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(Extended Abstract)

Comparing Health Care Access and Outcomes in New vs. Established Hispanic Destinations

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Extended working paper - Please do not distribute

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ABSTRACT

The vast literature on Hispanic health care access, utilization, and outcomes suggests that while Hispanics are less likely to be insured, have a regular source of care, and enter the healthcare system for any reason compared to whites, they are also less likely to suffer from a number of chronic illnesses and other indicators of poor health. However, most of this research has focused on the roles of citizenship, country of birth, acculturation, and other individual factors. However, social demographic research on access to healthcare services and health outcomes across different geographic segments of the Hispanic population is sparse.

The geographic dispersion of Hispanics throughout the past two decades to new areas outside the traditional southwest prompts the need to study factors associated with Hispanic health care access and health outcomes across spatial contexts. Accordingly, I draw on data from the Behavioral Risk Factor Surveillance System, the US Census, and the Area Resource Files to compare Hispanic health care access and outcomes across established vs. new Hispanic destination counties.

Results are mixed. Compared to Hispanics living in established destination counties, those residing in new destinations are less likely to have a personal doctor or to have any health insurance. They are also less likely to report fair/poor health. However, they are more likely to report a functional limitation. There are no differences in chronic disease prevalence among Hispanics across the different destination types.

INTRODUCTION AND OVERVIEW

Hispanics have historically been concentrated in urban areas of the southwest and California. However, since 1990, the Hispanic population has spread geographically to new destinations, particularly small cities and rural counties in the Midwest, southeast and northeast (Saenz 2010; Ennis et al. 2011; Lichter and Johnson 2009; Leach and Bean 2008; Singer 2004). The literature on Hispanic healthcare engagement suggests that they are less likely than whites to be insured, have a regular source of care and enter the healthcare system for any reason (Aguirre-Molina et al. 2001; Carlisle et al. 1996; Collins et al. 1999; Fiscella et al. 2002; Guendelman et al. 2000; Krauss et al. 1996; Bustamante et al. 2009). However, most of this research has focused on the roles of citizenship, country of birth, acculturation, and other individual factors. Very few studies on Hispanic health care utilization have incorporated contextual determinants of use (Benjamins et al. 2004; Coughlin et al. 2008) and none have examined differences in utilization among Hispanics living in established, high growth and emerging destinations. To date, the few studies on Hispanic health care use in new destinations have been qualitative, exploratory and state-specific (Casey et al. 2004; Erwin 2003).

Research Questions/Hypotheses: 1) Are Hispanics in new destinations less likely to have health insurance or a personal doctor and more likely to have medical cost barriers than Hispanics in established destinations? 2) Do Hispanics in new destinations have worse health outcomes than Hispanics in established destinations? 3) How much variation in these outcomes is due to compositional vs. contextual factors? 4) What are these specific factors? I hypothesize that Hispanics living in new destination counties will have worse health care access and outcomes than those living in established destination counties. While individual-level factors will

explain most of the variation \ (compositional), county-level Hispanic economic and social capital will also explain a significant proportion of the variation (contextual). Finally, residence in high growth and emerging destinations will be most negatively associated with utilization for those who are poor, uninsured and Spanish speaking (interaction effects).

Conceptual Model: I will use behavioral model of health care utilization (Phillips et al. 1998; Andersen 1995) as a conceptual base to examine both access and outcomes (see Figure 1). The model views healthcare use as a function of individual-level predisposing factors, enabling factors that facilitate/impede use, and perceived healthcare needs. Contextual characteristics may act as enabling/impeding factors in health promoting and health care utilization (Andersen et al. 2001). For example, Hispanics living in established counties with large Hispanic populations may perceive fewer barriers to healthcare use because they benefit from prior generations of immigrants and US born co-ethnics who can be sources of advice and information about where to obtain culturally competent and affordable healthcare services (Portes 2003), while Hispanics in new destinations may lack such social supports (Lichter and Johnson 2009). Hispanics living in established counties may also benefit from structural advantages that have developed over the past 40 years, including jobs with health insurance and advocacy groups with knowledge about Hispanic healthcare needs (Singer 2004).

DATA AND METHODS

Data for this study come from three sources. First, the health outcome variables come from the Behavioral Risk Factor Surveillance System (BRFSS) for the years 2005-2009. The *BRFSS* is an ongoing nationally representative collaborative project of the Centers for Disease

Control and Prevention (CDC) and states intended to measure behavioral risk factors in the adult population. The *BRFSS* collects uniform, state-specific data on preventative health practices and risk behaviors associated with chronic diseases, injuries, and preventable infectious disease for adults (18 and older) from all 50 states and Washington, DC. The comparability of surveys across the five years allows me to pool the data to ensure large enough sample sizes to create reliable rates.

Measures: The dependent variables are several binary (Yes/No) indicators of access and outcomes 1.) fair/poor self rated health 2.) has one or more chronic disease (diabetes, heart disease, asthma, stroke, heart attack), 3.) experiences a physical limitation to functioning, 4.) has any type of health insurance, 5.) has a personal doctor, 6.) experienced a cost barrier to medical care in the past year. The main independent variable is the type of county within which the respondent resides (Kandel and Cromartie 2004; Crowley and Lichter 2009). *Established destinations* are counties that had a 10%+ Hispanic pop in 1990. *New destinations* are those that experienced at least 150% growth in the Hispanic population between 1990 and 2010 and had an Hispanic population in 2010 of at least 500 residents. See Figure 2.

Covariates at the individual-level include age, sex, health insurance coverage, medical cost barrier, education, employment status, HH income, # of adults in HH, marital status, children in HH, BMI categories, self-rated emotional support and survey year. The BRFSS does not include measures of citizenship or immigration, but I include an indicator of whether the survey was completed in English or Spanish as a proxy for acculturation (Bustmante 2009; O'Malley et al. 1999).

Covariates at the county-level include *Hispanic Social/Economic Capital* - % Hispanic population, % Hispanic poverty, median Hispanic HH income, % Hispanics w/high school diploma, % Hispanic unemployment, ratio of Hisp-to-white poverty, ratio of Hisp-to-white median HH inccome, median Hisp age, ratio of Hisp-to-white 3 year avg births, % Spanish speakers and % getting social/emotional support. I will explore the viability of a scale for these measures. *Health Care Supply* (all # per 1,000 residents) – active general or family physicians, PPOs/HMOs, hospitals, hospitals w/ community outreach, health screenings, indigent care clinics, mobile health services and urgent care centers, and the Medicare Adv. adj. per capita payment rate. *Geographic* – Region and ESR urban-rural continuum code. With the exception of % emotional support (aggregated from BRFSS) all county variables come from the ACS or ARF data.

Analytical Plan: Using SAS 9.2, I conducted a series of multilevel logistic regression analyses where individuals (Level 1) are nested within counties (Level 2). For each dependent variable, models were built as follows 1) main effects models that include race (Hispanic, black, white=ref) and destination type (new destination, non-destination, established destination =ref) with random intercept, 2) introduction of cross-level interactions between race and destination type with random slopes for race/ethnicity, 3) introduction of all individual and county-level control variables.

RESULTS

I have run all models but have yet to type up the results, discussion, and conclusions sections. See Tables 1-3 for descriptive statistics and model coefficients.

- Compared to Hispanics in established destinations, those in new destinations report less access to health care (personal doctor and health insurance).
- Health outcomes are varied.
- For every dependent variable, the association between race/ethnicity and outcome of interest is stronger in some counties than in others, even after controlling for various individual and county characteristics.

Figure 1. Behavioral Model of Health Care Utilization

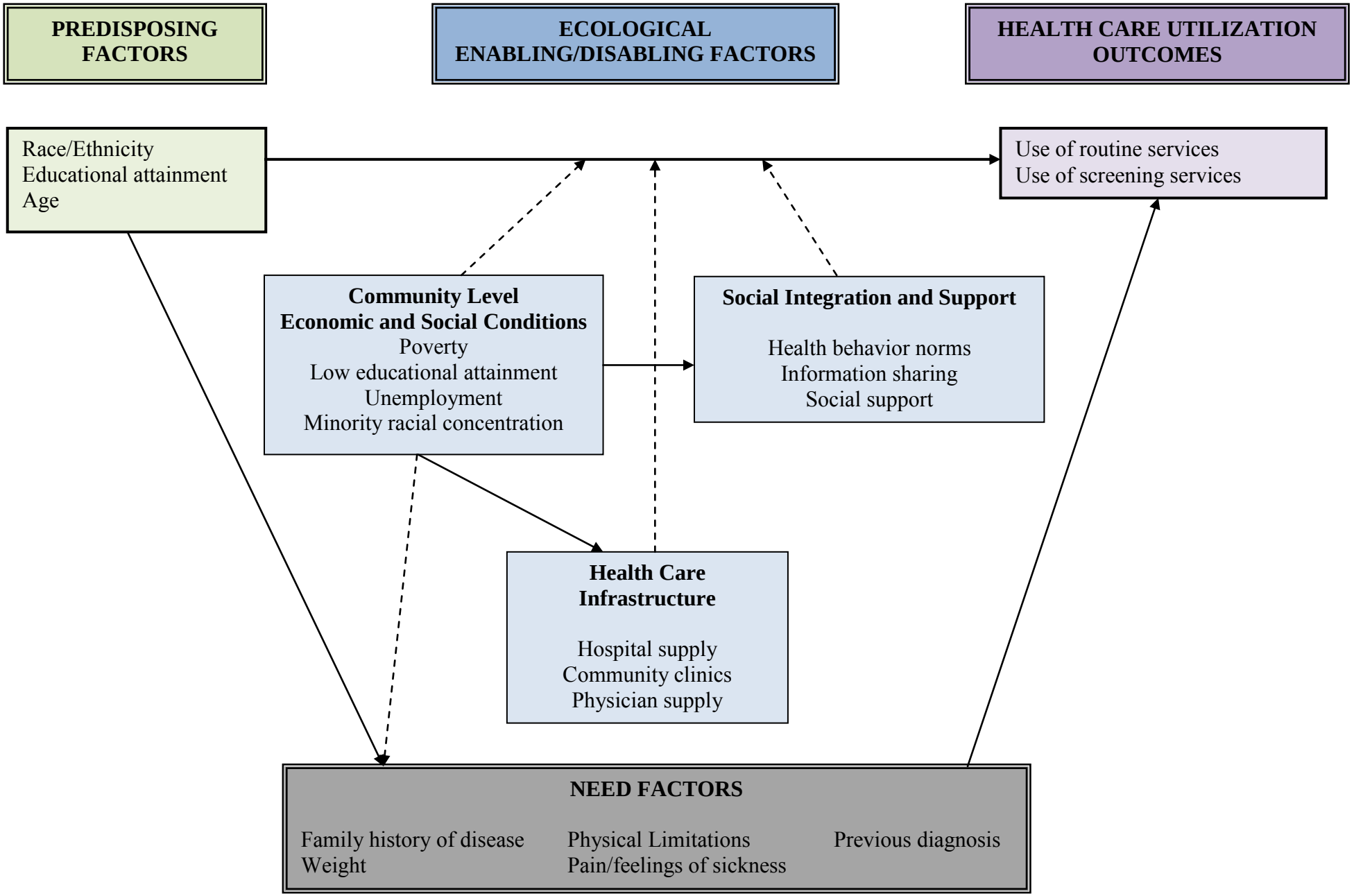

Figure 2. Geographic Distribution of Hispanic Destinations

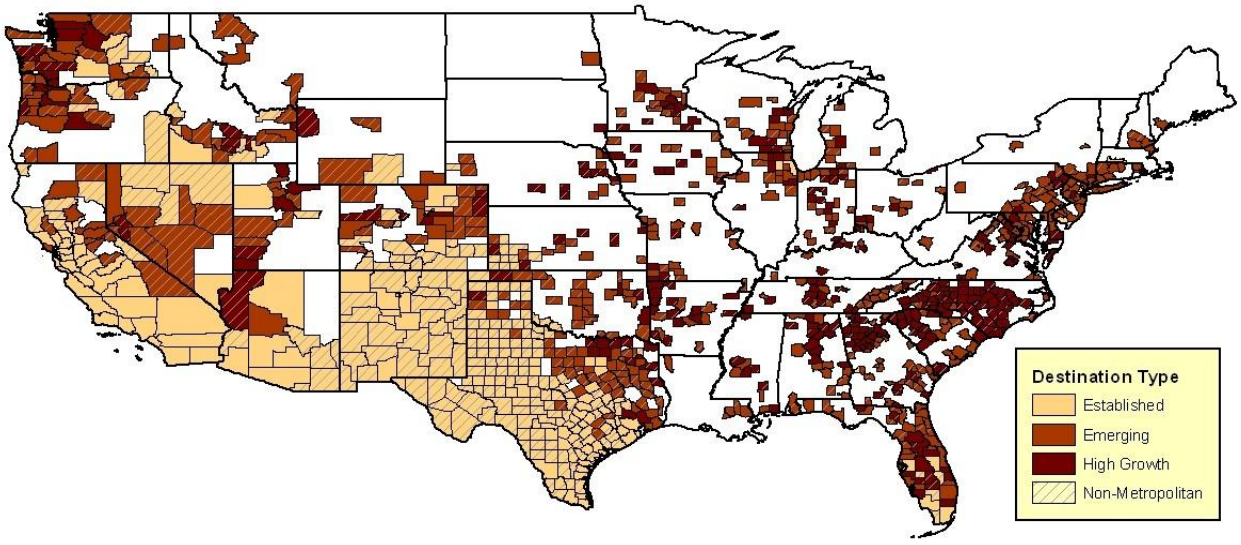

Table 1. County Characteristics across Destination Types

	Established	New	Non-Destination
General Population Characteristics			
% Poverty	17.68	14.27***	15.86***
% Black, 2010	4.31	10.78***	8.01***
% Agricultural Emp, 2000	11.5	3.95***	9.09***
% Construction Emp, 2000	7.75	7.88	7.56
% Manufacturing Emp, 2000	8.22	17.88***	15.71***
Population Density (Log)	3.2	4.58***	3.13
Urban-Rural Scale, 2003	4.93	3.92***	6.20***
Hispanic Population Characteristics			
% Hispanic Poverty	25.25	26.86*	25.76
% Hispanic High school grads	47.33	47.18	56.36***
White/Hispanic median hh income	1.48	1.45	1.76***
% Hispanic unemployment^	9.52	7.70***	9.37
Median Hispanic age^	26.47	24.21***	24.79***
% change in Hisp births, 1998-2003^	13.1	96.83***	52.14***
Hispanic-to-white birth ratio, 2003^	0.53	0.12***	0.05***
Health Resources			
# General MDs per 1,000 pop	1.2	1.57***	0.92***
% w/ at least 1 hosp w/community outreach services	52.1	68.01***	40.50***
% w/ at least 1 hosp w/health screening services	61.68	72.89***	49.47***
% w/ at least 1 hosp w/ indigent care clinic	19.46	16.42	7.39***
% w/ at least 1 hosp w/mobile health services	13.47	13.25	5.15***

***significantly different from established destination counties at p<.001, **p<.01, *p<.05; two-tailed tests
Unweighted mean values for all 3,141 counties
All values from 2005-2009 ACS 5-year estimates unless otherwise noted.
^Values from 2008 Area Resource File

Table 2. Multilevel Logistic Regression Coefficients Predicting Health Outcomes

	Fair/Poor Health			Chronic Disease			Functional Limitation		
	Model 1[1]	Model 2[2]	Model 3[3]	Model 1[1]	Model 2[2]	Model 3[3]	Model 1[1]	Model 2[2]	Model 3[3]
Hispanic[a]	0.775***	0.860***	0.299***	-0.159***	-0.147**	-0.029	-0.524***	-0.578***	-0.604***
Black[a]	0.547***	0.626***	0.144*	0.245***	0.236***	0.075	-0.058***	-0.063	-0.490***
New Destination[b]	0.091**	0.172***	0.03	-0.046*	-0.034	-0.046	-0.054*	-0.046	-0.027
Non-Destination[b]	0.254**	0.325***	0.04	0.039	0.038	-0.028	0.037	0.035	-0.02
Hispanic*New Destination		-0.556***	-0.213**		-0.013	-0.034		0.033	0.182**
Hispanic*Non Destination		0.325***	-0.189*		0.137	0.09		0.326***	0.334***
Black*New Destination		-0.163*	-0.057		-0.037	0.008		-0.03	0.045
Black*Non Destination		-0.165*	-0.043		0.018	0.053		-0.029	0.039
Intercept	-1.875***	-1.929***	-1.509***	-1.012***	-1.016***	-1.213***	-1.255***	-1.260***	-1.336***
Intercept Variance	0.160***	0.164***	0.029***	0.049***	0.045***	0.022***	0.076***	0.074***	0.025***
Variance-Hispanic		0.645***	0.679***		0.522***	0.476***		0.587***	0.553***
Variance-Black		0.344***	0.329***		0.243***	0.243***		0.235***	0.204***

Notes: Weighted; [a] reference = white; [b] reference = established destination

***p<.001, **p<.01, *p<.05

1 Main effects model with random intercept; no controls

2 Cross-level interaction between race/ethnicity and destination type with random slopes for race/ethnicity and random intercept; no controls

3 Model 2 plus all individuals and county level control variables

Table 3. Multilevel Logistic Regression Coefficients Predicting Health Care Access

	Personal Doctor			Medical Cost Barrier			Health Insurance		
	Model 1[1]	Model 2[2]	Model 3[3]	Model 1[1]	Model 2[2]	Model 3[3]	Model 1[1]	Model 2[2]	Model 3[3]
Hispanic[a]	-1.143***	-0.939***	-0.026	1.036***	0.976***	0.132	-1.581***	-1.462***	-0.299***
Black[a]	-0.418***	-0.379***	-0.029	0.750***	0.693***	0.083	-0.854***	-0.680***	-0.059
New Destination[b]	0.076*	0.135***	-0.131*	0.101**	0.112**	0.096*	-0.134**	-0.108*	-0.143**
Non-Destination[b]	0.106**	0.142***	-0.087	0.165***	0.184***	0.088*	-0.236***	-0.235***	-0.115*
Hispanic*New Destination		-0.006	-0.248**		-0.223**	0.061		0.246**	-0.174*
Hispanic*Non Destination		0.451***	0.008		-0.421***	-0.009		0.750***	0.093
Black*New Destination		0.058	0.079		-0.023	0.013		0.007	-0.035
Black*Non Destination		0.093	0.123		-0.084	-0.081		0.046	0.004
Intercept	1.676***	1.619***	0.759***	-2.113***	-2.114***	-2.144***	2.156***	2.119***	2.100***
Intercept Variance	0.197***	0.196***	.139***	0.198***	0.204***	0.073***	0.260***	0.270***	0.125***
Variance-Hispanic		0.902***	0.756***		0.750***	0.766***		1.136***	0.917***
Variance-Black		0.505***	0.535***		0.402***	0.421***		0.536***	0.541***

Notes: Weighted; [a] reference = white; [b] reference = established destination

***p<.001, **p<.01, *p<.05

1 Main effects model with random intercept; no controls

2 Cross-level interaction between race/ethnicity and destination type with random slopes for race/ethnicity and random intercept; no controls

3 Model 2 plus all individuals and county level control variables