



# A Community- Academic Partnership to Understand the Association Among Health Status and Senior Services Utilization to Improve Nutrition and Blood Pressure Control for Seniors Aging In Place

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## BACKGROUND:

In 2016, we extended the Rockefeller University Center for Clinical and Translational Science (RU-CCTS)/Clinical Directors Network (CDN) community-academic partnership, to engage with Carter Burden Network (CBN), a multi-site senior community services organization serving East Harlem, NY. Many seniors served by CBN are racial/ethnic minorities, live in poverty, suffer from multiple chronic conditions, depression, and food insecurity. Together, we developed a CTSA-funded pilot project to characterize the health of CBN seniors and build infrastructure and capacity for future comparative effectiveness research.

Of the population at East Harlem site (Leonard Covello Senior Program), 57% live alone, 39% have a disability, 34% are below poverty level, and 42% do not have a high school degree or GED. More than 80% are overweight or obese, and 84% of the cohort were found to have high blood pressure. As uncontrolled hypertension poses a significant and modifiable risk for cardiovascular disease (CVD), we next set out to design and test an intervention to lower blood pressure.

CBN provides a continuum of services and programs to promote the wellbeing of seniors, age 60 and older. Clients from two CBN sites, the Leonard Covello Senior Program and the 74<sup>th</sup> Street Luncheon Club, report aspects of food insecurity within the past 12 months. 25% of Covello clients report cutting the size of their meals or skipping meals for financial reasons. Accordingly, CBN provides nearly 300,000 meals annually to seniors in New York City through congregate and home delivered meals subsidized by the NYC Department for the Aging (DFTA).

## OBJECTIVE:

The Dietary Approaches to Stop Hypertension (DASH) diet has been proven in research settings to lower blood pressure in as little as 14 days. However, its implementation has never been tested among seniors in the setting of congregate meals. Here we report on the planning and early implementation of our Administration of Community Living- Health and Human Services (ACL-HHS) funded study to test whether the combination of two evidence-based interventions – aligning congregate meals with the DASH diet, and home self blood-pressure monitoring with social and behavioral support – can lower systolic blood pressure in seniors at two CBN sites.

Figure 1: Blood Pressure in CBN participants, Healthy Aging Pilot n=217 (percent)

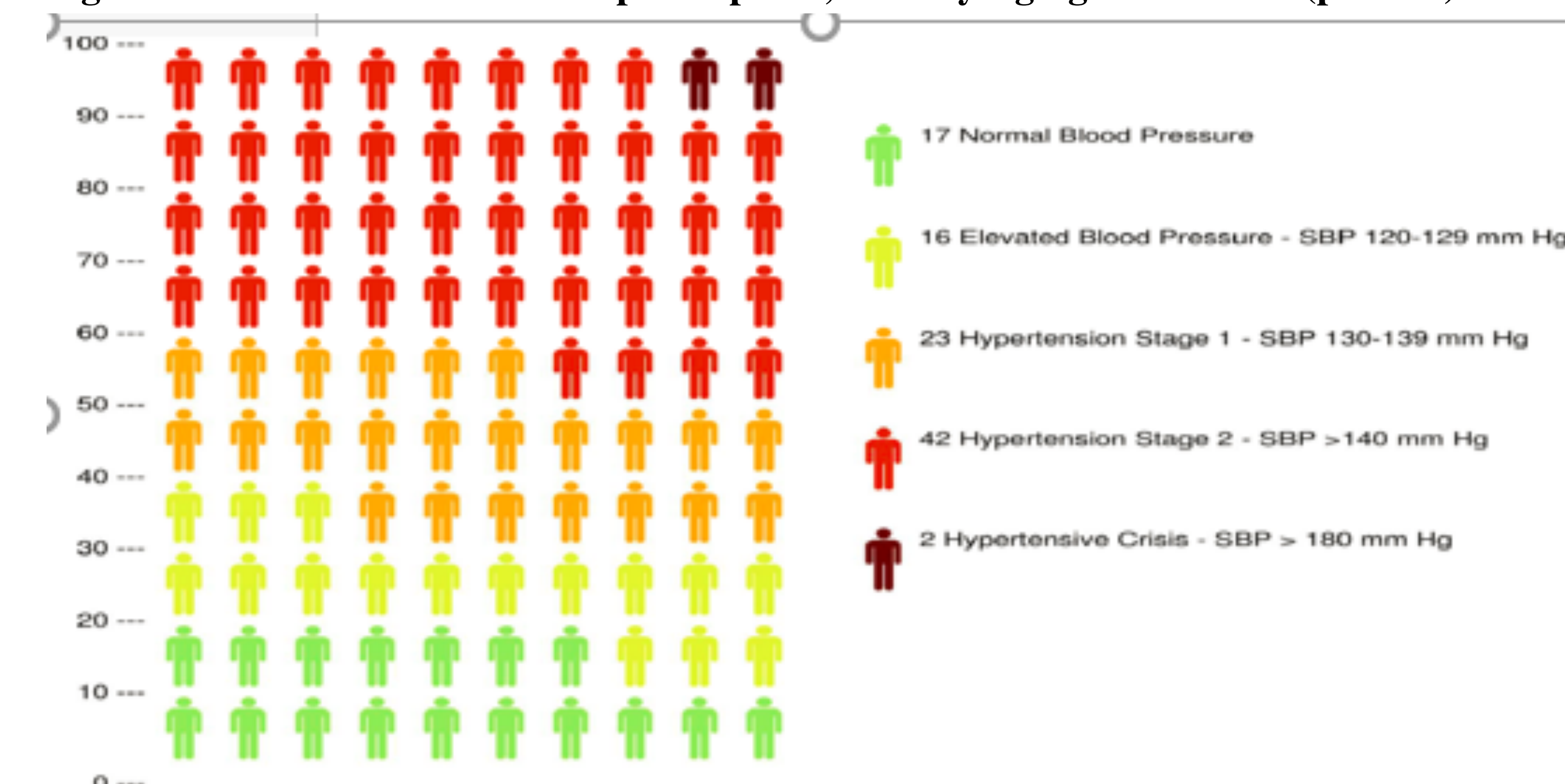
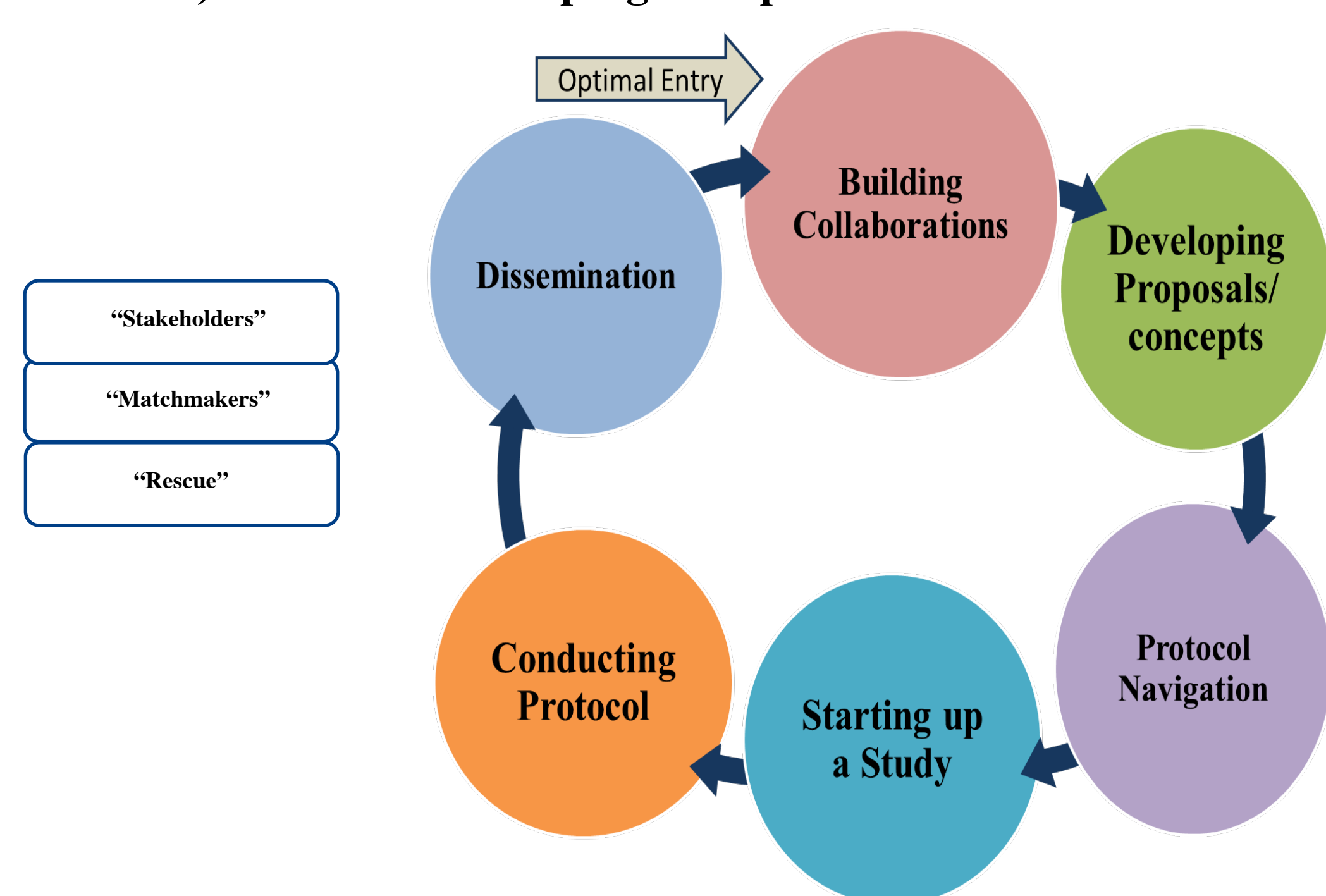
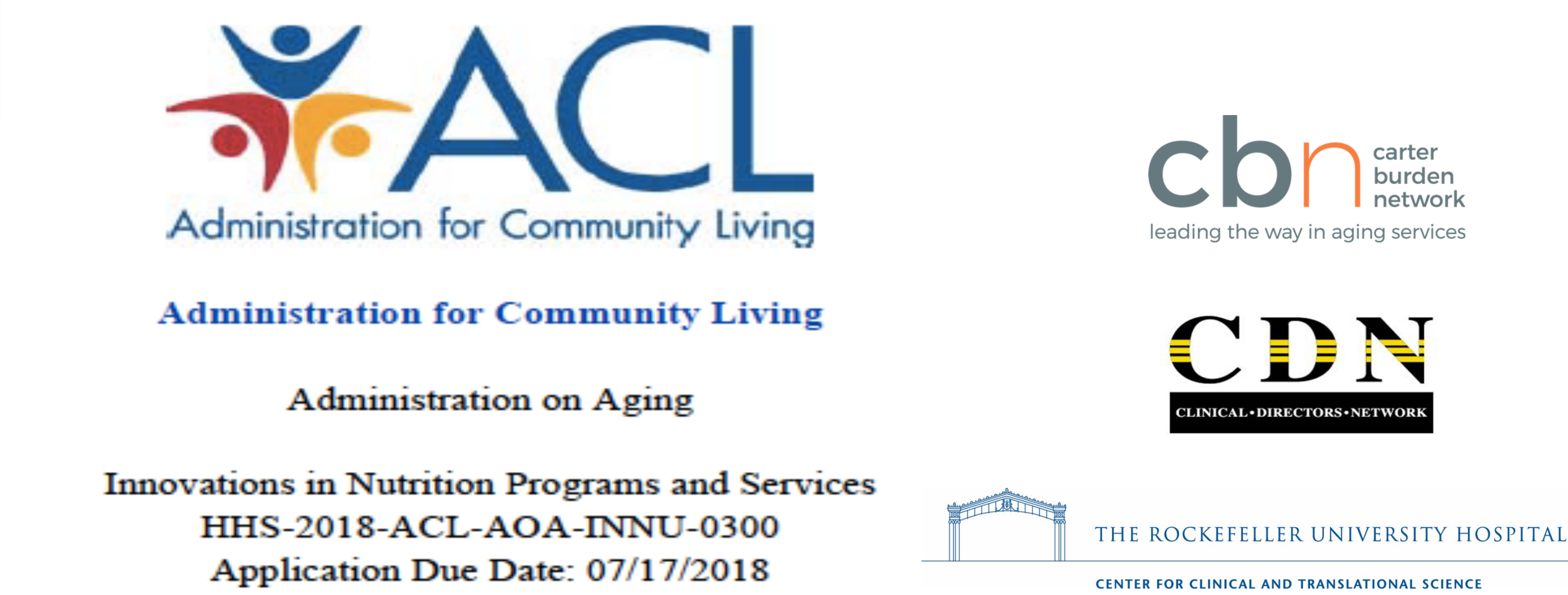


Figure 2: RU/CDN/CBN invoked our iterative Community-Engaged Research Navigation (CenR-Nav) model for developing full spectrum research



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Figure 3: CBN, RU-CCTS, and CDN partners are awarded the DHHS-ACL grant (2018)



## AIMS

**Primary Aim:** To determine whether implementation of the DASH diet through the congregate meal programs delivered at two Carter Burden Network sites, along with contemporaneous multi-component education to support self-efficacy related to blood pressure management can lower blood pressure in seniors receiving the program.

## Other Aims:

- Leverage and grow a sustainable, multi-stakeholder partnership;
- Implementation of DASH-concordant meals;
- Optimize client acceptance of the intervention;
- Support cognitive and behavioral change;
- Provide positive feedback and enhance self-efficacy through onsite and home blood pressure (BP) monitoring;
- Enhance the value of the value of nutritional service programs by reducing waste; and
- Implement a scalable and sustainable monitoring and evaluation system.

## PRIMARY OUTCOME

Primary outcome will be the reduction of Blood Pressure (BP) as measured by:

1. Change in mean systolic BP at 1 month after full implementation of the DASH-aligned congregate meals, compared to baseline mean systolic BP measured before the institution of dietary or behavioral interventions
2. Increase in the proportion of individuals whose blood pressure is within the range of "controlled" according to Eighth Joint National Committee (JNC-8) guidelines (For age > 60 years, SBP/DBP < 150/90) at 1 Month compared with baseline (Month 0).

## METHODS:

Figure 4A: Dietary Approaches to Stop Hypertension<sup>1</sup>



<sup>1</sup>https://www.uaex.edu/counties/miller/images/DASH%20chart.jpg

Figure 4B: Sample DASH-concordant changes in CBN menus

Monday		Legend:	
Covello Original	Action	Covello Revised	
chicken piccata w/ lemon sauce (p)	→	chicken piccata w/ lemon sauce (p)	(p)
	→	parsley (fl)	(fl)
Bowtie noodles (g)	Δ	WW noodles (g)	(g)
1 slice WW bread (g)	Δ	1 whole grain rolls (g)	(g)
Normandy blend mixed vegetables (v)	→	Normandy blend mixed vegetables (v)	(v)
	+	sautéed spinach (v)	(v)
Kiwi (f)	→	kiwi (f)	(f)
	+	Canned peaches (f)	(f)
	+	flavored H2O (fl)	(fl)
1% milk (d)	→	1% milk (d)	(d)
butter (O/F)	Δ	olive oil spread (O/F)	(O/F)
	+	Mrs Dash (fl)	(fl)

Overall how were the meals this week?	
Mark your choice with an "X"	
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

CBN Client Meal Feedback Cards

Figure 4C: CBN Client Feedback from Town Hall Engagement Sessions

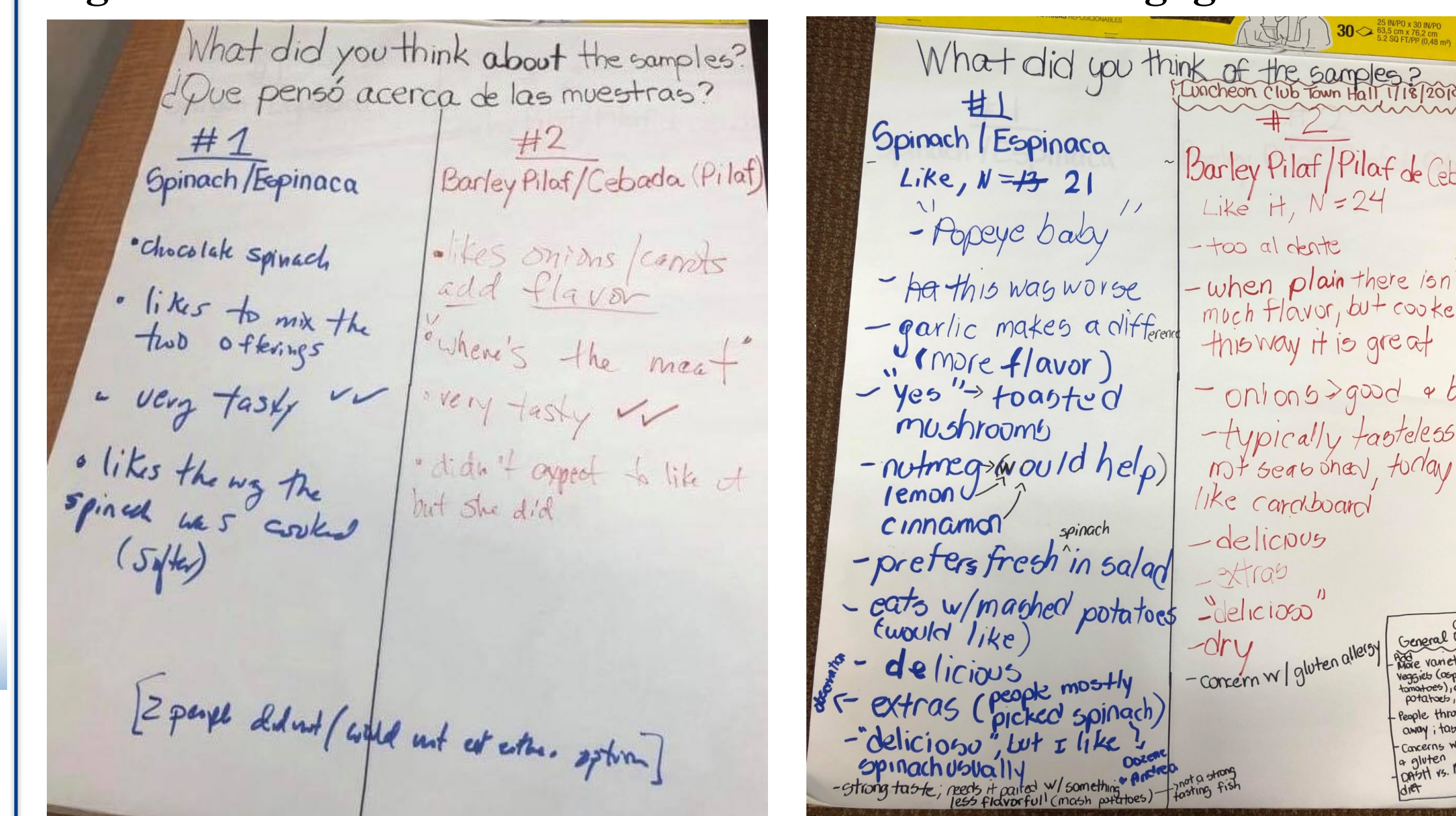


Figure 4D: Summary of Study Visits

Study Procedures	Study Visit 1	Study Visit 2	Study Visit 3	Study Visit 4	Study Visit 5
	Informed Consent	Baseline Month 0	Month 1*	Month 3	Month 6
Informed Consent	X				
Measurements of pulse, Blood Pressure, height, weight		X	X	X	X
Study Surveys		X	X	X	X

\*The Month 1 visit will occur up to 3 months after the Baseline due to gradual introduction of the menu changes; timing is 1 month after full DASH has begun.

Figure 4E: Summary of Education and Training Sessions

Activities	Engagement, Education and Training			
	Baseline	Month 1	Month 3	Month 6
Healthy Eating, and DASH cooking demos (raffle)	X	Optional	Optional	Optional
BP Monitors Training (Take home monitor)	X	as needed	as needed	as needed
BP: Management and Medication Adherence (giveaways)	X			

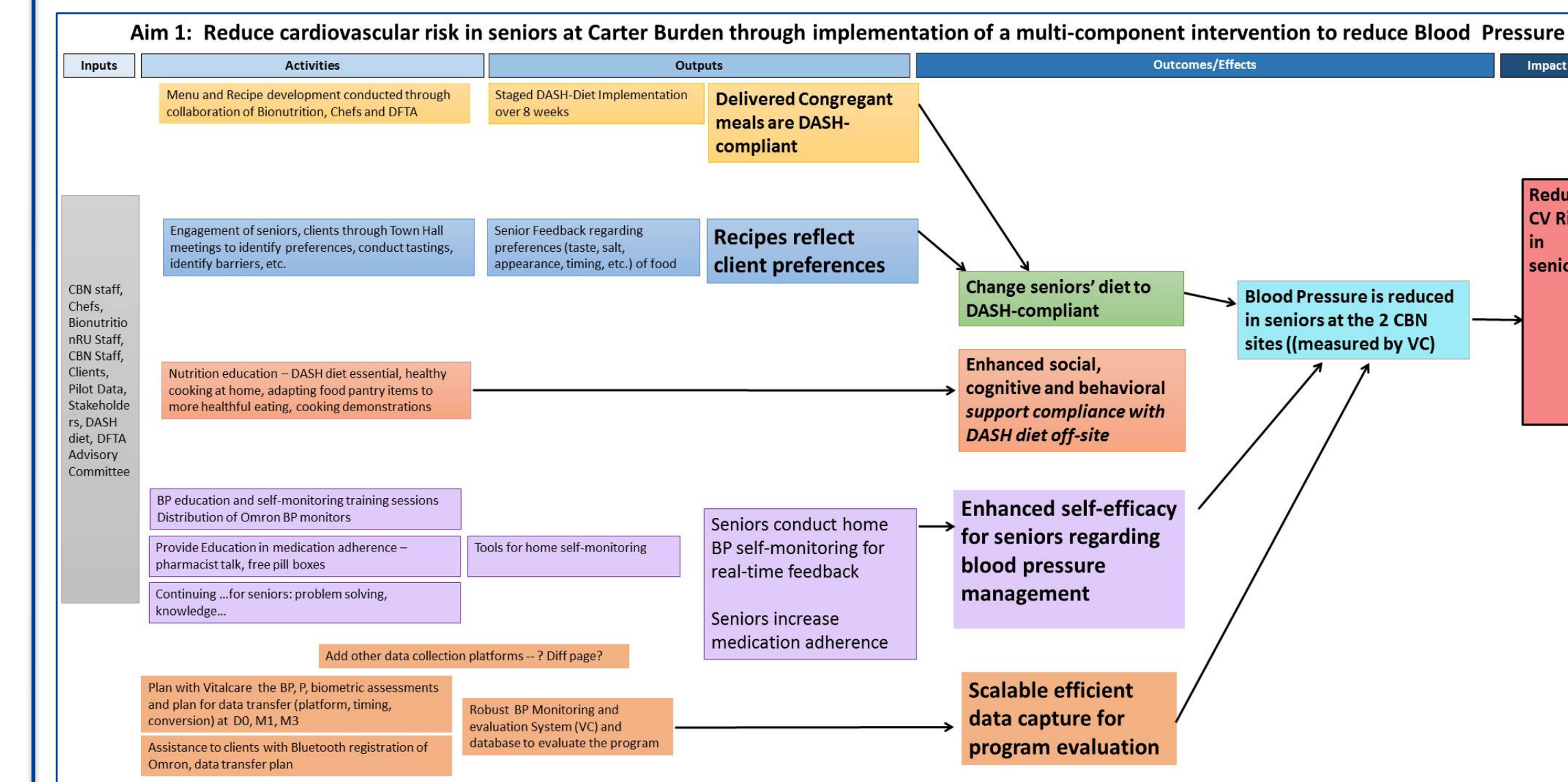


Every participant will receive the Omron 10 Series Home Blood Pressure Monitor and training in its use



Every participant will receive blood pressure management education and a Home Blood Pressure Tracking Diary

## EVALUATION:



## NEXT STEPS:

- Recruitment and baseline assessments to start in March 2019
- Phase-in of DASH-concordant menus at Covello and Luncheon Club to start in April 2019
- Education- nutrition, blood pressure management, medication adherence training sessions to start April 2019
- Finalizing methods for plate and bulk waste study- now

## ACKNOWLEDGEMENTS:

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RU-CCTS, Clinical Directors Network, and Carter Burden Network Stakeholders (2017)

