

Evaluating the Harlem Health Advocacy Partnership (HHAP) Initiative



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Brief Outline

- Evaluation context and partners
- Evaluation design
- Preliminary findings
- Strengths and limitations of evaluation design

Evaluation Context and Partners

- **Context**
 - Municipal commitment to ensure most funds are used for direct services
 - Growing evidence of CHW-based intervention efficacy supported DOHMH decision to focus mainly on evaluating short-term effectiveness
- **Partners**
 - Evaluation led by NYU-CUNY Prevention Research Center (PRC)
 - CUNY SPH as lead on quantitative evaluation
 - NYU DPH as lead in qualitative evaluation (and consultant on intervention development)

Evaluation Design

- Baseline community needs assessment
 - Representative community survey
 - Focus groups
- Short-term longitudinal study (1 year)
- Long-term tracking through administrative data
- Micro-costing



Baseline Community Needs Assessment

- Rapid representative telephone survey fielded prior to intervention (Dec 2014 – Jan 2015)
 - **1123** NYCHA residents aged 35+ living in 5 intervention developments
 - **541** NYCHA residents aged 35+ living in 5 East Harlem developments not receiving the intervention
 - All participants randomly selected from NYCHA tenant lists
 - Surveys conducted in English and Spanish
 - Weighted to represent intervention & comparison development populations
 - Overall response rate = 43% (Cooperation rate: 74-80%)

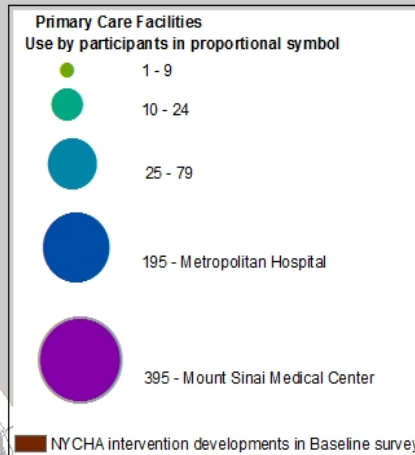


Baseline Survey Objectives

- Characterize where residents seek care, extent of un-insurance, and other access/navigation issues
- Estimate 'intervention community' prevalence of qualifying health conditions (asthma, diabetes, HTN)
- Measure extent of multimorbidity, including depression
- Obtain measures of self-reported health status, functional limitations, and chronic disease management self-efficacy
- Assess perceptions of community resources, use of services, social connectedness
- Recruit volunteer candidates for the CHW and insurance navigation interventions

NYCHA Utilizing Primary Care

Medical institutions where NYCHA residents with chronic illness seek primary health care



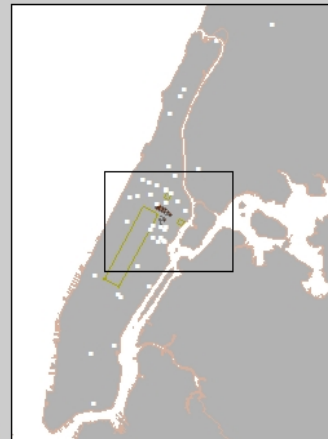
Results based on telephone survey responses using a representative sample of NYCHA residents aged 35 and older (n=1100), December 2014-January 2015

HEALTH INSURANCE NEEDS

- 94% report being insured
 - 48% Medicaid
 - 25% Medicare
 - 17% employer
 - 11% Other/DK
- 20% report problems with health insurance, past 12 mo

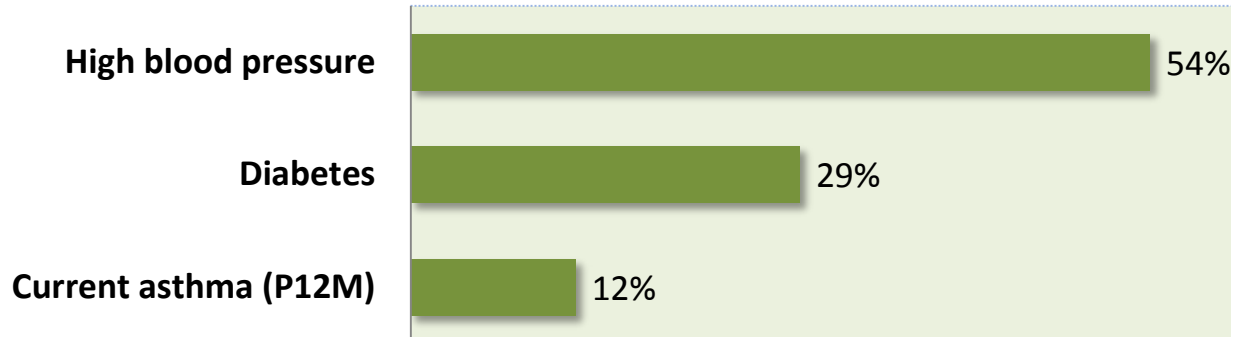
MAPPING ECOLOGY OF CARE

- Physician's office/clinic visited most often, past year:
 - 30% Mt Sinai
 - 11% Metropolitan
 - 6% Advantage Care physicians
 - 3% Settlement House
 - 3% NY Presbyterian
 - 3% Harlem Hospital
 - 2% Helen B Atkinson Health Center
 - 2% St Luke's
 - 1% Beth Israel
 - 1% Montefiore Medical Ctr
 - 1% Ryan Williams Center
 - 1% Dr Patel
- 36% another clinic /location (<10 participants each)



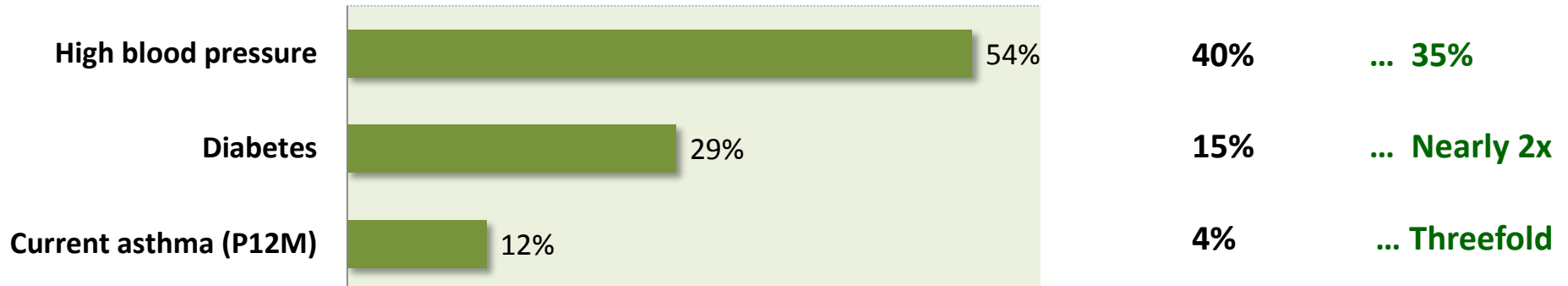
NYCHA Intervention Developments - Adults 35+

Prevalence of Chronic Conditions



NYCHA Intervention Developments - Adults 35+ Prevalence of Chronic Conditions

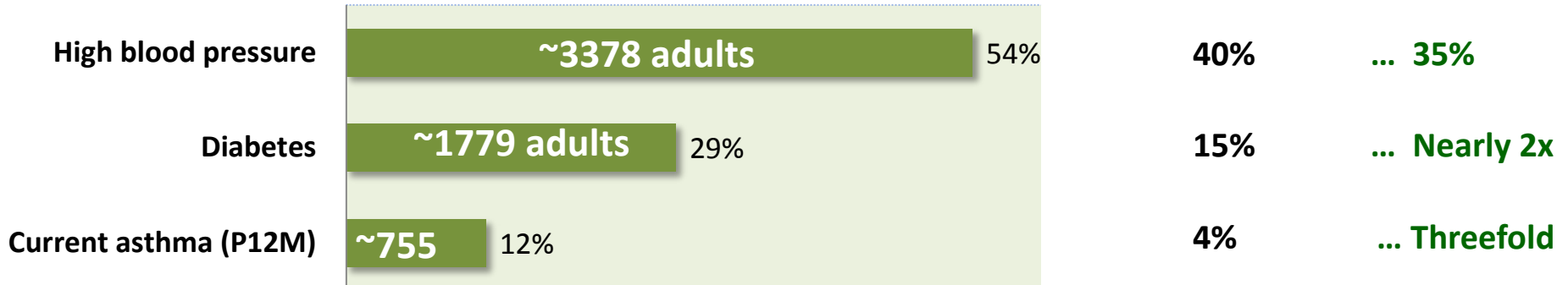
**NYC adults,
aged 35+***



* NYC Community Health Survey 2013, adults aged 35+

NYCHA Intervention Developments - Adults 35+ Prevalence of Chronic Conditions

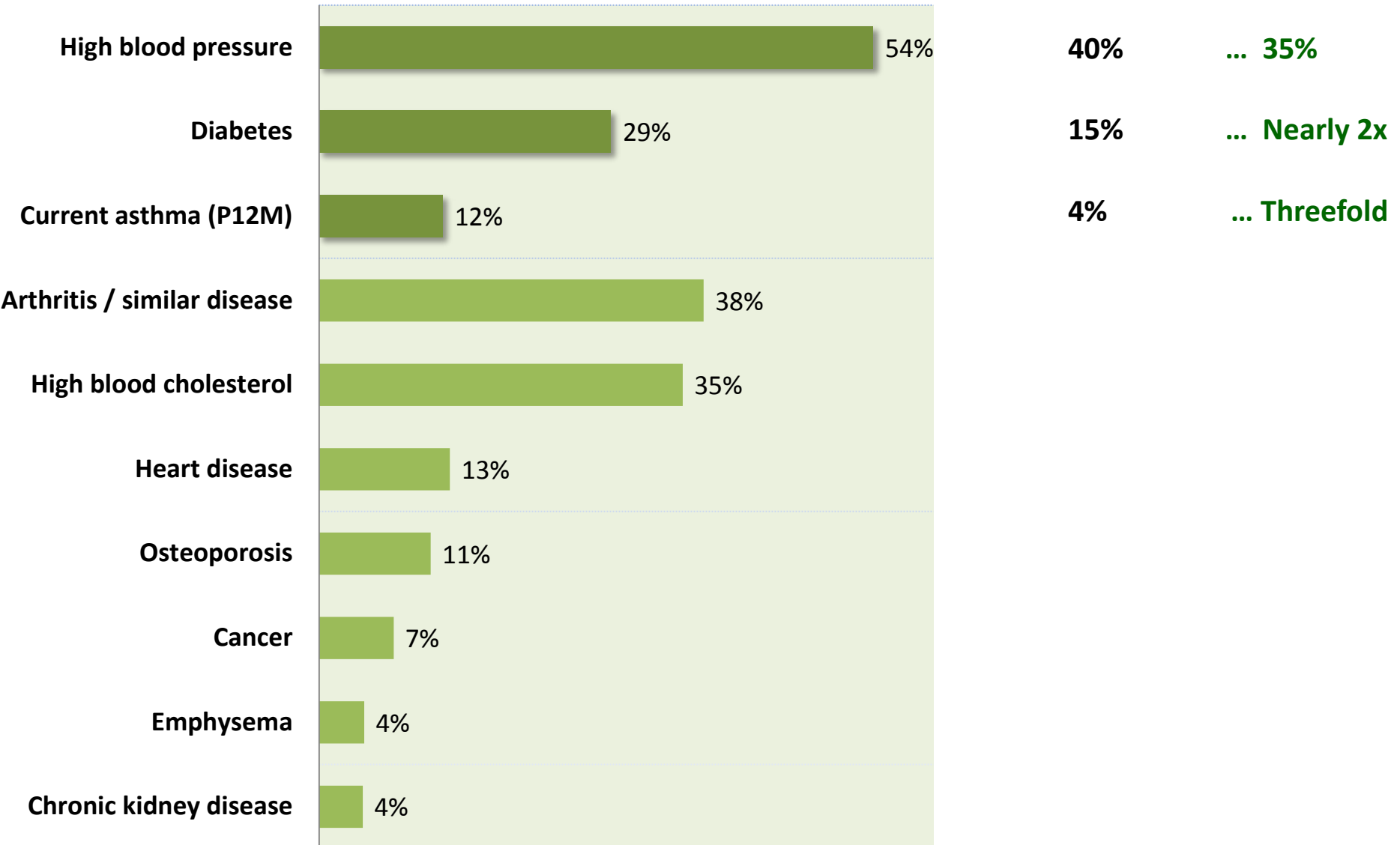
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NYCHA Intervention Developments - Adults 35+ Prevalence of Chronic Conditions

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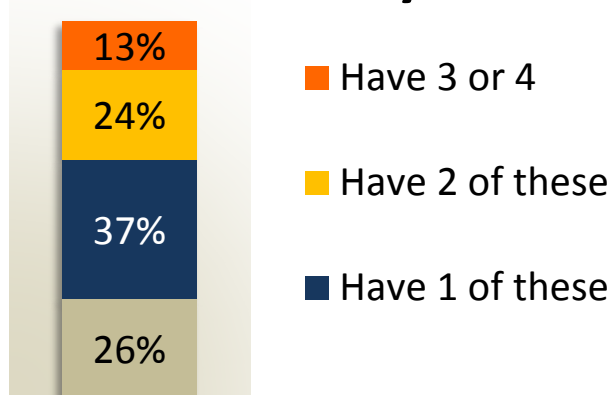


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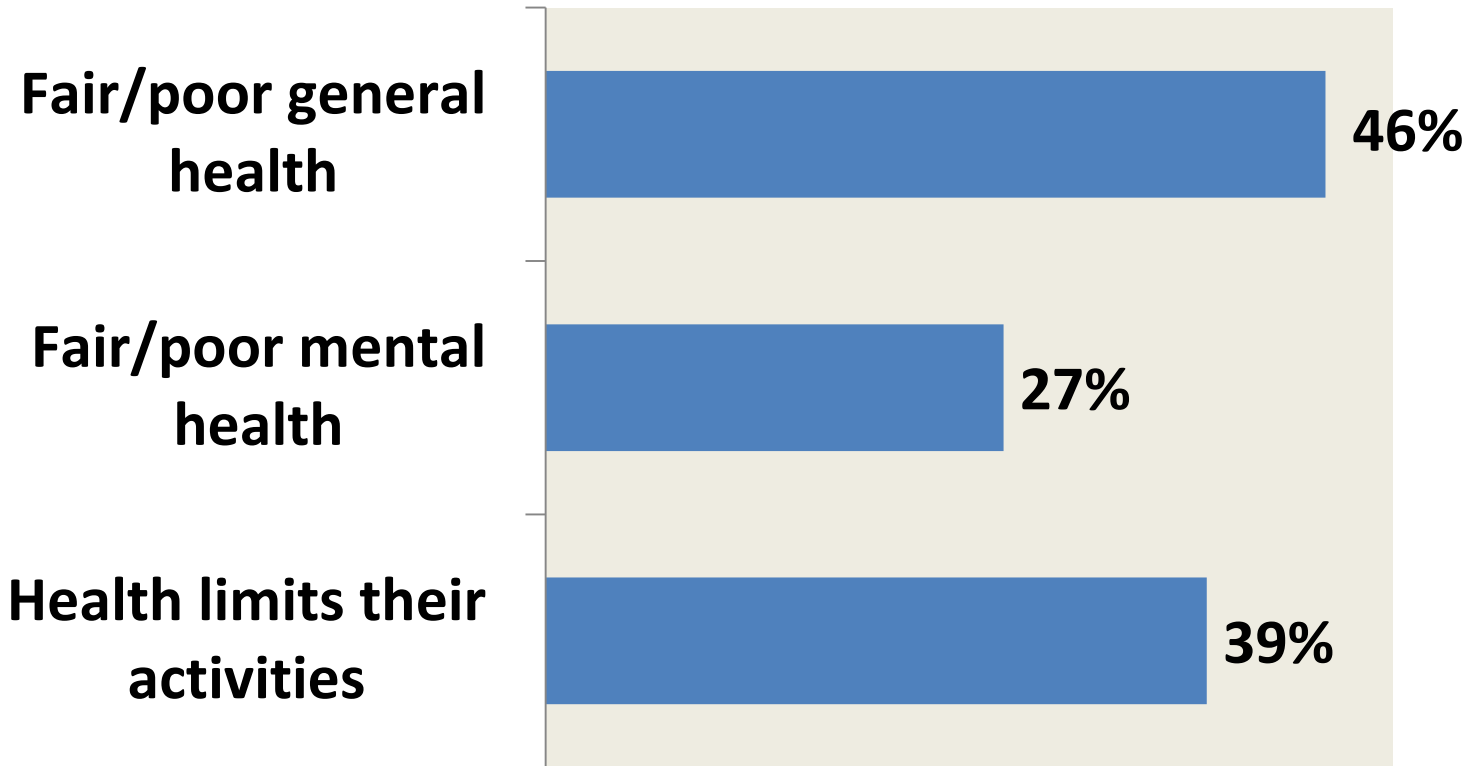
Depression and Multi-Morbidity

Adults aged 35+		35-44 Years	45-64 Years	65+ Years
12%	Current Asthma	14%	15%	7%
29%	Diabetes	17%	31%	42%
54%	High Blood Pressure	27%	55%	74%
26%	Depression	28%	32%	19%

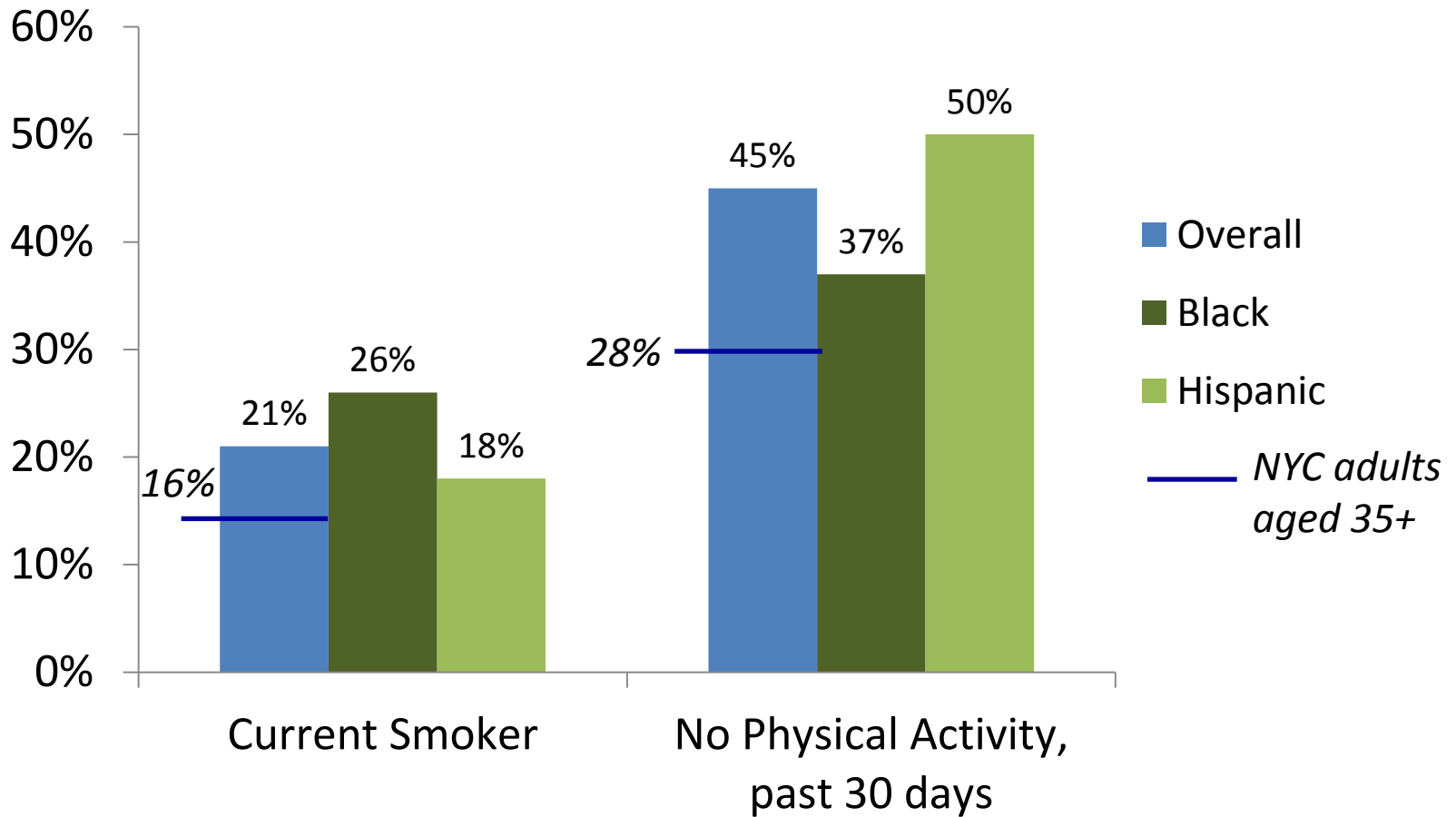
Multi-morbidity



The Community's Self-Perceived Health and Functionality



High Prevalence of Smoking and Physical Inactivity



Useful Recruitment Tool

- **366** individuals with at least 1 qualifying condition indicated interest in CHW services and consented to be contacted by NMPP (*51% of eligible survey participants*)
- **135** individuals indicated wishing to receive health insurance navigation assistance (*12% of survey participants*)

Short-Term Longitudinal Component

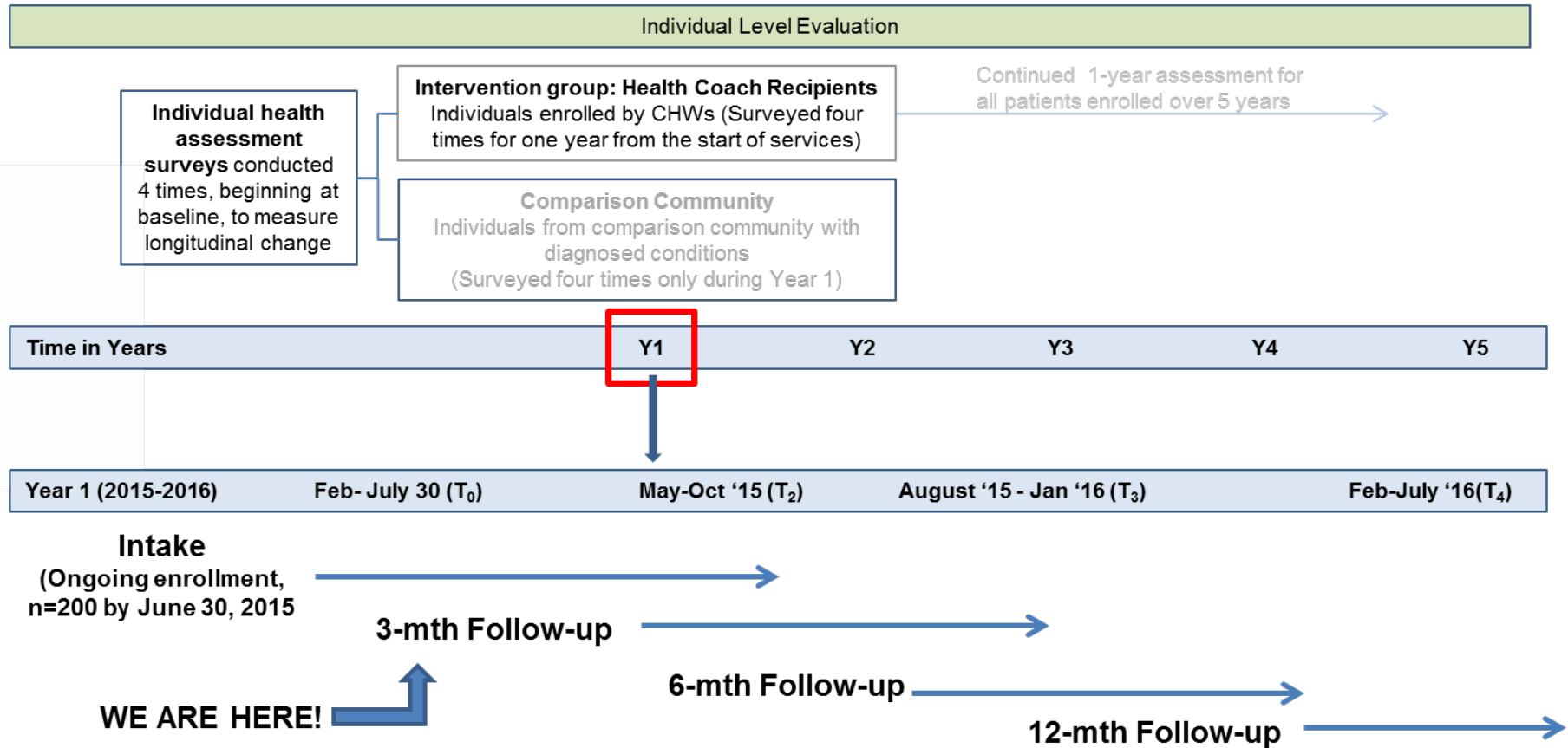
- Enrolling first ~200 participants to receive CHW services, tracking each longitudinally for 1 year
 - Repeat survey plus basic biomeasures
 - BP, height and weight (A1c to be obtained via A1c Registry)
 - 4 waves of data collection
 - Intake
 - 3 months
 - 6 months
 - 12 months
 - Participant consent to be linked to administrative datasets and medical chart review
- Another ~200 participants from comparison developments (not receiving CHW services) also tracked

Recruitment To Date

Development Group

Respondents	Total	A. Intervention	B. Comparison
Base	254	92	162
<i>Would you say that in general your health is ... ?</i>			
Extremely good	4 1.6%	2 2.2%	2 1.2%
Very good	25 9.8%	10 10.9%	15 9.3%
Good	85 33.5%	37 40.2%	48 29.6%
Fair	98 38.6%	32 34.8%	66 40.7%
Poor	41 16.1%	11 12.0%	30 18.5%
Don't know/Not Sure	1 0.0	- -	1 0.0

Where We Are with Intervention Group Interviews



Biomeasures and Consent to Tracking

- To date, most participants agree to provide biomeasures
 - Blood pressure (89%-90%)
 - Height and weight (84%-94%)
- Most (94%-95%) have consented to link results from surveys and physical exam to administrative health registries
- A large proportion (79%-90%) also provide HIPAA authorization for medical chart review



Long-term Administrative Tracking & Micro-Costing

- Proposed data sources for long-term tracking
 - Medicaid billing records
 - SPARCS hospitalizations and ED visits
 - A1c registry
- Compare outcomes between CHW recipients and two external comparison groups
 - Consenting individuals in comparison developments (n~200)
 - Propensity-score matched comparison group (larger)
- Also maintain surveillance of aggregate-level (development) data
- Micro-costs of intervention development, training and implementation being collected

Strengths and Limitations of Evaluation Design

- **Strengths**

- Population-based approach to needs assessment allows measurement of change in the community
- Rapid, real-time feedback to partners
- Biomeasures and standardized/validated questions
- Highly similar comparison group
- High acceptability of tracking approaches

- **Limitations**

- Intervention not randomized, may threaten inference
- Longitudinal study focused on participants enrolled in year 1 only (intervention may improve over time)

Acknowledgements

- **CUNY and NYU staff**: Lois Seidl, Sheila Desai, Margaret Baker, Albert Tovar, Gabriel Martinez, Vanessa Santiago, Priscilla Lopez, Sumana Chandra, Matthew Caron, Kasia Wyka, Mimi Fahs, Lindsey Riley, Iris Cooney, Smiti Nadkarni, Heather Gold, Nadia Islam, Chau Trinh-Shevrin, Marc Gourevitch, Ayman El-Mohandes
- **DOHMH enablers**: Amber Levanon-Seligson, Christa Meyers, Elizabeth Drackett, Thomas Cannell, Javier Lopez, Aletha Maybank
- **NYCHA enablers**: Andrea Bachrach Mata, Anne-Marie Flatley, Deneisha Graham
- **Baruch College Survey Research**: Eugene Averkiou, Michelene Blum, Tara Smith, Martin Frankel
- **Terrific ongoing input from all partners at**: NMPP, CSS, DOHMH and NYCHA

CHARACTERISTIC	TOTAL SURVEY SAMPLE		Intervention Developments		Comparison Developments	
	N	%	N	%	N	%
TOTAL	14597	100%	6241	43%	8356	57%
I. DEMOGRAPHICS						
Age group						
35-49	4627	32%	1978	32%	2649	32%
40-64	5326	36%	2209	35%	3117	37%
65 plus	4644	32%	2053	33%	2590	31%
Gender						
Female	10658	73%	4550	73%	6108	73%
Male	3939	27%	1691	27%	2248	27%
Race/Ethnicity						
Asian	341	2%	195	3%	146	2%
Black	5834	40%	2609	42%	3226	39%
Hispanic	7303	50%	3033	49%	4270	51%
Non-Hispanic White	914	6%	239	4%	675	8%
Other/Missing	205	2%	165	3%	40	0%
Employed						
Yes	4573	31%	1788	29%	2786	33%
Retired / unable to work	6909	47%	2989	48%	3920	47%
All other	2874	20%	1314	21%	1559	19%
DK/refused	241	2%	149	2%	92	1%

CHARACTERISTIC	TOTAL SURVEY SAMPLE		Intervention Developments		Comparison Developments	
	N	%	N	%	N	%
IV. SPECIFIC HEALTH CONDITIONS						
Ever Told have Asthma						
Current asthma (attack P12M)	1727	12%	755	12%	972	12%
No, none	10370	71%	4508	72%	5862	70%
Ever Told have Diabetes						
Diabetes (not gestational)	3968	27%	1779	29%	2189	26%
No	10323	71%	4292	69%	6031	72%
Ever Told have Hypertension						
Yes	7790	53%	3378	54%	4412	53%
No	6707	46%	2812	45%	3894	47%
Ever Told have Depression						
Yes	3741	26%	1601	26%	2139	26%
No	10718	73%	4587	73%	6131	73%

CHARACTERISTIC	TOTAL SURVEY SAMPLE		Intervention Developments		Comparison Developments	
	N	%	N	%	N	%
III. GENERAL HEALTH & BEHAVIORS						
Self-reported physical health						
Excellent/Very good/Good	7587	52%	3350	54%	4236	51%
Fair/Poor	6899	47%	2860	46%	4039	48%
DK/Refused	112	1%	31	0%	81	1%
Self reported mental health						
Excellent/Very good/Good	10402	71%	4507	72%	5894	71%
Fair/Poor	4103	28%	1701	27%	2402	29%
DK/Refused	92	1%	33	1%	59	1%
Health problem limits activities, past 6 months						
Yes (very limited or limited)	5798	40%	2434	39%	3364	40%
No (not limited)	8608	59%	3686	59%	4922	59%
DK/refused	191	1%	122	2%	70	1%
Currently smoking						
Yes	3016	21%	1294	21%	1723	21%
No	11513	79%	4923	79%	6589	79%
DK/Ref	67	0%	24	0%	43	0%

Short-Term Longitudinal Study – Statistical Power

Analytic approach: Total sample size required using a 'difference between groups at endpoint (single timepoint)' approach, uncorrected for repeated measures

		Effect Size*		
		0.25	0.35	0.5
No attrition		253	130	65
	Attrition=25%	316.25	162.5	81.25
Attrition=30%		328.9	169	84.5

(e.g.) If the estimated between-group difference in **HbA1C level** between the intervention and comparison group at the end of the study was small, such as **0.5 lower** in the intervention group than the comparison group, and the study had, on average, **30% attrition**, we would need a total sample size of **n=329** to be able to detect that difference.

Diabetes (A1C)
 .25, difference in A1C = .5
 .35, difference in AC1 = .7
 .50, difference in A1C = 1

A1C SD reported in the literature was between 1.50-3[lower sd decreases required sample size]
 Diabetes prevalence in East and Central Harlem: ~15%(CHS 2012); age adjusted; if cluster size 35+ in year 1 is ~1500 then 15% of 1500 is 225

Long-term Longitudinal Tracking – Statistical Power

Sample size considerations for Medicaid potential outcomes: hospital ambulatory care sensitive admissions or ED visits [TOTAL sample size]

Assume:

of baseline
measurements

4 (past year)

estimated # of participating individuals per YEAR (program capacity) ~200,

TOTAL estimated # of participating individuals over the program duration ~600

Assume baseline
outcome rate

Hypot. Post-
intervention rate

Hypot. Post-
intervention rate

40%	~240 visits per year (total population 35+ n = 6229; <u>approx.</u> at risk n=600)
30%	~180 visits per year
35%	~210 visits per year

Analytic approach: Total sample size required using a 'difference between groups at endpoint (single timepoint)' approach, uncorrected for repeated measures

	reduction of 10 percent points (post-intervention rate is 30%)		reduction of 5 percent points (post-intervention rate is 35%)		
Total Sample size	required # of individuals in each of 10 clusters cluster per time period	# of clusters switching at each step	Total Sample size	required # of individuals in each of 10 clusters cluster per time period	# of clusters switching at each step
483	49	4	1992	200	4
408	41	3	1682	169	4
306	31	2	1052	106	4

ICC- intraclass correlation

ICC=.05

ICC=.2

ICC=.4

(e.g.) If the base rate of the outcome is 40% and the estimated post-intervention rate was 30%, we would need ~ 200 new participants to be recruited in each time period. Assuming that individuals stay in the program (repeated measures) the a total sample size is **n=483. If overall attrition rate is 20%, Total sample size is n=460.**