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Research paper

Urban segregation and the US heroin market: A quantitative model of anthropological hypotheses from an inner-city drug market

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ABSTRACT

Background: We hypothesize that the location of highly segregated Hispanic and in particular Puerto Rican neighborhoods can explain how Colombian-sourced heroin, which is associated with a large-scale decade long decline in heroin price and increase in purity, was able to enter and proliferate in the US.
Methods: Our multidisciplinary analysis quantitatively operationalizes participant-observation ethnographic hypotheses informed by social science theory addressing complex political economic, historical, cultural and social processes. First, we ethnographically document the intersection of structural forces shaping Philadelphia's hypersegregated Puerto Rican community as a regional epicenter of the US heroin market. Second, we estimate the relationship between segregation and: (a) the entry of Colombian heroin into the US, and (b) the retail price per pure gram of heroin in 21 Metropolitan Statistical Areas.
Results: Ethnographic evidence documents how poverty, historically-patterned antagonistic race relations, an interstitial socio-cultural political and geographic linkage to both Caribbean drug trafficking routes and the United States and kinship solidarities combine to position poor Puerto Rican neighborhoods as commercial distribution centers for high quality, low cost Colombian heroin. Quantitative analysis shows that heroin markets in cities with highly segregated Puerto Rican communities were more quickly saturated with Colombian-sourced heroin. The level of Hispanic segregation (specifically in cities with a high level of Puerto Rican segregation) had a significant negative association with heroin price from 1990 to 2000. By contrast, there is no correlation between African-American segregation and Colombian-sourced heroin prevalence or price.
Conclusion: Our iterative mixed methods dialogue allows for the development and testing of complex social science hypotheses and reduces the limitations specific to each method used in isolation. We build on prior research that assumes geographic proximity to source countries is the most important factor in determining illicit drug prices and purity, while we find more complex, potentially modifiable determinants of geographic variation in retail drug markets. We show that specific patterns of ethnic segregation, racism, poverty and the political economy of socio-cultural survival strategies combined to facilitate the entry of pure, inexpensive Colombian-sourced heroin.

Introduction

Residential ethnic segregation, characteristic of so many US cities, reinforces economic inequalities and raises concerns about effects on public health (Kramer & Hogue, 2009; Williams & Collins, 2001). Inner city segregation in the US first took shape in the nineteenth century in places like San Francisco's Chinatown where Chinese immigrants, exploited as a low-cost workforce, lived in over-crowded, degraded conditions (Risse, 2012). African-American urban segregation developed in the northern United States somewhat later. Massey and Denton (1993) describe African-American segregation as a twentieth century phenomenon that

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contained the growing black population within ghettos during a time of industrialization and urbanization. From the end of the Civil War until at least 1900, the typical black city dweller lived in a predominantly white neighborhood but through a series of institutional practices, private behaviors and public policies, African-Americans were segregated from whites. From 1900 to 1940, new European immigrants also experienced greater segregation than previous immigrant groups but their segregation was more temporary.

Puerto Ricans migrated to mainland cities in enormous numbers over the twentieth century. The history of their island, a locus of colonial competition because of its strategic position in trans-Atlantic shipping networks, reflected the military and economic interests of their colonizers, first the Spanish and then the United States. Colonial underdevelopment propelled a third of Puerto Rico's population to emigrate to the mainland as low cost factory and farm workers (Bourgois, 1996). Although migration to the continental United States was promoted by US government policies, Puerto Ricans were met with hostility in the host country (Whalen, 2001). In his ethnography of crack-dealing in Spanish Harlem, Bourgois explains, "Literally overnight, the new immigrants, whose rural-based cultural orientation and self-esteem was constructed around interpersonal webs of *respeto* [respect] organized around complex categories of age, gender and kinship, found themselves transformed into 'racially' inferior pariahs. Ever since their arrival in the United States they have been despised and humiliated with a virulence that is specific to North America's history of polarized race relations and ethnically segmented immigrant labor markets" (Bourgois, 1996:52–53).

Like African-Americans, Puerto Ricans were contained in ghettos which concentrated poverty and intensified the effects of discrimination. This complex political economic and cultural dynamic also rendered them especially vulnerable to the negative public health effects of the global heroin trade after World War II when they began migrating to New York City in large numbers. In the early 1960s Puerto Ricans were significantly over-represented in the New York City Narcotics Register at 24.6%, although comprising only 15% of the population (Chein, Gerard, Lee, Rosenfeld, & Wilner, 1964 cited in Singer, 1999:33–34). Similarly in Chicago, public health researchers in the 1960s noted that drug injection had spread rapidly among Puerto Rican street gang members and that the Puerto Rican community was "Assum[ing] the heavy risks and... social stigma of supplying drugs to higher status white outsiders." (Glick, 1983:290 cited in Singer, 1999:34) Singer, an anthropologist working in Hartford in the 1980s and 1990s, noted "We have observed a similar pattern in Hartford... This arrangement creates 'job opportunities' in the drug trade for many Puerto Rican youth..." (Singer, 1999:34).

Ethnic and class segmentation of the heroin market is not a new phenomenon in the United States. Historians have documented, for instance, the fundamental role that segregation of Chicano and Chinese immigrant populations played in structuring the heroin market in several western US states throughout the 1940s and 1950s (Schneider, 2008). In fact, ethnic concentration in segregated and impoverished urban enclaves has regularly been associated with large-scale drug "epidemics" in the United States, often inciting virulent racist backlash (Bourgois, 1996). The connection between economically disadvantaged ethnic enclaves and illicit drug markets has also been documented outside of the United States (Dixon & Maher, 2002; Paoli, 2002; Paoli & Reuter, 2008). Our mixed method study examines the specific social processes that shape differential positions in the drug economy across distinct poor, segregated ethnic groups.

The US heroin market is in flux; beginning in the early 1990s, a new type of heroin, sourced from Colombia, entered the US. The competitiveness of this novel heroin source-form led to two oligopolistic changes: the dramatic decline of heroin sourced from Southeast and Southwest Asia; and a decade-long decline in heroin price and rise in purity (Ciccarone, Unick, & Kraus, 2009). The public health impact of this structural phenomenon is beginning to be understood, e.g., the nationwide rise in heroin-related overdose and soft tissue infections over the past two decades can be linked to changes in heroin purity, price, and source-form. The US heroin market is now dominated by Colombian powder and Mexican "black tar" heroin, with the former going predominantly to the eastern US and the latter to the western half of the country. Some cities proximal to the Mississippi River (e.g., Chicago) have mixed heroin sources (Ciccarone, 2009). Cunningham et al. (2010) hypothesize that illicit drug purity is determined by distance from the US-Mexican border, a primary point of entry for illicit drugs. They find that although heroin purity is high near the border, it is also high far away from the border. We use mixed methods to explore segregation as an alternative, complementary or more complex explanation for the observed geographic patterns in the heroin market which heretofore have not been adequately explained.

Understanding social behavior, particularly that which is taboo or hidden, and generalizing that understanding across populations have made multidisciplinary research attractive to researchers in the drugs field (Clatts, Welle, Goldsamt, & Lankenau, 2002). However a number of commentators have remarked on the theoretical and practical difficulties of such projects (Bourgois, 1999; Ciccarone, 2003; Moore, 2002). Noteworthy endeavours have combined qualitative and quantitative methods in a number of different models. Michael Agar, an early ethnographic researcher in the US drugs field, with Heather Reisinger, combined ethnographies conducted at different locations and time periods with epidemiology, history, political economy and complexity theory to produce explanations of the chronology and geography of drug epidemics (Agar, 2002; Agar & Reisinger, 2001). Clatts et al. (1999) employed ethnography and laboratory techniques to examine the effect of heating on the HIV virus in drug cookers. Lankenau et al. (2012) conducted large numbers of qualitative interviews with injecting drug users in US cities aiming to harness the benefits of both ethnographic and quantitative research. Early in the HIV epidemic, Booth, Koester, Reichardt, and Brewster (1993) used qualitative and quantitative survey methods sequentially in the same neighbourhood to investigate the impact of local regulations on syringe carrying among injectors. Their qualitative methods allowed them to investigate apparently puzzling behavior reported by the quantitative findings, later feeding back ethnographic findings into a larger epidemiological survey. Bourgois has located his ethnographic research within global political economy, recognizing that the parameters of local behavior are set within these constraints (Moore, 2002). Ciccarone and Bourgois have proposed an ethnographically derived hypothesis to explain epidemiological variations in US HIV distribution (Ciccarone & Bourgois, 2003); and they along with colleagues have demonstrated a clinical social science approach combining long-term ethnographic and survey datasets to understand the socio-cultural underpinnings of ethnic patterns in risk behaviors among heroin users (Bourgois et al., 2006).

Our multidisciplinary approach links ethnography and historical analysis with quantitative methods to develop a more complex understanding of the relationship between segregation and heroin availability and price. First, we ethnographically document the relationship between structural forces which intensify the ethnically segmented entrepreneurial enclaving of heroin sales in Philadelphia's Puerto Rican community: Caribbean trafficking routes of Colombian-sourced heroin; the social vulnerability of Puerto Ricans as legal migrants; racial profiling by law enforcement; and varying levels of racialized animosity across neighborhoods. Based on the ethnographic findings, we hypothesize that high levels of