WEB MATERIAL

Prevalence and Correlates of Providing and Receiving Assistance With the Transition to Injection Drug Use

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Web Table 1. Medline Search Strategy for a Systematic Review of the Prevalence and Correlates of Providing and Receiving Injection Initiation Assistance

Database: Ovid MEDLINE: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE® Daily and Ovid MEDLINE® <1946-Present>

#	MEDLINE Search Term
1	Substance Abuse, Intravenous/
2	who inject drugs.tw,kf.
3	(PWID or IDU or IVDU or IVDA or PWIDS or IDUS or IVDUS or IVDAS).tw,kf.
4	((intravenous or inject* or IV or intra-venous) adj2 (substance abuse* or substance use* or drug abuse* or drug use* or drug addict* or heroin or opioid* or opiate* or cocaine* or amphetamine* or methamphet* or fentanyl or carfentanil or carfentanyl or street drug* or dependenc*)).tw,kf.
5	or/1-4
6	exp Opioid-Related Disorders/
7	exp Street Drugs/ or Methamphetamine/
8	Cocaine-Related Disorders/
9	Amphetamine-Related Disorders/
10	Drug Users/
11	or/6-10
12	Injections, Intravenous/
13	Syringes/
14	Needles/
15	Needle Sharing/
16	or/12-15
17	11 and 16
18	5 or 17
19	(inject* adj5 initiat*).tw,kf.
20	(inject* adj5 first).tw,kf.
21	(inject* adj5 transition*).tw,kf.
22	(inject* adj5 gateway).tw,kf.
23	(inject* adj3 assist*).tw,kf.
24	(inject* adj3 help*).tw,kf.
25	(inject* adj3 facilitat*).tw,kf.
26	((inject* adj3 friend*) or (inject* adj3 commenc*) or (inject* adj2 peer*)).tw,kf.
27	new injector*.tw,kf.
28	start* injecting.tw,kf.
29	or/19-28
30	18 and 29
31	limit 30 to english language
32	limit 31 to (case reports or comment or editorial or letter)
33	31 not 32
34	33 not (animals/ not humans/)

Web Table 2. Studies Included in a Systematic Review of the Prevalence and Correlates of Providing and Receiving Injection Initiation Assistance

1st Author, Year (Reference)	Country (City)	Study Design	Sampling Method (Study Name)	Quality Rating[a]	Data Collection Period (Years)	Sample Size	Inclusion Criteria	% Female	Age	Drugs Used by ≥50%	Outcome[b]
Abelson, 2006 (1)	Australia (Sydney, Brisbane, New South Wales)	Cross-sectional	Venue-Based Convenience	F	2000-2002	336	Aged 16-25 at interview, injected drugs in previous 6 months	41.0%	16-25	Stimulants	R
Amin-Esmaeili, 2016 (2)	Iran (Tehran)	Cross-sectional	Venue and Community-Based Convenience	F	2006-2007	904	Injected drugs in past 2 months, 15+ years old, cognitively able to be interviewed	4.2%	16-65	Heroin/ kerack	R, P
Arreola, 2014 (3)	USA (Los Angeles, San Francisco)	Cross-sectional	Community-Based Convenience	F	2011-2013	696	30+ years old, physical evidence of recent injection (at least one injection episode in last 30 days and visible signs of venipuncture)	25.6%	30+		R
Barry, 2012 (4)	Ireland (Dublin)	Cross-sectional	Venue and Community-Based Convenience	P[c]		104	Aged 16-27 years, receiving opioid substitution treatment or currently injecting opiates	39.4%	16-27	Heroin, cocaine	R
Becker Buxton, 2004 (5)	USA (Baltimore, Chicago, Los Angeles, New Orleans, New York City)	Cross-sectional	Community-Based Convenience (CIDUS-II)	F	1997-1999	1836	Aged 15-40, began injecting in last 6 years, injected in last 6 months, able to provide informed consent	40.1%	15-40		R
Ben Hamida, 2018 (6)	Mexico (Tijuana)	Cohort	Community-Based Convenience (El-Cuete)	F	2014-2016	534	Aged 18+, injected in the past 6 months, spoke English or Spanish, completed PRIMER study baseline visit	38.4%	21-67	Illicit psycho-active drugs	P
Bluthenthal, 2014 (7)	USA (Los Angeles, San Francisco)	Cross-sectional	Community-Based Convenience	F	2011-2013	605	Aged 18+, injected in past 30 days (verified by visual inspection for recent venipuncture), able to provide informed consent, answered questions about injection initiation, identified as male or female sex/gender (excluded n=2 participants who identified as transgender)	26.1%	18+		P
Bravo, 2003 (8)	Spain (Barcelona, Madrid, Seville)	Cross-sectional	Venue and Community-Based Convenience	F	1995	900	Used heroin 15+ times in lifetime, used heroin during past 30 days, ever used heroin at least weekly or more often frequency (exclusion: major inconsistencies in answers to questions about changes in route of administration)	18.2%	68.0% aged 25-35	Heroin	R
Bryant, 2007 (9)	Australia (New South Wales, Queensland)	Cross-sectional	Community-Based Convenience (Initiations and Transitions into Drug Use Study)	P[d]	2000-2002	336	Aged 16-25 years, injected drugs in past 6 months, injecting for 5 or fewer years	43.5%	16-25	Heroin/ Methadone	R
Bryant, 2008 (10)	Australia (New South Wales, Queensland)	Cross-sectional	Community-Based Convenience (Initiations and Transitions	F	2000-2002	324	Aged 16-25 years, injected drugs in past 6 months, injecting for a duration of 5 or fewer years, answered questions about injection initiation	55.9%	16-25	Heroin/ Methadone	P

			into Drug Use Study)								
Cintra, 2006 (11)	Brazil (Salvador, São José do Rio Preto, Porto Alegre City, Gravataí, Florianópolis, Itajaí)	Cross-sectional	Venue-Based Convenience (AjUDE-Brasil II Project)	P[e]	2000-2001	855	Aged 18+, injected in past 5 years, visible physical signs of injecting drugs	17.1%	18+	Cocaine	R
Clatts, 2009 (12)	Vietnam (Hanoi)	Cross-sectional	Community-Based Convenience	G	2005-2006	179	Aged 16-29, male, self-reported using heroin in past 30 days, first heroin use within 4 years of study enrollment, ever injected drugs	0.0%	15-27	Heroin	R
Crofts, 1996 (13)	Australia (Melbourne)	Cross-sectional	Venue and Community-Based Convenience	P[f]		300	Aged 12-21 years, first injection within 5 years of enrollment (correlates analysis excludes: assisted only 1 person with injection initiation [vs. includes those who assisted 0 or 2+ people with first injection])	36.7%	12-21	Ampheta-mines, Heroin	R, P
Day, 2005 (14)	Australia (Sydney)	Cross-sectional	Venue-Based Convenience	F	2000-2001	399	Used heroin at least once per month in the past six months	37.0%	17-58	Heroin	R, P
Debeck, 2013 (15)	Canada (Vancouver)	Cross-sectional	Community-Based Convenience (ARYS)	F	2005-2012	405	Aged 14-26, reported use of illegal drugs (other than or in addition to marijuana) in last 30 days, reported injecting at baseline or some point in study follow-up, complete information on measures of interest	32.3%	14+	Opiates (Heroin, Heroin+ Methamp-hetamine, Heroin+ Cocaine, Dilaudid, Morphine, Codeine)	R
Des Jarlais, 2019 (16)	Estonia, USA (Tallinn, Staten Island New York City)	Interven-tion (not RCT)	Respondent-Driven Sampling (Estonia), Venue-Based Convenience (Staten Island New York City)	G	2016-2018	402	Aged 18+, spoke Estonian or Russian (Tallinn) or English (Staten Island), injected in previous 2 months, able to provide and provided informed consent, Estonia site: attended needle and syringe program or had a respondent driven sampling (RDS) coupon	Tallinn: 23.1%, Staten Island: 37.9%	18+	Tallinn: fentanyl, ampheta-mine or methamph-etamine, Staten Island: heroin	P
Diaz, 2002 (17)	USA (Harlem, New York City)	Cross-sectional	Community-Based Convenience (CIDUS-II: Harlem Outreach Prevention and Education)	P[g]	1997-1999	156	Aged 18-30, reported injecting drugs in past 6 months, identified as Hispanic (Latino)	28.2%	18-30	Heroin	R
Doherty, 2000 (18)	USA (Baltimore)	Cross-sectional	Community-Based Convenience (REACH)	F	1994-1996	229	Aged 18-29, injected in past year, complete data on all measures	54.1%	18-29	Heroin, Cocaine	R
Doherty, 2000 (19)	USA (Baltimore)	Cross-sectional	Community-Based Convenience (REACH)	F	1994-1996	229	Aged 18-29, injected in past year, complete data on all measures	54.1%	18-29	Heroin, Cocaine	R
Dunn, 2010 (20)	Australia	Cross-sectional	Community-Based Convenience (Ecstasy and	F	2007	741	Used ecstasy monthly or more often in the past 6 months	42.1%	16-54	Ecstasy, Alcohol, Cannabis, Tobacco,	R

			Related Drugs Reporting System)							Methamphetamine	
Frajzyngier, 2007 (21)	USA (New York City)	Cross-sectional	Community-Based Convenience	G	1999-2003	249	Aged 18-30 years, initiated injecting within past 6 years, injected within the past 30 days, had at least one other person present at the time of their first injection	34.1%	18-30	Heroin	R
Fuller, 2003 (22)	USA (Baltimore)	Cross-sectional	Community-Based Convenience (REACH II)	F	1997-1999	226	Aged 15-30 years, initiated injecting drugs within last 5 years, injected at least once in past 6 months	60.6%	15-30	Heroin	R, P
Fuller, 2005 (23)	USA (Baltimore)	Cross-sectional	Community-Based Convenience (REACH II)	P[h]	1997-1999	144	Aged 15-30 years, initiated injecting drugs within last 2-5 years, injected at least once in past 6 months	60.0%	15-30	Heroin	P
Garfein, 1998 (24)	USA (Baltimore)	Cross-sectional	Community-Based Convenience (REACH)	F	1994-1996	229	Aged 18-29, reported injecting during the past year, provided picture identification to verify age	54.1%	18-29	Heroin, Cocaine	R
Goldsamt, 2010 (25)	USA (New York City)	Cross-sectional	Community-Based Convenience	F		146	Aged 16-30 years, initiated injecting in past 3 years	30.8%	16-30	Heroin	R
Guichard, 2013 (26)	France	Cross-sectional	Community-Based Convenience (PrimInject)	F	2010-2011	449	Aged 15+, participated in online PrimInject survey, completed and consistently answered questions on first injection, reported ever injecting drugs, lived in France	36.0%	15-62	Heroin, Cocaine, Buprenorphine	R
Guichard, 2015 (27)	France	Cross-sectional	Community-Based Convenience (PrimInject)	F	2010-2011	262	Aged 15+, participated in online PrimInject survey, completed and consistently answered questions about first injection, reported injecting drugs for the first time in/after year 2000, lived in France	34.7%	15+	Heroin	R
Hahn, 2001 (28)	USA (San Francisco)	Cross-sectional	Community-Based Convenience (UFO)	G	1997-1999	308	Aged <30 years, injected drugs in past month, spoke English as primary language, had blood drawn, had anti-HCV testing results	30.8%	<30	Heroin, Heroin+ Methamphetamine, Cocaine	R
Hart, 1989 (29)	United Kingdom (London)	Cross-sectional	Venue-Based Convenience	F	1986-1987	116	Entering treatment for drug dependency at study site	45.7%	19-47	Heroin	R
Hunt, 1998 (30)	United Kingdom (England)	Intervention (not RCT)	Venue and Community-Based Convenience	F	1996	86	Injected drugs in past month, spoke English	22.1%	Mean (SD): 30 (7)	Heroin	P
Kermode, 2007 (31)	India (Imphal, Dimapur)	Cross-sectional	Venue-Based Convenience	F	2006-2006	200	Aged 18+ years, injected an illicit drug in last 3 years	10.0%	19-28	Spasmo-Proxyvon (Dicyclomine, Paracetamol, and Tramadol)	R, P
Kerr, 2007 (32)	Canada (Vancouver)	Cross-sectional	Venue-Based Convenience (SEOSI)	G	2003-2005	1065	Aged 19+ years, performed at least two injections at INSITE (safe injection site)	29.3%	19-64		R
Lankenau, 2007 (33)	USA (New Orleans, New York, Los Angeles)	Cross-sectional	Community-Based Convenience	G	2004-2006	213	Aged 16-28 years, injected ketamine in past 2 years, reliable and consistent interview data	31.9%	16-28	Ketamine, Heroin, Methamphetamine, Cocaine, Other (Alcohol,	R

										Marijuana, Speedball, Crack, Ecstasy, LSD, PCP, Mushrooms, GHB, Prescription drugs)	
Lankenau, 2010 (34)	USA (New Orleans, New York, Los Angeles)	Cross-sectional	Community-Based Convenience	G	2004-2006	222	Aged 16-29 years, injected ketamine in past 2 years, initiated injection with heroin, methamphetamine, ketamine, or cocaine (i.e., excludes those who initiated with prescription drugs, hallucinogens, alcohol, etc.)	30.2%	16-29	Ketamine, Heroin, Metham-phetamine, Cocaine, Other (Alcohol, Marijuana, Speedball, Crack, Ecstasy, LSD, PCP, Mushrooms, GHB, Prescription drugs)	R
McCalman, 2001 (35)	Australia (Cairns)	Cross-sectional	Community-Based Convenience	P[i]		56	Aged 12-25, though some participants were up to 30 years of age	41.0%	13-30		R
Melo, 2018 (36)	USA, Mexico, Canada (San Diego, Tijuana, Vancouver)	Cross-sectional	Community-Based Convenience (El-Cuete, STAHR, VIDUS, ACCESS, ARYS)	F	2014-2016	2122	Recent injection drug use before cohort study's baseline visit, answered questions about injection initiation	35.3%	Mean (SD): 45 (11)		P
Meyers, 2018 (37)	USA, Mexico, Canada (San Diego, Tijuana, Vancouver)	Cross-sectional	Community-Based Convenience (El-Cuete, STAHR, VIDUS, ACCESS)	G	2014	2113	Reported injecting drugs in the past 30 days before baseline cohort study visit, met cohort-specific enrollment criteria (VIDUS and ACCESS: aged 14+ years; STAHR and El-Cuete: aged 18+ years)	35.3%	14+	Heroin, Cocaine, Metham-phetamine	P
Mittal, 2017 (38)	USA (San Diego)	Cross-sectional	Community-Based Convenience (STAHR)	F	2014	354	Aged 18+, last injection within 30 days of baseline of parent study visit (STAHR II)	27.7%	18+	Heroin, Cocaine, Metham-phetamine injection	P
Mittal, 2019 (39)	Canada (Vancouver)	Cross-sectional	Community-Based Convenience (ACCESS, ARYS, VIDUS)	F	2014-2017	1740	Reside in Vancouver area, reported ever injecting drugs, met parent study eligibility criteria (ARYS: aged 14-26, street-involved [homeless or used street used services], reported illegal drug use other than cannabis in past month; ACCESS: aged 18+ years, living with HIV, reported illegal drug use other than cannabis in past month; VIDUS: aged 18+ years, HIV-negative, reported injecting drugs at least once in past month)	37.7%	14+	Heroin	P
Navarro, 2019 (40)	USA (Los Angeles, San Francisco)	Cross-sectional	Community-Based Convenience	F	2016-2017	979	Aged 18+ years, reported injecting drugs in past 30 days (confirmed by visual inspection of injection sites)	22.8%	18+	Heroin, Methamph-etamine, Goofball	P
Novelli, 2005 (41)	USA (Baltimore)	Cross-sectional	Community-Based Convenience (REACH III)	F		420	Aged 15-30 years, initiated injecting in last 5 years, injected in past 6 months	41.2%	15-30	Heroin, Speedball	R

Oliveira, 2006 (42)	Brazil (Rio de Janeiro)	Cross-sectional	Community-Based and Venue-Based Convenience (WHO Drug Injection Study Phase II)	F	1999-2001	606	Ever injected drugs, injected for ≥1 years duration	8.6%	Mean (SD): 32 (10)	Cocaine	R
Rafful, 2018 (43)	Mexico (Tijuana)	Cross-sectional	Community-Based Convenience (El-Cuete)	F	2014	532	Aged 18+ years, injected drugs in past month, spoke English or Spanish, currently living in Tijuana with no plans to move, not participating in an intervention study, participated in PRIMER study baseline survey	38.5%	18+	Heroin, Metham-phetamine	P
Rafful, 2018 (44)	USA, Mexico (San Diego, Tijuana)	Cross-sectional	Community-Based Convenience (El-Cuete, STAHR)	F	2014	892	Aged 18+ years, injected drugs in the past month, spoke English or Spanish, currently live in San Diego (STAHR) or Tijuana (El-Cuete) with no plans to move, not currently participating in an intervention study, participated in PRIMER baseline survey	38.4%	18+		P
Rotondi, 2014 (45)	Canada (Toronto)	Cross-sectional	Respondent-Driven Sampling (Change the Cycle)	F	2011	98	Aged 16+ years, injected drugs in past month, spoke English, able to provide informed consent	34.1%	23-72	Heroin, Other Opioids	R, P
Roy, 2002 (46)	Canada (Montreal)	Cohort	Venue-Based Convenience	F	1995-2000	505	Aged 14-25 years (at baseline), spoke English or French, able to provide informed consent, intended to stay in Montreal area for next year, met definition of street youth (without a place to sleep more than once or regularly used services of Montreal street youth agencies in previous year [3+ episodes]), injected at least once prior to study entry or during follow-up, completed questions about first drug injection	35.4%	14-28	Cocaine	R
Santibañez, 2005 (47)	USA (Baltimore, Chicago, Los Angeles, New Orleans, New York City)	Cross-sectional	Community-Based Convenience (CIDUS-II)	F	1997-1999	2198	Aged 18-30 years, injected drugs in last 6 months	34.1%	18-30		P
Stillwell, 1999 (48)	United Kingdom	Cross-sectional	Venue and Community-Based Convenience	F	1996-1996	86	Injected in past month, spoke English	22.1%	Mean (SD): 30 (7)	Heroin	R
Strike, 2014 (49)	Canada (Toronto)	Interven-tion (not RCT)	Respondent-Driven Sampling (Change the Cycle)	F	2011-2012	98	Aged 16+ years, injected drugs in past month, spoke English, able to provide informed consent	34.1%	23-72	Heroin, Other Opioids	P
Toro-Tobón, 2019 (50)	Colombia (Armenia, Bogotá, Cúcuta, Medellín, Pereira)	Cross-sectional	Respondent-Driven Sampling (PAHO Behaviors of High Risk Drug Consumers Survey)	F	2014	1081	Aged 18-59 years, reported injecting drugs in past 6 months	13.9%	18-59		R
Uusküla, 2018 (51)	Estonia (Tallinn)	Cross-sectional	Respondent-Driven Sampling	F	2016-2017	299	Aged 18+ years, spoke Estonian or Russian, injected in past 2 months, able and willing to provide informed consent	23.3%	18-58	Fentanyl	P
Vallejo, 2008 (52)	Spain (Barcelona, Madrid, Seville)	Cross-sectional	Community-Based Convenience and Respondent-	F	2001-2003	949	Aged 18-30 years, used heroin on at least 12 days of past 12 months and 1 day of past 3 months, residence in one of study sites during most of last 12 months, sufficient fluency in	24.8%	18-30	Heroin, Cocaine	R

			Driven Sampling (Itinere Project)				Spanish to answer questions, sufficient blood sample for HBV testing				
Vidal-Trecan, 2002 (53)	France (Paris)	Cross-sectional	Venue-Based Convenience	F	1997	151	Aged 18+ years, provided informed consent and able to answer questions, no severe psychiatric problems, injected drugs in the past year	21.2%	18+	Heroin	R
Werb, 2013 (54)	Canada (Vancouver)	Cohort	Community-Based Convenience (ARYS)	F	2005-2010	395	Aged 14-26 years at baseline, street-involved, used illicit drugs other than marijuana in past 30 days, never injected at baseline, attended 1+ follow-up visits to assess initiation of injecting	31.9%	14+	Crack	R
White, 2019 (55)	USA (Cabell County, WV)	Cross-sectional	Capture-Recapture Community-Based	F	2018	420	Aged 18+ years, injected drugs in past 6 months	38.8%	19-63	Heroin, Crystal Methamph-etamine, Fentanyl	P
Young, 2014 (56)	USA (Appalachian Kentucky)	Cross-sectional	Respondent-Driven Sampling (SNAP)	G	2008-2010	394	Aged 18+ years, resided in Appalachian Kentucky, used at least one of the following drugs to get high in past 30 days: prescription opioids, heroin, crack/cocaine, or methamphetamine, ever injected drugs	41.4%	18+	Prescription Opioids	R, P
Zahnow, 2018 (57)	Worldwide (Any Country or City)	Cross-sectional	Community-Based Convenience (Global Drug Survey)	F	2014-2015	619	Completed online Global Drug Survey, reported injecting drugs in past year, male or female sex/gender (i.e., excludes those who did not report sex/gender or who identified as transgender or another type of sex/gender)	28.8%	16+	Heroin	R

[a]Study quality rating abbreviated as G: Good, F: Fair, P: Poor.
[b]Study outcomes abbreviated as R: Receiving Injection Initiation Assistance, P: Providing Injection Initiation Assistance.
[c]Reason for poor quality rating (Barry, 2012): Time frame of data collection not specified, sampling method unclear, no information about measures, minimal information about analytic strategy.
[d]Reason for poor quality rating (Bryant, 2007): Independent variables did not precede outcome in regression models (sex/gender treated as an outcome), model may be over-saturated with collinear covariates (e.g. person who paid for drugs, person who obtained fit) resulting in imprecise results.
[e]Reason for poor quality rating (Cintra, 2006): Independent variables did not precede outcome in regression models (sex/gender treated as an outcome), unclear definition of injection initiation assistance (help or guidance vs. injecting another person), imprecise estimates due to small n in strata of some categorical variables.
[f]Reason for poor quality rating (Crofts, 1996): Little information on measures, questions assessed, and timeframe of recall for covariates, unclear definition of "initiating," small n in strata for some covariates, likely collinear variables (e.g., injecting drugs in addition to chosen injected drugs and using no other drugs), unclear whether some ORs were crude vs. adjusted estimates, timeframe of data collection not provided.
[g]Reason for poor quality rating (Diaz, 2002): Issues with analytic strategy (e.g., sub-analyses restricted to some participants may have been appropriate [e.g., included a group that did not have someone who helped with injection initiation in statistical testing assessing condition of person providing injection initiation assistance rather than excluding these individuals], in some cases may have needed Fisher's exact test).
[h]Reason for poor quality rating (Fuller, 2005): Independent variables did not precede outcome in regression models (e.g., condom use in the year after initiation is a predictor of the outcome of age of initiating injection).
[i]Reason for poor quality rating (McCalman, 2001): Minimal eligibility or inclusion/exclusion criteria provided, no information on definition of measures including injection initiation, years of data collection not provided, may have actively recruited people who received injection initiation assistance resulted in biased prevalence.

Web Table 3. Studies Documenting Prevalence and Correlates of Receiving Injection Initiation Assistance

1st Author, Year (Reference)	Study Country	Sample Size	Percent who Received Assistance	Correlates Assessed	Correlates Associated with Receiving Assistance
Abelson, 2006 (1)	Australia	336	81.3% were injected by another person at the first injection	Multivariable logistic regression of the association of being injected by another person (vs. self) during the first injection with early age of injection initiation (defined as reporting that the first injection occurred at the age of ≤16 versus 17+ years) adjusted for whether an immediate family member was also injecting drugs at the time around the participant's first injection, leaving school before year 10, reporting an unstable source of income at the time of the first injection, the length of time the participant used drugs before starting to inject, whether the first injection was planned, and the reason for first injection (experimentation/curiosity vs. other reason).	Being injected by another person at the first injection was associated with a higher adjusted odds of initiating injection at 16 years of age or younger (aOR [95% CI]: 3.1 [1.2-8.3]).
Amin-Esmaeili, 2016 (2)	Iran	904	63.8% were injected by another person at the first injection	None	NA
Arreola, 2014 (3)	USA	696	85.7% were injected by another person at the first injection	Multivariable logistic regression of the association of being injected by someone the same age or younger at first injection (vs. older or self-injected) with initiating injection later in life (defined as reporting that the first injection occurred at 30+ years vs. <30 years of age) adjusted for use of the first injected drug by another route prior to injection, sex/gender, receiving substance use disorder treatment prior to initiating injection, race (white, African American, Latino, or other), age at first illicit drug use, ever being diagnosed with bipolar disorder, past 30-day injection frequency (less than once a day, once or twice a day, or three or more times a day), and recruitment city (San Francisco or Los Angeles).	Reporting that the first injection was administered by someone the participant's age or younger (vs. older or self-initiating) was associated with higher adjusted odds of initiating injection at 30 years of age or older (aOR [95% CI]: 3.0 [1.9-4.7], p=0.0001).
Barry, 2012 (4)	Ireland	104	88.4% were injected by another person at the first injection	Bivariate odds ratio of the association of sex/gender with being injected by a sexual partner at initiation (vs. self or another type of person).	Females had higher odds than males of being injected by a sexual partner at initiation (vs. by themselves or another type of person, OR [95% CI]: 9.6 [1.8-51.0]).
Becker-Buxton, 2004 (5)	USA	1836	80.4% were injected by another person at the first injection	Chi-squared test for differences in person administering first injection being >5 years older than the participant vs. self or 5 or fewer years older than the participant by duration injecting (0-1, 2-3, or 4-6 years).	Duration the participant reported injecting was associated with the age of the person administering the participant's first injection (33% of participants injecting 0-1 year, 32% of participants injecting 2-3 years, and 43% of participants injecting 4-6 years were initiated by someone >5 years older than the participant, p=0.001).
Bravo, 2003 (8)	Spain	900	69.2% were injected by another person at the first injection	Chi-squared test for sex/gender differences in being injected by a sexual partner vs. the participant themselves or someone else.	Females more commonly reported being injected by a sexual partner vs. by themselves or another type of person than males (30% of females vs. 1% of males, p<0.00001).
Bryant, 2007 (9)	Australia	336	69.8% were injected by another person at the first injection	Multivariable logistic regression of the association of who performed the first injection (a partner, friend, other person, or the participant themselves) and	After adjustment, there was no association between who administered the first injection and sex/gender (injected by a sex partner vs. self: aOR [95% CI]: 1.7 [0.5-5.3],

				sex/gender (female vs. male) adjusted for aboriginal ethnicity, source of income, having a sexual partner who injected drugs, years of pre-injection drug use, previous use of speed, the person who obtained the first drugs injected (partner, friend, other, self), the person who paid for the first drugs injected (partner, friend, other self), the person who obtained the fit during the first injection (partner, friend, other, self), the sex/gender of others present at the participant's first injection (mix of male and female, all or mostly female, all or mostly male, no others), and the drug injected (heroin/methadone, speed/cocaine).	injected by a friend vs. self: aOR [95% CI]: 0.9 [0.4-2.2], injected by another person vs. self: aOR [95% CI]: 1.5 [0.5-4.4]).
Cintra, 2006 (11)	Brazil	855	73.6% received help, guidance, or assistance with the first injection	a) Unadjusted odds ratio for association of who performed, helped, or guided the participant in their first injection (sexual partner, relative, intimate friend, acquaintance, drug dealer vs. without assistance) with the participant's sex/gender among the total sample and b) among a subset of n=307 participants living with HIV, multivariable logistic regression for association of who performed, helped, or guided the participant in their first injection (sexual partner, relative, intimate friend, acquaintance, drug dealer vs. without assistance) with the participant's sex/gender adjusted for study site (city), education level, and having partner of the opposite sex who uses drugs.	a) Among the total sample, receiving assistance from a sexual partner (vs. self-initiating, OR [95% CI]: 12.6 [5.7-28.4]) or an acquaintance (vs. self-initiating, OR [95% CI]: 1.8 [1.0-3.5]) were associated with being female (vs. male), b) Among participants living with HIV, receiving assistance from an intimate friend (vs. self-initiating, aOR [95% CI]: 3.7 [1.0-13.6]) or a sexual partner (vs. self-initiating, aOR [95% CI]: 23.7 [2.9-191.8]) was associated with being female (vs. male).
Clatts, 2009 (12)	Vietnam	179	91.6% received help, guidance, or assistance with the first injection	Chi-squared tests for differences in receiving injection initiation assistance and hepatitis C seropositivity at the time of study participation.	There was no difference in receiving injection initiation assistance by hepatitis C status (90.6% HCV+ assisted in first injection, 92.8% HCV- assisted in first injection, p=0.16).
Crofts, 1996 (13)	Australia	300	88.0% were injected by another person at the first injection	Unadjusted odds ratio for association of whose idea the first injection was (participant vs. someone else) with receiving assistance.	Reporting that injecting for the first time was the participant's own idea was associated with being injected by another person at initiation (OR [95% CI]: 8.8 [2.0-55.0], p<0.001).
Day, 2005 (14)	Australia	399	90.0% received help, guidance, or assistance with the first injection	None	NA
Debeck, 2013 (15)	Canada	405	75.6% received help, guidance, or assistance with the first injection	Unadjusted odds ratio for association of receiving assistance and frequency of injecting drugs.	No association, OR (95% CI): 1.4 (0.9-2.4).
Diaz, 2002 (17)	USA	156	72.4% were injected by another person at the first injection	Chi-squared tests for sex/gender differences in a) being injected by another person at initiation and b) descriptors of the relationship between the person providing and receiving injection initiation assistance.	Sex/gender was associated with differences in the condition (sobriety) of the person initiating (32% of men and 17% of women self-initiated injection, 12% of men and 21% of women reported the person who assisted them was sober, 41% of men and 45% of women reported the person who assisted them was high on drugs, 11% of men and 14% of women reported the person who assisted them was in withdrawal, and 4% of men and 3% of

					women reported the person providing assistance was in another condition, p=0.001) and whether the participant was in a relationship with the person assisting them (32% of men and 17% of women reporting self-initiating injection, 4% of men and 26% of women reported the person who assisted them was a spouse, boyfriend, or girlfriend, 49% of men and 48% of women reported the person providing assistance was a friend, and 13% of men and 9% of women reported the person providing assistance was another type of person, p=0.011) or had sex during the first injection (84% of men and 71% of women either self-initiated injection or did not have sex with the person providing assistance, 2% of men and 2% of women had sex with the person providing assistance just before injecting, 5% of men and 23% of women had sex with the person providing assistance directly after injection, and 9% of men and 4% of women had sex with the person providing assistance at another time, p=0.012)
Doherty, 2000 (18)	USA	229	83.4% were injected by another person at the first injection	Chi-squared tests for a) sex/gender differences in being injected by another person at initiation and b) differences in several categorical covariates by groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	88% females injected by another and 78% males injected by another at first injection (p=0.047), Past 6-month crack smoking (23% male-female, 10% female-male, 32% female-female, 6% male-male, 5% self-initiate smoked crack daily in past 6 months, p=0.001), ever being raped (53% male-female, 19% female-male, 45% female-female, 6% male-male, 23% self-initiate ever raped, p=0.001), having >100 sexual partners (18% male-female, 10% female-male, 7% female-female, 3% male-male, 0% self-initiate had >100 lifetime sex partners, p=0.032), ever having a sex partner who injected drugs (65% male-female, 71% female-male, 55% female-female, 46% male-male, 27% self-initiate ever had sex partner who injected drugs, p=0.016), trading penile-vaginal sex (53% male-female, 29% female-male, 44% female-female, 11% male-male, 23% self-initiates traded penile-vaginal sex, p=0.001), oral sex (33% male-female, 29% female-male, 29% female-female, 7% male-male, 14% self-initiate traded oral sex , p=0.003), or anal sex (3% male-female, 19% female-male, 4% female-female, 3% male-male, 0% self-initiate traded anal sex, p=0.014) for money or drugs since starting to inject drugs, and sharing syringes in the past 6 months (50% male-female, 52% female-male, 27% female-female, 49% male-male, 18% self-initiate shared needles in the past 6 months, p=0.004) were associated with the sex/gender combination of the helper-initiate pair
Doherty, 2000 (19)	USA	229	90.4% received help, guidance, or assistance with the first injection	Unadjusted odds ratio for association of HIV status with self-initiation of injecting	No association, OR (95% CI): 0.57 (0.13-2.51)

Dunn, 2010 (20)	Australia	741	89.6% were injected by another person at the first injection	Unadjusted odds ratio for the association of sex/gender with being injected by an acquaintance (vs. someone else or no one) or a partner, regular sex partner, or casual sex partner (vs. someone else or no one).	Female (vs. male) sex/gender associated with being injected by a partner or sex partner (vs. someone else or no one, OR [95% CI:] 2.5 [1.1-5.0]) and by an acquaintance (vs. someone else or no one, OR [95% CI]: 5.0 [1.4-25.0]).
Frajzyngier, 2007 (21)	USA	249	73.1% were injected by another person at the first injection and 80.7% received help, guidance, or assistance with the first injection	a) Chi-squared tests for sex/gender differences in being injected by another person at initiation or receiving injection initiation assistance, b) unadjusted and multivariable logistic regression among men (n=164) and women (n=85), for the association of being injected by another person (vs. self-administered first injection) and receptively sharing syringes or other injection equipment at injection initiation. Multivariable analysis adjusted for race/ethnicity, duration injecting drugs, obtaining syringes from a syringe services program or pharmacy, and whether injection initiation was the idea of both the participant and person providing assistance (vs. the initiate's own idea or someone else's idea).	Females more commonly reported being injected by another person (88% of female vs. 65% of male participants, $p<0.05$) and receiving help, guidance, or other assistance (92% of females and 75% of males, $p<0.05$) than males. Among women, those who were injected by another person at initiation did not differ in their odds of sharing injection equipment (syringes or other materials) at injection initiation than those who self-injected the first time in unadjusted analyses (OR [95% CI]: 2.5 [0.5-12.9]). Among men, those who were injected by another person the first time (vs. who injected themselves) had higher adjusted odds of sharing injection equipment (syringes or other materials) at initiation (aOR [95% CI]: 3.3 [1.2-8.8]).
Fuller, 2003 (22)	USA	226	82.3% received help, guidance, or assistance with the first injection	a) Unadjusted logistic regression of the association of receiving injection initiation assistance with attendance at a shooting gallery (attendance defined as use of needles or other equipment borrowed, rented, or bought from the shooting gallery) within the first year of initiating injection and b) multivariable logistic regression of the association of receiving injection initiation assistance from someone 5+ years older than the participant (vs. <5 years older, younger, or self-initiated) and attendance at a shooting gallery within the first year of initiating injection adjusted for HIV status, sharing injection equipment in the year following initiation, and injecting with 2+ people, at least one of whom was a stranger, in the year following injection initiation.	There was no association between receiving injection initiation assistance and visiting a shooting gallery in the first year following injection initiation (OR [95% CI]: 0.6 [0.3-1.3]). Receiving injection initiation assistance from someone 5 years older than the participant or more (vs. <5 years older, younger, or no assistance) was associated with visiting a shooting gallery within the first year following injection initiation (aOR [95% CI]: 2.0 [1.1-3.7]).
Garfein, 1998 (24)	USA	229	See Doherty et al. AIDS 2000	Multivariable logistic regression for the association of age of the person providing injection initiation assistance (self-initiated, person providing assistance was 5+ years older than the participant, or person providing assistance was <5 years older or was younger than participant) with hepatitis C seropositivity adjusted for the duration injecting drugs (2+ years vs. <2 years), frequency of injecting in past 6 months, type of drug injected in past 6 months (cocaine and/or speedball), and whether new syringes were used in past 6 months (not always vs. always).	Receiving no assistance (vs. receiving assistance from someone <5 years older or younger than the participant, aOR [95% CI]: 4.0 [1.1-14.4]) and receiving assistance from someone 5 or more years older than the participant (vs. receiving assistance from someone <5 years older or younger than the participant, aOR [95% CI]: 3.0 [1.4-6.2]) were associated with hepatitis C seropositivity.
Goldsamt, 2010 (25)	USA	146	86.2% received help, guidance, or	Chi-squared tests for sex/gender differences in receiving injection initiation assistance.	Men less commonly reporting receiving injection initiation assistance than women (82% of men and 96% of women reported receiving assistance, $p=0.03$).

			assistance with the first injection		
Guichard, 2013 (26)	France	449	62.1% were injected by another person at the first injection	Chi-squared tests for differences in the social setting of the first injection (alone, not alone and self-administered the first injection, not alone and another person administered the first injection) by harm reduction era (defined as a 4-level categorical variable representing the harm reduction policies in France over time: Before Harm Reduction Era [before 1987], Free Access to Syringes Era [1988-1995], Substitution Era [1996-2005], and Recent Era [2006-2010, at which time legal reinforcement of harm reduction services occurred]).	Harm reduction era was associated with differences in the social setting of injection and receipt of initiation assistance, with being alone at the first injection becoming more common and having the injection administered by another person becoming less common (87% before 1987, 71% 1988-1995, 59% 1996-2005, 50% 2006-2010 were injected by another person; 10% before 1987, 21% 1988-1995, 24% 1996-2005, 20% 2006-2010 were not alone but injected themselves; 3% before 1987, 9% 1988-1995, 18% 1996-2005, 30% 2006-2010 were alone at first injection, p<0.001).
Guichard, 2015 (27)	France	262	52.7% were injected by another person at the first injection	Multivariable logistic regression for the association of whether the first injection was administered by another person (vs. self-administration) with receptive syringe or equipment sharing at the time of injection initiation adjusted for sex/gender (female vs. male), initiating injection initiation before age 18, whether the first injection occurred in a private location (home or other private place vs. squat, street, outdoors, or in a van or car), whether the first injection occurred during a party, whether the first injection was unplanned (vs. planned), and whether the first injected drug was given to the participant (vs. bought by the participant). Receptive syringe or equipment sharing referred to use of materials previously used by another person.	Reporting that the first injection was administered by another person was associated with receptive syringe sharing (aOR [95% CI]: 3.1 [1.0-9.9], p=0.049) and receptive sharing of other injecting equipment (aOR [95% CI]: 3.0 [1.3-7.1], p=0.01).
Hahn, 2001 (28)	USA	308	90.3% received help, guidance, or assistance with the first injection	Multivariable logistic regression of the association of receiving injection initiation assistance from a sexual partner (vs. self, friend, or another person) with hepatitis C seropositivity adjusted for age, duration injecting drugs, duration living in study city (San Francisco), injecting daily in the past month, ever borrowing a needle, cleaning a needle with bleach the last time the participant borrowed a needle, snorting or smoking cocaine, methamphetamine, or heroin in the past year, and being injected by someone else in past 30 days (i.e., not specific to the time of initiation).	Receiving injection initiation assistance from a sexual partner (vs. self, friend, or another person) was associated with hepatitis C seropositivity (aOR [95% CI]: 4.1 [1.7-9.5], p<0.01).
Hart, 1989 (29)	United Kingdom	116	94.6% received help, guidance, or assistance with the first injection	None	NA
Kermode, 2007 (31)	India	200	94.5% were injected by another person at the first injection and 100% received help, guidance, or	Chi-squared test for differences in being injected by another person by study site (Manipur vs. Nagaland).	There was no difference in the prevalence of reporting being injected by another person at initiation (97% in Manipur and 92% in Nagaland reported being injected by another person at initiation, p=0.12).

			assistance with the first injection		
Kerr, 2007 (32)	Canada	1065	74.7% were injected by another person at the first injection	None	NA
Lankenau, 2007 (33)	USA	213	54.5% were injected by another person at the first injection	None	NA
Lankenau, 2010 (34)	USA	222	73.9% were injected by another person at the first injection	Chi-squared tests for differences in the first drug injected (heroin, methamphetamine, or cocaine) by being injected by another person at initiation (vs. self-administering).	Ketamine was less commonly injected by another person at the first injection than heroin (55% of people whose first injection involved ketamine were injected by another person vs. 79% of first injections involving heroin, $p<0.05$). No other pairwise differences in being injected by another person (80% using methamphetamine and 71% using cocaine at first injection were injected by another person).
McCalman, 2001 (35)	Australia	56	89.3% received help, guidance, or assistance with the first injection	None	NA
Novelli, 2005 (41)	USA	420	77.4% were injected by another person at the first injection	Multivariable logistic regression of the association of being injected by someone else at the first injection (vs. self-injecting), sex/gender, race (white vs. other), homelessness in past 6 months, age at injection initiation, whether the participant had heard of syringe services programs prior to injection initiation, and whether the participant's first injection involved receptive syringe sharing with receptive syringe sharing in the past 6 months.	Being injected by another person at injection initiation was associated with receptively sharing syringes in the past 6 months (aOR [95% CI]: 1.8 [1.0-3.1]) after adjustment for sex/gender, race (white vs. other), homelessness in past 6 months, age at injection initiation, whether they had heard of syringe services programs prior to injection initiation, and whether the participant's first injection involved receptive syringe sharing.
Oliveira, 2006 (42)	Brazil	606	78.7% were injected by another person at the first injection	None	NA
Rotondi, 2014 (45)	Canada	98	68.4% (95% CI: 54.3%, 83.5%) were injected by another person at the first injection (estimate adjusted for respondent-driven sampling)	None	NA
Roy, 2002 (46)	Canada	505	72.6% were injected by another person at the first injection	Chi-squared test for a) sex/gender differences in being injected by another person at initiation and b) who administered the injection (self, close friend, acquaintance, lover, or someone else) and use of new injection equipment (syringes and other materials).	Girls were more likely to have had their first injection administered by another person (83% of girls and 67% of boys, $p<0.001$). Use of new injecting equipment (other than the syringe) differed by who performed the first injection (78% of first injections administered by the participant themselves, 58% of first injections administered by a close friend, 62% of first injections administered by an acquaintance, 49% of first injections administered by a lover, and 38% of first injections administered by someone else used new equipment,

					p<0.001). Use of a new syringe did not differ by who performed first injection (85% of first injections administered by the participant themselves, 87% of first injections administered by a close friend, 82% of first injections administered by an acquaintance, 82% of first injections administered by a lover, and 73% of first injections administered by someone else used a new needle at first injection, p=0.33).
Stillwell, 1999 (48)	United Kingdom	86	86.0% were injected by another person at the first injection and 94.2% received help, guidance, or assistance with the first injection	None	NA
Toro-Tobón, 2019 (50)	Colombia	1081	72.6% were injected by another person at the first injection	Multivariable logistic regression of the association of being injected by another person at initiation (vs. the participant injected themselves) and sex/gender (female vs. male) adjusted for having a sexual partner at the time of the survey and having a sexual partner present at the first injection.	Being injected by another person at the first injection was not associated with sex/gender (aOR [95% CI]: 1.4 [0.8-2.5]).
Vallejo, 2008 (52)	Spain	949	78.8% were injected by another person at the first injection	Unadjusted odds ratio of the association of being injected by another person at injection initiation and ever having hepatitis B infection among a) women (n=114) and b) men (n=346), all of whom were unvaccinated for hepatitis B.	No association, women: OR (95% CI): 1.2 (0.5-3.0), men: OR (95% CI): 1.7 (0.4-7.6).
Vidal-Trecan, 2002 (53)	France	151	79.1% were injected by another person at the first injection	None	NA
Werb, 2013 (54)	Canada	395	80.6% were injected by another person at the first injection	None	NA
Young, 2014 (56)	USA	394	78.9% were injected by another person at the first injection	Chi-squared tests for sex/gender differences in a) being injected by another person at initiation and b) who administered the first injection (friend, partner, siblings, extended family, another person, or self).	There were no differences in self vs. another person initiating between males and females (p=0.29, 26% males and 15% females injected themselves initiation). Males (vs. females) more commonly reported being injected by a friend at the first injection (vs. by themselves or another type of person, 55.8% males vs. 44.2% females, p=0.007). Females (vs. males) more commonly reported being injected by a partner at the first injection (vs. themselves or another type of person, 3.5% males vs. 30.1% females, p<0.001).
Zahnow, 2018 (57)	Worldwide	619	69.0% were injected by another person at the first injection	Multivariable multinomial logistic regression of the association of substances used at the first injection (amphetamine/methamphetamine, cocaine/crack, prescription opioids, or other drug [including fentanyl, ketamine, or novel psychoactive drug] vs. heroin), sex/gender (female vs. male), age and age^2 at the time of the survey, sexual orientation (non-heterosexual vs. heterosexual), and gender-sexual	Being a heterosexual female (vs. heterosexual male, OR [95% CI]: 13.0 [4.9-34.8]), injecting "other" drugs (including fentanyl, ketamine, and novel psychoactive drugs vs. heroin, aOR [95% CI]: 0.3 [0.1-0.9]) as the first drug injected, and age (modeled continuously as a quadratic association, age: aOR [95% CI]: 1.2 [1.0-1.3], age^2: aOR [95% CI]: 0.99 [0.99-1.0]) were associated with the first injection being performed by an intimate

	orientation interaction with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection).	partner (vs. self-administered). There was no association of female (vs. male) sex/gender and being injected by an intimate partner among non-heterosexual individuals, as there was a statistically significant interaction between sex/gender and sexual orientation ($p<0.001$). Non-heterosexual males (vs. heterosexual males) also had higher odds of being injected by an intimate partner (vs. self-injection, aOR [95% CI]: 3.5 [1.5-8.2]). Injecting "other" drugs (including fentanyl, ketamine, and novel psychoactive drugs vs. heroin, aOR [95% CI]: 0.4 [0.2-0.8]) as the first drug injected and age (modeled continuously as a quadratic association, age: aOR [95% CI]: 1.1 [1.0-1.2], age^2: aOR [95% CI]: 0.99 [0.99-1.0]) were associated with reporting that a friend performed the first injection (vs. self-administering the first injection). Injecting amphetamines (vs. heroin, aOR [95% CI]: 3.1 [1.3-7.7]) or prescription opioids (vs. heroin, aOR [95% CI]: 3.6 [1.3-9.8]) as the first drug used by injection, being a heterosexual female (vs. heterosexual male, aOR [95% CI]: 3.2 [1.2-8.6]), and being a non-heterosexual male (vs. heterosexual male, aOR [95% CI]: 2.3 [1.2-4.7]) were associated with being injected by a dealer at the first injection (vs. self-injecting). Sexual orientation also significantly modified the association of sex/gender and reporting that a friend ($p<0.05$) or dealer performed the first injection ($p<0.05$).

Web Table 4. Correlates Assessed for Associations with Receiving Injection Initiation Assistance

Correlate	1st Author, Year (Reference)	Method	Finding
I. Micro-Social Correlates			
Sex/gender	Bryant, 2007 (9)	aOR, who performed first injection (partner, friend, other person, or participant themselves) with female sex/gender (vs. male) adjusted for ethnicity, income source, sexual partner injected drugs, duration pre-injection drug use, use of speed, person who obtained, paid for, and obtained the fit during the first injection, sex/gender of others present at first injection first drug injected	No association (injected by a sex partner vs. self: aOR [95% CI]: 1.7 [0.5-5.3], injected by a friend vs. self: aOR [95% CI]: 0.9 [0.4-2.2], injected by another person vs. self: aOR [95% CI]: 1.5 [0.5-4.4]).
	Cintra, 2006 (11)	OR, who performed, helped, or guided the participant at first injection (sexual partner, relative, intimate friend, acquaintance, drug dealer vs. without assistance) with being female (vs. male)	Receiving assistance from a sexual partner (vs. self-initiating, OR [95% CI]: 12.6 [5.7-28.4]) or an acquaintance (vs. self-initiating, OR [95% CI]: 1.8 [1.0-3.5]) associated with being female (vs. male). No association, relative (vs. self-initiating, OR [95% CI]: 1.9 [0.7-5.0]), intimate friend (vs. self-initiating, OR [95% CI]: 1.6 [0.9-2.8]), drug dealer (vs. self-initiating, OR [95% CI]: 2.5 [0.3-14.4])
	Cintra, 2006 (11)	aOR, among participants living with HIV: who performed, helped, or guided at first injection (sexual partner, relative, intimate friend, acquaintance, drug dealer vs. without assistance) with sex/gender (female vs. male) adjusted for city, education level, and having partner of the opposite sex who uses drugs	Receiving assistance from an intimate friend (vs. self-initiating, aOR [95% CI]: 3.7 [1.0-13.6]) or a sexual partner (vs. self-initiating, aOR [95% CI]: 23.7 [2.9-191.8]) associated with being female. No association, relative (vs. self-initiating, aOR [95% CI]: 2.2 [0.3-14.9]), acquaintance (vs. self-initiating, aOR [95% CI]: 3.4 [0.8-14.3])
	Diaz, 2002 (17)	Bivariable test, sex/gender differences in being injected by another person at initiation	84% females and 68% males assisted (p=0.07)
	Doherty, 2000 (18)	Bivariable test for sex/gender differences in being injected by another person at initiation	88% females vs. 78% males assisted (p=0.047)
	Frajzyngier, 2007 (21)	Bivariable test for sex/gender differences in being injected by another person at initiation	88% females vs. 65% males assisted (p<0.05)
	Frajzyngier, 2007 (21)	Bivariable test for sex/gender differences in receiving help, guidance, or other assistance at initiation	92% females vs. 75% males assisted (p<0.05)
	Goldsamt, 2010 (25)	Bivariable test for sex/gender differences in receiving help, guidance, or other assistance at initiation	96% females vs. 82% males assisted (p=0.03)
	Roy, 2002 (46)	Bivariable test for sex/gender differences in being injected by another person at initiation	83% females vs. 67% males assisted (p<0.001)
	Toro-Tobon, 2019 (50)	aOR, being injected by another person at initiation (vs. injecting self) with sex/gender (female vs. male) adjusted for having a sexual partner (during survey) and having a sexual partner present at first injection	No association (aOR [95% CI]: 1.4 [0.8-2.5]).
	Young, 2014 (56)	Bivariable test for sex/gender differences in being injected by another person at initiation	85% females vs. 75% males assisted (p=0.29)
	Zahnow, 2018 (57)	aOR, among heterosexual participants: sex/gender (female vs. male) with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection) adjusted for age, and drug first injected	Being a heterosexual female (vs. heterosexual male) associated with being injected by an intimate partner (aOR [95% CI]: 13.0 [4.9-34.8]) and a dealer (aOR [95% CI]: 3.2 [1.2-8.6]) at the first injection (vs. self-injecting), No association with being injected by a friend (aOR [95% CI]: 2.1 [0.9-4.6])
Age	Abelson, 2006 (1)	aOR, being injected by another person at first injection (vs. self) with early age of injection initiation (≤16 vs. 17+ years) adjusted for whether immediate family also injecting around time of participant's first injection, leaving school before year 10, unstable income, duration pre-injection drug use, whether first injection was planned, and reason for first injection	Being injected by another person at first injection associated with initiating injection at age ≤16 years (aOR [95% CI]: 3.1 [1.2-8.3])

	Zahnow, 2018 (57)	aOR, age (at time of survey, modeled quadratically) with being injected by a dealer, friend, or intimate partner (all vs. self-injected at first injection) adjusted for sex/gender, sexual orientation, and drug first injected	Age associated with first injection being performed by an intimate partner (age: aOR [95% CI]: 1.2 [1.0-1.3], age^2: aOR [95% CI]: 0.99 [0.99-1.0]) and a friend (age: aOR [95% CI]: 1.1 [1.0-1.2], age^2: aOR [95% CI]: 0.99 [0.99-1.0]), No association with dealer (age: aOR [95% CI]: 1.1 [0.96-1.2], age^2: aOR]95% CI]: 0.99 [0.99-1.0])
Sexual orientation	Zahnow, 2018 (57)	aOR, among males: non-heterosexual (vs. heterosexual orientation) with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection) adjusted for age and drug first injected	Being a non-heterosexual male (vs. heterosexual male) associated with being injected by an intimate partner (vs. self-injection, aOR [95% CI]: 3.5 [1.5-8.2]) and a dealer (vs. self-injection, aOR [95% CI]: 2.3 [1.2-4.7]), No association with being injected by a friend (aOR [95% CI]: 1.5 [0.9-2.7])
Own idea to inject	Crofts, 1996 (13)	OR, whose idea the first injection was (participant vs. someone else) with being injected by another person at initiation	Reporting that injecting was participant's own idea associated with assistance (OR [95% CI]: 8.8 [2.0-55.0], p<0.001).
Syringe and equipment sharing	Doherty, 2000 (18)	Bivariable test for differences in syringe sharing in the past 6 months by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	18% self-initiates, 50% male-female, 52% female-male, 27% female-female, 49% male-male providing-receiving assistance pairs shared syringes in the past 6 months (p=0.004)
	Frajzyngier, 2007 (21)	OR (among n=85 females) and aOR (among n=164 males), injected by another person at initiation (vs. self-administered) with receptively sharing syringes or other injection equipment at injection initiation, aOR adjusted for race/ethnicity, duration injecting, obtaining syringes from SSP/pharmacy, and whose idea first injection was	Among women: no association (OR [95% CI]: 2.5 [0.5-12.9]), Among men: being injected by another person associated with sharing injection equipment (aOR [95% CI]: 3.3 [1.2-8.8])
	Guichard, 2015 (27)	aOR, whether first injection was administered by another person (vs. self-administration) with receptive syringe sharing and receptive equipment sharing at time of injection initiation adjusted for sex/gender, initiating injection before age 18, whether first injection was in private vs. public location, occurred during a party, or was unplanned, and whether first injected drug was given to participant	Having first injection administered by another person associated with receptive syringe sharing (aOR [95% CI]: 3.1 [1.0-9.9], p=0.049) and receptive sharing of other injecting equipment (aOR [95% CI]: 3.0 [1.3-7.1])
	Novelli, 2005 (41)	aOR, being injected by someone else (vs. self) at initiation with receptive syringe sharing in past 6 months adjusted for sex/gender, race, homelessness, age at injection initiation, whether participant had heard of SSP before initiation, and whether participant's first injection involved receptive syringe sharing	Being injected by another person at injection initiation associated with receptively sharing syringes in past 6 months (aOR [95% CI]: 1.8 [1.0-3.1])
	Roy, 2002 (46)	Bivariable test for differences in who administered the injection (self, close friend, acquaintance, lover, or someone else) with use of new syringes and use of other new injecting equipment	78% of first injections administered by the participant themselves, 58% of first injections administered by a close friend, 62% of first injections administered by an acquaintance, 49% of first injections administered by a lover, and 38% of first injections administered by someone else used new equipment (p<0.001), 85% of first injections administered by the participant themselves, 87% of first injections administered by a close friend, 82% of first injections administered by an acquaintance, 82% of first injections administered by a lover, and 73% of first injections administered by someone else used a new needle at first injection (p=0.33)
Sexual partners	Doherty, 2000 (18)	Bivariable test for differences in having >100 sexual partners by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	0% self-initiates, 18% male-female, 10% female-male, 7% female-female, 3% male-male providing-receiving assistance pairs had >100 lifetime sex partners (p=0.032)
	Doherty, 2000 (18)	Bivariable test for differences in ever having a sexual partner who injected drugs by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	27% self-initiates, 65% male-female, 71% female-male, 55% female-female, 46% male-male providing-receiving assistance pairs ever had a sex partner who injected drugs (p=0.016)
Sex work	Doherty, 2000 (18)	Bivariable test for differences in trading penile-vaginal sex for money or drugs since starting to inject by several groups defined by sex/gender of person	23% self-initiates, 53% male-female, 29% female-male, 44% female-female, 11% male-male providing-receiving assistance pairs traded penile-vaginal sex (p=0.001)

		providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	
	Doherty, 2000 (18)	Bivariable test for differences in trading oral sex for money or drugs since starting to inject by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	14% self-initiates, 33% male-female, 29% female-male, 29% female-female, 7% male-male providing-receiving assistance pairs traded oral sex (p=0.003)
	Doherty, 2000 (18)	Bivariable test for differences in trading anal sex for money or drugs since starting to inject by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	0% self-initiates, 3% male-female, 19% female-male, 4% female-female, 3% male-male providing-receiving assistance pairs traded anal sex (p=0.014)
II. Macro-Social Correlates			
Gendered sexual violence	Doherty, 2000 (18)	Bivariable test for differences in ever being raped by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	53% male-female, 19% female-male, 45% female-female, 6% male-male, 23% self-initiate providing-receiving assistance pairs ever raped (p=0.001)
III. Micro-Physical Correlates			
Shooting gallery	Fuller, 2003 (22)	OR, receiving help, guidance, or assistance with injection initiation with attendance at a shooting gallery within first year of initiating injection	No association (OR [95% CI]: 0.6 [0.3-1.3])
IV. Macro-Physical Correlates			
Geographic differences	Kermode, 2007 (31)	Bivariable test for differences in being injected by another person by study site (Manipur vs. Nagaland).	97% in Manipur vs. 92% assisted (p=0.12)
IV. Macro-Policy Correlates			
Time period	Guichard, 2013 (26)	Bivariable test for differences in social setting of first injection (alone, not alone and self-administered, not alone and another person administered first injection) by time period, a proxy for French harm reduction eras: Before Harm Reduction [before 1987], Free Access to Syringes [1988-1995], Substitution Era [1996-2005], and Recent Period [2006-2010, legal reinforcement of policies])	87% before 1987, 71% 1988-1995, 59% 1996-2005, 50% 2006-2010 not alone and injected by another person, 10% before 1987, 21% 1988-1995, 24% 1996-2005, 20% 2006-2010 not alone and injected themselves; 3% before 1987, 9% 1988-1995, 18% 1996-2005, 30% 2006-2010 alone at first injection (p<0.001)
V. Substance Use Correlates			
Frequency of injecting	Debeck, 2013 (15)	OR, receiving help, guidance, or assistance and frequency of injecting drugs	No association, OR (95% CI): 1.4 (0.9-2.4)
Crack smoking	Doherty, 2000 (18)	Bivariable test for differences in past 6 month daily crack smoking by several groups defined by sex/gender of person providing and receiving assistance (i.e., male-male, female-female, female-male, male-female, and self-injected)	5% self-initiates, 23% male-female, 10% female-male, 32% female-female, 6% male-male providing-receiving assistance pairs smoked crack daily in past 6 months (p=0.001)
First substance injected (relative to heroin as first drug injected)			
Ketamine vs. heroin	Lankenau, 2010 (34)	Bivariable test for differences in ketamine vs. heroin as first drug injected by being injected by another person at initiation	55% first injections involving ketamine vs. 79% of first injections involving heroin assisted (p<0.05)
Other drugs (incl. fentanyl, ketamine, novel psychoactive drugs) vs. heroin	Zahnow, 2018 (57)	aOR, injecting other drugs (vs. heroin) with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection) adjusted for age, sex/gender, and sexual orientation	Injecting other drugs (vs. heroin) at first injection inversely associated with being injected by an intimate partner (aOR [95% CI]: 0.3 [0.1-0.9]) and friend (aOR [95% CI]: 0.4 [0.2-0.8]), No association with dealer (aOR [95% CI]: 3.1 [1.3-7.7])
Cocaine vs. heroin	Lankenau, 2010 (34)	Bivariable test for differences in cocaine vs. heroin as first drug injected by being injected by another person at initiation	71% first injections involving cocaine vs. 79% of first injections involving heroin assisted (p≥0.05)
Cocaine/crack vs. heroin	Zahnow, 2018 (57)	aOR, injecting cocaine/crack (vs. heroin) at first injection with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection) adjusted for age, sex/gender, and sexual orientation	No association with intimate partner (aOR [95% CI]: 1.5 [0.4-4.9]), dealer (aOR [95% CI]: 0.8 [0.2-4.1]), or friend (aOR [95% CI]: 0.8 [0.3-2.0])
Methamphetamine vs. heroin	Lankenau, 2010 (34)	Bivariable test for differences in methamphetamine vs. heroin as first drug injected by being injected by another person at initiation	80% first injections involving methamphetamine vs. 79% of first injections involving heroin assisted (p≥0.05)

Amphetamines vs. heroin	Zahnow, 2018 (57)	aOR, injecting amphetamines (vs. heroin) at first injection with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection) adjusted for age, sex/gender, and sexual orientation	Injecting amphetamines (vs. heroin) at first injection associated with being injected by a dealer (aOR [95% CI]: 3.1 [1.3-7.7]), Marginal association with intimate partner (aOR [95% CI]: 2.3 [0.96-5.4]) or friend (aOR [95% CI]: 1.8 [0.95-3.5])
Prescription opioids vs. heroin	Zahnow, 2018 (57)	aOR, injecting prescription opioids (vs. heroin) at first injection with being injected by a dealer, friend, or intimate partner (vs. self-injected at first injection) adjusted for age, sex/gender, and sexual orientation	Injecting prescription opioids (vs. heroin) at first injection associated with being injected by a dealer (aOR [95% CI]: 3.6 [1.3-9.8]), No association with intimate partner (aOR [95% CI]: 2.3 [0.8-6.5]) or friend (aOR [95% CI]: 1.2 [0.5-2.5])
First substance injected (relative to substances other than heroin as first drug injected)			
Cocaine vs. ketamine	Lankenau, 2010 (34)	Bivariable test for differences in cocaine vs. ketamine as first drug injected by being injected by another person at initiation	71% first injections involving cocaine vs. 55% first injections involving ketamine assisted (p≥0.05)
Methamphetamine vs. ketamine	Lankenau, 2010 (34)	Bivariable test for differences in methamphetamine vs. ketamine as first drug injected by being injected by another person at initiation	80% first injections involving methamphetamine vs. 55% first injections involving ketamine assisted (p≥0.05)
Cocaine vs. methamphetamine	Lankenau, 2010 (34)	Bivariable test for differences in cocaine vs. methamphetamine as first drug injected by being injected by another person at initiation	71% first injections involving cocaine vs. 80% first injections involving methamphetamine assisted (p≥0.05)
VI. Health Factors			
Hepatitis B	Vallejo, 2008 (52)	OR, stratified by sex/gender, being injected by another person at initiation and ever having hepatitis B	No association, women: OR (95% CI): 1.2 (0.5-3.0), men: OR (95% CI): 1.7 (0.4-7.6).
Hepatitis C	Clatts, 2009 (12)	Bivariable test for differences in receiving help, guidance, or assistance at first injection with hepatitis C seropositivity at time of study	91% HCV seropositive vs. 93% HCV seronegative assisted in first injection (p=0.16)
	Garfein, 1998 (24)	aOR, person providing help, guidance, or assisted assistance was <5 years older or was younger than participant (vs. no assistance) with hepatitis C seropositivity adjusted for duration injecting, frequency inject, type of drug injected, and consistent use of new syringes	Receiving assistance from someone <5 years older or younger than the participant (vs. not assisted) inversely associated with hepatitis C seropositivity (aOR [95% CI]: 0.3 [0.07-0.9]).
HIV	Doherty, 2000 (19)	OR, HIV status with receiving help, guidance or assistance at injection initiation	No association, OR (95% CI): 1.8 (0.4-7.7)

Web Table 5. Studies Documenting Prevalence and Correlates of Providing Injection Initiation Assistance

1st Author, Year (Reference)	Study Country	Sample Size	Percent who Provided Assistance	Correlates Assessed	Correlates Associated with Providing Assistance
Amin-Esmaeili, 2016 (2)	Iran	904	27.1% provided help, guidance, or assistance with someone else's first injection in the past 6 months	None	NA
Ben Hamida, 2018 (6)	Mexico	534	See Rafful et al. JAIDS 2018 & Meyers et al. Harm J 2018	Four total GEE logistic regression models where each model assessed associated of one main exposure (any non-injection drug use, any non-injection cocaine use, any non-injection heroin use, and any non-injection methamphetamine use) with providing injection initiation assistance in the past 6 months adjusted for age, sex/gender (male vs. female), residing in stable housing in the past 6 months (vs. unstable housing), and injecting frequency (daily vs. less than daily vs. no injection [referent]).	Use of any drug by non-injection (aOR [95% CI]: 2.4 [1.4-4.2]), cocaine by non-injection (aOR [95% CI]: 9.3 [4.0-21.8]), heroin by non-injection (aOR [95% CI]: 4.0 [1.9-8.5]), and methamphetamine by non-injection (aOR [95% CI]: 2.0 [1.2-3.6]) were associated with providing injection initiation assistance in the past 6 months after adjustment. Among confounders, age was inversely associated and being male (vs. female) was associated with providing injection initiation assistance in the past 6 months.
Bluthenthal, 2014 (7)	USA	605	35.0% ever provided help, guidance, or assistance with someone else's first injection and 7.3% provided help, guidance, or assistance with someone else's first injection in the past 12 months	Multivariable logistic regression of the association of likelihood of providing injection initiation assistance in the future (probably would vs. definitely would not), non-injection powder cocaine use in the past month, injecting another person in the past month at times other than the person's first injection, study site (Los Angeles vs. San Francisco), and ever describing injection to someone who did not inject with providing injection initiation assistance in the past 12 months.	Responding that they would probably provide injection initiation assistance in the future (vs. definitely would not, aOR [95% CI]: 7.1 [3.4-14.8]), non-injection powder cocaine use in the past month (aOR [95% CI]: 5.0 [2.1-11.8], injecting another person in the past month at times other than the person's first injection (aOR [95% CI]: 4.1 [1.9-8.5], enrolling in the study in Los Angeles (vs. San Francisco, aOR [95% CI]: 3.2 [1.5-6.7]), and ever describing injection to someone who did not inject (aOR [95% CI]: 2.6 [1.2-5.7]) were associated with providing injection initiation assistance in the past 12 months.
Bryant, 2008 (10)	Australia	324	17.0% ever injected another person during their first time injecting drugs	Multivariable logistic regression of the association of several sociodemographic characteristics, substance use variables, injecting practices, harm reduction knowledge and practices, and hepatitis C history with ever injecting another person during their first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer), all of which were factors related to the sampling strategies used in the study.	Years injecting drugs (aOR [95% CI]: 1.9 [1.4-2.5]), being tested for hepatitis C infection in the past year (aOR [95% CI]: 2.4 [1.3-4.7]), being in prison or detention in the past 12 months (aOR [95% CI]: 2.9 [1.4-6.1]), obtaining needles from friends or dealers in the past 6 months (aOR [95% CI]: 3.3 [1.7-6.2]), injecting other people at times other than initiation in the past 6 months (aOR [95% CI]: 7.5 [3.6-15.4]), telling other people about hepatitis C and safe injecting (aOR [95% CI]: 2.4 [1.3-4.4]), and lending used syringes (aOR [95% CI]: 2.4 [1.2-4.7]) were associated with ever injecting another person during their first time injecting drugs after adjustment. Being injected by others in the past 6 months (aOR [95% CI]: 0.4 [0.2-1.0]) was inversely associated with ever injecting another person during their first time injecting drugs after adjustment. The following variables were not statistically significantly related to injecting another person during their first time injecting drugs after adjustment: frequency injecting in the past month, polydrug injection in the past month, last drug injected,

					race/ethnicity (Aboriginal vs. not), age, sex/gender, being infected with hepatitis C, obtaining needles from needle and syringe services program or pharmacy in the past 6 months, knowing that it is unsafe to share syringes or other equipment with a partner, knowing that hepatitis C superinfection is possible, and knowing that hepatitis C reinfection is possible.
Crofts, 1996 (13)	Australia	300	47.3% ever provided help, guidance, or assistance with someone else's first injection	Multivariable logistic regression of the association of ever selling drugs (vs. not making money by selling drugs), currently injecting ≥1 drug (vs. only 1), currently being "on the dole or welfare" (vs. having another source of income), no current drug use other than the primary injected drug (vs. using other drugs), and being injected by another person most of the time (vs. injecting themselves most of the time) with ever providing injection initiation assistance to multiple people (≥2) versus 0 people (i.e., those who had only provided assistance to one other person were excluded from the model).	Currently injecting ≥1 drug (vs. only 1, aOR [95% CI]: 2.5 [1.3-4.8] and being "on the dole or welfare" (vs. getting income another way, aOR [95% CI]: 2.1 [1.0-4.1]) were associated with providing assistance to 2 or more people (vs. none). Selling drugs was marginally associated with injecting 2 or more vs. 0 people (aOR [95% CI]: 2.7 [1.0-7.5]). Being injected by another person most often (vs. injecting themselves most often) was inversely associated with providing assistance to 2 or more people (vs. 0 people, aOR [95% CI]: 0.4 [0.2-0.9]). Only using the primary injected drug (vs. using other drugs in addition to the primary injected drug) was marginally inversely associated with providing assistance (aOR [95% CI]: 0.13 [0.02-1.06]).
Day, 2005 (14)	Australia	399	37.3% ever provided help, guidance, or assistance with someone else's first injection and 16.9% injected another person during their first time injecting drugs in the past 12 months	Chi-squared test for differences in providing injection initiation assistance in the past 12 months by a) using a syringe or needle after someone else used it in the past month and b) borrowing or lending injection equipment in past month.	Providing injection initiation assistance in the past 12 months was associated with borrowing or lending injection equipment in the past month (23% of those who shared equipment vs. 12% of those who did not share equipment provided injection initiation assistance in the past 12 months, $p<0.005$). Providing assistance was marginally associated with receptively sharing needles and syringes (17% of those who had provided assistance vs. 8% who had not provided assistance endorsed receptive syringe sharing, $p=0.06$).
Des Jarlais, 2019 (16)	Estonia, USA	402	31.1% ever provided help, guidance, or assistance with someone else's first injection and 13.6% provided help, guidance, or assistance with someone else's first injection in the past 6 months	None	NA
Fuller, 2003 (22)	USA	226	13.3% ever provided help, guidance, or assistance with someone else's first injection	Unadjusted logistic regression of the association of ever providing injection initiation assistance with attending and using equipment from a shooting gallery in the year following the participant's own injection initiation.	Providing injection initiation assistance was not associated with visiting a shooting gallery (OR [95% CI]: 1.9 [0.9-4.2]).
Fuller, 2005 (23)	USA	144	16.0% ever provided help, guidance, or assistance with someone else's first injection	Unadjusted logistic regression of the association of ever providing injection initiation assistance with initiating injection in adolescence (≤21 years) vs. adulthood (>21 years).	Providing injection initiation assistance was not associated with age of injection initiation (OR [95% CI]: 1.1 [0.4-2.6]).

Hunt, 1998 (30)	United Kingdom (England)	86	39.5% ever provided help, guidance, or assistance with someone else's first injection	None	NA
Kermode, 2007 (31)	India	200	69.3% ever provided help, guidance, or assistance with someone else's first injection	Multivariable logistic regression examining the association of sex/gender, being employed (vs. unemployed) at the time of survey, paying for drugs (vs. not paying) at their own first injection, being friends with people who inject drugs at their own first injection, using alcohol around the time of their own first injection, and being taught to inject at their own first injection with ever providing injection initiation assistance.	Being employed (vs. unemployed, aOR [95% CI]: 0.4 [0.1-0.8]) at the time of survey and paying for drugs (vs. not paying, aOR [95% CI]: 0.3 [0.1-0.6]) at their own first injection were inversely associated with ever providing injection initiation assistance. Being friends with people who inject drugs at their own first injection (aOR [95% CI]: 5.1 [2.0-13.2]), using alcohol around the time of their own first injection (aOR [95% CI]: 3.5 [1.5-8.2]), and being taught to inject at their own first injection (aOR [95% CI]: 2.7 [1.2-5.9]) were associated with ever providing injection initiation assistance. Females had marginally lower odds of providing injection initiation assistance than males (aOR [95% CI]: 0.3 [0.1-1.0]).
Melo, 2018 (36)	USA, Mexico, Canada	2122	See Rafful et al. JAIDS 2018 & Mittal et al. Drug Alcohol Depend. 2019	Multivariable logistic regression of the association of past 6 month law enforcement interactions (1, 2-5, or ≥6 vs. referent: 0) and providing injection initiation assistance in the past 6 months adjusted for city/cohort membership (San Diego/STAHR, Tijuana/El Cuete, and Vancouver/VDUS, ACCESS, and ARYS), age, sex/gender (male vs. female), and frequency of injecting drugs in the past 6 months (daily vs. less than daily vs. none [referent]).	Experiencing 2-5 law enforcement interactions in the past 6 months (vs. none, aOR [95% CI]: 1.7 [1.0-3.0], p=0.048) was associated with providing injection initiation assistance in the past 6 months whereas having 1 law enforcement interaction (vs. none, aOR [95% CI]: 1.5 [0.8-2.8], p=0.2) or ≥6 interactions (vs. none, aOR [95% CI]: 1.2 [0.5-2.4], p=0.7) were not associated with providing injection initiation assistance in the past 6 months after adjustment for city/cohort (San Diego/STAHR aOR [95% CI]: 2.0 [1.0-3.9], p=0.046; Vancouver/VIDUS/ACCESS/ARYS aOR [95% CI]: 1.4 [0.8-2.5], p=0.2; Tijuana/El-Cuete [referent]), age (aOR [95% CI]: 0.96 [0.94-0.98], p<0.001), male sex/gender (vs. female; aOR [95% CI]: 1.6 [1.0-2.7], p=0.06), and frequency of injecting drugs in the past 6 months (daily injecting aOR [95% CI]: 5.9 [2.6-13.3], p<0.001; less than daily injecting aOR [95% CI]: 3.1 [1.3-7.5], p=0.01; no injection [referent]).
Meyers, 2018 (37)	USA, Mexico, Canada	2113	37.5% ever provided help, guidance, or assistance with someone else's first injection in San Diego; 23.3% ever provided help, guidance, or assistance with someone else's first injection in Vancouver; 14.3% ever provided help, guidance, or assistance with someone else's first injection in Tijuana	Multivariable logistic regression, stratified by city/cohort site (San Diego/STAHR, Tijuana/El Cuete, and Vancouver/VIDUS), of the association of sex/gender with ever providing injection initiation assistance adjusted for age and duration injecting drugs (in years). Tijuana/El-Cuete specific models also adjusted for ever injecting methamphetamine.	Male sex/gender (vs. female) was associated with ever providing injection initiation assistance in Tijuana (aOR [95% CI]: 2.2 [1.2-3.8]), but not in San Diego (aOR [95% CI]: 1.3 [0.8-2.1]) or Vancouver (aOR [95% CI]: 1.1 [0.8-1.5]) after adjustment for age (Tijuana aOR [95% CI]: 0.97 [0.92-1.01]; San Diego aOR [95% CI]: 0.95 [0.92-0.98]; Vancouver aOR [95% CI]: 0.95 [0.93-0.97]), duration injecting (Tijuana aOR [95% CI]: 1.03 [0.98-1.07]; San Diego aOR [95% CI]: 1.03 [0.99-1.06]; Vancouver aOR [95% CI]: 1.04 [1.02-1.06]) and, in Tijuana only, ever injecting methamphetamine (aOR [95% CI]: 3.2 [1.0-10.5]).
Mittal, 2017 (38)	USA	354	See Rafful et al. JAIDS 2018 & Meyers et al. Harm J 2018	Multivariable logistic regression for the association of ever being on opioid agonist treatment (methadone or buprenorphine) with ever providing	Being on opioid agonist treatment was inversely associated with ever providing injection initiation assistance (aOR [95% CI]: 0.6 [0.4-1.0], p=0.04) after

				injection initiation assistance adjusted for age, sex/gender (male vs. female), and duration injecting drugs (in years).	adjustment for age (aOR [95% CI]: 0.94 [0.91-0.97], p<0.01), male sex/gender (vs. female, aOR [95% CI]: 1.2 [0.7-1.9], p=0.5), and duration injecting (aOR [95% CI]: 1.04 [1.00-1.07], p=0.02).
Mittal, 2019 (39)	Canada	1740	4.6% provided help, guidance, or assistance with someone else's first injection in the past 6 months	Multivariable logistic regression of the association of being on opioid agonist treatment in the past 6 months (methadone or buprenorphine) with providing injection initiation assistance in the past 6 months adjusted for age, sex/gender (male vs. female), cohort membership (At-Risk Youth Study [ARYS, street-involved youth aged 14-26 years] vs. Vancouver Injection Drug Users Study [VIDUS, HIV-seronegative PWID] vs. AIDS Care Cohort to Evaluate Access to Survival Services Study [ACCESS, HIV-seropositive PWID, referent]), past 6 month homelessness (vs. not homeless), injection frequency (daily vs. less than daily vs. none [referent]), past 6 month methamphetamine injection, and past 6 month speedball (simultaneous heroin and cocaine injection).	Opioid agonist treatment was associated with lower odds of providing injection initiation assistance (aOR [95% CI]: 0.5 [0.3-0.9], p=0.01) after adjustment for age (aOR [95% CI]: 0.94 [0.91-0.97], p<0.001), male sex/gender (vs. female, aOR [95% CI]: 1.2 [0.7-1.2], p=0.6), cohort membership (ARYS aOR [95% CI]: 0.7 [0.3-1.7], p=0.4; VIDUS (aOR [95% CI]: 0.8 [0.4-1.6], p=0.6); referent: ACCESS), homelessness (aOR [95% CI]: 0.5 [0.3-0.9], p=0.03), injection frequency (daily injection aOR [95% CI]: 8.4 [2.3-29.7], p=0.001; less than daily injection aOR [95% CI]: 4.4 [1.2-16.2], p=0.02; referent: no injection), methamphetamine injection (aOR [95% CI]: 2.2 [1.2-4.0], p=0.01), and speedball (aOR [95% CI]: 2.0 [1.0-4.0], p=0.05).
Navarro, 2019 (40)	USA	979	41.4% ever injected another person during their first time injecting drugs and 13.5% injected another person during their first time injecting drugs in the past 6 months	Multinomial multivariable model of the association of income source (income from illegal or possibly illegal activities vs. legal income source) in the past 6 months, injecting another person in the past 6 months (vs. not, refers to injections other than the first injection), injection frequency in last 30 days (modeled continuously as an ordinal variable: 1) injecting <once per day, 2) injecting 1-2 times per day, 3) injecting ≥3 times per day), having a paying sex partner in the past 6 months, and taking someone to a location where they could inject drugs in the past 6 months (e.g., hotel room, a shooting gallery, or encampment vs. not) with injecting another person during their first injection in the past 6 months (high frequency [injected first time for ≥4 people], low frequency [injected first time for 1-3 people], and no injection assistance provided [referent]).	Having a paying sex partner (aOR [95% CI]: 2.1 [1.2-3.6]), having illegal or possibly illegal sources of income (aOR [95% CI]: 2.2 [1.4-3.5]), and injecting another person at a time other than their first injection (aOR [95% CI]: 2.6 [1.4-4.8]) were associated with injecting another person for their first injection 1-3 times in the past 6 months (vs. not injecting another person at their first injection). Injection frequency (aOR [95% CI]: 1.003 [1.001-1.004]), having a paying sex partner (aOR [95% CI]: 3.0 [1.4-6.6]), injecting another person at a time other than their first injection (aOR [95% CI]: 12.2 [1.6-90.9]), and taking someone to a place to shoot drugs (aOR [95% CI]: 3.3 [1.1-9.6]) were associated with injecting another person for their first injection ≥4 times in the past 6 months (vs. not injecting another person at their first injection).
Rafful, 2018 (43)	Mexico	532	See Meyers et al. Harm J 2018	Logistic regression of the association of age, sex/gender, country of residence (lived ≥6 years in the USA vs. lived 1-5 years in the USA vs. never lived in the USA [referent]), ever being deported from the USA, years injecting drugs (modeled continuously), and ever injecting methamphetamine and heroin at the same time (vs. never) with ever providing injection initiation assistance.	Living in the USA for 1-5 years (vs. never living in the USA, aOR [95% CI]: 2.4 [1.2-4.8], p=0.01) and ever injecting methamphetamine and heroin at the same time (vs. never, aOR [95% CI]: 3.7 [1.1-12.2], p=0.03) were associated with ever providing injection initiation assistance whereas other factors considered were not significantly related to providing assistance (all p>0.1).
Rafful, 2018 (44)	USA, Mexico	892	4.3% provided help, guidance, or assistance with	Multivariable logistic regression of the association between a measure of the amount of injection risk	Higher injection risk scores in the past 6 months were associated with providing injection initiation assistance in

			someone else's first injection in the past 6 months in Tijuana and 5.1% provided help, guidance, or assistance with someone else's first injection in the past 6 months in San Diego	behaviors in the past 6 months (modeled as a continuous variable reflecting the sum of injection risk behaviors on a scale of 0–4, behaviors included distributive syringe sharing, receptive syringe sharing, backloading [sharing a dose in a syringe], and sharing injection paraphernalia other than syringes [e.g., water, cooker, and cotton]) with providing injection initiation assistance in the past 6 months adjusted for age, sex/gender (male vs. female) and residing in San Diego (vs. Tijuana). Sex/gender-specific models were also examined.	the past 6 months (aOR [95% CI]: 1.3 [1.0-1.6], p=0.04) after adjustment for age (aOR [95% CI]: 1.00 [0.96-1.03], p=0.8), male sex/gender (vs. female, (aOR [95% CI]: 2.3 [0.97-5.3], p=0.06), and residing in San Diego (vs. Tijuana, (aOR [95% CI]: 1.7 [0.8-3.4], p=0.1). Among men, higher injection risk in the past 6 months was marginally associated with providing injection initiation assistance (aOR [95% CI]: 1.3 [1.0-1.7], p=0.06) and among women, there was no association (aOR [95% CI]: 1.2 [0.7-2.0], p=0.4).
Rotondi, 2014 (45)	Canada	98	See Strike et al. Drug Alcohol Depend. 2014	Logistic regression (weighted for respondent-driven sampling design) of the association of employment in the past 6 months (illegal/black market work including selling drugs, sex work, etc. vs. unemployed vs. employed [referent]), who administered the participant's own first injection (someone else vs. self-administered), duration injecting (in years, modeled continuously), polydrug injection in the past 6 months (injecting ≥2 drugs vs. not), ever speaking positively about injecting to someone who did not inject, and ever injecting in front of someone who did not inject with ever injecting another person during their first time injecting drugs.	Duration injecting (aOR [95% CI]: 1.04 [1.00-1.09]), being unemployed (vs. paid legal work, aOR [95% CI]: 3.8 [1.0-14.0]), and ever speaking positively to someone who did not inject drugs about injecting (aOR [95% CI]: 10.2 [2.6-40.9]) were associated with ever injecting another person during their first time injecting drugs. Other covariates included in multivariable models were not statistically significantly related to injecting another person during their first time injecting. In unadjusted logistic regression models, residing in unstable housing (OR [95% CI]: 5.7 [1.4-22.5]) and ever seeing someone give another person their first injection (aOR [95% CI]: 4.4 [1.1-18.4]) were also associated with injecting another person at their first injection, but these covariates were excluded from the final model because they were thought to be collinear with other variables in the adjusted model.
Santibañez, 2005 (47)	USA	2198	29.3% ever provided help, guidance, or assistance with someone else's first injection	None	NA
Strike, 2014 (49)	Canada	98	25.7% (95% CI: 9.8%-41.6%) ever injected another person during their first time injecting drugs and 6.2% (95% CI: 2.1%-11.3%) injected another person during their first time injecting drugs in the past 6 months	None	NA
Uusküla, 2018 (51)	Estonia	299	13.7% (95% CI: 7.7%-19.6%) ever provided help, guidance, or assistance with someone else's first injection and 4.3% (95% CI: 1.2%-7.4%) provided help, guidance, or assistance with someone	a) Chi-squared test for differences in ever providing injection initiation assistance and perceiving that they may provide assistance with someone else's first injection in the future and b) multivariable logistic regression of the association between receptive syringe sharing in the past 6 months, ever being tested for HIV, age (≤30 years vs. >30 years), sex/gender (male vs. female), and	Ever providing injection initiation assistance was associated with perceiving that they may assist with someone's first injection in the future (48% [95% CI: 19-77%] of those who had ever assisted vs. 20% [95% CI: 12-28%] of those who had never assisted thought they might provide assistance in the future, p=0.001). Receptive syringe sharing in the past 6 months (aOR [95% CI]: 4.7 [1.3-17.0], p=0.02), ever being tested for HIV (aOR [95% CI]: 8.4 [1.2-62.1], p=0.04), being ≤30

			else's first injection in the past 6 months	having any friends who have helped someone with a first injection in the past 6 months.	years of age (vs. >30 years, aOR [95% CI]: 3.9 [1.4-10.2], p=0.006), male sex/gender (vs. female, aOR [95% CI]: 6.3 [2.0-19.7], p=0.02), and having any friends who have helped someone with a first injection in the past 6 months (aOR [95% CI]: 3.4 [1.3-9.0], p=0.01) were associated with ever providing injection initiation assistance.
White, 2019 (55)	USA	420	17.1% injected another person during their first time injecting drugs in the past 6 months	Multivariable logistic regression of the association of age, sex/gender (female vs. male), race/ethnicity (other race vs. non-Hispanic white), homelessness at the time of survey, whether the participant had been arrested in the past 6 months, engagement in sex work in the past 6 months, number of injections per day (modeled continuously and based on the time of survey), receptive syringe sharing in the past 6 months, number of people the participant typically used with in the past 6 months (≥2 vs. 1 vs. alone [referent]), injecting in front of someone who did not inject drugs in the past 6 months, describing injection to someone who did not inject drugs in the past 6 months, speaking positively about injection to someone who did not inject drugs in the past 6 months, and encouraging someone who did not inject drugs to inject in the past 6 months with injecting another person during their first time injecting in the past 6 months.	Number of injections per day (aOR [95% CI]: 1.16 [1.07-1.25], p<0.001), injecting in front of someone who did not inject drugs (aOR [95% CI]: 2.8 [1.3-6.0], p=0.01), describing injection to someone who did not inject drugs (aOR [95% CI]: 5.8 [2.7-12.6], p<0.001), and encouraging someone who did not inject drugs to inject (aOR [95% CI]: 7.1 [2.3-21.9], p=0.001) were associated with injecting another person during their first time injecting in the past 6 months. The remaining correlates did not reach statistical significance (p>0.09).
Young, 2014 (56)	USA	394	25.4% ever injected another person during their first time injecting drugs	None	NA

Web Table 6. Correlates Assessed for Associations with Providing Injection Initiation Assistance

Correlate	1st Author, Year (Reference)	Method	Finding
I. Micro-Physical Correlates			
Location of injecting	Fuller, 2003 (22)	OR, ever providing injection initiation assistance with attending shooting gallery in the year after injection initiation	No association, OR (95% CI): 1.9 (0.9-4.2)
	Navarro, 2019 (40)	aOR, taking someone to a location to inject with injecting another person at initiation in the past 6 months (high frequency [injected first time for 4 or more people], low frequency [injected first time for 1-3 people], and no injection assistance provided [referent]) adjusted for income source, injection frequency, sex work, and injecting others at times other than initiation	Taking someone to place to shoot drugs associated with injecting another person at initiation 4+ times (vs. 0, aOR [95% CI]: 3.3 [1.1-9.6]) but not 1-3 times (vs. 0, aOR not provided, p>0.05)
Homelessness	Ben Hamida, 2018 (6)	aOR, residing in unstable housing in the past 6 months (vs. stable housing) with providing help, guidance, or assistance with injection initiation in the past 6 months adjusted for any non-injection drug use, age, sex/gender, and injecting frequency	No association, aOR (95% CI): 1.3 (0.8-2.2)
	Mittal, 2019 (39)	aOR, past 6 month homelessness (vs. not homeless) with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for opioid agonist treatment, sex/gender, age, cohort membership, injection frequency, methamphetamine and speedball injection	Homelessness inversely associated with providing assistance (aOR [95% CI]: 0.5 [0.3-0.9], p=0.03)
	White, 2019 (55)	aOR, homelessness (at time of study) with injecting another person at initiation in the past 6 months adjusted for age, sex/gender, race/ethnicity, arrested, sex work, injection frequency, syringe sharing, number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association, aOR (95% CI): 1.6 (0.8-3.3)
Incarceration	Bryant, 2008 (10)	aOR, being in prison or detention in past 12 months with ever injecting another person at initiation adjusted for duration injecting, recruitment location, Aboriginality, and whether interview was conducted by a peer	Incarceration associated with providing assistance (aOR [95% CI]: 2.9 [1.4-6.1])
II. Macro-Physical Correlates			
Geographic differences	Bluthenthal, 2014 (7)	aOR, recruitment from Los Angeles (vs. San Francisco) with providing help, guidance, or assistance at initiation in the past 12 months adjusted for likelihood of providing injection initiation assistance in the future, non-injection powder cocaine use, injecting another person at times other than injection initiation, and describing injection to someone who did not inject	Enrolling in study in Los Angeles (vs. San Francisco) associated with providing assistance (aOR [95% CI]: 3.2 [1.5-6.7])
	Melo, 2018 (36)	aOR, city/cohort membership (San Diego/STAHR, Tijuana/El Cuete, and Vancouver/VIDUS, ACCESS, and ARYS) with providing help, guidance, or assistance at injection initiation in past 6 months adjusted for law enforcement interactions, age, sex/gender, and frequency of injecting	Living in San Diego/STAHR (vs. Tijuana/El-Cuete) associated with providing assistance (aOR [95% CI]: 2.0 [1.0-3.9]), No association with Vancouver/VIDUS/ACCESS/ARYS (vs. Tijuana, aOR [95% CI]: 1.4 [0.8-2.5])
	Rafful, 2018 (43)	aOR, lived 6+ years in the USA (vs. never) or 1-5 years in USA (vs. never) with ever providing help, guidance, or assistance at injection initiation adjusted for age, sex/gender, deported from USA, duration injecting, and injecting methamphetamine and heroin together	Living in the USA for 1-5 years (vs. never, aOR [95% CI]: 2.4 [1.2-4.8]) associated with providing assistance, No association: living in the USA for 6+ years (vs. never, aOR [95% CI]: 1.2 [0.6-2.4]))
	Rafful, 2018 (44)	aOR, residing in San Diego (vs. Tijuana) with providing help, guidance, or assistance in past 6 months adjusted for syringe and equipment sharing, age, and sex/gender	No association, aOR (95% CI): 1.7 (0.8-3.4)

Deportation	Rafful, 2018 (43)	aOR, ever deported with ever providing help, guidance, or assistance at injection initiation adjusted for age, sex/gender, years lived in USA, duration injecting, and injecting methamphetamine and heroin together	No association, aOR (95% CI): 1.4 (0.8-2.7)
III. Micro-Social Correlates			
Sex/gender	Ben Hamida, 2018 (6)	aOR, sex/gender with providing help, guidance, or assistance in the past 6 months adjusted for any non-injection drug use, age, housing, and injecting frequency	Male (vs. female) associated with providing assistance (aOR [95% CI]: 2.5 [1.3-4.9])
	Bryant, 2008 (10)	aOR, sex/gender with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, male vs. female aOR (95% CI): 1.7 (0.9-3.3)
	Kermode, 2007 (31)	aOR, sex/gender with ever providing injection initiation assistance adjusted for employment (vs. unemployed), paying for drugs at own first injection, being friends with people who inject drugs at own first injection, using alcohol around time of initiating injection, and being taught to inject at own initiation	Female sex/gender (vs. male) marginally and inversely associated with providing assistance (aOR [95% CI]: 0.3 [0.1-1.0])
	Melo, 2018 (36)	aOR, sex/gender with providing help, guidance, or assistance at injection initiation in past 6 months adjusted for city/cohort membership, law enforcement interactions, age, and frequency of injecting	Marginal association with male sex/gender (vs. female; aOR [95% CI]: 1.6 [1.0-2.7], p=0.06)
	Meyers, 2018 (37)	aOR, stratified by city/cohort membership (San Diego/STAHR, Tijuana/El Cuete, and Vancouver/VDUS): sex/gender with ever providing help, guidance, or assistance with injection initiation adjusted for age and duration injecting drugs (in years) and, in Tijuana/El-Cuete models, injecting methamphetamine.	Male sex/gender (vs. female) associated with ever providing assistance in Tijuana (aOR [95% CI]: 2.2 [1.2-3.8]), but not in San Diego (aOR [95% CI]: 1.3 [0.8-2.1]) or Vancouver (aOR [95% CI]: 1.1 [0.8-1.5])
	Mittal, 2017 (38)	aOR, sex/gender with ever providing help, guidance, or assistance with injection initiation adjusted for age, duration injecting, and opioid agonist treatment	No association, (male vs. female, aOR [95% CI]: 1.2 [0.7-1.9])
	Mittal, 2019 (39)	aOR, sex/gender with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for opioid agonist treatment, age, cohort membership, injection frequency, methamphetamine and speedball injection, and homelessness	No association (male vs. female, aOR [95% CI]: 1.2 [0.7-1.2])
	Rafful, 2018 (43)	aOR, sex/gender with ever providing help, guidance, or assistance at injection initiation adjusted for age, years lived in USA, deported from USA, duration injecting, and injecting methamphetamine and heroin together	No association, female (vs. male) aOR (95% CI): 0.6 (0.3-1.1)
	Rafful, 2018 (44)	aOR, sex/gender with providing help, guidance, or assistance in past 6 months adjusted for syringe and equipment sharing, age, and city	Male sex/gender (vs. female) marginally associated with providing assistance (aOR [95% CI]: 2.3 [0.97-5.3], p=0.06)
	Uusküla, 2018 (51)	aOR, sex/gender (male vs. female) with ever providing help, guidance, or assistance with a first injection adjusted for receptive syringe sharing in the past 6 months, ever being tested for HIV, age, and having any friends who have helped someone with a first injection in the past 6 months	Male sex/gender (vs. female) associated with providing assistance (aOR [95% CI]: 6.3 [2.0-19.7])
	White, 2019 (55)	aOR, sex/gender with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, age, race/ethnicity, arrested, sex work, injection frequency, syringe sharing, number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association (female vs. male, aOR [95% CI]: 0.8 [0.4-1.7])
Age	Ben Hamida, 2018 (6)	aOR, age with providing help, guidance, or assistance in the past 6 months adjusted for any non-injection drug use, sex/gender, housing, and injecting frequency	Age inversely associated with providing assistance (aOR [95% CI]: 0.97 [0.94-1.00], p<0.05)

	Bryant, 2008 (10)	aOR, age with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 1.1 (0.9-1.2)
	Fuller, 2005 (23)	OR, ever providing help, guidance, or assistance with injection initiation with initiating injection in adolescence (≤21 years) vs. adulthood (>21 years)	No association, OR (95% CI): 1.1 (0.4-2.6)
	Melo, 2018 (36)	aOR, age with providing help, guidance, or assistance at injection initiation in past 6 months adjusted for city/cohort membership, law enforcement interactions, sex/gender, and frequency of injecting	Age inversely associated with providing assistance (aOR [95% CI]: 0.96 [0.94-0.98])
	Meyers, 2018 (37)	aOR, stratified by city/cohort membership (San Diego/STAHR, Tijuana/El Cuete, and Vancouver/VDUS) of the association of age with ever providing help, guidance, or assistance with injection initiation adjusted for sex/gender and duration injecting drugs (in years) and, in Tijuana/El-Cuete models, injecting methamphetamine.	Age inversely associated with providing assistance in San Diego (aOR [95% CI]: 0.95 [0.92-0.98]) and Vancouver (aOR [95% CI]: 0.95 [0.93-0.97]), No association: Tijuana (aOR [95% CI]: 0.97 [0.92-1.01])
	Mittal, 2017 (38)	aOR, age with ever providing help, guidance, or assistance with injection initiation adjusted for sex/gender, duration injecting, and opioid agonist treatment	Age inversely associated with providing assistance (aOR [95% CI]: 0.94 [0.91-0.97])
	Mittal, 2019 (39)	aOR, age with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for opioid agonist treatment, sex/gender, cohort membership, injection frequency, methamphetamine and speedball injection, and homelessness	Age inversely associated with providing assistance (aOR [95% CI]: 0.94 [0.91-0.97])
	Rafful, 2018 (43)	aOR, age with ever providing help, guidance, or assistance at injection initiation adjusted for sex/gender, years lived in USA, deported from USA, duration injecting, and injecting methamphetamine and heroin together	No association, aOR (95% CI): 0.96 (0.92-1.01)
	Rafful, 2018 (44)	aOR, age with providing help, guidance, or assistance in past 6 months adjusted for syringe and equipment sharing, sex/gender, and city	No association, aOR (95% CI): 1.00 (0.96-1.03)
	Uusküla, 2018 (51)	aOR, age (≤30 vs. >30 years) with ever providing help, guidance, or assistance with a first injection adjusted for receptive syringe sharing in the past 6 months, ever being tested for HIV, sex/gender, and having any friends who have helped someone with a first injection in the past 6 months	Age ≤30 (vs. >30 years) associated with providing assistance (aOR [95% CI]: 3.9 [1.4-10.2])
	White, 2019 (55)	aOR, age with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, race/ethnicity, arrested, sex work, injection frequency, syringe sharing, number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association, aOR (95% CI): 1.02 (0.97-1.06)
Race	Bryant, 2008 (10)	aOR, being Aboriginal with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 0.6 (0.3-1.4)
	White, 2019 (55)	aOR, race/ethnicity with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, age, arrested, sex work, injection frequency, syringe sharing, number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association (other vs. white, non-Hispanic, aOR [95% CI]: 1.8 [0.7-4.7])
Syringe sharing	Bryant, 2008 (10)	aOR, borrowing used syringes in past 6 months with ever injecting another person during a first injection adjusted for duration injecting,	No association, aOR (95% CI): 2.0 (0.9-4.3)

		recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	
	Bryant, 2008 (10)	aOR, lending used syringes in past 6 months with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Lending used syringes associated with providing assistance (aOR [95% CI]: 2.4 [1.2-4.7])
	Day, 2005 (14)	Bivariable test for differences in providing help, guidance, or assistance with a first injection in the past 12 months by using a syringe or needle after someone else used it in the past month	30% of those who shared syringes vs. 16% who did not share equipment provided assistance (p=0.06)
	Day, 2005 (14)	Bivariable test for differences in providing help, guidance, or assistance with a first injection in the past 12 months by borrowing or lending injection equipment in past month	23% of those who shared equipment vs. 12% of those who did not share equipment provided assistance (p<0.005)
	Rafful, 2018 (44)	aOR, syringe and equipment sharing (sum of injection risk behaviors on a scale of 0–4, behaviors included distributive syringe sharing, receptive syringe sharing, backloading [sharing a dose in a syringe], and sharing injection paraphernalia other than syringes [e.g., water, cooker, and cotton]) with providing help, guidance, or assistance in past 6 months adjusted for age, sex/gender, and city	Higher injection risk score associated with providing assistance (aOR [95% CI]: 1.3 [1.0-0.6], p=0.04)
	Uusküla, 2018 (51)	aOR, receptive syringe sharing in the past 6 months with ever providing help, guidance, or assistance with a first injection adjusted for age, ever being tested for HIV, sex/gender, and having any friends who have helped someone with a first injection in the past 6 months	Receptive syringe sharing associated with providing assistance (aOR [95% CI]: 4.7 [1.3-17.0])
	White, 2019 (55)	aOR, receptive syringe sharing in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, age, race/ethnicity, arrested, injection frequency, sex work, number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association, aOR (95% CI): 1.9 (0.9-4.2)
Being injected by another person (not at initiation)	Bryant, 2008 (10)	aOR, being injected by others in past 6 months with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Being injected by others inversely associated with providing assistance (aOR [95% CI]: 0.4 [0.2-1.0], p<0.05)
	Crofts, 1996 (13)	aOR, being injected by another person most of the time with ever providing help, guidance, or assistance to 2+ people (vs. 0) adjusted for income assistance, polydrug use, polydrug injection, and selling drugs	Being injected by another person most often inversely associated with providing assistance to 2+ people (vs. none, aOR [95% CI]: 0.4 [0.2-0.9])
Being injected by another person (at own initiation)	Rotondi, 2014 (45)	aOR, who administered the participant's own first injection (someone else vs. self-administered) with ever injecting another person during their first time injecting drugs adjusted for employment, duration injecting, polydrug injection, speaking positively about injecting to someone who did not inject, and injecting in front of someone who did not inject	No association, aOR (95% CI): 5.6 (0.7-45.8)
Own initiation experiences	Kermode, 2007 (31)	aOR, being friends with people who inject drugs at own injection initiation with ever providing injection initiation assistance adjusted for employment (vs. unemployed), sex/gender, paying for drugs at own first injection, using alcohol around time of initiating injection, and being taught to inject at own initiation	Being friends with people who inject drugs at own initiation associated with providing assistance (aOR [95% CI]: 5.1 [2.0-13.2])
	Kermode, 2007 (31)	aOR, being taught to inject at own initiation with ever providing injection initiation assistance adjusted for employment (vs. unemployed), sex/gender, being friends with people who inject drugs at own first	Being taught to inject at own initiation associated with providing assistance (aOR [95% CI]: 2.7 [1.2-5.9])

		injection, using alcohol around time of initiating injection, and paying for drugs at own first injection	
	Kermode, 2007 (31)	aOR, paying for drugs at own injection initiation with ever providing injection initiation assistance adjusted for employment (vs. unemployed), sex/gender, being friends with people who inject drugs at own first injection, using alcohol around time of initiating injection, and being taught to inject at own initiation	Paying for drugs at own initiation inversely associated with providing assistance (aOR [95% CI]: 0.3 [0.1-0.6])
Injecting another person (not at initiation)	Bluthenthal, 2014 (7)	aOR, injecting another person at times other than injection initiation in the past month with providing injection initiation assistance in the past 12 months adjusted for likelihood of providing injection initiation assistance in the future, city, non-injection powder cocaine use, and ever describing injection to someone who did not inject	Injecting another person at times other than the person's first injection associated with providing assistance (aOR [95% CI]: 4.1 [1.9-8.5])
	Bryant, 2008 (10)	aOR, injecting others (at times other than initiation) in past 6 months with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Injecting others associated with providing assistance (aOR [95% CI]: 7.5 [3.6-15.4])
	Navarro, 2019 (40)	aOR, injecting another person in the past 6 months with injecting another person at initiation in the past 6 months (high frequency [injected first time for 4 or more people], low frequency [injected first time for 1-3 people], and no injection assistance provided [referent]) adjusted for income source, injection frequency, sex work, and taking someone to a location where they could inject drugs	Injecting another person at a time other than their first injection associated with injecting another person for their first injection 1-3 times in the past 6 months (vs. not, aOR [95% CI]: 2.6 [1.4-4.8]) and injecting another person 4+ times in the past 6 months (vs. not, aOR [95% CI]: 12.2 [1.6-90.9])
Substance use network	White, 2019 (55)	aOR, number of people the participant typically used with in the past 6 months (2+ or 1 vs. alone [referent]) with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, race/ethnicity, arrested, sex work, injection frequency, syringe sharing, age, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association, typically using with 2+ people (vs. 0, aOR [95% CI]: 0.9 [0.4-2.1]) and with 1 person (vs. 0, aOR [95% CI]: 0.6 [0.2-1.7])
Injecting in front of injection-naïve individuals	Rotondi, 2014 (45)	aOR, ever injecting in front of someone who did not inject with ever injecting another person during their first time injecting drugs adjusted for who administered participant's own first injection, duration injecting, employment, polydrug injection, and speaking positively about injecting to someone who did not inject	No association, aOR (95% CI): 4.7 (0.6-35.2)
	White, 2019 (55)	aOR, injecting in front of someone who did not inject drugs in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, race/ethnicity, arrested, sex work, number of people the participant uses with, injection frequency, syringe sharing, age, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	Injecting in front of someone who did not inject drugs associated with providing assistance (aOR [95% CI]: 2.8 [1.3-6.0])
Describing injection to injection-naïve individuals	Bluthenthal, 2014 (7)	aOR, ever describing injection to someone who did not inject with providing injection initiation assistance in the past 12 months adjusted for likelihood of providing injection initiation assistance in the future, city, non-injection powder cocaine use, and injecting another person at times other than injection initiation in the past month	Describing injection to someone who did not inject drugs associated with providing assistance (aOR [95% CI]: 2.6 [1.2-5.7])
	White, 2019 (55)	aOR, describing injection to someone who did not inject drugs in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, race/ethnicity, arrested, sex work, number of people the participant uses with, injection	Describing injection to someone who did not inject drugs associated with providing assistance (aOR [95% CI]: 5.8 [2.7-12.6])

		frequency, syringe sharing, age, injecting in front of, speaking positively about injection, and encouraging injection among someone who did not inject drugs	
Speaking positively about or encouraging injection	Rotondi, 2014 (45)	aOR, ever speaking positively about injecting to someone who did not inject with ever injecting another person during their first time injecting drugs adjusted for who administered participant's own first injection, duration injecting, employment, polydrug injection, and injecting in front of someone who did not inject	Speaking positively about injecting to someone who did not inject drugs associated with providing assistance (aOR [95% CI]: 10.2 [2.6-40.9])
	White, 2019 (55)	aOR, speaking positively about injection to someone who did not inject drugs in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, race/ethnicity, arrested, sex work, number of people the participant uses with, injection frequency, syringe sharing, age, injecting in front of, describing injection, and encouraging injection among someone who did not inject drugs	No association, aOR (95% CI): 1.8 (0.8-3.9)
	White, 2019 (55)	aOR, encouraging someone who did not inject drugs to inject in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, race/ethnicity, arrested, sex work, number of people the participant uses with, injection frequency, syringe sharing, age, injecting in front of, speaking positively about, and describing injection to someone who did not inject drugs	Encouraging someone who did not inject drugs to inject associated with providing assistance (aOR [95% CI]: 7.1 [2.3-21.9])
Having friends who provide assistance	Uusküla, 2018 (51)	aOR, having any friends who have helped someone with a first injection in the past 6 months with ever providing help, guidance, or assistance with a first injection adjusted for age, ever being tested for HIV, sex/gender, and receptive syringe sharing	Having friends who helped someone with a first injection associated with providing assistance (aOR [95% CI]: 3.4 [1.3-9.0])
Sharing harm reduction information	Bryant, 2008 (10)	aOR, told others about hepatitis C and safe injecting with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Informing others about hepatitis C and safe injecting associated with providing assistance (aOR [95% CI]: 2.4 [1.3-4.4])
Providing future assistance	Bluthenthal, 2014 (7)	aOR, likelihood of providing injection initiation assistance in the future (probably would vs. definitely would not) with providing injection initiation assistance in the past 12 months adjusted for city, non-injection powder cocaine use, describing injection to someone who did not inject, and injecting another person at times other than injection initiation in the past month	Saying they would probably provide injection initiation assistance in the future associated with providing assistance (aOR [95% CI]: 7.1 [3.4-14.8])
	Uusküla, 2018 (51)	Bivariable test for differences in ever providing injection initiation assistance and perceiving they may provide assistance in the future	48% (95% CI: 19-77%) of those who ever assisted vs. 20% (95% CI: 12-28%) of those who never assisted thought they may provide assistance in the future (p=0.001)
Sex work	Navarro, 2019 (40)	aOR, having a paying sex partner in the past 6 months with injecting another person at initiation in the past 6 months (high frequency [injected first time: 4+ people], low frequency [injected first time: 1-3 people], and no injection assistance provided [referent]) adjusted for income source, injection frequency, injecting another person, and taking someone to a location where they could inject drugs	Having a paying sex partner associated with injecting another person for their first injection 1-3 times in the past 6 months (vs. not, aOR [95% CI]: 2.1 [1.2-3.6]) and injecting another person 4+ times in the past 6 months (vs. not, aOR [95% CI]: 3.0 [1.4-6.6])
	White, 2019 (55)	aOR, engaging in sex work in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, age, race/ethnicity, being arrested, injection frequency, syringe sharing, number of people the participant uses with, injecting in front of, describing injection, speaking positively about	No association, aOR (95% CI): 1.2 (0.5-2.8)

		injection, and encouraging injection among someone who did not inject drugs	
Law enforcement interactions	Melo, 2018 (36)	aOR, law enforcement interactions with providing help, guidance, or assistance at injection initiation in past 6 months adjusted for city/cohort membership, age, sex/gender, and frequency of injecting	Experiencing 2-5 law enforcement interactions in the past 6 months associated with providing assistance (aOR [95% CI]: 1.7 [1.0-3.0], p=0.048), No association: having 1 law enforcement interaction (vs. none, aOR [95% CI]: 1.5 [0.8-2.8]) or 6+ interactions (vs. none, aOR [95% CI]: 1.2 [0.5-2.4])
	White, 2019 (55)	aOR, being arrested in the past 6 months with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, age, race/ethnicity, sex work, injection frequency, syringe sharing, number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	No association, aOR (95% CI): 1.87 (0.8-3.5)
IV. Micro-Economic Correlates			
Selling drugs	Crofts, 1996 (13)	aOR, ever selling drugs (vs. not making money by selling drugs) with ever providing help, guidance, or assistance to 2+ people (vs. 0) adjusted for polydrug injection, income assistance, polydrug use, and being injected by another person most of the time	Selling drugs marginally associated with assisting 2+ people (aOR [95% CI]: 2.7 [1.0-7.5])
Income	Crofts, 1996 (13)	aOR, income assistance (being "on the dole or welfare") with ever providing help, guidance, or assistance to 2+ people (vs. 0) adjusted for polydrug injection, income assistance, polydrug use, selling drugs, and being injected by another person most of the time	Income assistance associated with assisting 2+ people (aOR [95% CI]: 2.1 [1.0-4.1])
	Navarro, 2019 (40)	aOR, income from illegal or possibly illegal activities in the past 6 months with injecting another person at initiation in the past 6 months (high frequency [injected first time: 4+ people], low frequency [injected first time: 1-3 people], and no injection assistance provided [referent]) adjusted for injecting another person, injection frequency, sex work, and taking someone to a location where they could inject drugs	Illegal or possibly illegal sources of income associated with injecting another person for their first injection 1-3 times in the past 6 months (vs. not, aOR [95% CI]: 2.2 [1.4-3.5]), No association: injecting another person 4+ times in the past 6 months (vs. not, aOR not provided, p>0.05)
Employment	Bryant, 2008 (10)	aOR, receiving unemployment benefits (vs. not) with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 1.4 (0.7-2.6)
	Kermode, 2007 (31)	aOR, being employed (vs. unemployed) at the time of survey with ever providing injection initiation assistance adjusted for sex/gender, being friends with people who inject drugs at own first injection, using alcohol around time of initiating injection, paying for drugs at own first injection, and being taught to inject at own initiation	Being employed inversely associated with providing assistance (aOR [95% CI]: 0.4 [0.1-0.8])
	Rotondi, 2014 (45)	aOR, employment in the past 6 months (illegal/black market work selling drugs, sex work, etc.] or unemployed vs. employed [referent]) with ever injecting another person during their first time injecting drugs adjusted for who administered participant's own first injection, duration injecting, polydrug injection, speaking positively about injecting to someone who did not inject, and injecting in front of someone who did not inject	Being unemployed (vs. paid legal work) associated with providing assistance (aOR [95% CI]: 3.8 [1.0-14.0]), No association: illegal/black market work (vs. paid legal work, aOR [95% CI]: 0.4 [0.08-2.0])
V. Micro-Policy Correlates			
Source of injecting equipment	Bryant, 2008 (10)	aOR, obtaining needles from formal source (SSP or pharmacy) in the past 6 months with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 3.8 (0.4-33.6)

	Bryant, 2008 (10)	aOR, obtaining needles from an informal sources (friend or dealer) in the past 6 months with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Obtaining needles from an informal source associated with providing assistance (aOR [95% CI]: 3.3 [1.7-6.2])
VI. Substance Use Correlates			
Polydrug injection	Crofts, 1996 (13)	aOR, injecting >1 drug (vs. only 1) with ever providing help, guidance, or assistance to 2+ people (vs. 0) adjusted for income assistance, polydrug use, being injected by another person most of the time, and selling drugs	Injecting >1 drug (vs. only one) associated with assisting 2+ people (vs. none, aOR [95% CI]: 2.5 [1.3-4.8])
	Rotondi, 2014 (45)	aOR, polydrug injection in the past 6 months (injecting 2+ drugs vs. not) with ever injecting another person during their first time injecting drugs adjusted for who administered participant's own first injection, employment, duration injecting, speaking positively about injecting to someone who did not inject, and injecting in front of someone who did not inject	No association, aOR (95% CI): 0.4 (0.06-2.1)
Polydrug use	Crofts, 1996 (13)	aOR, only using the primary injected drug (vs. using other drugs in addition to primary injected drug) with ever providing help, guidance, or assistance to 2+ people (vs. 0) adjusted for income assistance, polydrug injection, being injected by another person most of the time, and selling drugs	Only using the primary injected drug (vs. other drugs) marginally and inversely associated with assisting 2+ people (aOR [95% CI]: 0.13 [0.02-1.06])
	Bryant, 2008 (10)	aOR, polydrug use in the past month with ever injecting another person during a first injection adjusted for recruitment location, duration injecting, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 1.4 (0.8-2.7)
Injection frequency	Ben Hamida, 2018 (6)	aOR, injection frequency (daily, less than daily, vs. none) in the past 6 months with providing help, guidance, or assistance in the past 6 months adjusted for any non-injection drug use, sex/gender, housing, and age	No association, injecting daily (vs. never, aOR [95% CI]: 1.8 [0.7-4.4]), injecting less than daily (vs. never, aOR [95% CI]: 0.7 [0.1-4.0])
	Bryant, 2008 (10)	aOR, injection frequency in the past month (everyday, >once per week but <everyday, once a week or less, none) with ever injecting another person during a first injection adjusted for recruitment location, duration injecting, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, injecting everyday (vs. not injecting, aOR [95% CI]: 1.5 [0.4-6.0]), >once per week but <everyday (vs. not injecting, aOR [95% CI]: 1.5 [0.4-6.0]), and once a week or less (vs. not injecting, aOR [95% CI]: 1.5 [0.3-6.5])
	Melo, 2018 (36)	aOR, injection frequency in past 6 months with providing help, guidance, or assistance at injection initiation in past 6 months adjusted for city/cohort membership, age, sex/gender, and law enforcement interactions	Daily injecting (vs. none, aOR [95% CI]: 5.9 [2.6-13.3]) and less than daily injecting (vs. none, aOR [95% CI]: 3.1 [1.3-7.5]) associated with providing assistance
	Mittal, 2019 (39)	aOR, injection frequency in past 6 months with providing help, guidance or assistance with injection initiation in the past 6 months with a first injection adjusted for opioid agonist treatment, sex/gender, cohort membership, age, methamphetamine and speedball injection, and homelessness	Daily injection (vs. no, aOR [95% CI]: 8.4 [2.3-29.7]) and <daily injection (vs. no, aOR [95% CI]: 4.4 [1.2-16.2]) associated with providing assistance
	Navarro, 2019 (40)	aOR, injection frequency in past 30 days with injecting another person at initiation in the past 6 months (high frequency [injected first time: 4+ people], low frequency [injected first time: 1-3 people], and no injection assistance provided [referent]) adjusted for income source, injecting another person in the past 6 months, sex work, and taking someone to a location where they could inject drugs	Injection frequency (aOR [95% CI]: 1.003 [1.001-1.004]) associated with injecting another person 4+ times in the past 6 months (vs. not, aOR [95% CI]: 12.2 [1.6-90.9]), No association with injecting another person for their first injection 1-3 times in the past 6 months (vs. not, aOR not provided, p>0.05)
	White, 2019 (55)	aOR, number of injections per day with injecting another person during their first time injecting in the past 6 months adjusted for homelessness, sex/gender, age, race/ethnicity, arrested, sex work, syringe sharing,	Injection frequency associated with providing assistance (aOR [95% CI]: 1.2 [1.1-1.3])

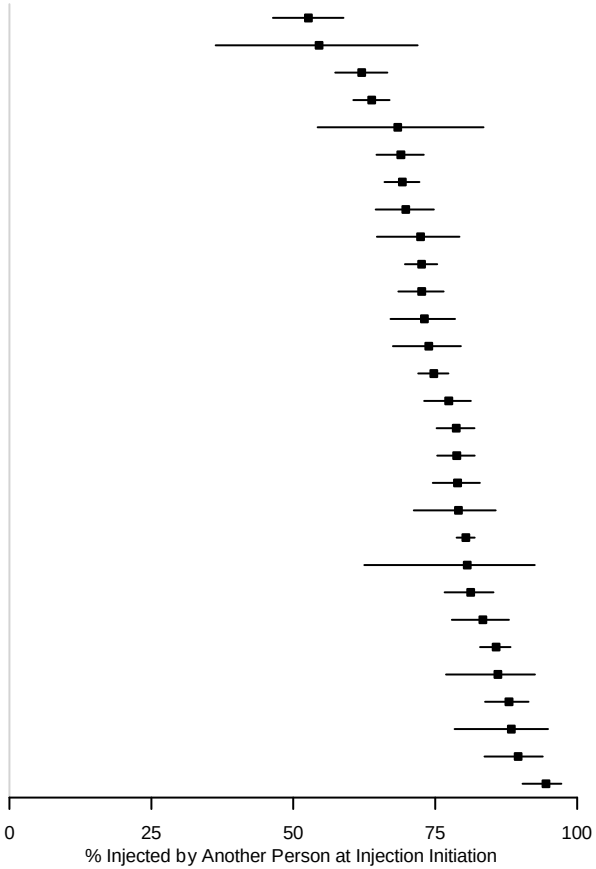
		number of people the participant uses with, injecting in front of, describing injection, speaking positively about injection, and encouraging injection among someone who did not inject drugs	
Medications for opioid use disorder	Mittal, 2017 (38)	aOR, ever being on opioid agonist treatment (methadone or buprenorphine) with ever providing help, guidance, or assistance with injection initiation adjusted for age, sex/gender, and duration injecting	Opioid agonist treatment inversely associated with ever providing assistance (aOR [95% CI]: 0.6 [0.4-1.0], p=0.04)
	Mittal, 2019 (39)	aOR, opioid agonist treatment (methadone or buprenorphine) in the past 6 months with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for injection frequency, sex/gender, cohort membership, age, methamphetamine and speedball injection, and homelessness	Opioid agonist treatment inversely associated with providing assistance in the past 6 months (aOR [95% CI]: 0.52 [0.31-0.87])
Duration injecting	Bryant, 2008 (10)	aOR, duration injecting (years) with ever injecting another person during a first injection adjusted for recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Duration injecting associated with providing assistance (aOR [95% CI]: 1.9 [1.4-2.5])
	Meyers, 2018 (37)	aOR, stratified by city/cohort membership (San Diego/STAHR, Tijuana/El Cuete, and Vancouver/VDUS) of the association of duration injecting (years) with ever providing help, guidance, or assistance with injection initiation adjusted for sex/gender and age and, in Tijuana/El-Cuete models, injecting methamphetamine.	Duration injecting associated with providing assistance in Vancouver (aOR [95% CI]: 1.04 [1.02-1.06]) but not Tijuana (aOR [95% CI]: 1.03 [0.98-1.07]) or San Diego (aOR [95% CI]: 1.03 [0.99-1.06])
	Mittal, 2017 (38)	aOR, duration injecting (years) with ever providing help, guidance, or assistance with injection initiation adjusted for age, sex/gender, duration injecting, and opioid agonist treatment	Duration injecting associated with providing assistance (aOR [95% CI]: 1.04 [1.00-1.07])
	Rafful, 2018 (43)	aOR, duration injecting (years) with ever providing help, guidance, or assistance at injection initiation adjusted for age, sex/gender, years lived in USA, deported from USA, and injecting methamphetamine and heroin together	Marginal association, aOR (95% CI): 1.03 (0.99-1.07)
	Rotondi, 2014 (45)	aOR, duration injecting (years) in the past 6 months with ever injecting another person during their first time injecting drugs adjusted for who administered participant's own first injection, employment, polydrug injection, speaking positively about injecting to someone who did not inject, and injecting in front of someone who did not inject	Duration injecting associated with providing assistance (aOR [95% CI]: 1.04 [1.00-1.09])
Injecting methamphetamine	Meyers, 2018 (37)	aOR, in Tijuana/El Cuete cohort model: ever injecting methamphetamine (vs. never) with ever providing help, guidance, or assistance with injection initiation adjusted for sex/gender, age and duration injecting	Injecting methamphetamine associated with providing assistance (aOR [95% CI]: 3.2 [1.0-10.5])
	Mittal, 2019 (39)	aOR, past 6 month methamphetamine injection (vs. none) with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for opioid agonist treatment, sex/gender, cohort membership, age, injection frequency, and speedball injection, and homelessness	Methamphetamine injection (aOR [95% CI]: 2.2 [1.2-4.0]) associated with providing assistance
Injecting speedball (heroin + cocaine)	Mittal, 2019 (39)	aOR, past 6 month speedball (vs. not) with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for opioid agonist treatment, sex/gender, cohort membership, age, injection frequency, and methamphetamine injection, and homelessness	Speedball associated with providing assistance (aOR [95% CI]: 2.0 [1.0-4.0]
Injecting goofball (heroin + methamph-etamine)	Rafful, 2018 (43)	aOR, ever injecting methamphetamine and heroin together (vs. never) with ever providing help, guidance, or assistance at injection initiation adjusted for age, sex/gender, years lived in USA, deported from USA, and duration injecting	Injecting goofball associated with providing assistance (aOR [95% CI]: 3.7 [1.1-12.2])
Injecting speed/cocaine (vs. heroin/methadone)	Bryant, 2008 (10)	aOR, last drug injected was speed/cocaine v(s. heroin/methadone) with ever injecting another person during a first injection adjusted for recruitment location, duration injecting, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 1.2 (0.7-2.4)

Injecting other drugs (vs. heroin/methadone)	Bryant, 2008 (10)	aOR, last drug injected was another drug (i.e., drug other than heroin, methadone, speed, or cocaine) vs. heroin/methadone with ever injecting another person during a first injection adjusted for recruitment location, duration injecting, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 1.3 (0.3-5.0)
Non-injection cocaine use	Ben Hamida, 2018 (6)	aOR, non-injection cocaine use (vs. not) in the past 6 months with providing help, guidance, or assistance in the past 6 months adjusted for injection frequency, sex/gender, housing, and age	Non-injection cocaine use associated with providing assistance (aOR [95% CI]: 9.3 [4.0-21.8])
	Bluthenthal, 2014 (7)	aOR, non-injection powder cocaine use (vs. not) in the past month with providing injection initiation assistance in the past 12 months adjusted for city, describing injection to someone who did not inject, likelihood of providing future injection initiation assistance, and injecting another person at times other than injection initiation in the past month	Non-injection powder cocaine use associated with providing assistance (aOR [95% CI]: 5.0 [2.1-11.8])
Any non-injection drug use	Ben Hamida, 2018 (6)	aOR, any non-injection drug use (vs. no non-injection use) in the past 6 months with providing help, guidance, or assistance in the past 6 months adjusted for injection frequency, sex/gender, housing, and age	Any non-injection drug use associated with providing assistance (aOR [95% CI]: 2.4 [1.4-4.2])
Non-injection heroin use	Ben Hamida, 2018 (6)	aOR, non-injection heroin use (vs. not) in the past 6 months with providing help, guidance, or assistance in the past 6 months adjusted for injection frequency, sex/gender, housing, and age	Non-injection heroin use associated with providing assistance (aOR [95% CI]: 4.0 [1.9-8.5])
Non-injection methamphetamine use	Ben Hamida, 2018 (6)	aOR, non-injection methamphetamine use (vs. not) in the past 6 months with providing help, guidance, or assistance in the past 6 months adjusted for injection frequency, sex/gender, housing, and age	Non-injection methamphetamine use associated with providing assistance (aOR [95% CI]: 2.0 [1.2-3.6])
Alcohol use	Kermode, 2007 (31)	aOR, using alcohol around time of initiating injection with ever providing injection initiation assistance adjusted for sex/gender, being friends with people who inject drugs at own first injection, employment, paying for drugs at own first injection, and being taught to inject at own initiation	Using alcohol associated with providing assistance (aOR [95% CI]: 3.5 [1.5-8.2])
VII. Health Factors			
Tested for HIV	Uusküla, 2018 (51)	aOR, ever being tested for HIV with ever providing help, guidance, or assistance with a first injection adjusted for age, having friends who have helped someone with a first injection, sex/gender, and receptive syringe sharing	Being tested for HIV associated with providing assistance (aOR [95% CI]: 8.4 [1.2-62.1])
Tested for hepatitis C	Bryant, 2008 (10)	aOR, tested for hepatitis C in past year with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	Being tested for hepatitis C associated with providing assistance (aOR [95% CI]: 2.4 [1.3-4.7])
Hepatitis C infection	Bryant, 2008 (10)	aOR, infected with hepatitis C with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 1.1 (0.6-2.3)
Injection safety knowledge	Bryant, 2008 (10)	aOR, knowing it is unsafe to share syringes with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 0.4 (0.1-1.4)
	Bryant, 2008 (10)	aOR, knowing it is unsafe to share equipment with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 0.4 (0.2-1.1)
Hepatitis C knowledge	Bryant, 2008 (10)	aOR, knowledge that someone can be superinfected with hepatitis C with ever injecting another person during a first injection adjusted for duration	No association, aOR (95% CI): 0.9 (0.5-1.7)

		injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	
	Bryant, 2008 (10)	aOR, knowledge that someone can be reinfected with hepatitis C with ever injecting another person during a first injection adjusted for duration injecting, recruitment location, Aboriginality, and whether the interview was conducted by a peer (vs. non-peer)	No association, aOR (95% CI): 0.7 (0.4-1.4)
VIII. Other Correlates			
Cohort membership	Mittal, 2019 (39)	aOR, cohort membership (At-Risk Youth Study [ARYS, street-involved youth aged 14-26 years] vs. Vancouver Injection Drug Users Study [VIDUS, HIV-seronegative PWID] vs. AIDS Care Cohort to Evaluate Access to Survival Services Study [ACCESS, HIV-seropositive PWID, referent]) with providing help, guidance or assistance with injection initiation in the past 6 months adjusted for opioid agonist treatment, sex/gender, age, injection frequency, methamphetamine and speedball injection, and homelessness	No association (ARYS aOR [95% CI]: 0.7 [0.3-1.7], VIDUS (aOR [95% CI]: 0.8 [0.4-1.6], referent: ACCESS)

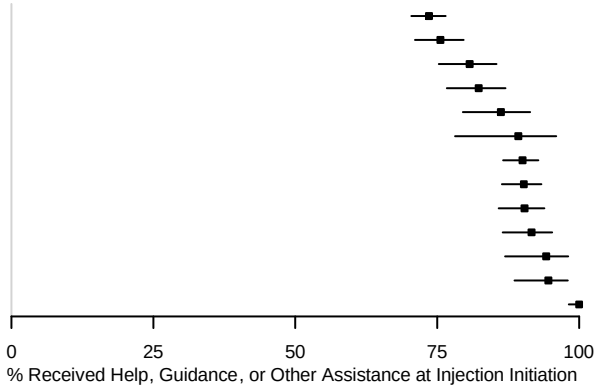
Web Figure 1. Detailed Forest Plot: Prevalence of being Injected by Another Person at Injection Initiation

First Author, Year (Reference No.)	Country	Quality	No. Assisted	Total No.	% Assisted (95% CI)
Guichard, 2015 (43)	France	Fair	138	262	52.7 (46.4, 58.8)
Lankenau, 2007 (72)	United States	Good	18	33	54.5 (36.4, 71.9)
Guichard, 2013 (47)	France	Fair	278	448	62.1 (57.4, 66.6)
Amin−Esmaeili, 2016 (75)	Iran	Fair	575	901	63.8 (60.6, 67.0)
Rotondi, 2014 (59)*	Canada	Fair	75	98	68.4 (54.3, 83.5)
Zahnow, 2018 (46)	Worldwide	Fair	342	496	69.0 (64.7, 73.0)
Bravo, 2003 (79)	Spain	Fair	623	900	69.2 (66.1, 72.2)
Bryant, 2007 (80)	Australia	Poor	229	328	69.8 (64.5, 74.7)
Diaz, 2002 (37)	United States	Poor	113	156	72.4 (64.7, 79.3)
Toro−Tobon, 2019 (93)	Colombia	Fair	715	985	72.6 (69.7, 75.4)
Roy, 2002 (40)	Canada	Fair	366	504	72.6 (68.5, 76.5)
Frajzyngier, 2007 (38)	United States	Good	182	249	73.1 (67.1, 78.5)
Lankenau, 2010 (48)	United States	Good	164	222	73.9 (67.6, 79.5)
Kerr, 2007 (88)	Canada	Good	796	1065	74.7 (72.0, 77.3)
Novelli, 2005 (44)	United States	Fair	325	420	77.4 (73.1, 81.3)
Oliveira, 2006 (90)	Brazil	Fair	477	606	78.7 (75.2, 81.9)
Vallejo, 2008 (94)	Spain	Fair	483	613	78.8 (75.3, 82.0)
Young, 2014 (97)	United States	Good	311	394	78.9 (74.6, 82.9)
Vidal−Trecan, 2002 (95)	France	Fair	106	134	79.1 (71.2, 85.6)
Becker Buxton, 2004 (78)	United States	Fair	1944	2418	80.4 (78.8, 82.0)
Werb, 2013 (96)	Canada	Fair	25	31	80.6 (62.5, 92.5)
Abelson, 2006 (41)	Australia	Fair	273	336	81.2 (76.7, 85.3)
Doherty, 2000 (42)	United States	Fair	191	229	83.4 (77.9, 88.0)
Arreola, 2014 (76)	United States	Fair	595	694	85.7 (82.9, 88.3)
Stillwell, 1999 (92)	United Kingdom	Fair	74	86	86.0 (76.9, 92.6)
Crofts, 1996 (45)	Australia	Poor	264	300	88.0 (83.8, 91.5)
Barry, 2012 (77)	Ireland	Poor	61	69	88.4 (78.4, 94.9)
Dunn, 2010 (84)	Australia	Fair	138	154	89.6 (83.7, 93.9)
Kermode, 2007 (14)	India	Fair	189	200	94.5 (90.4, 97.2)



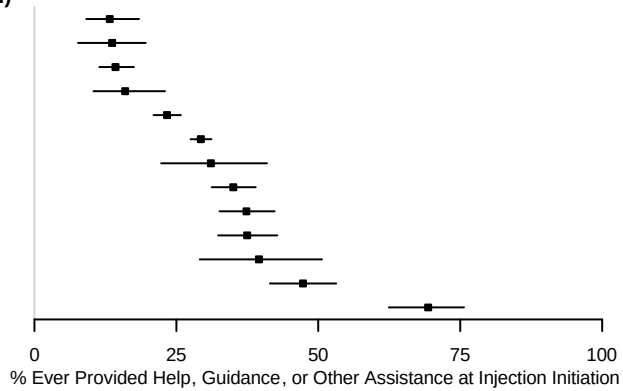
Web Figure 2. Detailed Forest Plot: Prevalence of Receiving Help, Guidance, or Other Assistance at Injection Initiation

First Author, Year (Reference No.)	Country	Quality	No. Assisted	Total No.	% Assisted (95% CI)
Cintra, 2006 (33)	Brazil	Poor	623	847	73.6 (70.4, 76.5)
Debeck, 2013 (82)	Canada	Fair	306	405	75.6 (71.1, 79.7)
Frajzyngier, 2007 (38)	United States	Good	201	249	80.7 (75.3, 85.4)
Fuller, 2003 (50)	United States	Fair	186	226	82.3 (76.7, 87.0)
Goldsamt, 2010 (39)	United States	Fair	125	145	86.2 (79.5, 91.4)
McCalman, 2001 (89)	Australia	Poor	50	56	89.3 (78.1, 96.0)
Day, 2005 (61)	Australia	Fair	352	391	90.0 (86.6, 92.8)
Hahn, 2001 (86)	United States	Good	278	308	90.3 (86.4, 93.3)
Doherty, 2000 (83)	United States	Fair	207	229	90.4 (85.8, 93.9)
Clatts, 2009 (81)	Vietnam	Good	164	179	91.6 (86.6, 95.2)
Stillwell, 1999 (92)	United Kingdom	Fair	81	86	94.2 (87.0, 98.1)
Hart, 1989 (87)	United Kingdom	Fair	105	111	94.6 (88.6, 98.0)
Kermode, 2007 (14)	India	Fair	200	200	100 (98.2, 100)



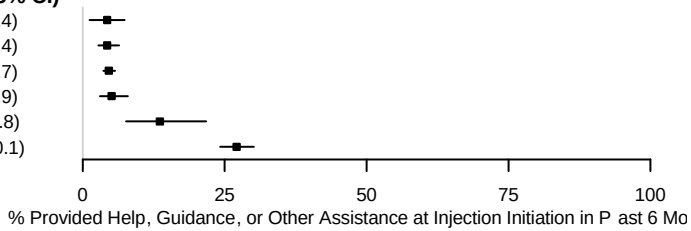
Web Figure 3. Detailed Forest Plot: Prevalence of Ever Receiving Help, Guidance, or Other Assistance at Injection Initiation

First Author, Year (Reference No.)	Country	Quality	No. Assisted	Total No.	% Assisted (95% CI)
Fuller, 2003 (50)	USA	Fair	30	226	13.3 (9.1, 18.4)
Uuskula, 2018 (58)*	Estonia	Fair	54	299	13.7 (7.7, 19.6)
Meyers, 2018 (57)	Mexico	Good	76	532	14.3 (11.4, 17.6)
Fuller, 2005 (85)	USA	Poor	23	144	16.0 (10.4, 23.0)
Meyers, 2018 (57)	Canada	Good	288	1234	23.3 (21.0, 25.8)
Santibanez, 2005 (91)	USA	Fair	710	2422	29.3 (27.5, 31.2)
Des Jarlais, 2019 (17)	United States	Good	32	103	31.1 (22.3, 40.9)
Bluthenthal, 2014 (16)	USA	Fair	212	605	35.0 (31.2, 39.0)
Day, 2005 (61)	Australia	Fair	149	399	37.3 (32.6, 42.3)
Meyers, 2018 (57)	United States	Good	130	347	37.5 (32.4, 42.8)
Hunt, 1998 (35)	United Kingdom	Fair	34	86	39.5 (29.2, 50.7)
Crofts, 1996 (45)	Australia	Poor	140	296	47.3 (41.5, 53.2)
Kermode, 2007 (14)	India	Fair	138	199	69.3 (62.4, 75.7)

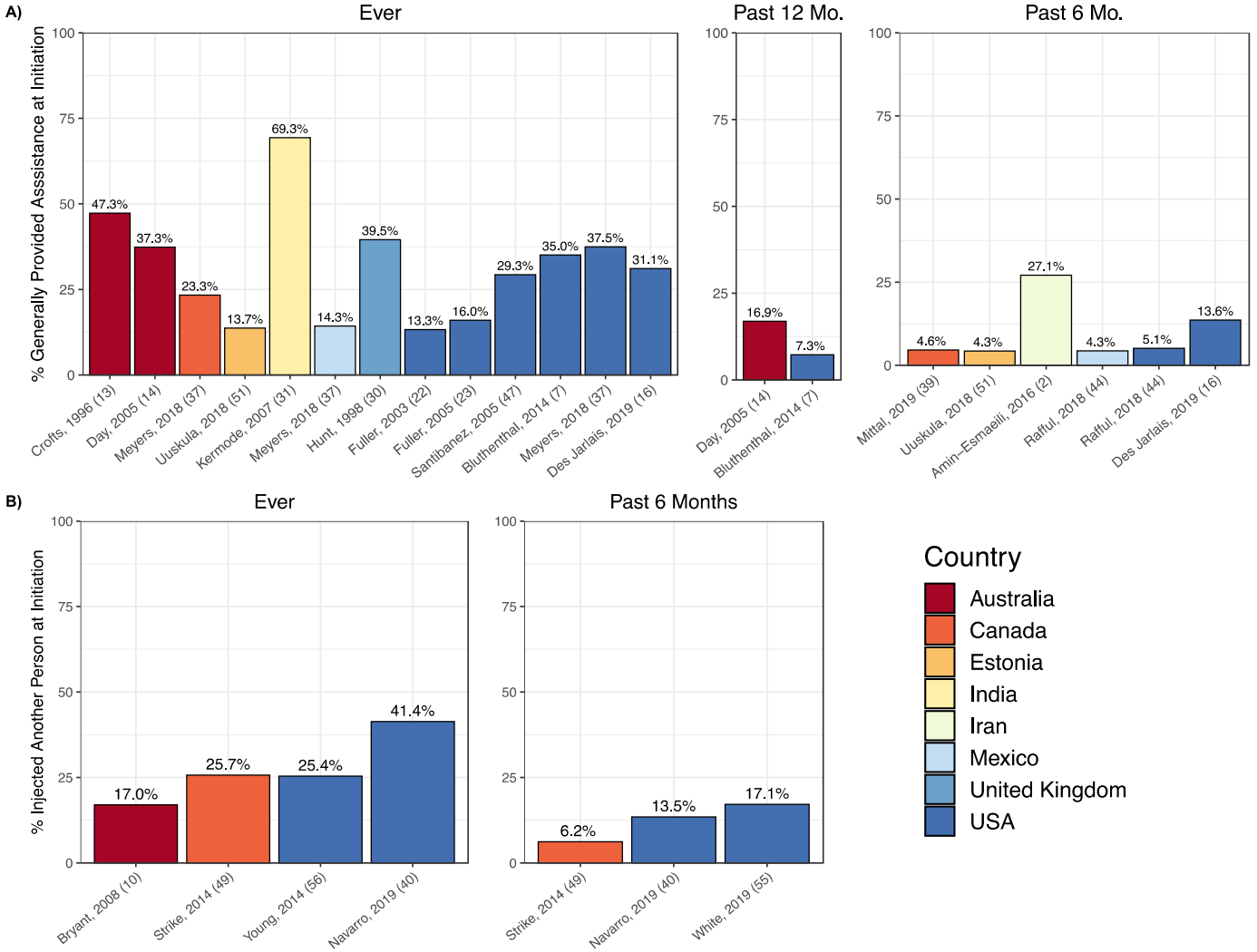


Web Figure 4. Detailed Forest Plot: Prevalence of Receiving Help, Guidance, or Other Assistance at Injection Initiation in the Past 6 Months

First Author, Year (Reference No.)	Country	Quality	No. Assisted	Total No.	% Assisted (95% CI)
Uuskula, 2018 (58)*	Estonia	Fair	14	299	4.3% (1.2, 7.4)
Rafful, 2018 (62)	Mexico	Fair	23	534	4.3% (2.7, 6.4)
Mittal, 2019 (53)	Canada	Fair	80	1740	4.6% (3.7, 5.7)
Rafful, 2018 (62)	United States	Fair	18	353	5.1% (3.9, 7.9)
Des Jarlais, 2019 (17)	United States	Good	14	103	13.6 (7.6, 21.8)
Amin−Esmaeili, 2016 (75)	Iran	Fair	245	904	27.1 (24.2, 30.1)



Web Figure 5. Prevalence of 5 Outcomes Related to Providing Injection Initiation Assistance



Panel A depicts study-specific estimates of the prevalence of providing help, guidance, or other assistance at injection initiation for three time periods: ever (left), past year (middle), and past 6 months (right). Panel B depicts study-specific estimates of the prevalence of injecting another person during their first injection ever (left) and in the past 6 months (right). Prevalence outcomes documented in ≥5 studies are shown with confidence intervals in Figure 4 and Web Figures 3 and 4.

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