



COMPASS

COMPREHENSIVE POST-ACUTE STROKE SERVICES

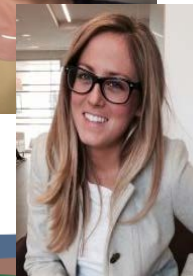
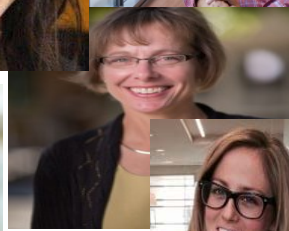
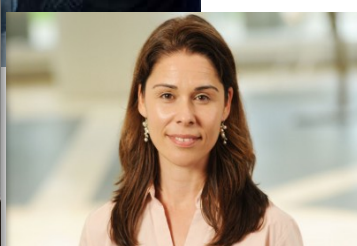
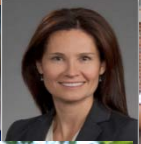
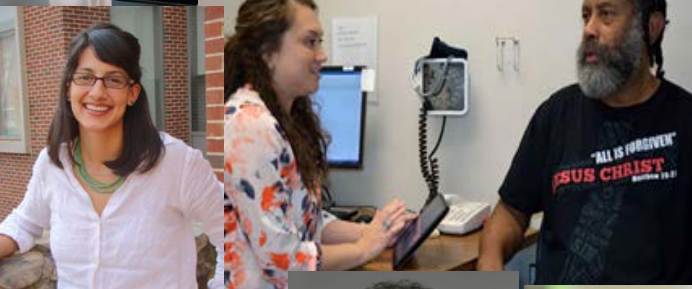
Stroke Post-Acute Care and COMprehensive Post-Acute Stroke Services (COMPASS)

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Professor of Neurology

Principal Investigator, COMPASS Study

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Disclosures and Disclaimer

- Dr. Duncan receives salary support for COMPASS, which is funded by the Patient Centered Outcomes Research Institute, PCORI (PCS 1403-14532).
- Disclaimer: All statements in this presentation, including its findings and conclusions, are solely those of the authors and do not necessarily represent the views of PCORI, its Board of Governors, or the Methodology Committee.
- Dr. Duncan is a co-founder of Care Directions, Inc.



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Objectives

- To understand the gaps in post-acute stroke care.
- To describe how a comprehensive post-acute stroke services (COMPASS) model of care can address these gaps and improve outcomes after stroke and TIA patients are discharged home.
- To describe some of the preliminary data from the ongoing COMPASS pragmatic trial.



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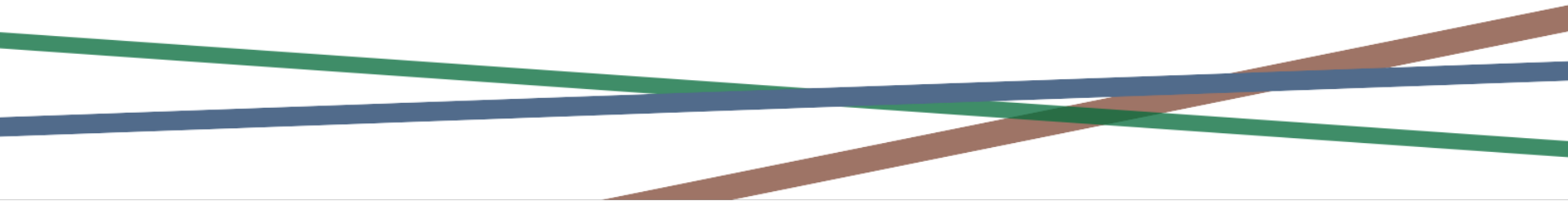
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POST-ACUTE STROKE CARE: THE GAPS



You are discharging your patient from the hospital. What could go wrong?



Medications:

- How good is medication reconciliation?
- Side effects, intolerance, how to take, and how long to continue?
- Cost and access?
- Inability to manage due to cognitive issues?



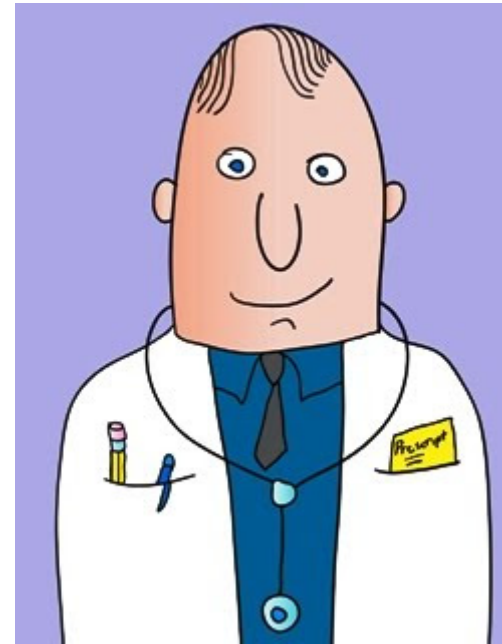
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You are discharging your patient from the hospital. What could go wrong?

Follow-up:

- Inability to schedule appointments that are timely and catered to patient's needs.
- Lack of primary care provider (PCP).
- Dropped referrals to physical, occupational, and speech therapy.
- Challenges with transportation.



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You are discharging your patient from the hospital. What could go wrong?

Blood pressure:

- Is the BP stabilized after the acute increase?
- New BP medications or adjustment of existing medications in the hospital?
- Does the patient understand BP self-management?



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You are discharging your patient from the hospital. What could go wrong?

Does the patient need supervision?

- Falls, mobility limits.
- Cognitive issues not recognized until at home.
- Changes in social support after discharge.



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Stroke Workup Completed?

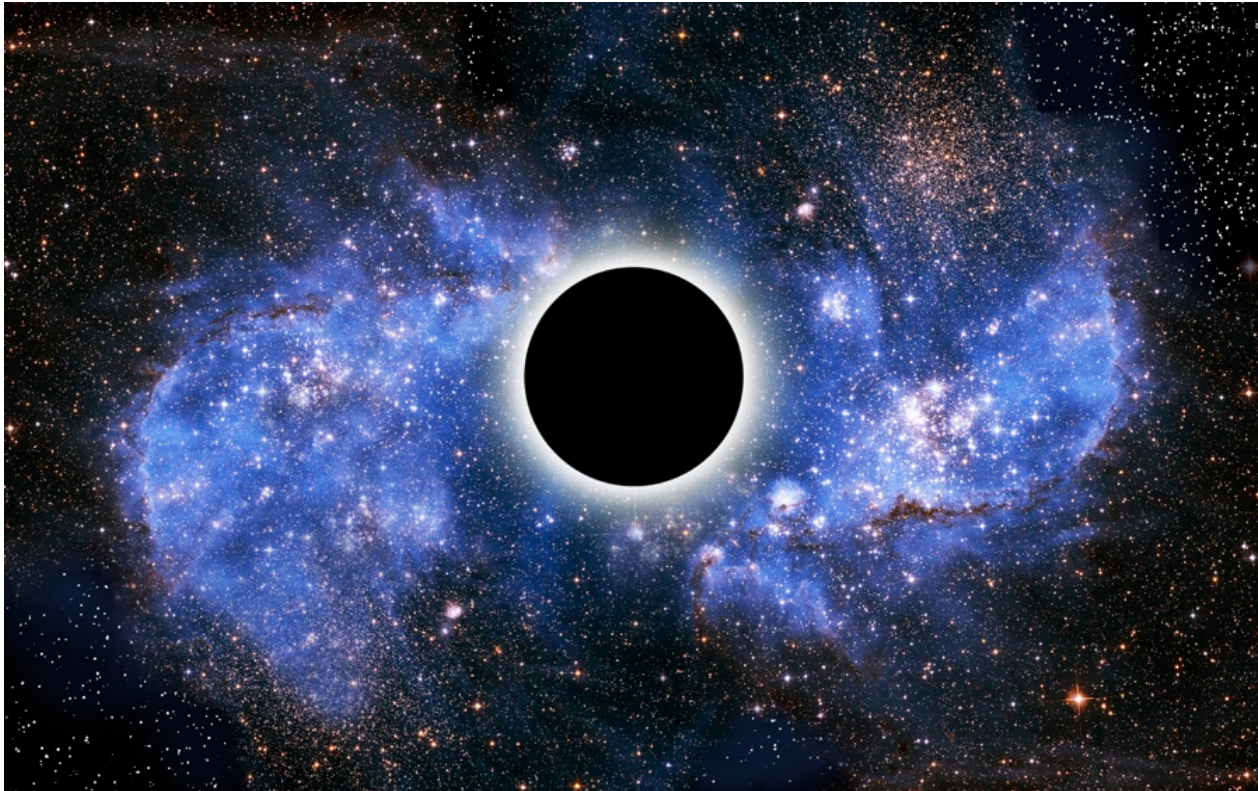
- Presumed cardioembolic stroke:
 - Is prolonged cardiac monitoring needed?
- Cryptogenic stroke:
 - Further cardiac, vascular, or hypercoagulability testing needed?
- Carotid or vertebral stenosis:
 - Follow-up imaging?



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What happens to stroke patients after discharge?



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Voices of Stroke Patients

“After the stroke I had new prescriptions...I couldn’t dispense my medications into daily doses. This math deficit was not recognized until I got home. I lived alone and I had to take care of myself and I was unable to cope.”

A follow-up phone call has got to be the prime piece that has to happen in stroke recovery.”

60 year old, white male, living in urban NC, member of the business community



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What are stroke survivors and caregivers telling us?

- Extreme anxiety about having another stroke and how to manage multiple comorbidities/meds.
- Reassurance they will get better.
- Messages reinforced by health professionals and family.
- Early support from hospital personnel.
- Information about prevention and recovery after discharge.
- All providers understand the plan of care.



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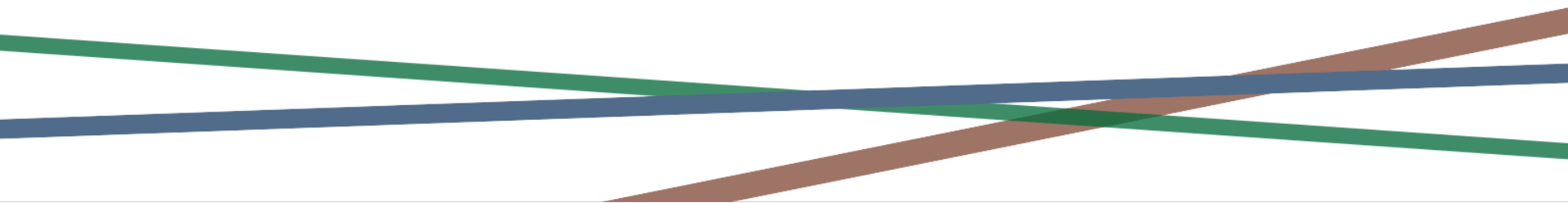
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**COMPASS:
A MODEL OF CARE TO ADDRESS
GAPS IN POST-ACUTE CARE**



COMprehensive Post-Acute Stroke Services (COMPASS)

- Addresses the gaps that occur after hospital discharge with comprehensive assessments.
- Post-acute pathway for recovery and prevention.
- Structure and process that is comprehensive, systematic, and patient-centered.
- Provides an individualized care plan that can be shared with the patient and all providers.



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COMPASS Care Model

2-day

Phone call

7-14 day

Clinic Visit

30-day

Phone call

60-day

Phone call

- **Model:** Early supported discharge
- **Care Team:** Stroke trained advanced practice provider (APP) and Post-acute Coordinator (RN) for care coordination
- **COMPASS-CP:**
 - **Chronic disease management:** Connects hospitals, community providers, and community agencies
 - **Billable** with Transitional Care Management (TCM) or Complex Clinical Management (CCM), consistent with MACRA requirements
 - **Individualized care plan** addresses the needs of stroke survivors and their caregivers



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Finding The Way Forward



Numbers

Know your numbers: blood pressure, blood sugar, cholesterol, etc.

Engage

Be active: engage your mind and body

Support

Ask for help: for yourself and your caregivers from community resources

Willingness

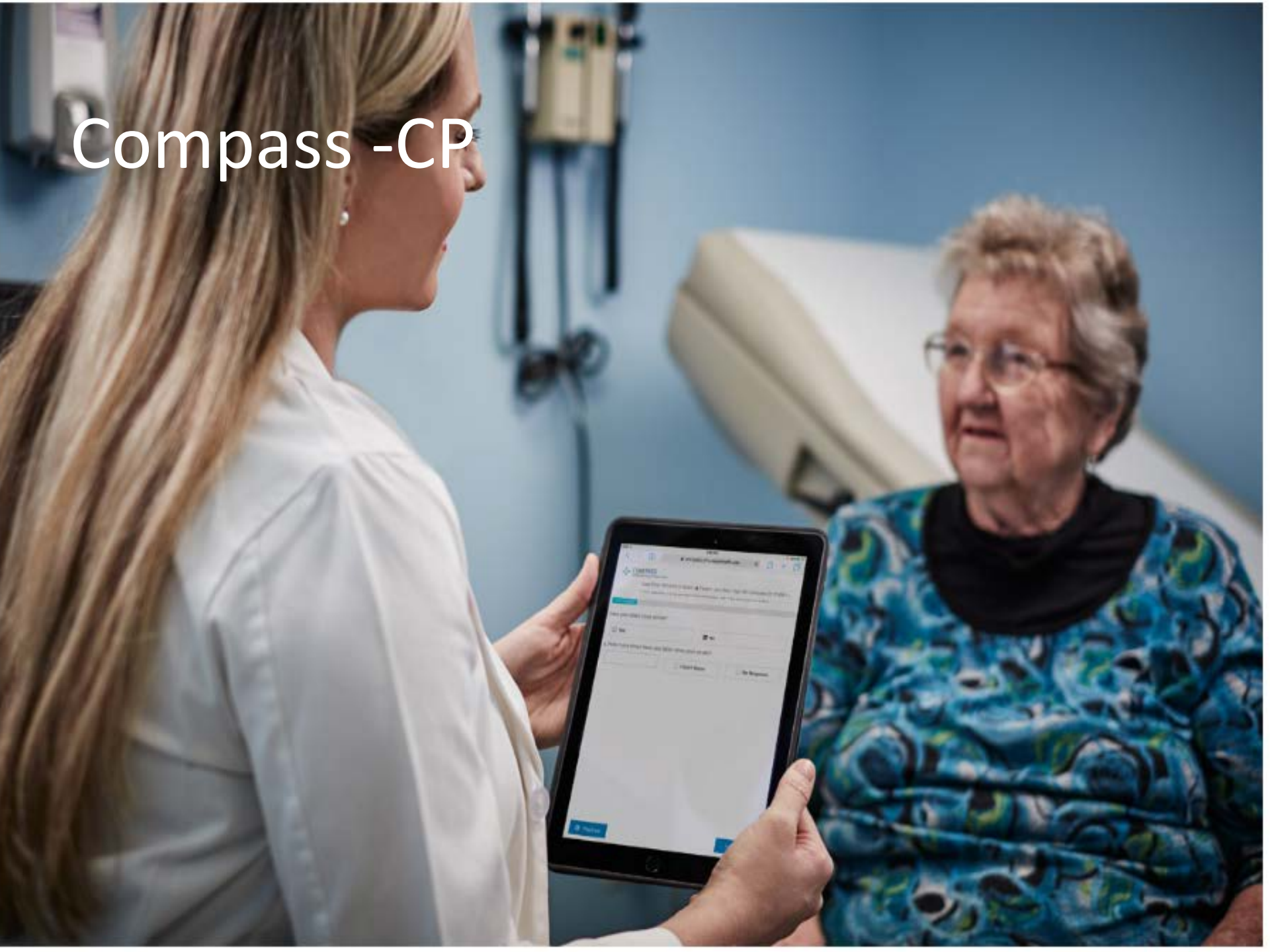
Be willing: to manage your medicines and lifestyle choices



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Compass -CP



Information on the Individualized eCare Plan

- **What are my health concerns?**
 - Explains issues found through eCare Plan assessments.
- **Why is this important to me?**
 - Explains how this issue can affect overall health and stroke recovery.
- **How do I find my way forward?**
 - Provides recommendations and referrals for dealing with the health issues.
- **Summative Report:**
 - A summary report created for patients that are at high risk of readmission.
- **Community Resources Page:**
 - Provides contact information to services that were recommended in the *How do I find my way forward* column of the eCare Plan.



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eCare Plan

COMPASS: Finding my Way to Recovery, Independence, and Health

My goal(s):
~work ~friends ~family

Name: Rica M Abbott December 16, 2016 Page 2

 COMPASS <small>COMPREHENSIVE POST-ACUTE STROKE SERVICES</small>	What are my concerns?	Why is this important to me?	How do I find my way forward?
<p>Numbers: Know My Numbers. Know My Risks.</p> <p>NUMBERS N</p> 	<p>My Blood Pressure is 180 / 90</p>	<p>High blood pressure damages the arteries that bring blood to the brain. This can cause another stroke. A blood pressure less than 120/80 is considered normal.</p>	<p>Healthy numbers lead to a healthy life.</p> <p>Keeping track of my numbers will decrease my chances of having another stroke.</p> <p>I can take my blood pressure every morning and keep a log of my blood pressure numbers.</p> <p>Weight loss and exercise can reduce my risk of developing diabetes and cardiovascular disease such as stroke.</p>
	<p>My hemoglobin A1c level is 6</p>	<p>Prediabetes is when my blood sugar levels are higher than normal and I am at risk for developing diabetes.</p>	
	<p>My LDL (bad) cholesterol level is 100</p>	<p>A high LDL (bad) cholesterol level puts me at risk for another stroke. My bad cholesterol level should be less than 70.</p>	



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Data from provider satisfaction survey

- 44 clinicians from 19 hospitals completed the survey
- About 75% agreed or strongly agreed that COMPASS-CP identified important factors impacting the patient's recovery and ability to self-manage that they might have missed
- 66% were satisfied with the app overall
- 58% stated it made their job easier



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Movement Matters

Physical Activity, Exercise, and Falls Prevention Recommendations for Stroke Survivors

Amy M. Pastva, PT, MA, PhD¹; Janet K. Freburger, PT, PhD²;
Karen M. Taylor³; Susan Reeves³; Megan L. O'Brien³; Janice Eng,
PhD, BSc(PT/OT)⁴; Cheryl Bushnell, MD⁵; Pamela W. Duncan, PT,
PhD⁶

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³Department of Physical Therapy, Wake Forest Baptist Medical Center, Winston-Salem, NC

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Movement Matters

*Do you know that **MOVEMENT MATTERS**
for recovering:*

Fitness and
Health

UE Dexterity and
Function

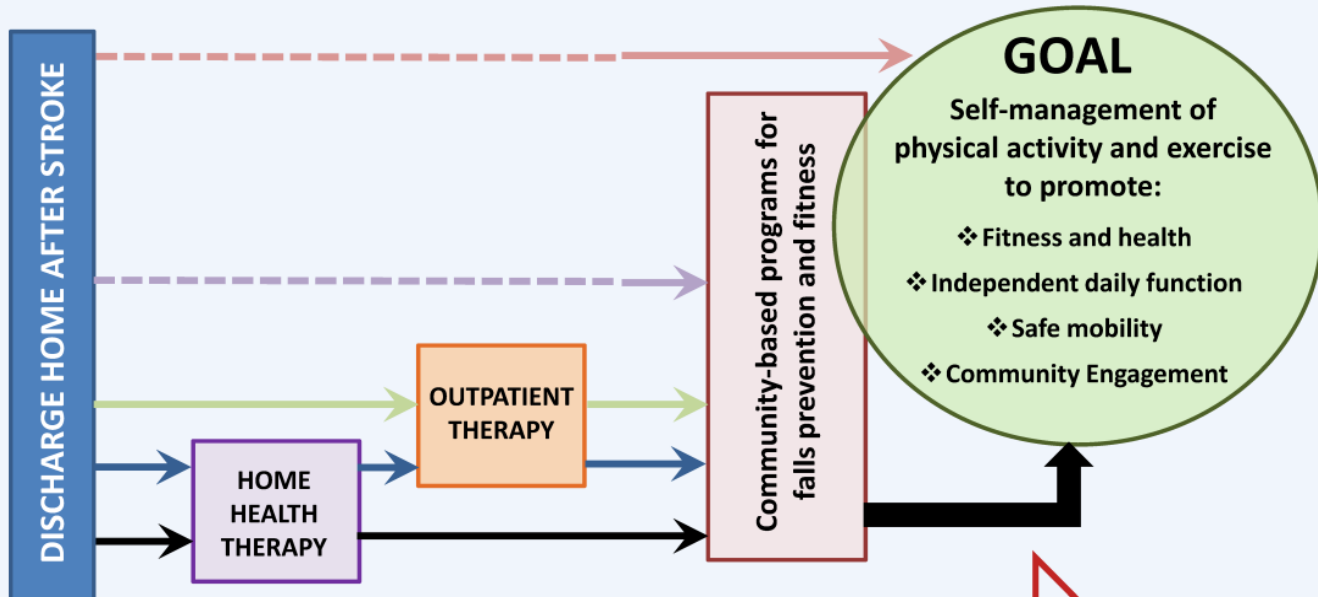
Safe Mobility and
Independence in
Home and
Community



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STROKE RECOVERY



GOAL

Self-management of physical activity and exercise to promote:

- ❖ Fitness and health
- ❖ Independent daily function
- ❖ Safe mobility
- ❖ Community Engagement

Impaired balance, mobility, ADL's/IADL's, arm and/or leg strength and range of motion, speech, cognition

Maximized potential with therapy, candidate for community-based programs and/or self-management

Homebound

Able to leave home and safe with mobility

PATIENT & CAREGIVER NEEDS, RESOURCES, AND PREFERENCES



Community Resources

Community Resources: Numbers

Piedmont Triad Regional Council Area Agency on Aging Extended Health Community Programs

Organization and Program Information: (336) 904-0300
1398 Carrollton Crossing Drive,
Kernersville, NC 27284
<http://www.ptrc.org/index.aspx?page=204>

This program has a special referral process, please see website.

NC DHHS Vocational Rehabilitation

Organization and Program Information: (919) 855-3500
101 Blair Drive
Raleigh, NC 27603
<https://www.ncdhhs.gov/divisions/dvrs/vr-local-offices>

This program has special eligibility requirements, please see website.



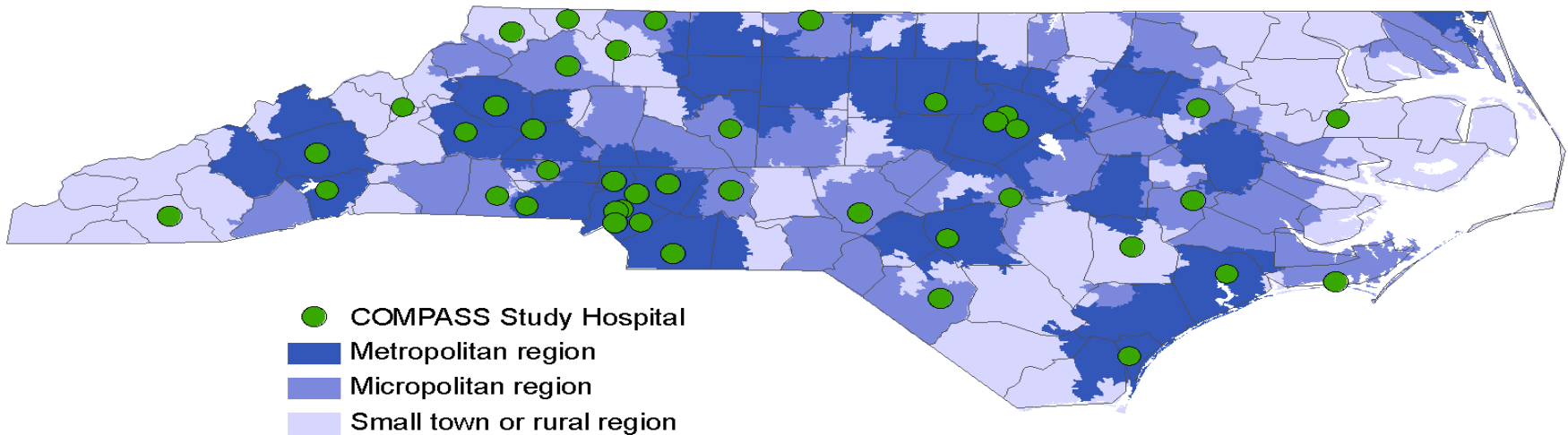
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COMPASS Pragmatic Trial

- Cluster Randomized Trial of 41 hospitals

COMPASS Study Participating Hospitals



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COMPASS Pragmatic Trial

- Over **4,800** patients enrolled of our targeted 6,000 enrollment goal
- Results 2018



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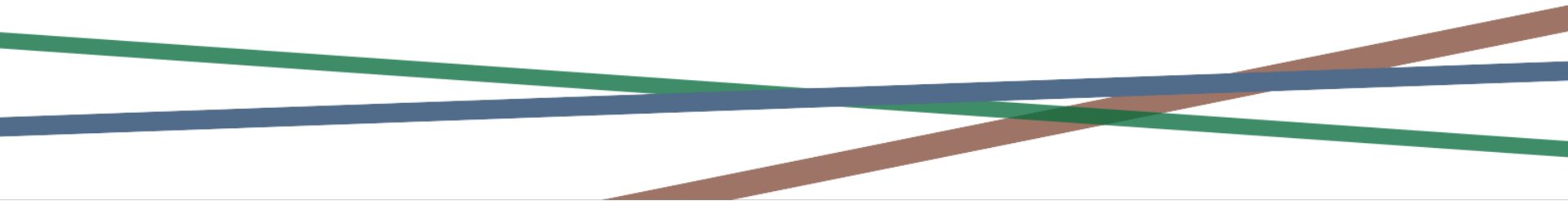


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Abstracts presented at the European Stroke Organization Conference and submitted to the International Stroke Conference

EARLY FINDINGS IN COMPASS



Early data from the post-stroke functional assessment and 30-day calls

- More cognitive deficits than physical mobility/safety concerns
- Poor knowledge of risk factors
- At 30 days, 82% of patients monitor their BP!
- Knowledge of risk factors increases likelihood of self-monitoring BP
- Major gaps in receipt of therapy services



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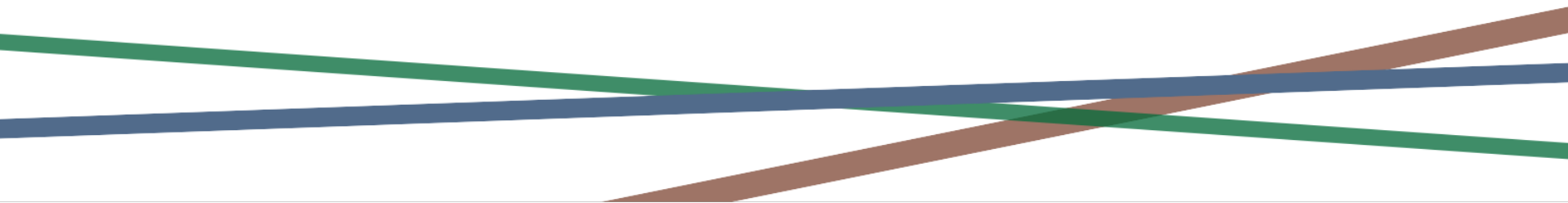
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Lessons Learned, Helpful Hints, and Tips for Successful Implementation



1. Champion



- Starting even before implementation, continued commitment to stay on track.
- “From the top of the organization down” COMPASS is seen as just as important as any other responsibility with support from supervisors, management, and administration.



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2. Organizational Buy-In

- Horizontal and vertical buy-in to the intervention.
- Recognizing that:
 - Organizational culture needs to support implementation of COMPASS as Standard of Care.
 - Support needs to be fostered in administration and direct care staff.



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3. New Standard of Quality of Care

- COMPASS is Model for Expanding Systems of Care from Acute to Post Acute
- COMPASS is presented as standard of care- integrating care across the continuum
- Add COMPASS metrics to performance measures presented to your Quality Department, Stroke Team, Joint Commission Prep Team, and other quality-related teams so it looks like any other program being monitored for performance.



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BMC Neurology 2017

STUDY PROTOCOL

OPEN ACCESS

OPEN PEER REVIEW

The Comprehensive Post-Acute Stroke Services (COMPASS) study: design and methods for a cluster-randomized pragmatic trial

Pamela W. Duncan, Cheryl D. Bushnell, Wayne D. Rosamond, Sara B. Jones Berkeley ✉, Sabina B. Gesell, Ralph B. D'Agostino Jr, Walter T. Ambrosius, Blair Barton-Percival, Janet Prvu Bettger, Sylvia W. Coleman, Doyle M. Cummings, Janet K. Freburger, Jacqueline Halladay, Anna M. Johnson, Anna M. Kucharska-Newton, Gladys Lundy-Lamm, Barbara J. Lutz, Laurie H. Mettam, Amy M. Pastva, Mysha E. Sissine and Betsy Vetter

BMC Neurology BMC series – open, inclusive and trusted 2017 17:133 | <https://doi.org/10.1186/s12883-017-0907-1> |

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THANK YOU

<https://www.nccompass-study.org/>



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