

# Negative Hepatitis C Reporting and Linkage to Care Outreach

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# Hepatitis B and C Surveillance Registry

- >90% electronically reported from laboratories
- High volume of reports. In 2016:
  - >100,000 labs for hepatitis B
  - >200,000 labs for hepatitis C

	Hepatitis B labs	Hepatitis C labs
Reportable	<ul style="list-style-type: none"><li>• Positive Core Antibody IgM, surface antigen, “e” antigen, DNA, genotype</li><li>• Negatives, non-reportables and ALTs reported if on same accession as a reportable lab</li></ul>	<ul style="list-style-type: none"><li>• Positive antibody</li><li>• Positive and negative RNA results, genotype</li><li>• ALTs reported if on same accession as a reportable lab</li></ul>
Not reportable	<ul style="list-style-type: none"><li>• Core Antibody total, surface antibody, “e” antibody</li></ul>	<ul style="list-style-type: none"><li>• Negative antibody tests</li><li>• Positive rapid antibody tests</li></ul>

# Demographic Data Collected from Laboratory Reports

Demographic information received

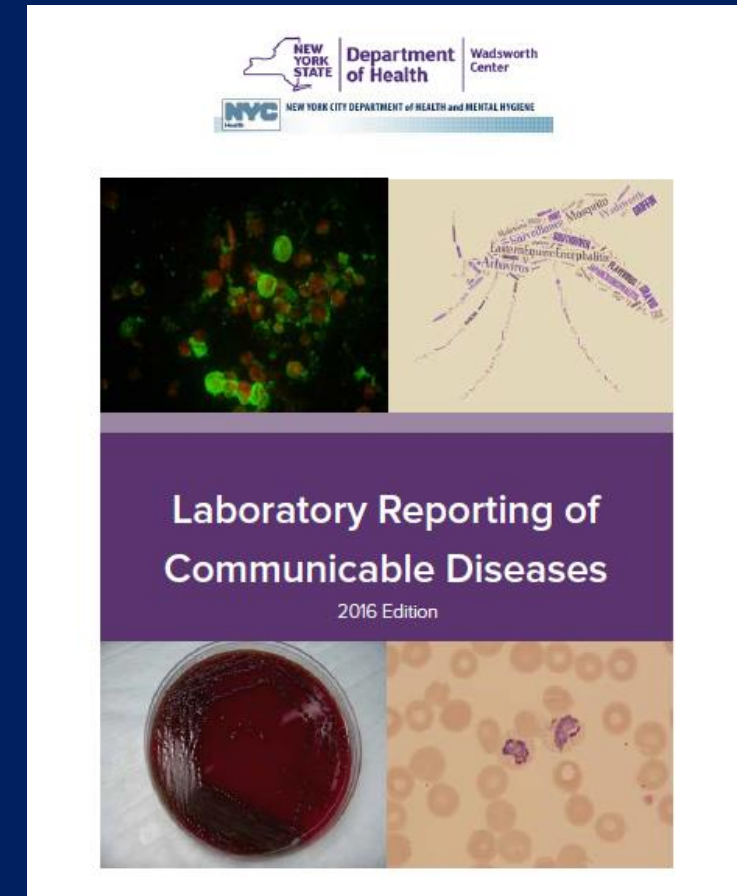
- Name
- Date of birth
- Social security number
- Sex
- Age
- Address at time of report
- Current address
- Phone number

Do not receive

- Race/ethnicity
- Country of birth
- Risk factors

# New York City Communicable Disease Reporting

- New York State maintains list of reportable diseases
- New York City must conduct surveillance for these diseases
- New York City Health Code Articles 11 and 13
  - Require providers and laboratories to report positive and, in select cases, negative findings or markers of reportable diseases
  - Amendments proposed and approved by the Board of Health



# Amend Health Code to Require Lab Reporting of All Hepatitis C RNA Results

- For some conditions, receiving all laboratory results, not just those that are positive, greatly benefits disease surveillance (e.g., HIV viral load, hemoglobin A1C)
- Accurately classify the proportion of New Yorkers previously infected who are currently infected
- Identify providers and areas where screening, but not confirmatory testing, is performed to improve HCV care
- Estimate the proportion of patients cured annually, as we do for HIV

# Negative Hepatitis C RNA Reporting Implementation

- Health Code change as of July 21, 2014
- Ensure laboratories report negative RNA tests
  - Check number of negative RNA tests by lab by month
  - Monitor percent of negative RNA tests by lab
- Import results in Maven
  - Negative RNA results associated with patients already in Maven with a positive HCV test

# Hepatitis C Treatment and Cure Algorithm

- Treatment
  - Positive RNA test and a subsequent negative RNA test
- Cure
  - First negative, indeterminate, or low positive (<1000 IU/mL) RNA result after most recent high positive RNA result (proxy for 4 weeks into treatment)
  - Based on this date:
    - At least 1 subsequent negative RNA test
    - Most recent negative RNA test is at least 4 months later
    - No subsequent high positive RNA ( $\geq 1000$  IU/mL)

# Treatment and Cure Algorithm Validation

- Definitions validated using program data and chart reviews
  - High sensitivity, specificity, positive and negative predictive value

Treatment	HCV Program Data	Chart review
Sensitivity	94.5	93.2
Specificity	85.7	83.8
Positive predictive value	80.3	92.6
Negative predictive value	96.2	84.9
Cure		
Sensitivity	86.7	93.8
Specificity	98.3	89.4
Positive predictive value	65.0	89.1
Negative predictive value	99.5	93.9



# Hepatitis C Linkage to Care

- In 2016, ~11,000 people newly reported with hepatitis C
  - 3,781 confirmed infection (RNA positive), 2,684 antibody positive only
- Prioritize cases for outreach based on current infection status
  - Exclude people whose last RNA test is negative (i.e., people who initiated treatment)
- Linkage to care projects
  - Surveillance-based linkage to care
  - HIV/HCV co-infected individuals
  - Bronx RHIO (individuals with high fibrosis score)

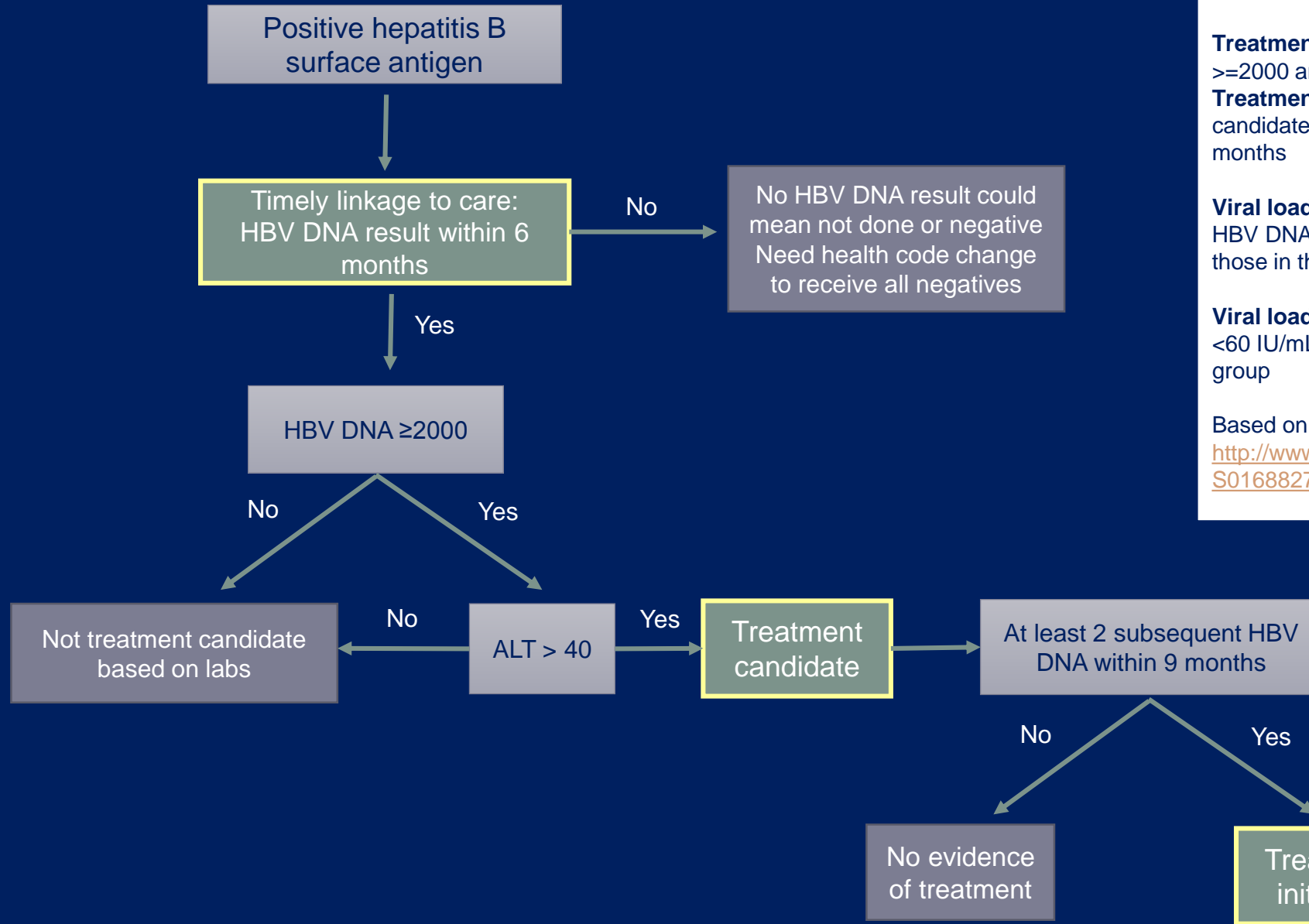
# Linkage to Care Case Management Tool in Maven

Do not contact in future	No	▼
Patient consented to text	No	▼
Moved out of NYC		▼
Patient currently homeless Date and time:		▼
Currently alive?	Yes	▼
Primary language ⓘ		▼
<hr/>		
Method of contact ⓘ	Text	▼
Method of contact ⓘ	Text	▼
Phone number used as contact method	<input type="text"/>	
Outcome	<input type="checkbox"/> Undeliverable <input type="checkbox"/> Incorrect phone number/ email address <input type="checkbox"/> Opted out <input type="checkbox"/> Declined Services <input type="checkbox"/> Provided services	
Person contacted	<input type="text"/> ▼	
Date of contact	08/24/2017	📅
Start Time (Military time example: 1300 or 0900)	<input type="text" value="1630"/>	
End time (Military time)	<input type="text" value="1632"/>	
Total time (in h.mm)	<input type="text" value="0.02"/>	
Outreach Program	Routine Linkage to Care ▼	
Method of contact ⓘ	Call	▼ <a href="#">Add New</a>
Phone number used as contact method	<input type="text"/>	
Outcome	<input type="checkbox"/> No Answer <input type="checkbox"/> Left voice message <input checked="" type="checkbox"/> Incorrect phone number/ email address <input type="checkbox"/> Out of service <input type="checkbox"/> Declined Services <input type="checkbox"/> Provided services	
Person contacted	<input type="text"/> ▼	
Date of contact	09/05/2017	📅
Start Time (Military time example: 1300 or 0900)	<input type="text" value="1223"/>	
End time (Military time)	<input type="text" value="1225"/>	
Total time (in h.mm)	<input type="text" value="0.02"/>	
Outreach Program	Routine Linkage to Care ▼	

# Require Reporting of Hepatitis B Negative DNA Test Results

- Allow the Health Department to estimate the proportion of New Yorkers infected with hepatitis B virus who are appropriately linked to care
- Identify gaps in access to care
- Develop targeted interventions to increase linkage to care and improve provider knowledge of HBV testing and treatment guidelines
- Increase monitoring of hepatitis B to decrease HBV-related morbidity and mortality

# Hepatitis B Care Continuum Proposed Definitions



**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/S016882781730185X>



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