

New Directions for Hepatitis Surveillance

**Division of Viral Hepatitis
Centers for Disease Control and Prevention**



New Directions in Surveillance

Rationale

- **Declining incidence of acute hepatitis**
 - High quality population-based surveillance
 - Improve representativeness in special studies
- **Increasing burden of chronic hepatitis infection and chronic liver disease**
 - Develop strategies for chronic infection and chronic liver disease surveillance
- **Resources and logistics**
 - Reduce redundancy of activities and fragmentation of funding mechanisms
 - ELC / EIP/ Contracts

Acute Viral Hepatitis Surveillance

National Notifiable Diseases Surveillance System (NNDSS)

- **Acute hepatitis A, B and C**
 - **Work with states to improve completeness of reporting and data quality**
 - **Enhanced follow-up of certain prevention indicators (deaths, vaccinated, over 70 years of age)**
 - **No extramural funding**

Chronic Viral Hepatitis Surveillance

NNDSS

- **Perinatal hepatitis B virus infection (+2003)**
- **Chronic hepatitis B and C (2003)**
- **No extramural funding**

Chronic Hepatitis B and C Cases Reported NNDSS

	2003	2004
Chronic Hepatitis B	11,803	16,862
Chronic Hepatitis C	113,009	105,672

Chronic Hepatitis B and C Surveillance Survey, Fall 2004

- **Objectives**

- **Determine hepatitis B and C reporting practices in the U.S.**
 - **Inquired about conditions and lab tests reportable to 52 health departments (incl. NYC and DC)**
 - **Case definitions used**

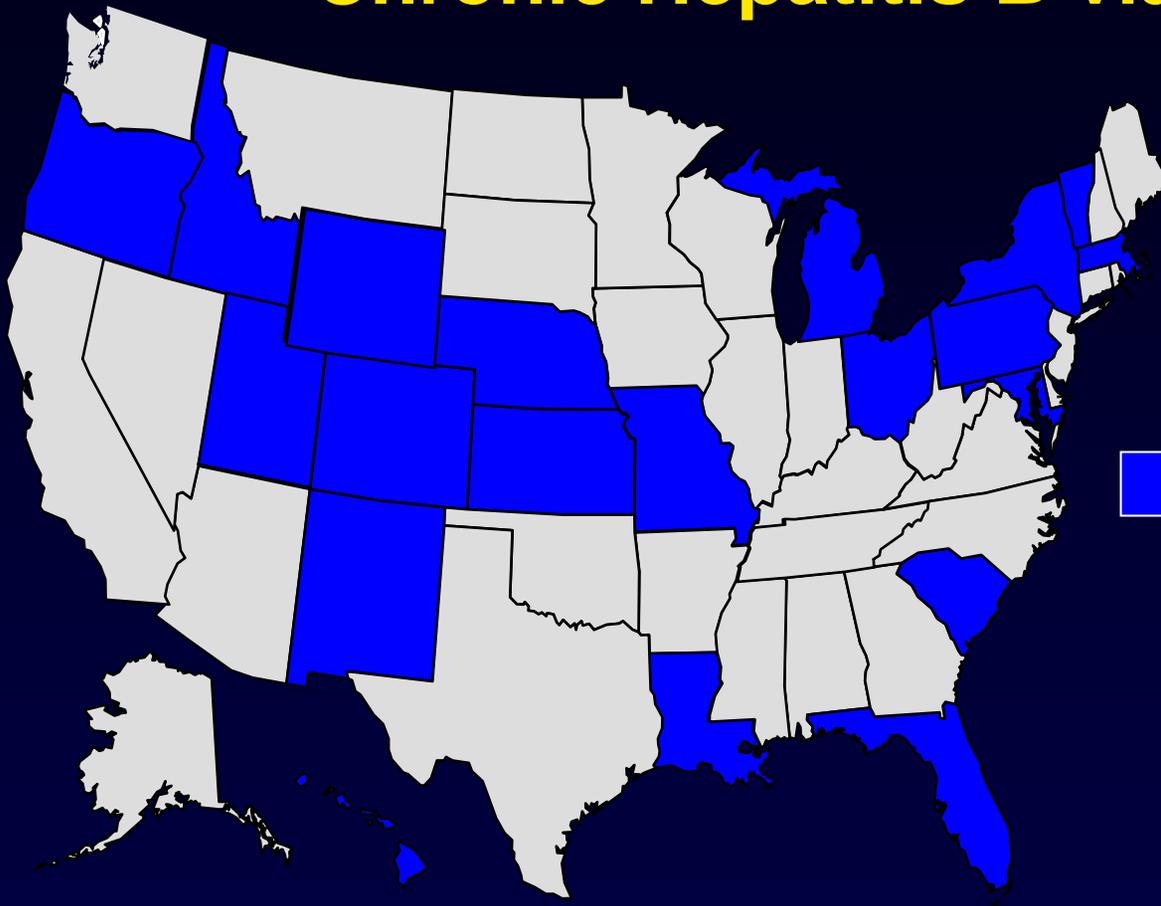
- **Methods**

- **Contacted health department and questionnaire sent for preview to local hepatitis staff**
- **Health department called and questionnaire administered by CDC staff**

Reporting to Health Departments

- Chronic hepatitis B
 - Reportable in 42 health departments
 - 38 maintain “registries”

Health Departments Reporting Chronic Hepatitis B via NNDSS



 **Chronic Hepatitis B
Reporting**
n=20 (39%)

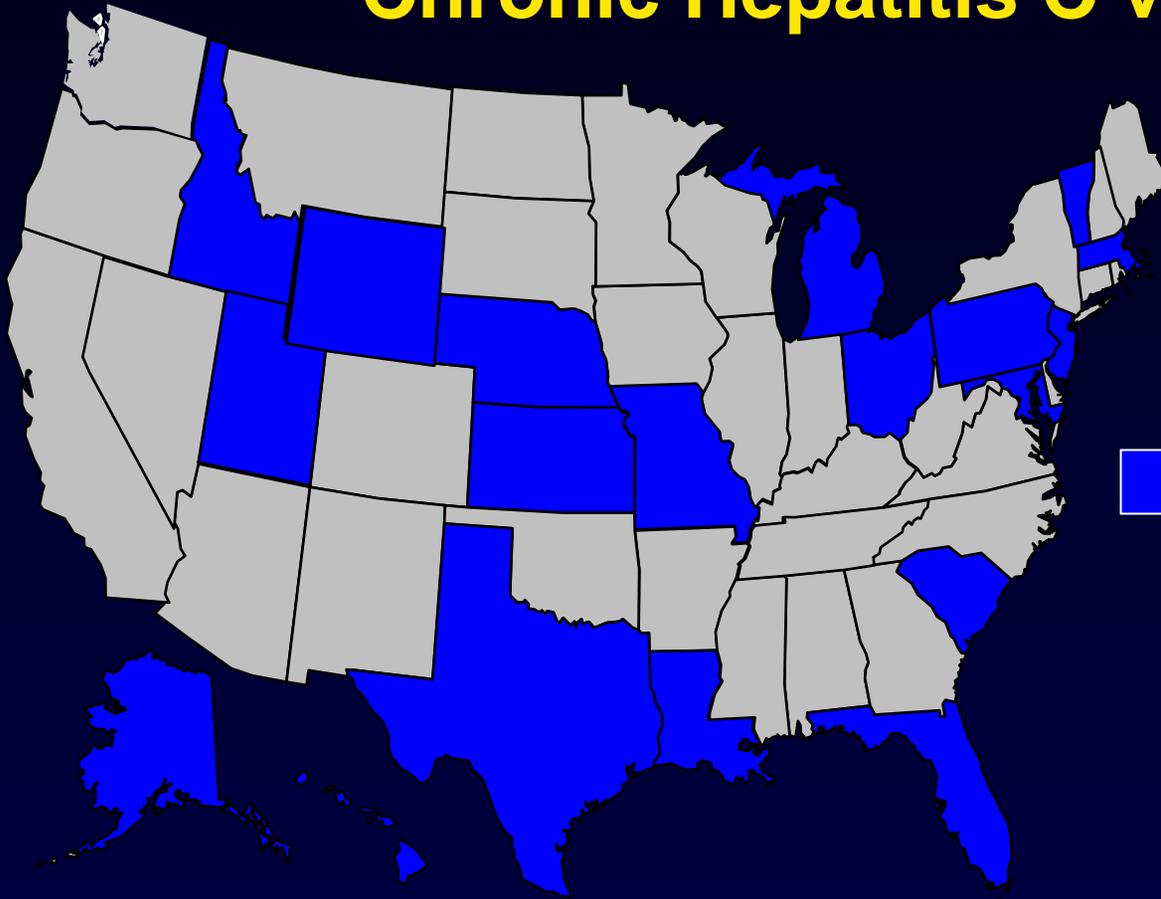
Case Definitions Used by Health Departments for Chronic Hepatitis B (n=20)

Case Definition	% Yes	% No
CDC case definition	80% (16)	20% (4)
Report with single positive HBsAg	50% (10)	50% (10)

Reporting to Health Departments

- Chronic hepatitis C
 - Reportable in 40 health departments
 - 42 maintain “registries”

Health Departments Reporting Chronic Hepatitis C via NNDSS



 **Chronic Hepatitis C Reporting**
N=20 (39%)

Case Definitions Used by the Health Departments for Chronic Hepatitis C

n=20

Case Definition	% Yes	% No
CDC case definition	85% (17)	15% (3)
Report with single positive anti-HCV screening test	50% (10)	50% (10)

Hepatitis Surveillance

NNDSS

Summary

- **Continue to improve and expand surveillance**
 - **Improve data quality through follow up of cases**
 - **Encourage consistent application of case definition**
 - **Expand chronic hepatitis B and C reporting**
 - **Encourage health departments to report to CDC**

Studies/Demo Projects

Acute Viral Hepatitis Surveillance

- **Sentinel counties study of acute viral hepatitis (1982)**
- **Chronic hepatitis surveillance project (2001-04)**
- **Chronic liver disease surveillance study (1997)**

Hepatitis Surveillance Centers of Excellence

- **Integrate acute and chronic viral hepatitis surveillance and surveillance for chronic liver disease**
- **Population-based**
- **Proof of concept projects funded through EIP**
 - **6 sites funded**
- **Ideal - Program announcement to all states**

Acute Viral Hepatitis

Surveillance

- **CO, NYS, NYC, MN, OR, (CT)**
 - **24 million population under surveillance**
 - **Objective: Population based surveillance of acute A, B and C with lab and risk factor data collection**
 - **Evaluate case definitions**
 - **Develop best practices for acute hepatitis C surveillance**
 - **Project Officer: Colin Shepard, MD**

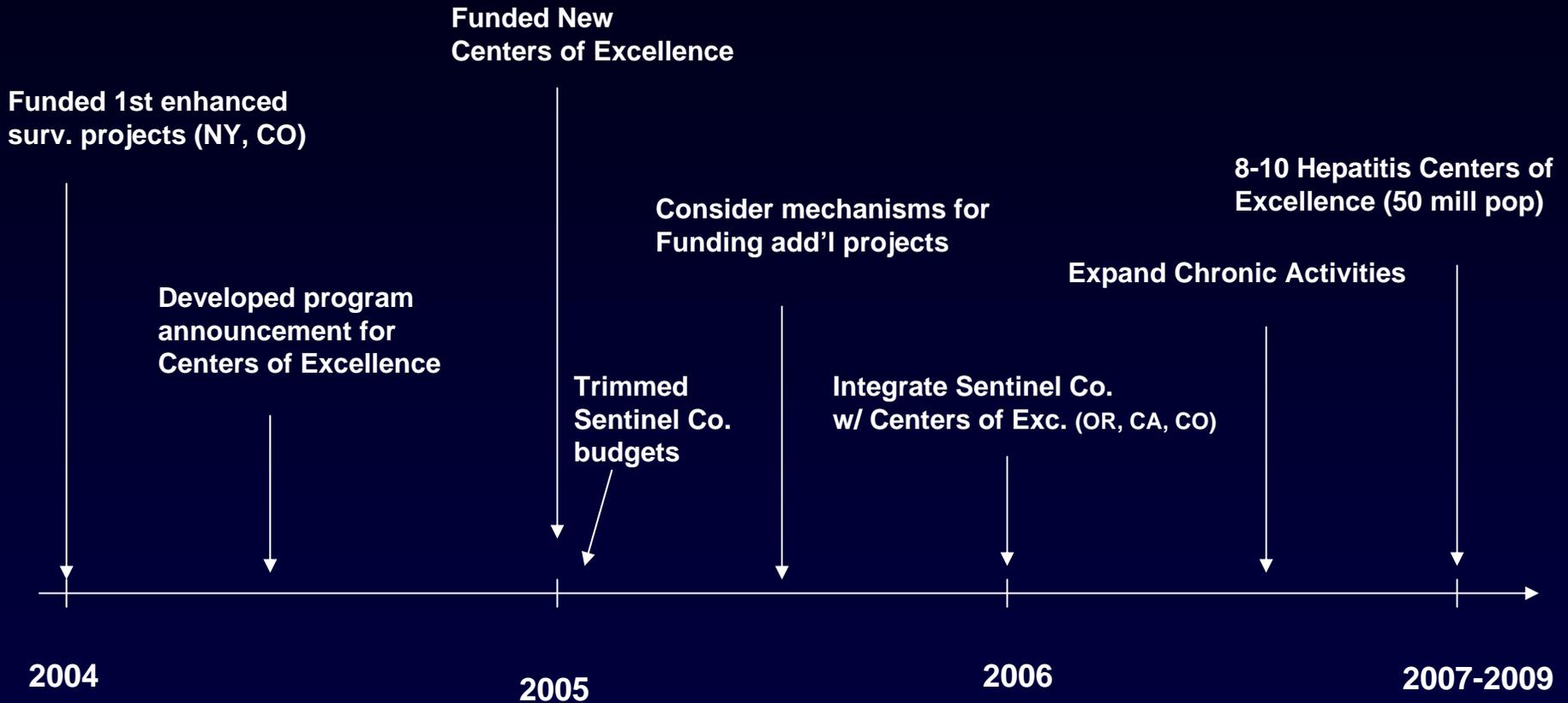
Chronic Viral Hepatitis Surveillance

- **NYS, NYC, CT, MN**
 - **Objective: Population based surveillance for chronic hepatitis B and C through hepatitis registries**
 - **Develop best practices for chronic infection surveillance**
 - **Develop resource saving approaches/algorithms other states can use**
 - **Project Officer: Kathleen Gallagher, DSc**

***Chronic* Liver Disease Surveillance**

- **CA (San Francisco), OR (Multnomah),
CT (New Haven)**
 - **Objective: Population based surveillance for chronic liver disease using registry**
 - **Patient and provider interview, MR review**
 - **Collection of epidemiologic, clinical and laboratory data**
 - **Referral and follow-up**
 - **Project Officer: Stephanie Bialek, MD**

Time line



Future Directions

- **Continue surveillance through NNDSS**
 - Continue to improve the quality of the data, especially for chronic hepatitis
- **Increase number of states reporting chronic hepatitis B and C**
- **Continue to integrate and expand Hepatitis Surveillance Centers of Excellence**

Sites Receiving Hepatitis Surveillance Funding, FY2004-2006

State	CA	OR	CO	CT	MN	NYS	NYC	AL	FL	WA	NE	WI
Sentinel County	SF	MULT	DEN					JEF	PNL	PRC		
Chronic Liver Disease	SF	MULT		NH								
Chronic Registry				X	X	X	X				X	X
Centers Of Excel		X	X	X	X	X	X					

Chronic HBV infection

2003

Clinical criteria

- None

Laboratory criteria

- Hepatitis B surface antigen (HBsAg) positive, total anti-HBc positive (if done) and IgM anti-HBc negative, or HBsAg positive two times at least 6 months apart.

Case classification

- Confirmed: Laboratory confirmed

HCV infection, past or present

2006

Clinical criteria: None

Laboratory criteria

Anti-HCV positive (repeat reactive) by EIA, verified by an additional more specific assay (e.g. RIBA for anti-HCV or nucleic acid testing for HCV RNA),

OR

HCV RIBA positive,

OR

Nucleic acid test for HCV RNA positive,

OR

Report of HCV genotype

OR

Anti-HCV screening-test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay (e.g., ≥ 3.8 for the enzyme immunoassays) as determined and posted by CDC.

Case classification

Confirmed: a case that is laboratory confirmed and that does not meet the case definition for acute hepatitis C.

Probable: a case that is anti-HCV positive (repeat reactive) by EIA and has alanine aminotransferase (ALT or SGPT) values above the upper limit of normal, but the anti-HCV EIA result has not been verified by an

additional more specific assay or the signal to cutoff ratio is unknown

Discrepancies in Reporting Chronic Hepatitis B

		CDC gets chronic B cases through the NETSS	
		YES	NO
Health departments say they report chronic B	YES	17	3 CO, NM, UT
	NO	3 MS, TN, WI	29

Discrepancies in Reporting Chronic Hepatitis C

		CDC gets chronic C cases through the NETSS	
		YES	NO
Health departments say they report chronic C	YES	18	2 AK, UT
	NO	4 MS, OR, TN, WI	28

Discrepancies in Case Definitions: Chronic Hepatitis B

		CDC gets chronic B probable/suspect cases through the NETSS	
		YES	NO
Health departments say they report single HBsAg positives	YES	6	3 KS, VT, WY
	NO	8 HI, ID, MD MO, OH, OR, TN, MS	3

Discrepancies in Case Definitions: Chronic Hepatitis C

		CDC gets chronic C probable/suspect cases through the NETSS	
		YES	NO
Health departments say they report single positive anti-HCV EIA	YES	7	1 WY
	NO	7 ID, LA, MD, MO, OH, OR, TN	7