Hepatitis C (HCV) Outbreaks by Setting

Setting	Year	State	Persons Notified for Screening[1]	Outbreak-Associated Infections[2]	Known or suspected mode of transmission[3]	Comments
Outpatient						
Outpatient primary care practice ([60])	2019	NY	>3000	8	IV (intravenous) infusions of vitamins, antibiotics, steroids, and other medications were prepared/administered using non-sterile technique. Scope of practice issues were identified: medical assistant prepared and administered injections and IV infusions.	Investigation ongoing.
Outpatient clinic ([56])	2018	CA	425	6	Suspected unsafe injection safety practices	
Alternative medicine practice ([55])	2017	NY	584	5 (see comment)	IV (intravenous) infusions were prepared using non-sterile glassware and tubing, which was not properly reprocessed between patients. Scope of practice issues were also identified with a phlebotomist preparing and administering injections and IV infusions.	In addition to the 5 cases determined to be transmission-linked with HCV genetic sequencing, 3 clinic patients with resolved HCV may have had outbreak-associated infection
Vascular access clinic ([59])	2016	PA	121	2	Reuse of syringes to access multi-dose vials of ketamine that were possibly used for >1 patient; multi-dose vials accessed in the immediate patient treatment area; lack of disinfection of medication vials and medication preparation area	
Prolotherapy clinic ([46])	2015	CA	>1,500	5	Syringe reuse contaminating medication vials used for >1 patient Use of single-dose vials for >1 patient	

Insulin infusion clinic (47)	2015	CA	92	9	Unsafe practices related to assisted blood glucose monitoring including use of fingerstick devices for >1 person and inadequate cleaning and disinfection of glucometer before reuse.	
Pain management clinic (48)	2015	MI	122	2	Syringe reuse contaminating medication vials used for >1 patient	
Hematology Oncology Clinic(21)	2012	MI	>300	10	Specific lapses in infection control not identified at the time of the investigation	
Pain management clinic (22)	2011	NY	466	2	Suspected syringe reuse contaminating medication vials	
Outpatient clinic (23)	2010	FL	3,929	5	Drug diversion (fentanyl) by an HCV-infected radiology technician	
Outpatient alternative medicine clinic (24)	2009	FL	163	9	Syringe reuse contaminating medication vials used for >1 patient Use of single-dose vials for >1 patient	
Endoscopy clinics (25)	2009	NY	3,287	2	Suspected syringe reuse contaminating medication vials	2009 investigation of cases occurring in 2006- 2007
Ambulatory surgical centers (single-purpose endoscopy clinics) (n=2) (26, 27, 28)	2008	NV	>60,000	9	Syringe reuse contaminating single-use medications vials (propofol) that were used for >1 patient	8 cases were from the first center and one from the second. The health department identified an additional 106 infections that could have been linked to the clinics. Note: this outbreak is also included in Thompson, et al, but at the time of publication only 6 cases had been identified external icon .
Outpatient cardiology clinic (29)	2008	NC	1,200	5	Syringe reuse contaminating multi-dose vials of saline solution used for >1 patient	An additional 2 new infections were identified in probable source patients

Totals			***>72,189***	***71***		
Long-term care						
Skilled nursing (30)	2013	ND	**>500**	**46**	Epidemiologic analysis suggested podiatry care, phlebotomy, and nail care performed at the skilled nursing facility were associated with HCV infection	
Hospital						
Hospital emergency room (57)	2018	WA	2,762	12	Narcotics tampering by nurse	
Hospital (50)	2015	UT	7,217	7	Drug diversion by nurse	
Hospital (31)	2012	NH AZ GA KS MD MI NY PA	**>11,000**	**45**	Drug diversion by radiology technologist.	Patients from 16 facilities in 8 states were notified about potential exposure and recommended to undergo testing for HCV infection.
Hospital-based surgery service (32)	2009	CO	**>8,000**	**26**	Drug diversion (fentanyl) by an HCV-infected surgical technician	18 cases were linked by viral sequencing to the surgical technician; an additional 8 infections were determined to be epidemiologically linked but viral sequencing was not able to be performed. The number screened includes patients from three facilities where the surgical technician had worked.
Totals			***>28,979***	***90***		
Hemodialysis						

Outpatient hemodialysis facility (58)	2018	PA	108	2	Specific lapses in infection control not identified, however, practices observed at the time of the investigation may have not represented usual facility practices. Case patients were dialyzed in close proximity and cared for by the same staff.	Of these two new acute case-patients identified in 2018, one had HCV virus genetically related to virus from two facility patients with chronic infection who had been part of an earlier 2015 outbreak at this same location, listed below.
Outpatient hemodialysis facility (53)	2017	GA	47	2	Patients were dialyzed in close proximity and cared for by the same staff Lapses identified included environmental cleaning, hand hygiene	
Outpatient hemodialysis facility (33)	2016	unspecified	203	2	Specific lapses in infection control not identified at the time of the investigation	
Outpatient hemodialysis facility (54)	2016	PA	154	2	Breaches in environmental cleaning and disinfection practices identified included: lapses in hand hygiene, mixing of clean and dirty areas, inadequate cleaning of stations between patients	
Outpatient hemodialysis facility (51)	2015	NJ	237	2	Multiple lapses in infection control identified, including hand hygiene and glove use, vascular access care, medication preparation, cleaning and disinfection	
Outpatient hemodialysis facility (51)	2015	NJ	84	2	Multiple lapses in infection control identified, vascular access care, medication preparation, cleaning and disinfection	
Outpatient hemodialysis facility (51)	2015	NJ	98	2	Multiple lapses in infection control identified, including hand hygiene and glove use, vascular access care, medication preparation, cleaning and disinfection	

Outpatient hemodialysis facility (52)	2015	PA	115	3	Multiple lapses in infection control identified, medication preparation close to treatment area	
Outpatient hemodialysis facility (52)	2015	PA	130	3	Multiple lapses in infection control identified, medication preparation close to treatment area	
Outpatient hemodialysis facility (52)	2015	PA	97	2	Multiple lapses in infection control identified, medication preparation close to treatment area, Use of single-dose vials for >1 patient, no separation of dirty and clean areas	(Philadelphia)
Outpatient hemodialysis facility (53	2015	CA	28	3	Breaches in environmental cleaning and disinfection practices	
Outpatient hemodialysis facility (34)	2014	WA	186	3	Breaches in environmental cleaning and disinfection practices identified included: failure to consistently change gloves and perform hand hygiene between patients, and breaches in environmental cleaning and disinfection practices to prevent cross-contamination between clean and dirty areas	
Outpatient hemodialysis facility (35)	2014	TN	62	2	Breaches in environmental cleaning and disinfection practices	
Outpatient hemodialysis facility (36)	2014	NJ	69	4	Breaches in environmental cleaning and disinfection practices identified included failure to: wash hands before and after glove use; adequately clean surrounding area of the station, the dialysis chair and priming bucket after use	

Outpatient hemodialysis facility (37)	2014	NJ	97	2	Breaches in environmental cleaning and disinfection practices identified included failure to: appropriately separate clean and contaminated supply areas, properly disinfect clamps in the open position, adequately clean the dialysis chair and priming bucket after use; ensure patients applying pressure to their own hemodialysis access site wash their hands after doffing gloves and prior to using the scale.	
Outpatient hemodialysis facility (38)	2012	PA	66	18	Multiple lapses in infection control identified, including hand hygiene and glove use, vascular access care, medication preparation, cleaning and disinfection	18 new HCV infections between 2008–2013; (Philadelphia)
Outpatient hemodialysis facility (39)	2012	CA	42	4	Specific lapses in infection control not identified at the time of the investigation	
Outpatient hemodialysis facility (40)	2011	GA	89	6	Failure to maintain separation between clean and contaminated workspaces	
Outpatient hemodialysis facility (41)	2010	TX	171	2	Specific lapses in infection control not identified at the time of the investigation	
Outpatient hemodialysis facility (42)	2009	MD	250	8	Breaches in medication preparation and administration practices Breaches in environmental cleaning and disinfection practices	
Hospital-based outpatient hemodialysis facility (43)	2009	NJ	144	21	Breaches in medication preparation and administration practices Breaches in environmental cleaning and disinfection practices	All patients who received dialysis in this facility since 2005 were notified for screening

Outpatient hemodialysis facility (44)	2008	NY	657	9	Failure to consistently change gloves and perform hand hygiene between patients. Breaches in environmental cleaning and disinfection practices	All patients who received dialysis in this facility since 2004 were notified for screening