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Research paper

"Every 'Never' I Ever Said Came True": Transitions from opioid pills to heroin injecting

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ABSTRACT

This qualitative study documents the pathways to injecting heroin by users in Philadelphia and San Francisco before and during a pharmaceutical opioid pill epidemic. Data was collected through in-depth, semi-structured interviews (conducted between 2010 and 2012) that were, conducted against a background of longer-term participant-observation, ethnographic studies of street-based drug users and dealers in Philadelphia (2007–12) and San Francisco (1994–2007, 2012). Philadelphia and San Francisco were selected for their contrasting political economies, immigration patterns and source type of heroin. In Philadelphia the ethnographers found heroin injectors, usually white users, who had started their opiate using careers with prescription opioids rather than transitioning from other drugs. In both Philadelphia and San Francisco, most of the young heroin injectors interviewed began, their drug-use trajectories with opioid pills – usually *Percocet* (oxycodone and acetaminophen), generic short acting oxycodone or, *OxyContin* (long-acting oxycodone) – before transitioning to heroin, usually by nasal inhalation (sniffing) or smoking at first, followed by injecting. While most of the Philadelphia users were born in the city or its suburbs and had started using both opioid pills and heroin there, many of the San Francisco users had initiated their pill and sometimes heroin use elsewhere and had migrated to the city from around the country. Nevertheless, patterns of transition of younger injectors were similar in both cities suggesting an evolving national pattern. In contrast, older users in both Philadelphia and San Francisco were more likely to have graduated to heroin injection from non-opiate drugs such as cannabis, methamphetamine and cocaine. Pharmaceutical opioid initiates typically reported switching to heroin for reasons of cost and ease-of-access to supply after becoming physically and emotionally dependent on opioid pills. Many expressed surprise and dismay at their progression to sniffing and subsequently to injecting heroin. Historically and structurally these users found themselves caught at the intersection of two major developments in the opiate supply: (1) an over 500% increase in opiate pill prescription from 1997 to 2005 resulting in easy access to diverted supplies of less stigmatized opiates than heroin and (2) a heroin supply glut, following the US entry of Colombian-sourced, heroin in the early 1990s, that decreased cost and increased purity at the retail level. A nationwide up-cycle of heroin use may be occurring among young inner city, suburban and rural youth fueled by widespread prescription opioid pill use.

Background

Historians and social scientists have long pondered the extent to which individuals choose their own paths or are acted upon by wider forces. The entrée of Colombian-sourced heroin into the eastern US heroin market in the 1990s led to a rise in purity and fall in prices nationwide followed by a leveling out of prices in the early 2000s (Ciccarone, Kraus, & Unick, 2009a; Rosenblum, Unick, & Ciccarone, 2013). As well as offering cheapness and potency, Colombian heroin was inserted into the existing crack cocaine distribution network which allowed it to reach a new population of users (Agar & Reisinger, 2001). Over the same time frame, an enormous increase in the prescription of opioid analgesics formed a second major source in the opiate

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supply.[1] Opioid pill prescribing grew 533% from 1997 to 2005 with hydrocodone becoming the leading prescribed medication and oxycodone the top retailed opioid by weight in the United States (Manchikanti, 2007). In 2009 an estimated 201.9 million opioid prescriptions were dispensed (Volkow, McLellan, & Cotto, 2011).

The case of the brand name extended release formulation of oxycodone is particularly noteworthy. *OxyContin* was federally approved in 1995 at a time when prescribing opioids for the relief of chronic pain was becoming more acceptable within US medical practice and tolerated by regulatory bodies. Manufacturer Purdue Pharma aggressively promoted its product as less likely to be abused or cause dependence than other opioid analgesics, spending $200 million on marketing in one year alone, including the targeting of primary care physicians who were less likely to be trained in pain management or addiction (Van Zee, 2009). Purdue's activities aroused concern from the US Drug Enforcement Administration (US DEA) (United States General Accounting Office, 2003) and in a 2007 court case the company pleaded guilty to falsely misrepresenting the addictive qualities of the drug compared with other pain medications (Webster, 2012). *OxyContin*'s sales continued to rise, however, and by 2010 it ranked 5th in all brand-name US retail drug sales and number one in brand-name controlled drugs, earning $3.5 billion that year (Mack, Weinrich, Vitaku, & Njardarson, 2010). Ultimately Purdue Pharma reconstituted its extended release oxycodone tablets to prevent them from being chewed or crushed for sniffing, smoking or injecting, techniques used to circumvent their time-release action. The new 'OP' marked tablets replaced the 'OC' marked originals in late 2010–2011 and this change may have encouraged some *OxyContin* dependent users to switch to heroin (Cicero, Ellis, & Surratt, 2012). The OP formulation effectively extended patent protection for *Oxycontin*, ensuring Purdue's monopoly as no extended release generic can be currently approved based on the original patent approval (Meier, 2013).

Since prescription opioids are close pharmaceutical relatives of heroin – a prohibited yet highly sought-after commodity – it is unsurprising that around the prescribed supply lies a large shadow land of borrowed, bought, fraudulently obtained and stolen pills. Diversion of these pharmaceuticals from their sanctioned channels occurs in many forms at every stage of the supply chain throughout North America (Roy, Arruda, & Bourgois 2011) and 'nonmedical use' climbed alongside sales.

The incidence rate for nonmedical use of pain relievers stayed relatively low and stable for 12–25 year olds from 1979 to the early 1990s. Around 1994, the rates rose to approximately 12–13 per 1000 persons for this age group and then sharply thereafter to nearly 50 per 1000 among 12–17 year olds and to over 30 per 1000 for 18–25 year olds in 2001 (CEWG, 2004) From 2002 to 2004 use spread westwards across the nation from initial high concentrations in the Northeast and Appalachia (Cicero, Inciardi, & Munoz, 2005) It has been found to be highest in populations outside of large metropolitan areas (Cicero et al., 2005) and to be more common among men than women (SAMHDA, 2012). Extended release oxycodone was estimated to have had the highest rate of nonmedical use among opioid analgesics when accounting for the number of people filling prescriptions (Cicero, Surratt, Inciardi, & Munoz, 2007). Treatment admissions for oxycodone misuse rose in both Philadelphia and the San Francisco area between 2009 and 2011 (CEWG, 2011, 2012).

From 1997, opioid related overdose hospitalizations began to climb geometrically nationwide, with rates rising from 2 per 100,000 US population that year to 15 per 100,000 in 2009 (Unick, Rosenblum, Mars, & Ciccarone, 2013) and concerns have been raised about an intertwining relationship between this epidemic in prescription opioid overdose and an incipient nationwide heroin-related overdose trend especially among 20–34 year olds (Unick et al., 2013). Early reports from local drug monitoring systems around the country have reported a pathway between prescription opioid use and heroin (Clark & Elliott, 2001; Ohio Substance Abuse Monitoring Network, 2002; Siegal et al., 2003; U.S. Department of Justice, 2001). Regional studies have suggested that some prescription opioid users are transitioning to heroin after becoming dependent on *OxyContin* (Daniulaityte, Carlson, & Kenne, 2006) and other prescription opioid pill s which serve as a 'gateway' to heroin (Inciardi, Surratt, Cicero, & Beard, 2009) and/or to injecting (Lankenau et al., 2012; Young & Havens, 2011). However, there is a lack of scholarly publications that examine these transitions in greater detail (Lankenau et al., 2012).

Many studies have examined how people become involved in heroin use. The large literature on the 'gateway hypothesis' cites tobacco, alcohol and cannabis as the first drugs typically used prior to progression to harder drugs, either singly or sequentially, but does not prove a causal link (e.g. Fergusson, Boden, & Horwood, 2005; Kandel, 2002). Transition to injecting drug use has been associated with having a family member who uses drugs or drinks alcohol problematically, stressful family situations, earlier exposure to other injectors, and having friends who think it is acceptable to inject (Sherman, Smith, Laney, & Strathdee, 2002).

The purpose of this qualitative study was to understand the process by which heroin injectors in two contrasting cities had initiated heroin use and injecting prior to and during a pharmaceutical opioid pill epidemic. Philadelphia and San Francisco were chosen for their distinct political economies and contrasting heroin supplies. Philadelphia is highly segregated and the poorest large city in the United States, losing population to outmigration every year from 1959 to 2010 and containing large tracts of de-industrialized, abandoned buildings. San Francisco is a more integrated, global city that attracts immigrants and has been undergoing a long process of gentrification. Philadelphia is primarily supplied with white/beige powder heroin sourced from Colombia while San Francisco mainly receives "black tar" heroin originating in Mexico; each heroin source-form has unique chemical properties, use patterns and medical consequences (Ciccarone and Bourgois, 2003; Ciccarone, 2009b).

Methods

This investigation arose from the Heroin Price and Purity Outcomes study (HPPO) (PI: Ciccarone) funded by the US National Institutes of Health, National Institute of Drug Abuse (NIH/NIDA) which aims to place local understandings of heroin injectors' drug use, beliefs, behavior and health within a regional and national US structural context. In the two contrasting cities of Philadelphia and San Francisco it uses ethnography and qualitative interviewing which are then set against a wider picture derived from national epidemiological datasets. The ethnographic project in Philadelphia (2007–2012) and San Francisco (1994–2007, 2012) (Bourgois & Hart, 2011; Bourgois et al., 2006; Bourgois, Prince, & Moss, 2004) provided a privileged insertion into networks of users and generated the preliminary guiding hypothesis of this interview-based study concerning the changing demography and drug-use trajectory of the contemporary heroin-using population. It informed the preparation of the interview guide and the recruitment priorities

[1] 'Opiate' refers here to drugs extracted from the opium poppy, such as morphine or codeine, or derived from one of these, such as heroin, as well as similar synthetic substances which bind with opiate receptors. 'Opioid' is a subset of 'opiates', used here to denote the more synthetic and semi-synthetic substances such as oxycodone, hydrocodone and methadone but excluding heroin.