Austin, Indiana—the HIV capital of small-town America

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Jessica and Darren McIntosh were too busy to see me when I arrived at their house one Sunday morning. When I returned later, I learned what they'd been busy with: arguing with a family member, also an addict, about a single pill of prescription painkiller she'd lost, and injecting meth to get by in its absence. Jessica, 30, and Darren, 24, were children when they started using drugs. Darren smoked his first joint when he was 12 and quickly moved on to snorting pills. "By the time I was 13, I was a full-blown pill addict, and I have been ever since," he said. By age 14, he'd quit school. When I asked where his care givers were when he started using drugs, he laughed. "They're the ones that was giving them to me," he alleged. "They're pill addicts, too."

Darren was 13 when he started taking pills, which he claims were given to him by an adult relative. "He used to feed them to me," Darren said. On fishing trips, they'd get high together. Jessica and Darren have never known a life of family dinners, board games and summer vacations. "This right here is normal to us," Darren told me. He sat in a burgundy recliner, scratching at his arms and pulling the leg rest up and down. Their house was in better shape than many others I'd seen, but nothing in it was theirs. Their bedrooms were bare. The kind of multigenerational drug use he was describing was not uncommon in their town, Austin, in southern Indiana. It's a tiny place, covering just two and a half square miles of the sliver of land that comprises Scott County. An incredible proportion of its 4,100 population – up to an estimated 500 people – are shooting up. It was here, starting in December 2014, that the single largest HIV outbreak in US history took place. Austin went from having

no more than three cases per year to 180 in 2015, a prevalence rate close to that seen in sub-Saharan Africa.

Exactly how this appalling human crisis happened here, in this particular town, has not been fully explained. I'd arrived in Scott County a week previously to find Austin not exactly desolate. Main Street had a few open businesses, including two pharmacies and a used-goods store, owned by a local police sergeant. The business with the briskest trade was the gas station, which sold $1 burritos and egg rolls. In the streets either side of it, though, modest ranch houses were interspersed among shacks and mobile homes. Some lawns were well-tended, but many more were not. On some streets, every other house had a warning sign: 'No Trespassing', 'Private Property', 'Keep Out'. Sheets served as window curtains. Many houses were boarded up. Others had porches filled with junk – washing machines, furniture, toys, stacks of old magazines. There were no sidewalks. Teenage and twenty-something girls walked the streets selling sex. I watched a young girl in a puffy silver coat get into a car with a grey-haired man. I met a father who always coordinates with his neighbour to make sure their children travel together, even between their homes, which are a block apart. Driving around for days, knocking on doors looking for drug users who would speak with me was intimidating. I've never felt more scared than I did in Austin.

The mystery of Austin is only deepened by a visit to the neighbouring town of Scottsburg, the county seat, eight miles south. It's just a bit bigger than Austin, with a population of about 6,600, but it's vastly different. A coffee shop named Jeeves served sandwiches and tall slices of homemade pie, which you could eat while sitting in giant, cushiony chairs in front of a fireplace. A shop next door sold artisanal soap and jam. The town square had a war memorial and was decorated for Christmas. The library was populated. The sidewalks had people and the streets had traffic. There were drugs in Scottsburg, but the town did not reek of addiction. The people didn't look gaunt and drug-addled. No one

I asked could explain why these two towns were so different, and no one could explain what had happened to Austin. But a new theory of public health might yet hold the answer. Known as syndemics, it may also be the one thing that can rescue Austin and its people.

The term syndemics was coined by Merrill Singer, a medical anthropologist at the University of Connecticut. Singer was working with injecting drug users in Hartford in the 1990s in an effort to find a public health model for preventing HIV among these individuals. As he chronicled the presence of not only HIV but also tuberculosis and hepatitis C among the hundreds of drug users he interviewed, Singer began wondering how those diseases interacted to the detriment of the person. He called this clustering of conditions a 'syndemic', a word intended to encapsulate the synergistic intertwining of certain problems. Describing HIV and hepatitis C as concurrent implies they are separable and independent. But Singer's work with the Hartford drug users suggested that such separation was impossible. The diseases couldn't be properly understood in isolation. They were not individual problems, but connected.

Singer quickly realised that syndemics was not just about the clustering of physical illnesses; it also encompassed nonbiological conditions like poverty, drug abuse, and other social, economic and political factors known to accompany poor health. "Syndemics is embedded in a larger understanding about what's going on in societies," he said when I spoke to him. Singer dubbed the syndemic he'd observed in Hartford 'SAVA', short for substance abuse, violence and HIV/AIDS. In the past ten years, several medical anthropologists have pursued syndemics theory in other contexts. Emily Mendenhall, who studies global health at Georgetown University's School of Foreign Service, has described a syndemic of type 2 diabetes and depression among first- and second-generation Mexican immigrant women in Chicago. She named that syndemic 'VIDDA', short for violence, immigration, depression, diabetes and abuse, the

constellation of epidemics the women were experiencing. "The people who get affected by any given disease, it's not random," said Bobby Milstein, a public health scientist, today at the Massachusetts Institute of Technology, who founded the now-defunct Syndemics Prevention Network at the Centers for Disease Control and Prevention. "It happens systematically with certain people who are placed in conditions of vulnerability that are not entirely under their own control." As Andrea Gielen, who directs the Center for Injury Research and Policy at Johns Hopkins University, explained to me: "Everything works together. To be in silos delivering one thing for one problem, another thing for another problem, is not as effective as stepping back, looking at the whole person, and addressing the complexity of needs in an integrated way."

Mendenhall, a leading researcher in syndemics theory, told me her method would be to approach Austin as an ethnographer; that is, by studying the people and the culture. "In syndemics, one of the most important parts is seeing who's affected," she said. She harkened back to John Snow, the British physician known as the first epidemiologist, whose examination of a London neighbourhood affected by cholera included speaking to as many people as possible, leading to his identification of a contaminated water pump as the cause. As Mendenhall explained, a syndemic approach to Austin would mean obtaining in-depth life history narratives from large numbers of people, both those who use drugs and those who don't. Those narratives would then be framed within the larger political economy, to identify the factors that put the town into strife. The approach would isolate the identifying characteristics of people who are using drugs. Is it everyone who's associated with a factory that shut down? Who was the dealer that brought drugs into the community? Is there a social belief linked with use, or is it more stress-related? "You have to figure out the social and political networks that link people to drug use," Mendenhall said.

If I was to untangle the web of problems that was smothering Austin,

then I'd have to start in the past and track how that web was spun. Austin was founded by four men in 1853. The town was small – in 1880, the population was 287 – but bustling. There was a furniture shop, a woodworking shop, a cabinet and coffin maker, two blacksmiths, two grocery shops, a saloon, a hotel, a newspaper, a literary society, two doctors and three ladies' hat shops. The main industries were timber and canning. The Morgan Packing Company, a canning factory that became the town's largest employer – and which still is today – was founded in 1899.

Brittany Combs, a public health nurse for Austin who grew up in the south-west corner of Scott County, remembers her childhood as happy and carefree. "There was a real sense of community," she said. "We all helped each other." In the 1960s, the Morgan Packing Company began expanding its workforce by transporting people north from Hazard, Kentucky. Many people living in Austin today trace their routes to that Appalachian town, including Darren and Jessica. "They call this Little Hazard," said Jessica.

Austin's decline seems to have begun in the late 1980s. The American Can Company, which manufactured cans for the Morgan Packing Company, was the town's second-largest employer for decades, but closed in 1986. Connie Mosley, who has lived in Austin since she finished high school in 1965, thinks the town deteriorated when the older generation died and the younger generation, instead of staying, sold the houses and left. "Outsiders started buying up everything," she said. Inexpensive rentals – the average monthly rent is less than $700 in Austin, lower than the US average of $934 – attracted transient people who were not necessarily looking to settle down and raise a family.

In January 1990, unemployment spiked to a high of 16.9 per cent. The average jobless rate for that year was lower, at 8.5 per cent, but still starkly at odds with an overall US unemployment rate of 5.6 per cent.

The town's infrastructure began to deteriorate. Jackie McClintock, a nurse who works with Combs, points to the lack of recreational activities as leading people to use drugs. "There's nothing for people to do," she said. "There's boredom, unemployment." Jerome Adams, Indiana's state health commissioner, describes Austin as having social and economic conditions that are ideal for a drug epidemic. "It's kind of the epitome of years of neglect, poverty, lack of education and lack of opportunity, or people's perception of lack of opportunity," he said.

Today, the estimated median household income in Austin is $33,000, about $15,000 less than that for Indiana. The average home is valued at $78,000, the US median in 2010 being $210,000. About 8.3 per cent of Austin residents are unemployed, compared with a US average of 5 per cent. An estimated 34 per cent of working people in Austin hold manufacturing jobs and just 7 per cent have a college degree. In 2013, about 25 per cent of Austin residents were living in poverty.

Widespread pill abuse can be traced back to the 1990s. Will Cooke, a physician who opened his practice in Austin in 2004, claims he has patients who have alleged pills were available at a local bar, even to teenagers. The moment he started seeing patients, they were asking for opiates and benzodiazepines, the tranquilisers more commonly known as Valium and Xanax. As Cooke sees it, Austin's substance abuse problem is the legacy of decades of challenges. "As far back as people that I've talked to can remember," he said, "it's always been a struggle in survival mode."

Adams told me the problem was exacerbated by physicians themselves. Many opioid prescriptions start out as legitimate treatments for pain. Most doctors are untrained in pain management and yet patient satisfaction scores for physicians, maintained by the Centers for Medicare and Medicaid Services, are directly determined by patients' assessment of how well their pain was managed. That score has

consequences: a low one leads to a decrease in pay. "We have an environment where doctors and hospitals feel compelled to continue to prescribe opioids based on their bottom line," said Adams. "We still haven't accepted that overprescribing is a part of the problem to the degree that I think it clearly is." In addition, addiction treatment services have been lacking. In the entire state of Indiana, there are two or three psychiatrists specialising in addiction. "We've underfunded mental health and substance abuse for decades," Adams said.

All of what has happened since the late 1980s is potentially part of Austin's syndemic: the sudden unemployment, the desertion of the young, the fall in rent prices, the rise of the itinerant population, the decline of infrastructure, the overprescription of pain pills, the lack of assistance. By the late 1990s and early 2000s, it seems, the town itself had become sick, the result of various forms of 'structural violence' – a term introduced by Harvard physician and anthropologist Paul Farmer to describe harmful social frameworks – along with historical, behavioural and political risk factors.

It was into this diseased town that Jessica and Darren were born. "The first time I saw someone taking drugs I was probably about nine or ten years old," Darren told me. "You literally couldn't walk around a corner without somebody asking, 'Hey, you wanna try this?'" He said that many relatives are drug addicts and dealers. They told me that sometimes elder relatives would sell their pills to get by. They're hardly alone. "Some of these kids around here just did not have a chance," said Darren, who has seen parents selling drugs in front of their five- and six-year-olds. Barney Rushkoff, an HIV-positive 57-year-old who lives in a mobile home without electricity or heat, told me about seeing a child playing in the street. The little boy had a towel wrapped around his arm and was shouting "shoot me, shoot me", mimicking his parents injecting. Rushkoff said he'd recently quit using but still kept sterile drug paraphernalia in his tiny bedroom for his son, an addict who lives with

him in the trailer.

Darren has used cocaine, Lortab, Percocet, OxyContin and most recently Opana, an opioid he's been shooting for the past few years. He started selling pot when he was around 14 years old. "I'd take my money and buy cocaine with it," he said. Today, he has almost nothing. He owns one pair of shoes, one pair of pants and one pair of shorts. When I asked how he would stay warm in winter – it was early December when we met – he pointed to a fleece jacket. They had sold the washer and dryer for drug money, along with almost everything else in their house, including copper stripped from the air conditioner. He's been in jail many times and served two prison sentences. He wakes up in pain and survives day-to-day, doing whatever he can to get money for drugs, including burglary, selling items stolen from the dollar store and pimping out his sister. Jessica's trajectory has been largely the same, though she has spent more time prostituting and less time in jail.

From a purely biological standpoint, the 2015 HIV outbreak was caused by the transfer of the virus by dirty needles used to inject liquefied pain pills and methamphetamine. "Everyone knows each other," Darren said. "And they're all sharing needles." Because of the sharing, a single introduction of HIV exploded among the community of drug users. Jackie McClintock, the nurse who started working with Combs when the outbreak made headlines, told me about a couple she met who'd recently moved to Austin. "They shared one needle for a month," she said. "They would shoot up at least ten times a day."

The laws surrounding drug paraphernalia, yet another part of the syndemic, likely augmented the problem of needle sharing. Prior to Indiana's governor, Mike Pence, approving the temporary needle exchange programme there, anyone found carrying a needle could be arrested for a felony. Such laws are in keeping with the mindset that people who are addicted to drugs have only themselves to blame, a

foundation of the US government's War on Drugs, set in motion by President Richard Nixon in 1971 and upheld by several subsequent administrations. Policing, along with social stigma, "increase the likelihood that drug users will live in and inject in unhygienic environments," wrote Singer and fellow researcher Nicola Bulled in their study 'Syringe-mediated syndemics', published in AIDS and Behavior in 2009.

The picture that emerges from this is one of a disease with many causes, including place of birth. An estimated 2.6 per cent of Americans have injected drugs, compared to up to 12 per cent of Austin. Thus, the very fact of living in Austin can be considered a risk factor for substance abuse. A child born there is imperilled by circumstances beyond their control. The desperation felt by many contributes to the town's illness, in part because people diagnosed with HIV may not seek treatment for either their infection or their addiction. "There's not a whole lot of hope for nobody," said Kristy Madden, 37, a recovered addict with two children and two grandchildren. "Nobody doesn't really have anything to look forward to." She said she has relatives with HIV, some of whom are still using drugs. An Austin man named Cecil, who has HIV, told me he'd recently spent $3,500 on Opana pills in less than five hours. "My days is numbered," he told me, "so why stop now?"

Syndemics does have critics. Alexander Tsai, of the Center for Global Health at Massachusetts General Hospital, published a study in 2015 demonstrating inconsistencies in evidence linking diseases and harmful social conditions. "It was a harsh critique," said Mendenhall. The study highlighted a lack of proof that syndemics works epidemiologically, that it is still theoretical. "People haven't actually tested syndemics quantitatively," Mendenhall said. In other words, there is no concrete data proving that, say, domestic abuse is a definitive cause of diabetes among Mexican immigrant women in Chicago, even though Mendenhall's hundreds of interviews implied otherwise.

But evidence linking disadvantage to poor health does exist. According to the landmark Adverse Childhood Experiences study, published in 1998, people exposed to neglect, sexual abuse, living with a substance abuser, and other situations as children were far more likely to abuse substances as adults. More recently, the massive Global Burden of Disease study, which examined a wide range of illnesses across the world, looked at suicide rates as one quantifiable measure of mental health issues. There, suicide was considered one solid indicator of such problems. A smaller-scale analysis measuring the various components of a given syndemic in a given population has not been done.

Part of the challenge is that a syndemic is hard to measure. "If a broken social network affects people's outcomes more than their daily exercise," Mendenhall noted, "how do you explicitly prove that?" Syndemics relies largely on qualitative data; that is, on descriptions provided by affected individuals, rather than on numbers and percentages. Mendenhall, who has edited a series of papers on syndemics soon to be published in the Lancet, agrees with the criticism and the importance of numerical data. But she noted that, considering its holistic view of illness, syndemics works best by "interrogating the social experience as much as the biological". And that means more allowance for correlative data. "We need people in public health and medicine to take syndemics seriously," she said. "That will allow them to incorporate the social into the understanding of the medical." Meanwhile, there are signs that medical research may be learning to make more room for so-called 'softer' science. A recently published open letter to the BMJ by 76 senior academic researchers cited concerns about the high rejection rate for qualitative research at not only that journal but also JAMA and the New England Journal of Medicine, and called on these influential journals to reconsider such policies.

But even if the HIV outbreak and widespread drug addiction in Austin are viewed as part of a system of problems, rather than a collection of

individual issues, how can this new understanding be applied? What good does any of this do? Perhaps learning to see a problem in all its true complexity will give us the opportunity to heal it more effectively. As a result of Mendenhall's work, doctors at John H Stroger, Jr Hospital of Cook County, Chicago, now routinely ask women about domestic violence. Merrill Singer's work in Hartford also led to new interventions. Previously, no support system existed for women who were pregnant and abusing drugs. Newborns were at risk of HIV and being born with drugs in their bodies. Singer was also concerned about children being put into state custody and becoming locked in the system, potentially maintaining the SAVA syndemic for the next generation. The identification of Hartford's SAVA syndemic led to a comprehensive programme specifically for women who were pregnant and abusing drugs. Funding eventually waned, but a residential drug treatment programme in the town, which was born of the effort, remains.

I caught a glimpse of how a syndemic understanding of Austin's problems might work when I accompanied Combs and McClintock during their home delivery of sterile drug paraphernalia, a service they provide every Friday afternoon. Their needle programme has been controversial in the town. "Fuelling the habit is not helping," said Linda Brandenburg, a 47-year-old Austin resident. Another local, Linda Bowling, thought the money would be better spent on children. These might be considered understandable positions in the absence of a syndemic perspective.

Combs and McClintock were so friendly with the people they brought supplies to that I was, at first, squeamish about the chumminess. They knew the clients and greeted them with familiarity. Sitting in the backseat of their car as they made their rounds, I caught myself judging Combs and McClintock for being so accepting of people shooting up. When they asked what size needle to provide – meth users and Opana users prefer different gauges because of each drug's thickness – it had all

the gravity of a coffee order. They asked about needle sharing, sleep habits and injection frequency quickly and in the same cheery tone as their greeting. Back in the car, Combs and McClintock discussed the potential whereabouts of missing clients in a way that seemed far removed from what that absence might imply. As if catching up on the day's news, McClintock scrolled through the county jail inmate list on her phone to see if they could account for anyone. I wondered if the critics could be right. Their niceness surely condoned the addiction.

But their programme has been enormously successful. More than half the town's injecting drug users are enrolled. The HIV outbreak tapered off soon after it began. As effective as it has undoubtedly been, though, addressing the entire syndemic in Austin requires more than a needle exchange. "It's not enough," said David Himmelgreen, who has studied the connection between food insecurity and HIV in southern Africa. "You want people off their addiction, but they need to be well-nourished in body and mind." Jerome Adams sees social stigma as a major barrier to reducing substance abuse. "We've got to get everyone on board with the concept that addiction is a chronic disease," he said. "It is not a moral failure."

Two days later, I began to understand the underlying value not only of Combs and McClintock's work for the needle exchange, but of the human exchange it fostered. When interviewing Darren, he told me he had never talked about his life before. Nobody had been interested. He said he thinks every day about all the people he's hurt and wishes he could go back to school and then work as a car mechanic. Jessica also dreams of another life. "I would give anything in the world if I had never seen a pill," she said. They're both grateful for the clean paraphernalia they receive each week. "That needle exchange is the best thing that could've happened to Austin," Darren said. It's likely that soon after I left, Darren and Jessica got some Opana or did some more meth until they found their relative's lost pill. Jessica was planning to enter rehab

six weeks from then, which may or may not have happened. The barriers to any sort of healing for them both may be insurmountable.

What I'd realised, during my week in Austin, was that a friendly interaction might just turn out to be as healing for its people as a sterile needle. But does that make the no-trespassing signs and the community's attitude toward addiction part of the syndemic? Many residents I met spoke of drug users as evil, with only themselves to blame for their choices. Others resented how the media portrayed the town. "The country just singled us out as the only place this ever happens," an owner of Buchanan Funeral Home told me. She admonished me to be sure I got the facts right when I wrote about Austin. Then she excused herself to tend to a family who had come to collect their funeral flowers. They'd just buried their 26-year-old son, who'd died of an overdose, two years after burying his older brother.

Although interviewees granted permission for their names to be used, some have been changed for privacy and legal reasons. Some family relationships have also been obscured.