

Connecticut Department of Public Health

HIV Surveillance Program



QuickStats

May 9, 2012

HIV resistance surveillance

- The HIV Surveillance Program phased in laboratory reporting of HIV resistance sequences in 2009 with full implementation achieved in 2010.
- During 2009-2011, 451 HIV resistance sequences were reported.
- 86 (19.1%) sequences contained one or more transmitted drug-associated mutations. 76 (16.9%) were against one class of antiretroviral, 7 (1.6%) were against two, and 3 (0.7%) were against three classes. 26 (5.8%) were against protease inhibitors, 35 (7.8%) against nucleoside reverse transcriptase inhibitors, and 38 (8.4%) were against non-nucleoside reverse transcriptase inhibitors.
- HIV resistance testing is recommended as part of a baseline evaluation of newly diagnosed HIV cases even if treatment is not currently being considered. Testing guidelines can be found at: <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>
- “Antiretroviral therapy (ART) has substantially slowed disease progression and improved the quality of the lives of persons infected with HIV. Published studies estimate that 4 to 20% of persons newly diagnosed with HIV infection have transmitted drug resistance, with the highest prevalence occurring in countries with long-established ART. In the United States, HIV drug-resistance surveillance at 11 HIV surveillance sites in 2007 found that one of every six newly diagnosed HIV infections in 2007 was drug-resistant. Of these, 2.2% were resistant to two or more classes of drugs used to treat HIV.”
http://www.cdc.gov/media/releases/2011/f0407_antimicrobialresistance.html

Source:

Connecticut Department of Public Health, AIDS and Chronic Diseases Section, HIV Surveillance: <http://www.ct.gov/dph/HIVsurveillance>

Table. Connecticut Variant, Atypical, and Resistant HIV Surveillance (VARHS) analysis, 2009–2011: Number and percent of new diagnoses of HIV disease with VARHS genotyping results¹, by transmitted drug resistance-associated mutation(s) (TDRM) and selected demographic characteristics.

	Total	Any TDRM		1-Class TDRM		2-Class TDRM		3-Class TDRM		PI TDRM		nRTI TDRM		NNRTI TDRM	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total	451	86	19.1	76	16.9	7	1.6	3	0.7	26	5.8	35	7.8	38	8.4
Sex															
Male	339	62	18.3	55	16.2	5	1.5	2	0.6	19	5.6	26	7.7	26	7.7
Female	112	24	21.4	21	18.8	2	1.8	1	0.9	7	6.3	9	8.0	12	10.7
Age at Diagnosis															
13–19	19	3	15.8	2	10.5	0	0.0	1	5.3	2	10.5	1	5.3	2	10.5
20–29	112	15	13.4	15	13.4	0	0.0	0	0.0	6	5.4	4	3.6	5	4.5
30–39	109	24	22.0	21	19.3	2	1.8	1	0.9	5	4.6	10	9.2	13	11.9
40–49	123	29	23.6	24	19.5	5	4.1	0	0.0	8	6.5	13	10.6	13	10.6
50–59	62	7	11.3	7	11.3	0	0.0	0	0.0	4	6.5	2	3.2	1	1.6
≥60	26	8	30.8	7	26.9	0	0.0	1	3.8	1	3.8	5	19.2	4	15.4
Race/Ethnicity															
Black	158	33	20.9	29	18.4	3	1.9	1	0.6	12	7.6	10	6.3	16	10.1
Hispanic	120	22	18.3	20	16.7	1	0.8	1	0.8	5	4.2	10	8.3	10	8.3
White	166	29	17.5	25	15.1	3	1.8	1	0.6	9	5.4	14	8.4	11	6.6
Other	7	2	28.6	2	28.6	0	0	0	0	0	0	1	14.3	1	14.3
Transmission Category															
MSM	177	29	16.4	26	14.7	2	1.1	1	0.6	10	5.6	14	7.9	9	5.1
Male IDU	29	6	20.7	5	17.2	1	3.4	0	0.0	1	3.4	2	6.9	4	13.8
MSM & IDU	7	2	28.6	2	28.6	0	0.0	0	0.0	1	14.3	0	0.0	1	14.3
Male Heterosexual	41	9	22.0	8	19.5	1	2.4	0	0.0	2	4.9	1	2.4	7	17.1
Male Other/Unknown	85	16	18.8	14	16.5	1	1.2	1	1.2	5	5.9	9	10.6	5	5.9
Female IDU	11	2	18.2	2	18.2	0	0.0	0	0.0	1	9.1	1	9.1	0	0.0
Female Heterosexual	43	11	25.6	8	18.6	2	4.7	1	2.3	2	4.7	7	16.3	6	14.0
Female Other/Unknown	58	11	19.0	11	19.0	0	0.0	0	0.0	4	6.9	1	1.7	6	10.3

¹Limited to cases with sequences that can be assessed using the CDC mutation list, i.e., those that include all positions on the CDC list and belong to subtypes A, B, C, D, F, and G and circulating recombinant forms CRF01-AE and CRF02-AG.

Table abbreviations: TDRM, Transmitted drug-associated mutation; PI, protease inhibitor; nRTI, nucleoside reverse transcriptase inhibitor; NNRTI, non-nucleoside reverse transcriptase inhibitor; NH/Other PI, Native Hawaiian and other Pacific Islanders; MSM, Men who have sex with men; IDU, Injection drug user.