

# Hepatitis B Vaccination Program Implementation in Settings in which a High Proportion of Adults have Hepatitis B-Related Risk Factors – United States 2012-2015

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## Background

The Advisory Committee on Immunization Practices (ACIP)<sup>1</sup> recommends that adults with hepatitis B-related risk factors (e.g., injection drug use) and adults seen in settings where a high proportion of persons served are at risk for hepatitis B (HepB) be vaccinated.

## Objective

To improve HepB vaccination of high risk adults, CDC funded fourteen local and state health departments (“awardees”: AL, Chicago, FL, KY, LA, MD, MI, NV, New York City, OR, San Antonio, TN, VA, WV) to implement hepatitis B vaccination programs.

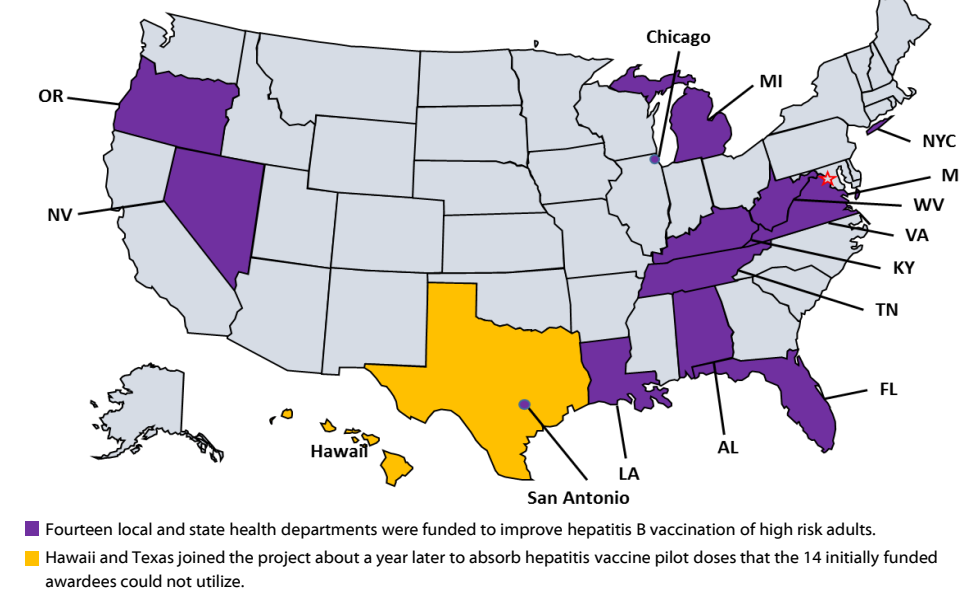
## Methods

Awardees provided CDC with standardized reports regarding vaccination activities, high risk settings partnered with, doses administered, 3-dose series completion, and program challenges and successes.

## Results

From September 2012 through September 2015, 161,171 HepB vaccine doses were distributed and 139,110 doses (86.3%) were administered at 459 settings, including correctional facilities. Challenges included incorporating vaccination services<sup>2</sup> and tracking vaccine doses administered in settings without dedicated vaccination staff.

Figure 1. Hepatitis B Vaccination Pilot Awardees – United States, 2012-2015



## Contact Information

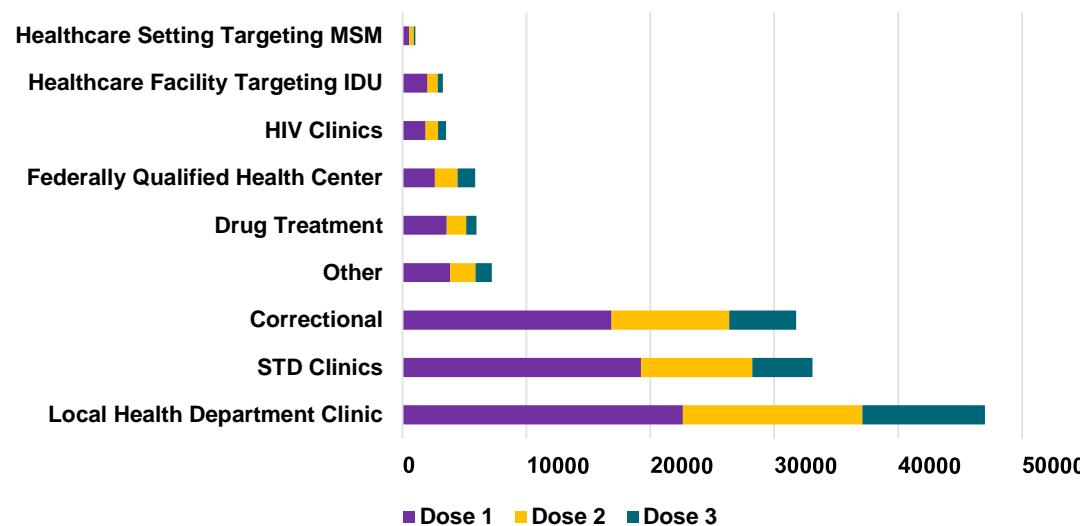
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Table 1. Hepatitis B vaccine doses ordered, administered, and wasted as of September 2015<sup>1</sup>

Awardee <sup>2</sup>	Number of Vaccinating Sites	Number of Patient Visits to Site <sup>4</sup>	Number of Patients Offered HepB Vaccine <sup>4</sup>	Doses Ordered	Doses Given	Doses Unused <sup>5</sup>	Doses Wasted <sup>6</sup>
Alabama <sup>3</sup>	87	30,502	19,571	20,000	15,669	--	--
Chicago	42	138,057	24,282	15,800	15,581	219	0
Florida	7	12,433	9,102	11,760	10,921	839	186
Kentucky	83	239,450	61,487	10,250	9,260	1,002	778
Louisiana	9	47,733	9,343	6,000	3,256	694	2,454
Maryland	44	58,989	12,461	14,500	10,014	4,486	1,379
Michigan	23	118,040	91,639	17,000	17,023	0	0
Nevada	10	43,698	38,755	9,450	8,085	1,365	1,099
New York City	17	184,525	45,757	12,400	11,539	861	38
Oregon	14	307,800	3,744	4,500	4,491	9	214
San Antonio	26	2,979	2,205	3,000	2,061	939	36
Tennessee	55	754,581	108,295	17,073	15,392	1,521	33
Virginia	12	477,034	10,751	7,954	7,187	2,257	326
West Virginia	30	7,091	6,525	11,484	8,631	2,853	708
<b>Total</b>	<b>459</b>	<b>2,422,912</b>	<b>443,917</b>	<b>161,171</b>	<b>139,110</b>	<b>17,045</b>	<b>7,251</b>

Footnotes: <sup>1</sup> Project end date 9/29/2015 (range between 12/29/2014 and 9/29/2015); <sup>2</sup> Data tracking issues (e.g., coding errors in distinguishing doses funded by the pilot and doses funded by other sources) resulted in some over counting and under counting of doses among awardees; <sup>3</sup> Due to duplication errors with the local database for this project, at least 3,000 records were lost. Additionally, at least one large county has not submitted its Hepatitis B enrollment forms. The number of doses unused and wasted is unknown; <sup>4</sup> Some awardees estimated the number of patient visits to sites and the number of patients who were offered Hepatitis B vaccine or did not track the number of patient visits or vaccinations offered; <sup>5</sup> Doses unused as reported in the awardees' final reports. Awardees with unused doses continued to vaccinate after September 2015 until all doses were gone; <sup>6</sup> Doses wasted were reported in the awardees' final reports. Reported reasons why doses were wasted: not used before expiration date, improper storage and handling, dropped/broken vial, client decided not to be vaccinated, syringe malfunction, lost vaccine, and unknown reasons. In addition to the doses administered by awardees, Texas Department of Health (TX DOH) and Hawaii Department of Health (HI DOH) administered some of the doses awardees could not use. TX DOH ordered 1,900 doses and administered all of them. HI DOH ordered 990 doses and administered 215 doses, the remaining 775 doses were wasted due to a temperature excursion. A total of 141,225 Hepatitis B vaccine doses were administered and 8,026 doses were wasted during this pilot.

Figure 2. Hepatitis B vaccination doses administered through the pilot by settings, including dose series, September 2012-2015<sup>1,2,3,4,5</sup>



Footnotes: <sup>1</sup> Sexually transmitted disease (STD); men who have sex with men (MSM); injection drug user (IDU); human immunodeficiency virus (HIV); <sup>2</sup> Some awardees were not able to track dose number in the series so their data were excluded. Data tracking issues (e.g., coding errors in distinguishing doses funded by the pilot and doses funded by other sources) resulted in some over counting and under counting of doses for some awardees; <sup>3</sup> Only Chicago and Nevada vaccinated in a healthcare setting targeting MSM. Nevada's vaccinators carried the vaccine doses with them to the site – no vaccine doses were left at the site; <sup>4</sup> Other includes Community Based Organizations (that serve Africans, Asian/Pacific Islander, etc.), rural health clinics, community health clinics, mental health clinics, family planning clinics, HIV/AIDS resource fairs, health fairs, homeless shelters, college events, college health fairs, a rapper celebrity, community outreach events (e.g., community health fair, block party, etc.).

Table 2. Hepatitis B vaccine doses ordered and administered by selected facility type, 2012-2015<sup>1</sup>

Facility Type	Awardee	Number of Facilities	Doses Ordered by Facility	Doses Given at Facility	Proportion of Doses Ordered by Facility Given	
Local Health Department Clinic	Alabama	67	20,000	14,709	73.5	
	Florida	7	11,760	10,921	92.9	
	Kentucky	67	6,842	5,871	85.8	
	Louisiana	4	1,010	761	75.3	
	Maryland	10	3,964	2,113	53.3	
	Nevada	3	9,450	5,661	59.9	
	San Antonio <sup>2</sup>	1	n/a	121	n/a	
	<b>TOTAL<sup>3</sup></b>	<b>159</b>	<b>53,026</b>	<b>40,157</b>	<b>75.7</b>	
	Department of Corrections	Alabama <sup>2</sup>	20	n/a	960	n/a
		Chicago	4	5,625	5,406	96.1
Kentucky		7	2,870	2,837	98.9	
Maryland		3	230	214	93	
New York City		11	6,050	5,707	94.3	
Oregon		14	4,500	4,491	99.8	
Tennessee		17	13,176	11,696	88.8	
West Virginia <sup>2</sup>		5	n/a	480	n/a	
<b>TOTAL<sup>3</sup></b>		<b>81</b>	<b>32,451</b>	<b>31,791</b>	<b>98.0</b>	
STD Clinic		Louisiana	3	1,770	1,612	91.1
	Maryland	7	3,080	2,656	86.2	
	Michigan	9	13,570	13,582	100.1	
	Nevada <sup>2</sup>	1	n/a	1,998	n/a	
	New York City	1	3,720	3,707	99.7	
	San Antonio <sup>2</sup>	1	n/a	446	n/a	
	Tennessee	38	3,737	3,696	98.9	
	West Virginia	17	10,864	5,451	50.2	
	<b>TOTAL<sup>3</sup></b>	<b>77</b>	<b>36,741</b>	<b>33,148</b>	<b>90.2</b>	
	Federally Qualified Health Center	Chicago <sup>4</sup>	15	1,636	1,636	100
Kentucky		6	510	495	97.1	
Louisiana		1	400	242	60.5	
Maryland		6	2,005	2,005	100	
Nevada <sup>2</sup>		2	n/a	n/a	n/a	
New York City		2	1,970	1,726	87.6	
Virginia		12	9,444	7,187	76.1	
<b>TOTAL<sup>3</sup></b>		<b>44</b>	<b>15,965</b>	<b>13,291</b>	<b>83.3</b>	
Drug Treatment		Chicago <sup>4</sup>	13	3,247	3,247	100
		Maryland	2	155	158	98.1
	Michigan	1	150	151	99.3	
	San Antonio <sup>2</sup>	6	n/a	450	n/a	
	West Virginia <sup>2</sup>	5	n/a	1,972	n/a	
	<b>TOTAL<sup>3</sup></b>	<b>22</b>	<b>3,552</b>	<b>5,978</b>	<b>n/a</b>	
Healthcare Facility Targeting IDU	Chicago <sup>4</sup>	4	419	419	100	
	Maryland	11	280	146	52.1	
	Michigan	11	2,680	2,684	100.1	
	New York City	1	60	9	15	
	<b>TOTAL<sup>3</sup></b>	<b>17</b>	<b>3,439</b>	<b>3,258</b>	<b>94.7</b>	

Table 2 Footnotes: n/a indicates the data is not available or not applicable. <sup>1</sup> Data includes doses administered in addition to the 3-dose series, e.g., 4<sup>th</sup> dose, 5<sup>th</sup> dose, etc. Awardees had data tracking issues (e.g., coding errors distinguishing doses funded by the pilot and doses funded by the state or private sources) which resulted in over counting and under counting of their numbers. Sexually transmitted disease (STD) and injection drug user (IDU); <sup>2</sup> The number of doses ordered for the facility is not specified; the pilot staff provided both the vaccinators and the vaccines during clinics and no vaccine doses were left at the sites; <sup>3</sup> One or more awardees' data is not available for the numerator or denominator of the proportion of doses ordered by facility given; and <sup>4</sup> Chicago reallocated doses from low vaccine uptake sites to high vaccine uptake sites as needed.

## Awardees' Reported Challenges and Successes

### Challenges

- Hiring delays, staff turnover, and maintaining a consistent vaccinator at sites
- Setting up new databases, modifying existing databases to collect required variables, and data losses
- Tracking doses, including distinguishing pilot vs state-funded doses and series completion
- Interfacing with the jurisdictions' immunization information system (IIS) and/or pulling a report reflecting data entered
- Ordering more vaccine doses than could be used
- Administering short-dated vaccines before the expiration date
- Reaching transient populations (e.g., homeless, uninsured, and injection drug users) for follow-up

### Contributors to the overall project success and increased vaccine uptake

- Confirming partners' capacity to provide vaccine services and the need in the communities they serve
- Having buy-in from all front-line staff at sites
- Using standing orders
- Integrating HepB vaccination offer with existing workflow
- Having infrastructure funds available for supplies, vaccine storage units, hiring staff, and other project activities
- Sending out provider reminders
- Identifying vaccine champions
- Hiring temporary nursing services
- Providing alternative clinic hours
- Generating IIS reminder-recall postcards

## Conclusion

Despite many challenges, awardees successfully worked with partners to provide >139,000 HepB vaccinations to adults at increased risk of HepB infection. Sustained efforts and staff trained to provide vaccination services are needed to improve routine implementation of vaccination services for high risk adults.

### References

- CDC. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP). Part II: immunization of adults. MMWR 2006; 55(No. RR-16).
- Guide to Community Preventive Services. Increasing appropriate vaccination. www.thecommunityguide.org/vaccines/index.html. Last updated: 04/26/2016.

