



# Hepatitis B Surveillance and Health Code Amendment

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# Surveillance Data

## HEPATITIS B AND C IN NEW YORK CITY 2016

### ANNUAL REPORT

by the New York City Department  
of Health and Mental Hygiene

Published Fall 2017

**NYC**  
Health

<https://www1.nyc.gov/assets/doh/downloads/pdf/cd/hepatitis-b-and-c-annual-report-2016.pdf>

**NYC**  
Health

# Legal Mandate for Hepatitis B Lab Reporting

Laboratory reporting of suspected or confirmed positive findings or markers of communicable diseases is mandated by

- **New York State Public Health Law 2102**
- **New York City Health Code Articles 11 (laboratory) and 13 (provider)**

# Surveillance Data through Automated Electronic Laboratory Reporting

## • What is reported by labs?

- ALL Positive results
  - HBcIgM
  - HBsAg
  - HBeAg
  - HBV DNA
  - Hepatitis B genotype
- If reported on same specimen as one of the above
  - ALT
  - Negative HBcIgM, HBsAg, HBV DNA
  - Positive and negative HBcTotal, HBsAb, HBeAb

- Providers are required to report acute hepatitis B only, not chronic
- Lab reporting mandated by NYS Sanitary Code

# Demographic Data from Laboratory Reports

Demographic  
information  
received

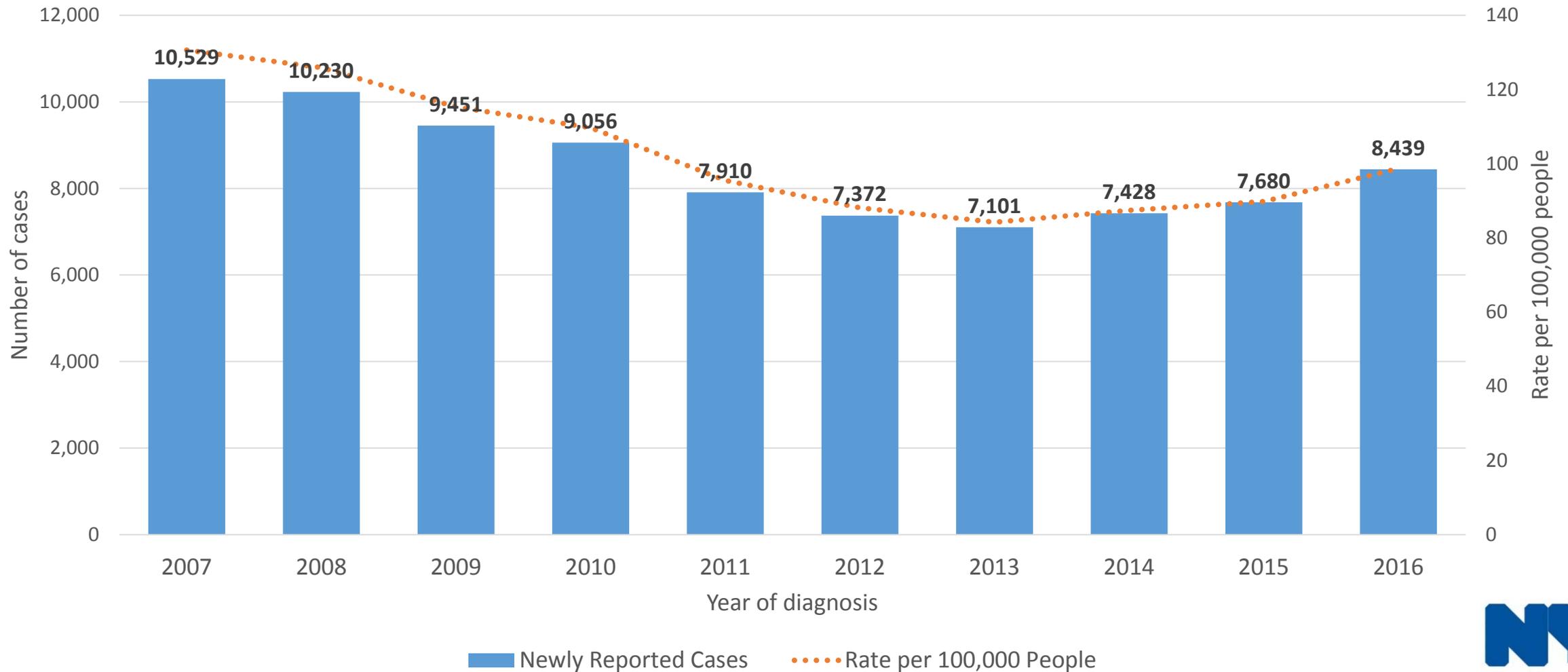
- Name
- Date of birth
- Social security number
- Sex
- Age
- Address at time of report
- Current address
- Phone number

Do not receive

- Race/ethnicity
- Country of birth
- Risk factors

From thousands of lab reports it is possible to generate this....

# Number and Rate of Persons Newly Reported with Chronic Hepatitis B in NYC, 2007-2016

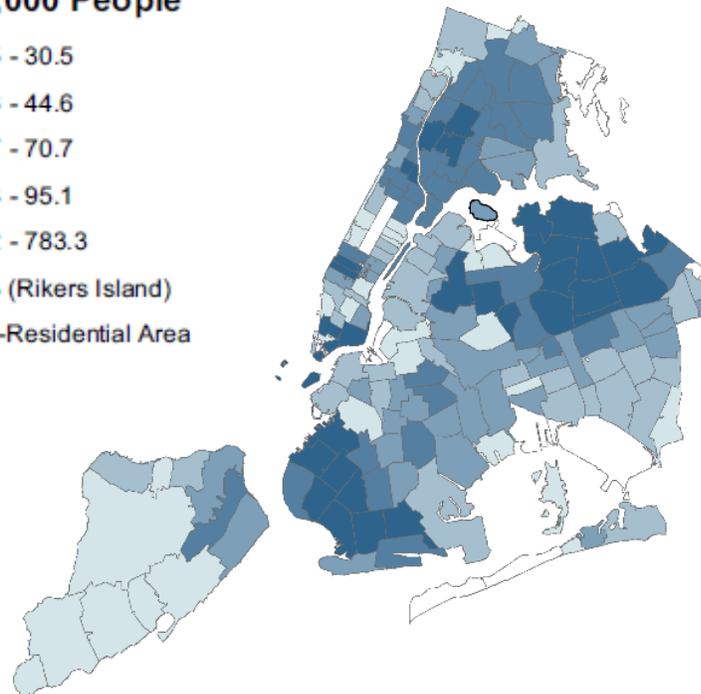
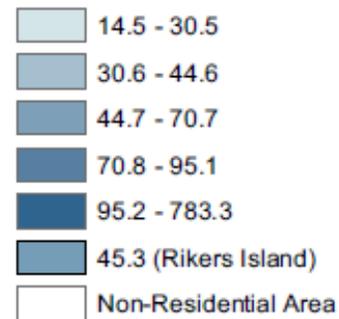


# Newly Reported Chronic Hepatitis B Cases, 2016

	Number	Percent	Rate per 100,000 People
Overall	8,439	100.0	98.9
Sex			
Male	4,810	57.0	117.8
Female	3,601	42.7	80.6
Unknown	28	0.3	N/A
Neighborhood Poverty Level by ZIP			
Low (>10% below poverty)	566	6.7	39.1
Medium (10% to <20%)	2,666	31.7	85.5
High (20% to <30%)	2,414	28.7	114.7
Very high (≥30%)	2,361	28.1	125.5

# People Newly Reported with Chronic Hepatitis B in New York City by ZIP Code, 2015-2016

Average Annual Rate  
Per 100,000 People



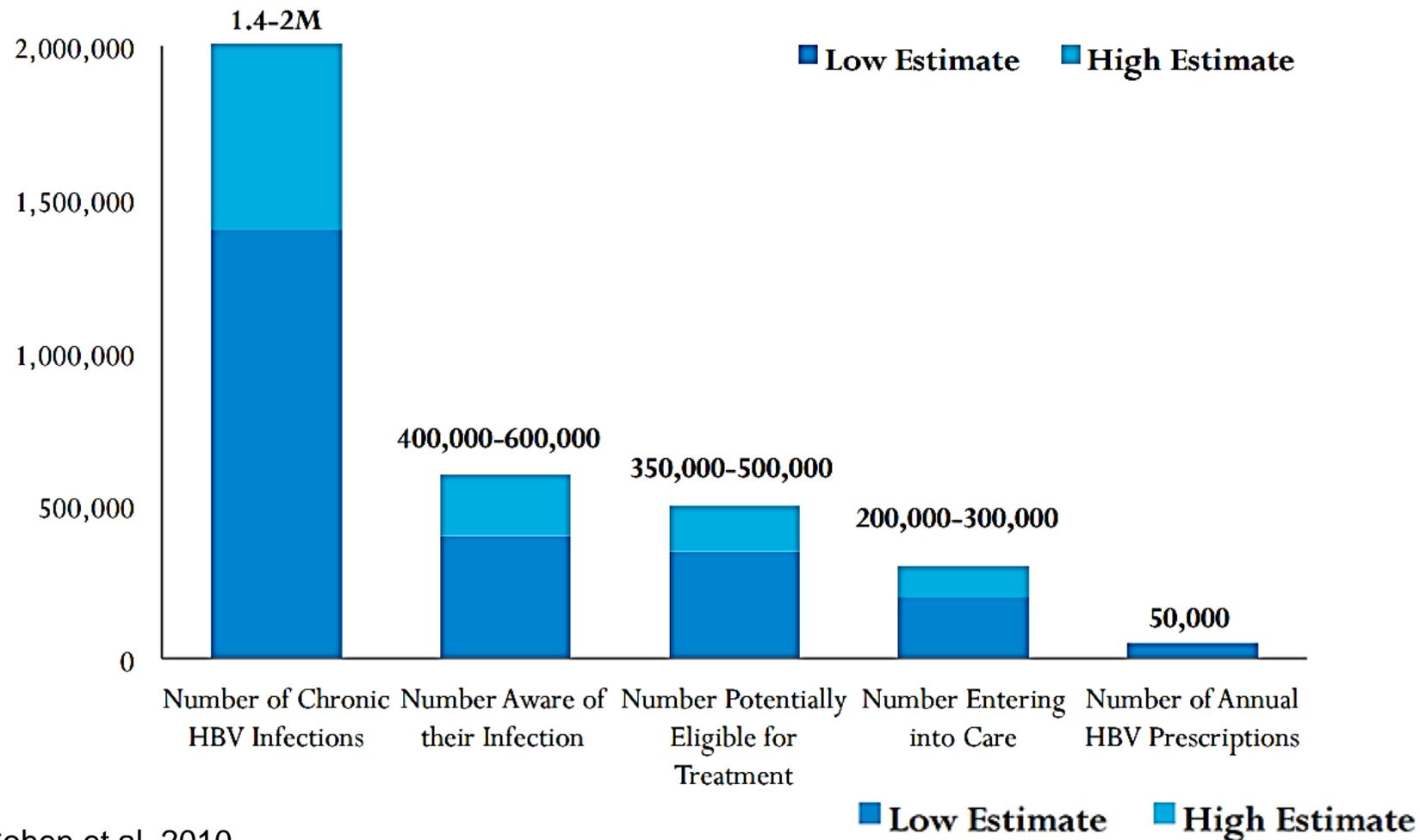
Neighborhoods with the highest chronic hepatitis B rates were Sunset Park, Brooklyn, and Flushing, Queens – neighborhoods with large Asian populations



# Can we also use lab reported surveillance data to create a NYC hepatitis B care continuum?

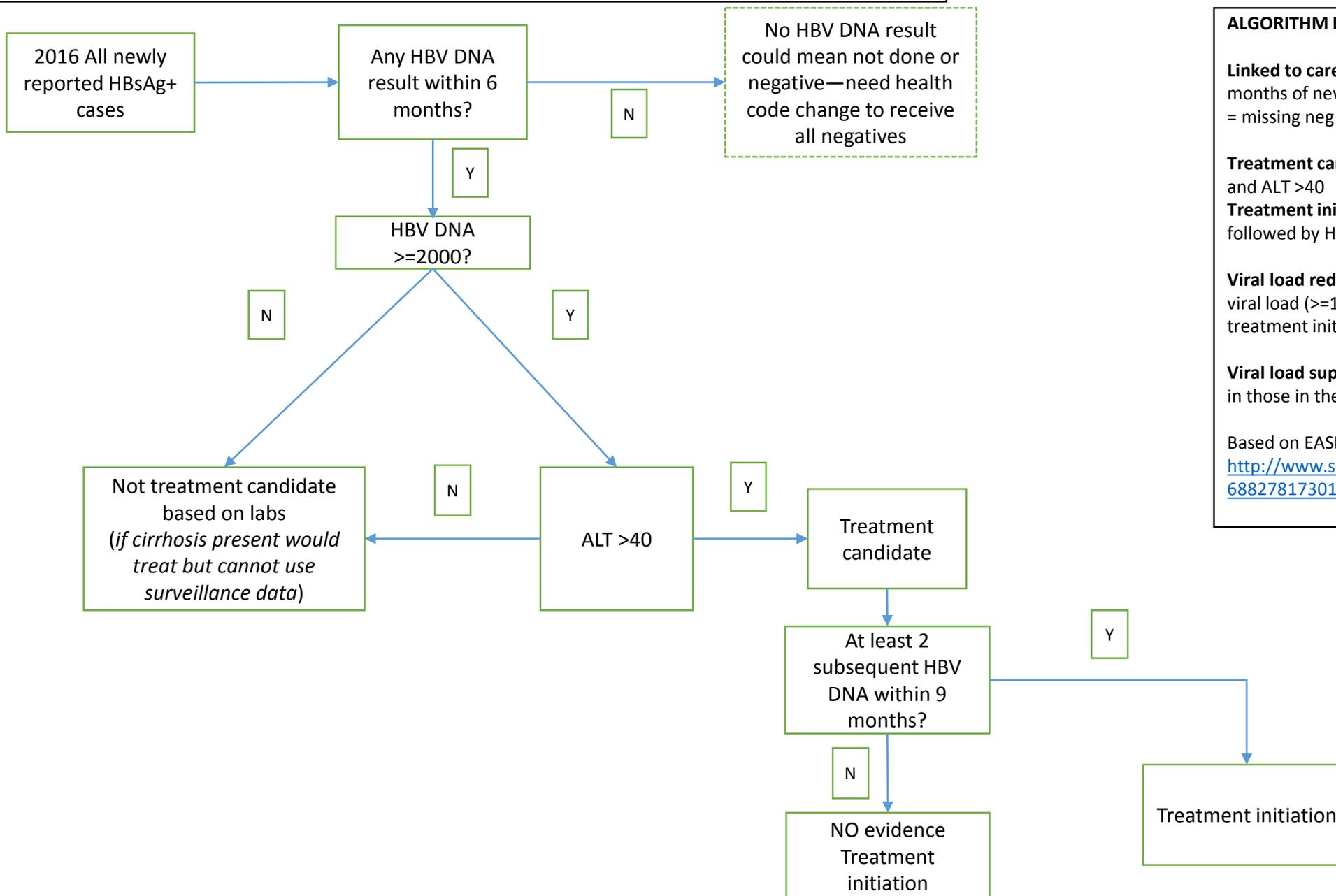
- Goal: estimate chronic infections, linkage to care, treatment eligibility, and treatment initiation
- Use patterns of hepatitis B test results in surveillance data to predict whether a person is linked to care, is a treatment candidate, and has initiated treatment
- Refine surveillance definitions using program data and clinical data of patients with known treatment eligibility and treatment status
- Create surveillance based NYC HBV Care Continuum

# Hepatitis B Care Continuum in the US



Source: Cohen et al. 2010

# HBV surveillance based linkage and treatment cascade



**ALGORITHM DEFINITIONS**

**Linked to care** defined as HBV DNA test within 6 months of newly reported HbsAg (current limitations = missing neg HBV DNA)

**Treatment candidate** defined as HBV DNA  $\geq 2000$  and ALT  $>40$

**Treatment initiation** defined as treatment candidate followed by HBV DNA x 2 within 9 months

**Viral load reduction** defined as a declining HBV DNA viral load ( $\geq 1$  log) in a test result in those in the treatment initiation group

**Viral load suppression** defined as HBV DNA  $<60$  IU/mL in those in the viral load reduction group

Based on EASL 2017 Guidelines:  
<http://www.sciencedirect.com/science/article/pii/S01682781730185X>

# HBV surveillance based linkage and treatment cascade



Something is missing

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# Precedent for Negative Results: Hepatitis C RNA

- In 2014, a NYC Health Code amendment required labs to start reporting negative hepatitis C RNA results
- Based on patterns of RNA test results, positive and negative, and validated chart reviews, the Health Department developed surveillance based definitions for treatment initiation and cure
- This allows for estimates of hepatitis C treatment and cure on a population level



# Health Code Amendment

Health Code	Article Number	Description
	1	Short Title & General Provisions
	3	General Provisions
	5	Permits
	9	Petitioning Board to Commence Rulemaking
	11	Reportable Diseases, Conditions
	13	Laboratories
	15	Handling Live Pathogenic Organisms
	43	School Based Programs for Children Ages 3-5
	45	Schools & Children's Institutions
	47	Child Care Services
	48	Summer Camps
	48-A	Year Round After-School & Youth
	49	Schools
	51	Children's Institutions
	71	Food & Drugs
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# Proposal to Amend NYC Health Code to Require Reporting of Negative HBV DNA Tests

- Amend Health Code to require laboratories to report all hepatitis B DNA tests, including negative results
- Proposal presented at September 2017 Board of Health meeting
- Board of Health voted to approve amendment March 2018; in effect 30 days later

# How will this amendment improve our understanding of hepatitis B in NYC?

- Perinatal hepatitis B prevention program: current recommendation to obtain HBV DNA for pregnant women with chronic hepatitis B in third trimester
  - Currently, if HBV DNA missing from surveillance data it could be missing or negative; Health Department calls provider. With amendment, HBV DNA results will be complete
- Check Hep B program data may be validated
- Hepatitis B surveillance based care continuum may be able to show how many patients are linked to care, eligible for treatment responsive to treatment



# Thank you

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