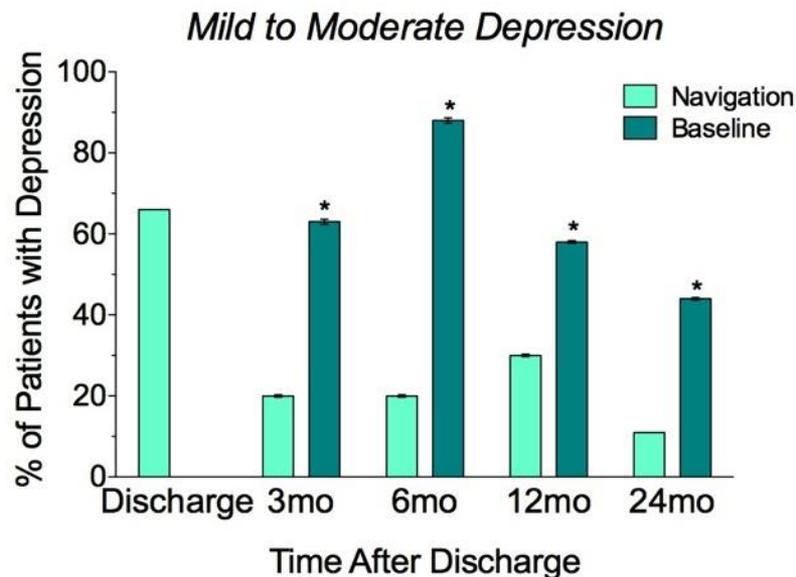
Cognitive and Behavioral Impairments



- ◆ Moderate to severe cognitive impairments are observed at enrollment (discharge) but improvement is observed over time.
- ◆ Self-rated executive dysfunction differs from caregiver rating (emotional control, working memory, organization).
- ◆ While overall cognitive ability improves with time, the disconnect between self-report and caregiver report remains.



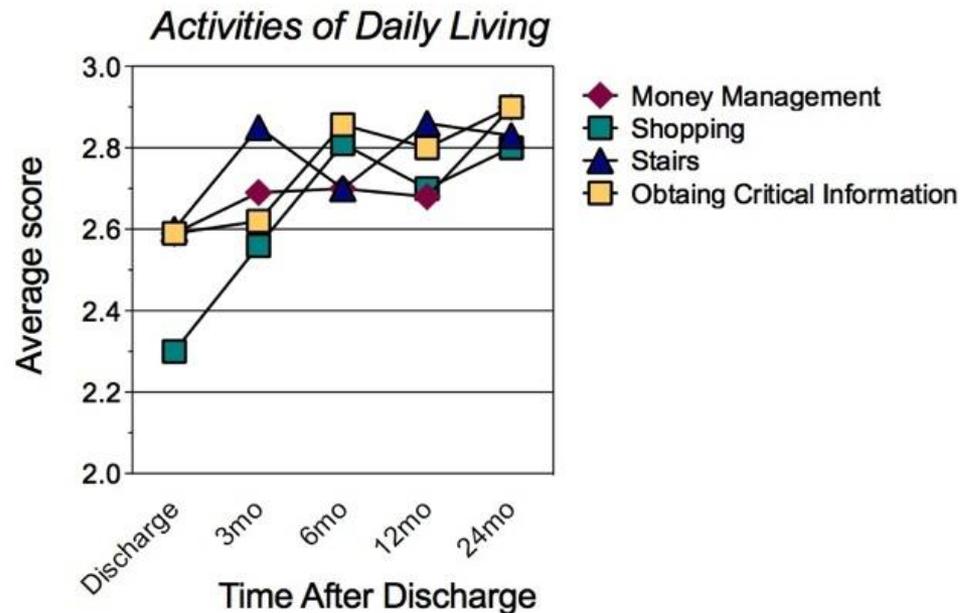
Depression increases following discharge



- ◆ Psychosocial and behavioral issues, such as depression, commonly impact social participation, community integration, and employment status or return to school. (Corrigan, Smith-Knapp et al. 1998; Keyser-Marcus, Bricout et al. 2002; Cusick, Gerhart et al. 2003; Schonberger, Ponsford et al. 2011)
- ◆ They will also impact the level of burden on the caregiver. Our data suggests the most severe depression occurs in the first year following discharge but those in the navigation program express only mild depression.



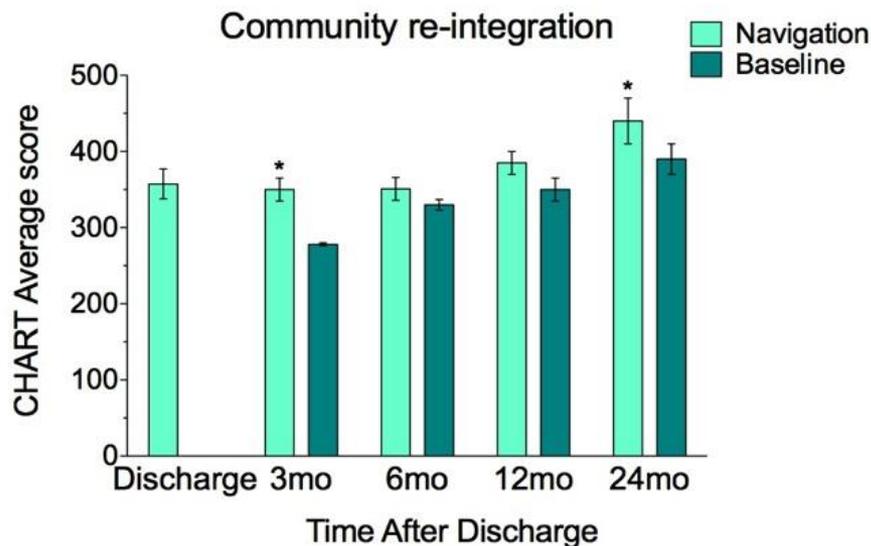
Activities of Daily living



- ◆ Independence in several aspects of daily living are measured on a 3 point scale, 3 = independence.
- ◆ Independence increases with time for most tasks, at this time no major differences between baseline and navigation groups. May need to find a different measure more sensitive for this population.



Community re-integration



- ◆ Participants report high independence and social integration at the time of discharge, however, this number drops once participants are at home and learning to re-adjust to that environment.
- ◆ We do see an increase in independence, mobility, and social integration with time. Preliminary data suggest that navigation may be assisting with improved overall community integration.



Conclusions

- Current data show very promising results for the effectiveness of a post-discharge Navigation program for individuals with a TBI.
- The significant reduction in falls and re-hospitalizations with Navigation appears to be supported by the decrease in neurobehavioral symptoms and overall improved recovery.
- We have identified a strong need for behavioral, social, and emotional support for both the participant and their family as recovery continues to occur two years following discharge.
- This highlights the key role of the social worker and neuropsychologist in this intervention. Future research with a larger sample will continue to help us refine this program and determine its sustainability.

Merging a research project and clinical program



- ◆ History of outcomes research in rehabilitation
 - ◆ Existing data sources
- ◆ Determine efficacy of a clinical program
 - ◆ Reliable and valid outcome measures
 - ◆ Need to be flexible in thinking and willing to go back to the drawing board
- ◆ Achieving statistically sound research
 - ◆ Baseline / comparison groups
 - ◆ Value of qualitative and quantitative data
- ◆ Research vs. program evaluation designs



Supporting this Research

- Casa Colina Foundation
- Casa Colina Board of Directors

THANK YOU!