



**RURAL CENTER FOR  
AIDS/STD PREVENTION**  
INDIANA UNIVERSITY  
School of Public Health  
Bloomington

# Syringe Exchange: Indicators of Need & Success

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The recent outbreak of HIV in southern Indiana among injectors of Opana brings attention to the lack of a strong public health system in these communities.

Syringe exchange programs (SEPs) are part of a comprehensive public health response to HIV and Hepatitis C.<sup>1</sup> Key indicators of need for SEPs include reported Hepatitis C, and injection drug use. CDC indicates that between 50-90% of people with HCV are co-infected with HIV.

## Hepatitis C & Heroin Use: Surrogate Indicators

**Hepatitis C virus (HCV)** has increased in Indiana since 2011. There have been 15,709 reported cases of acute and chronic HCV from 2011-2013.<sup>2</sup> Urban and rural communities are affected. Communities with state prisons may have additional public health system needs due to the number of HCV cases among prison populations.

**Heroin:** From 2001-2011, there was a significant increase in reported heroin use among Hoosiers. Of those admitted for substance abuse treatment, 9% reported heroin as their primary drug in 2011. This is significantly higher than in 2007 (2.9%).<sup>3</sup>

**Youth:** In 2011, 2.9% of Indiana youth (9-12<sup>th</sup> grades) reported using heroin at least once.<sup>4</sup> Nationally, there is evidence of an increase of HCV among young, heroin-injecting drug users who first used oral prescription opioid drugs.<sup>5</sup>

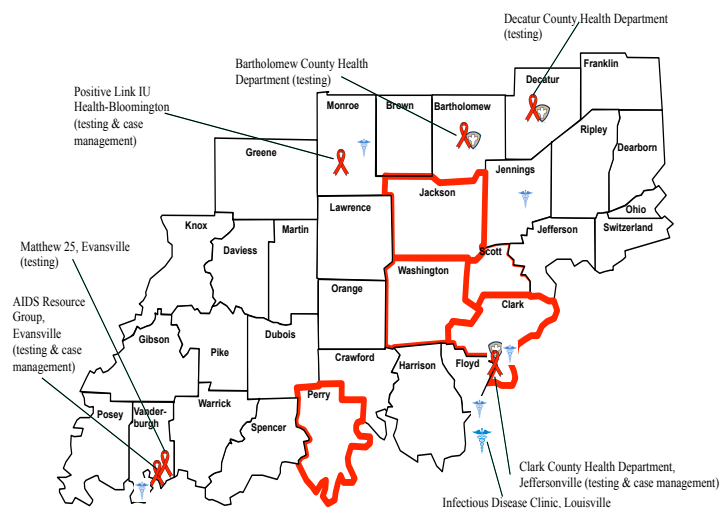
*SEPs are cost effective, because they reduce Hepatitis C and HIV among injection drug users. Evidence-based programs link SEPs tightly with HIV testing, antiretroviral treatment and substance abuse treatment.*

*Dr. Beth Meyerson,  
Rural Center for  
AIDS/STD Prevention,  
Indiana University  
School of Public Health-  
Bloomington*

## Public Health System: Necessary for SEP Success

Preventive health services such as HIV screening, HIV treatment and substance abuse treatment are critical components to SEPs. System investment is necessary. Prior to the outbreak, southern Indiana counties had limited access to HIV testing, HIV treatment and affordable substance abuse treatment (see inset). The closest infectious disease treatment clinic is in Louisville, KY.

### HIV Testing, Case Management and Treatment Resources in Region



# Acute and Chronic Hepatitis C in Indiana Counties 2011-2013

An analysis of publicly available reported cases of acute and chronic HCV by county for 2011, 2012 and 2013 highlights the following considerations for decision-makers:

- Rural and urban communities are affected by HCV. Those in **quartile 4** merit attention to their public health systems to assure early HCV and HIV testing, and linkage to HIV, HCV and substance abuse treatment.
- Counties with state prisons that report HCV cases likely have unique public health system needs to assure coordinated services.
- Several counties experience disproportionate HCV burden, as their share of HCV cases exceeds the percentage of Indiana population:

County	County HCV Cases as % Indiana HCV Cases (2011-2013)	2013 County Population as % of Indiana Population
Hendricks*	15.1%	2.3%
Lake	5.7%	1.7%
Parke*	4.8%	0.3%
Vanderburgh	3.9%	2.8%
Vigo	3.0%	1.6%
Delaware	2.6%	1.8%
Wayne	2.3%	1.0%
Clark*	2.1%	1.7%
LaPorte*	1.7%	0.6%
Henry*	1.3%	0.7%
Dearborn	1.3%	0.8%
Fayette	1.2%	0.4%
Scott	1.1%	0.4%

\*Counties with state prisons reporting HCV cases.

See attached table of reported cases for all Indiana counties



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### References:

1. Centers for Disease Control and Prevention. Syringe Exchange Programs United States -2008. *Morbidity and Mortality Weekly Report* 2010 59(45);1488-1491.
2. Indiana State Department of Health. Chronic and Acute Hepatitis C rates by county (Maps) 2011, 2012, 2013.
3. Center for Health Policy, IUPUI. *The Consumption and Consequences of Alcohol, Tobacco and Drugs in Indiana: A State Epidemiologic Profile* 2013.
4. Indiana Youth Risk Behavior Surveillance System (YRBSS), 2011.
5. Klevens RM, Hu DJ, Jiles R, Holmberg SD. Evolving epidemiology of hepatitis C virus in the United States. *Clin Infect Dis* 2012;55(S1):S3-9.

## Cases of Acute and Chronic Hepatitis C by Indiana County, 2011-2013

(Quartiles based on County 3-year Total as % of State 3-year Total)

	2011	2012	2013	3-year Average	County 3- yr total	County 3-year Total as % of Indiana 3-year Total	2013 County population as % of Indiana population
<b>Quartile 1</b>							
Benton	0	0	0	0.0	0	0.00	0.1
Newton	0	0	0	0.0	0	0.00	0.2
Ohio	0	0	7	2.3	7	0.04	0.1
Warren	0	8	0	2.7	8	0.05	0.1
Wells	6	5	0	3.7	11	0.07	0.4
Carroll	0	8	5	4.3	13	0.08	0.3
LaGrange	0	13	0	4.3	13	0.08	7.5
Pulaski	0	5	8	4.3	13	0.08	0.2
Brown	0	14	0	4.7	14	0.09	0.2
White	0	6	8	4.7	14	0.09	0.4
Pike	5	6	5	5.3	16	0.10	0.2
Union	5	7	7	6.3	19	0.12	0.1
Vermillion	7	7	6	6.7	20	0.13	0.2
Fulton	0	9	11	6.7	20	0.13	0.3
Crawford	6	10	6	7.3	22	0.14	0.2
Martin	12	0	10	7.3	22	0.14	0.2
Whitley	5	11	6	7.3	22	0.14	0.5
Owen	0	12	11	7.7	23	0.15	0.3
<b>Quartile 2</b>							
Fountain	8	6	7	7.0	21	0.13	0.3
Posey	8	8	8	8.0	24	0.15	0.4
Steuben	9	9	6	8.0	24	0.15	0.5
Tipton	12	12	0	8.0	24	0.15	0.2
Orange	7	9	10	8.7	26	0.17	0.3
Clay	13	14	0	9.0	27	0.17	0.4
Spencer	11	7	10	9.3	28	0.18	0.3
Adams	11	8	10	9.7	29	0.18	0.5
Switzerland	8	6	15	9.7	29	0.18	0.2
Rush	7	13	12	10.7	32	0.20	0.3
Huntington	14	13	6	11.0	33	0.21	0.6
Decatur	14	14	6	11.3	34	0.22	0.4
Sullivan	16	11	7	11.3	34	0.22	0.3
Noble*	14	8	13	11.7	35	0.22	0.7
Jasper	14	16	12	14.0	42	0.27	0.5
Dubois	15	16	12	14.3	43	0.27	0.6
Marshall	17	17	9	14.3	43	0.27	0.7
Gibson	16	13	16	15.0	45	0.29	0.5

## Cases of Acute and Chronic Hepatitis C by Indiana County, 2011-2013

(Quartiles based on County 3-year Total as % of State 3-year Total)

	2011	2012	2013	3-year Average	County 3- yr total	County 3-year Total as % of Indiana 3-year Total	2013 County population as % of Indiana population
Starke	14	15	16	15.0	45	0.29	0.4
Perry*	20	12	14	15.3	46	0.29	0.3
Daviess	22	11	14	15.7	47	0.30	0.5
Knox	18	17	13	16.0	48	0.31	0.6
Franklin	14	25	10	16.3	49	0.31	0.3
Wabash*	20	19	13	17.3	52	0.33	0.5
DeKalb	23	16	14	17.7	53	0.34	0.6
Washington	25	21	13	19.7	59	0.38	0.4
Cass*	26	17	20	21.0	63	0.40	0.6
Jay	11	26	29	22	66	0.42	0.3
<b>Quartile 3</b>							
Ripley	21	20	33	24.7	74	0.47	0.4
Clinton	28	29	19	25.3	76	0.48	0.5
Harrison	35	20	22	25.7	77	0.49	0.6
Jefferson*	22	32	24	26.0	78	0.50	0.5
Blackford	22	28	29	26.3	79	0.50	0.2
Greene	22	39	18	26.3	79	0.50	0.5
Kosciusko	21	34	25	26.7	80	0.51	1.2
Randolph	31	32	20	27.7	83	0.53	0.4
Shelby	30	35	20	28.3	85	0.54	0.7
Hancock	29	38	23	30.0	90	0.57	1.1
Boone	32	41	27	33.3	100	0.64	0.9
Jennings	40	40	21	33.7	101	0.64	0.4
Warrick	29	43	32	34.7	104	0.66	0.9
Bartholomew	43	34	33	36.7	110	0.70	1.2
Lawrence	40	35	42	39.0	117	0.74	0.7
Putnam*	47	47	24	39.3	118	0.75	0.6
Montgomery	54	33	34	40.3	121	0.77	0.6
Miami*	59	40	31	43.3	130	0.83	0.6
Johnson*	46	60	44	50.0	150	0.95	2.2
Jackson	61	46	48	51.7	155	0.99	0.7
Morgan	46	59	51	52.0	156	0.99	1.1
<b>Quartile 4</b>							
Grant	64	43	58	55.0	165	1.05	1.1
Scott	64	42	62	56.0	168	1.07	0.4
Floyd	61	55	54	56.7	170	1.08	1.2
Porter	64	76	43	61.0	183	1.16	2.5
Fayette	73	60	51	61.3	184	1.17	0.4

### Cases of Acute and Chronic Hepatitis C by Indiana County, 2011-2013

(Quartiles based on County 3-year Total as % of State 3-year Total)

	2011	2012	2013	3-year Average	County 3- yr total	County 3-year Total as % of Indiana 3-year Total	2013 County population as % of Indiana population
Hamilton	61	81	45	62.3	187	1.19	4.5
Howard	75	63	52	63.3	190	1.21	0.7
Dearborn	58	83	58	66.3	199	1.27	0.8
Henry*	67	80	53	66.7	200	1.27	0.7
Elkhart	72	87	51	70.0	210	1.34	3.1
Tippecanoe	93	80	45	72.7	218	1.39	2.7
Monroe	91	101	51	81.0	243	1.55	2.2
LaPorte*	109	101	62	90.7	272	1.73	0.6
Clark*	102	111	109	107.3	322	2.05	1.7
Madison*	137	117	70	108.0	324	2.06	2.0
Wayne	108	130	122	120.0	360	2.29	1.0
St. Joseph*	102	160	101	121.0	363	2.31	4.1
Delaware	108	153	152	137.7	413	2.63	1.8
Vigo	163	188	126	159.0	477	3.04	1.6
Allen*	184	228	142	184.7	554	3.53	5.5
Vanderburgh	246	210	151	202.3	607	3.86	2.8
Parke*	242	252	253	249.0	747	4.76	0.3
Lake	325	311	253	296.3	889	5.66	1.7
Marion*	856	807	504	722.3	2167	13.79	14.1
Hendricks*	783	841	752	792.0	2376	15.13	2.3
<b>Indiana Total</b>	<b>5519</b>	<b>5745</b>	<b>4445</b>	<b>5236.33</b>	<b>15709</b>	<b>100.00%</b>	

\*Includes cases reported from Indiana Department of Corrections facilities in these counties

\*\*Counties with suppressed cases (less than <5) were noted as 0