

Reducing Hepatitis B Disparities Through Health Information Technology at Community Health Centers: The HIT-B Project

 **ICHS** | International District
Medical and Dental Clinic

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Community
HEALTH SERVICES
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Presentation Outline

1. About the HIT-B Project
2. Hepatitis B: An AAPI Health Disparity
3. HIT-B Intervention Components
4. Evaluation Results
5. Lessons Learned

HIT-B Project

A National Institutes of Health funded community engaged research pilot project to leverage Health Information Technology (HIT) to improve hepatitis B (HBV) screening, vaccination and linkage to care at a Federally Qualified Health Center.

Partner organizations:

- Association of Asian Pacific Community Health Organizations (AAPCHO)
- International Community Health Services (ICHS)

Primary Investigators:

- Rosy Chang Weir, PhD (AAPCHO)
- Michael McKee, M.Ed. (ICHS)
- Chia Wang, MS, MD (VM/ICHS)



ICHS

**International
Community
HEALTH SERVICES**



AAPCHO

Study Setting: ICHS

A Federally Qualified Health Center Organization providing primary medical, dental, behavioral health and health education services in King County, WA

- 4 Primary Care Clinics
- School Based Health Center
- Mobile Dental Clinic
- ACRS Primary Care Partnership

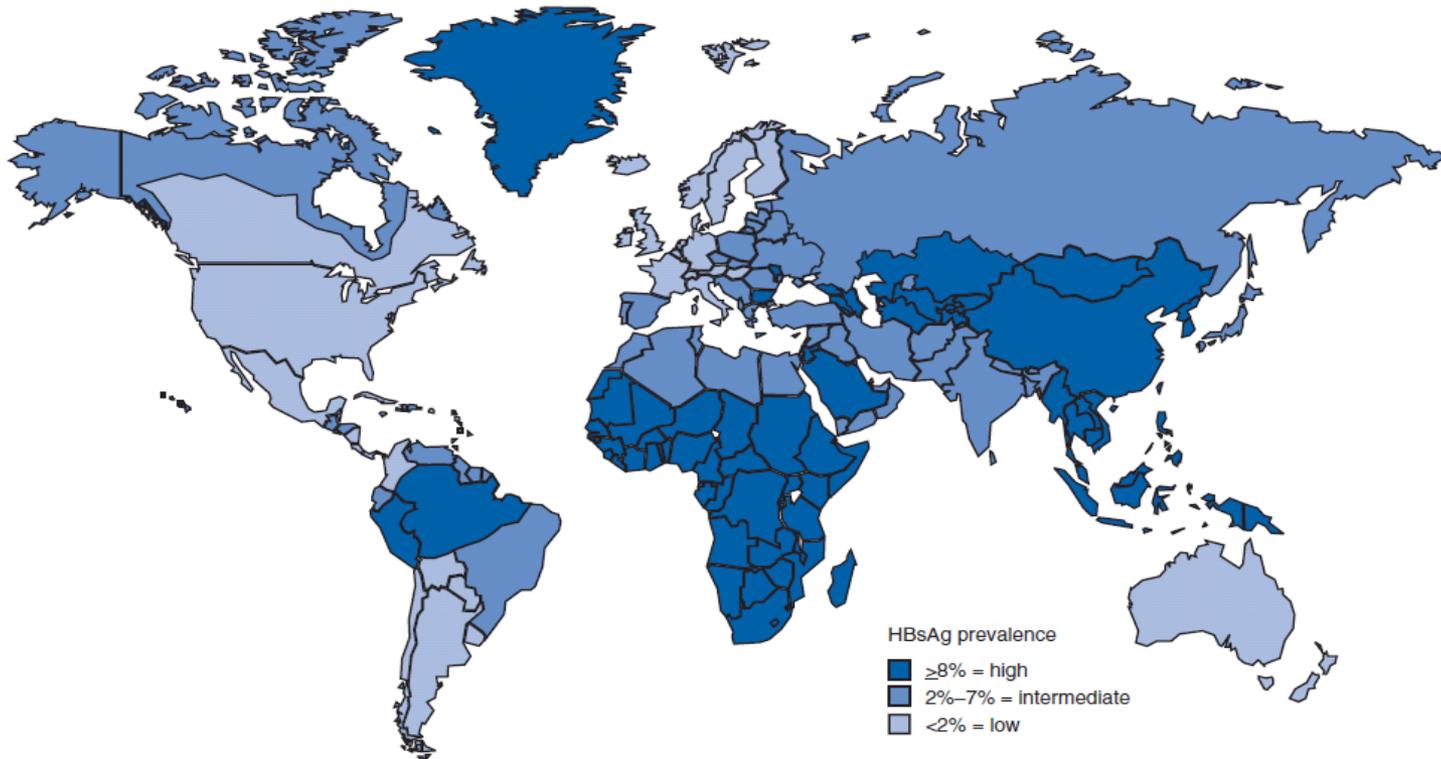
ICHS Served 25,564 Patients in 2015

- 85% Patients of Color (84% AAPI)
- 57% Use interpreter services (53 languages)
- 16% Uninsured (27.5% in 2013)
- 12% Homeless or housing insecure
- ~7% Chronic Hepatitis B (CHBV) prevalence



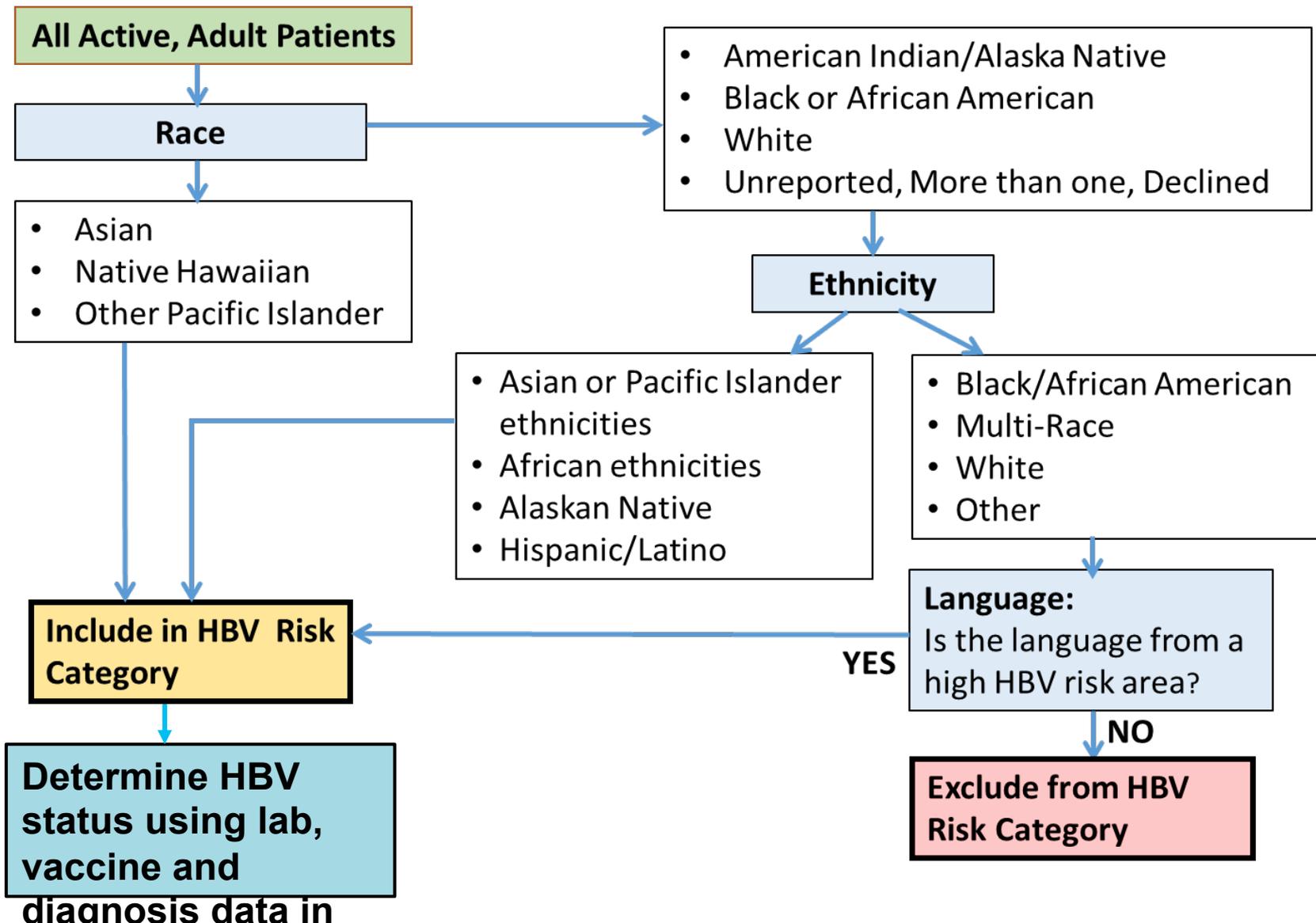
HBV: A Global and Local Health Issue

- 350 million people worldwide are living with Hepatitis B
- USPSTF HBV Adult Testing Guidelines: (Grade B, May 2014)
 - *Foreign-born persons from countries with HBV prevalence $\geq 2\%$*
 - *U.S. born persons not vaccinated as infants whose parents were born in*



Source: U.S. CDC. 2008. Recommendations for Identification and Public Health Management of Persons with Chronic Hepatitis B Virus Infection. *Mortality and Morbidity Weekly: Recommendations and Reports* 57(RR-8).

Identifying HBV Risk with EHR Data



HIT-B Interventions

The HIT-B program to develop tools which leverages EHR data provide key hepatitis B data to ICHS clinic staff to help address hepatitis B through decision support, care coordination and performance feedback

- **Huddle Sheet (11/2014)**

Adds HBV status and vaccine information during each visit

- **Provider Dashboard (12/2014)**

Provides panel level data on HBV screening

- **CHBV Protocols (3/2015)**

Point of care decision support for CHBV management

- **CHBV Population Health Management Reports (4/2015)**

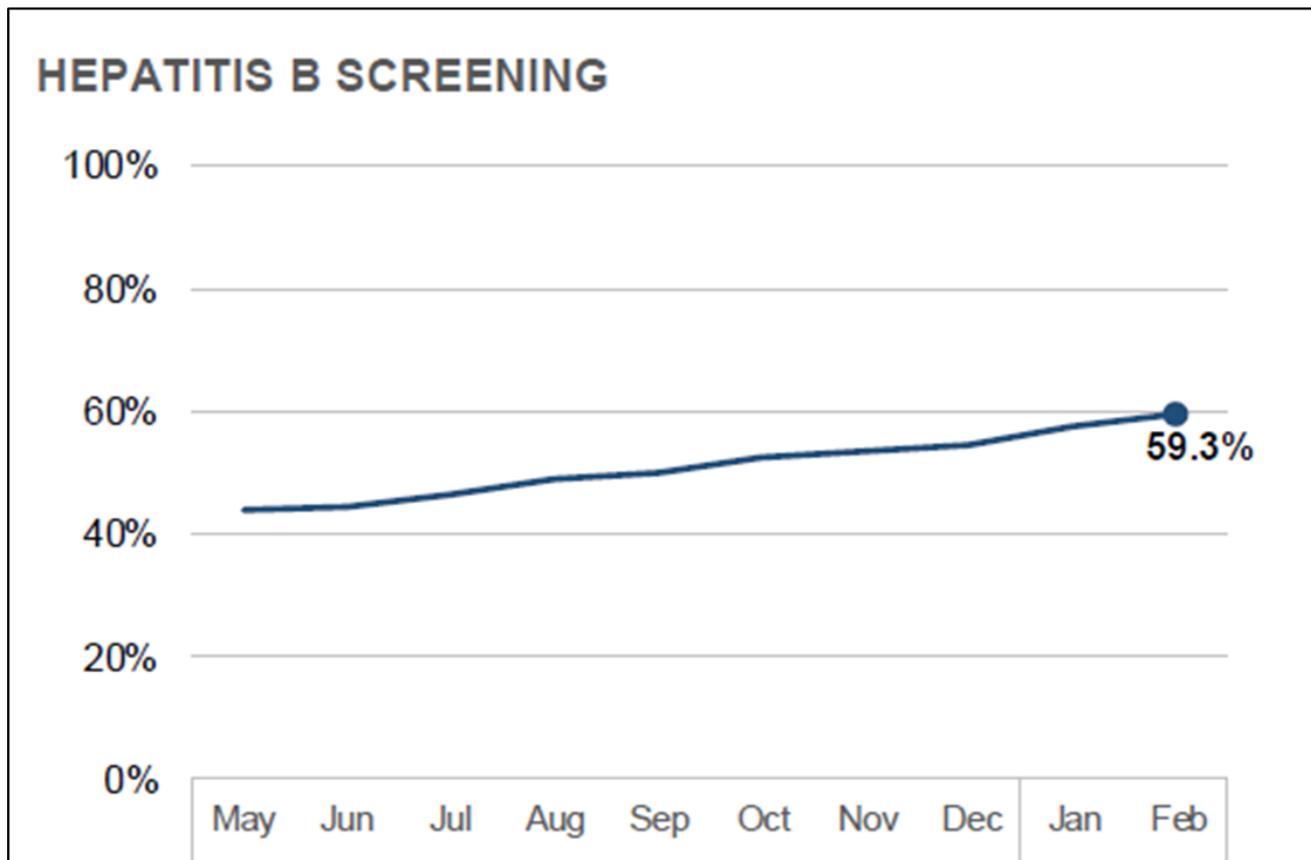
Supports population health management workflows for CHBV

Huddle Sheet

Patient	NG	Age	Sex	DOB	Appt Date	Time
Test, Patient	000001	35	M	1/1/19XX	1/1/2016	12:00
PCP	Language	Interpreter	Web Enroll	Next Appt date	Next Appt Reason	
	English	N				
Reason for Visit	Preventive					
Last Preventive	Med Wellness	PHQ2	Adv Direct	Dexa	Gestational Age	
BP / Weight in lbs	Last Pap	HPV ,Result	Mammogram	Colonoscopy	FOBT / FIT	
Hep B						
HbsAg date	HBSAg Result	Anti HBs date	Anti HBs Result	ALT date, Result	Abdomen Scan	
1/1/1900	Negative	1/1/1900	Negative			
				Hepb Vaccine	Last	2nd_Last
				Complete Date	1/7/1900	
Chronic						
HbA1c	Micro/Creat	LDL	Foot Check	Eye Exam	Self Management	
Weight	Height	Temp	Bp	Pulse	O2	HC

Monthly Dashboard Reports

A monthly Quality Improvement report metric that shows the proportion of an ICHS provider's panel that has been tested for hepatitis B



Chronic HBV Protocol

Detailed document Reviewed, updated Reviewed, no change Last update/detailed doc:

PHQ | [Clinical Guidelines History](#) | [Risk Indicators Health Maintenance](#) | [Diagnostics](#)

HBV Real-Time PCR, Quant

Last Addressed:

Category: LAB

Prior Status:

Prior Result:

Prior Action:

Start Age:

Stop Age:

Interval:

Hold Date:

Same as prior

Goal: Status: Action:

Place order on Row Select Due within: Filter:

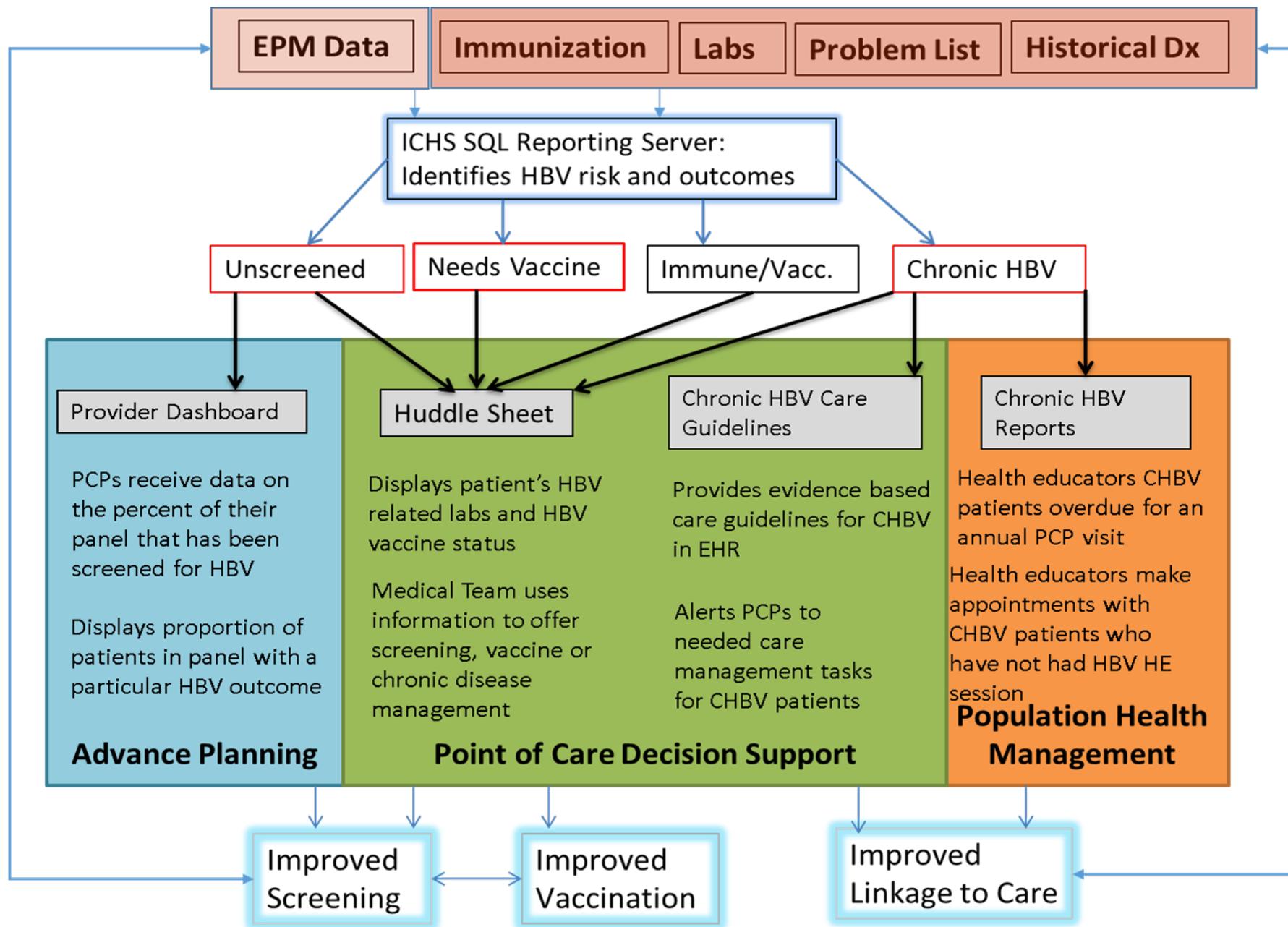
Guideline	Status	Due	Action
CMP	ordered	02/05/	Ordered on 07/31/
HBV Real-Time PCR, Quant	due	02/05/	
Hep A Ab	due	02/05/	
Hep Be Ag	due	02/05/	
Hep C Ab	due	02/05/	
HIV Screen	ordered	02/05/	Ordered on 08/13/
CBC	ordered	05/29/	Ordered on 10/02/

CHBV Population Health Management Reports

HepB_Outcome Select a Language

1 of 1 100% Find | Next

med rec nbr	Language	primarycare prov name	Need PCP Appt	Last ALT date	Last Enc	Next Appt	HE Last
00000	Chinese/Cantonese	Dr. A	X		4/2/XXXX		
00001	Chinese/Cantonese	Dr. B	X	6/8/XXXX	6/18/XXXX		6/18/XXXX
00002	Chinese/Mandarin	Dr. A	X	2/5/XXXX	6/3/XXXX		
00003	English	Dr. B	X	7/20/XXXX	3/21/XXXX		
00004	Vietnamese	Dr. C		5/28/XXXX	5/28/XXXX	7/7/XXXX	5/28/XXXX
00005	English	Dr. C	X	6/9/XXXX	6/9/XXXX		
00006	Vietnamese	Dr. A	X	5/30/XXXX	5/30/XXXX		
00007	Somali	Dr. B	X	10/25/XXXX	1/20/XXXX		10/12/XXXX
00008	Chinese/Cantonese	Dr. C		3/5/XXXX	4/16/XXXX	7/18/XXXX	
00009	Vietnamese	Dr. A		4/7/XXXX	4/7/XXXX	7/18/XXXX	
00010	Chinese/Cantonese	Dr. B	X		5/22/XXXX		
00011	Vietnamese	Dr. C	X	12/1/XXXX	1/17/XXXX		
00012	Vietnamese	Dr. A	X	5/21/XXXX	5/21/XXXX		
00013	Vietnamese	Dr. B	X	2/25/XXXX	5/6/XXXX		2/24/XXXX
00014	Vietnamese	Dr. C	X	5/19/XXXX	5/19/XXXX		4/29/XXXX
00015	(Null)	Dr. A	X	10/25/XXXX	5/22/XXXX		
00016	Vietnamese	Dr. B	X	1/20/XXXX	1/20/XXXX		8/26/XXXX
00017	English	Dr. C	X		4/1/XXXX		



Evaluation Phases

Process Evaluation Data Collection



Baseline

4/2014-10/2014

- Pre-intervention data
- Baseline data for all intervention components

Phase 1: HBV Prevention

11/2015-5/2015

- Huddle Sheet and Provider Dashboard
- Metrics:
 - Testing
 - Vaccination

Phase 2: Chronic HBV Management

4/2015-9/2015

- Chronic HBV Reports and Chronic HBV Guidelines
- Metrics:
 - Linkage to Care

Study Population Demographics

	Baseline (n)	Baseline (%)	Phase 1 (n)	Phase 1 (%)	Phase 2 (n)	Phase 2 (%)
N	6699		7155		7458	
Sex						
Female	4367	65.2%	4456	62.3%	4729	63.4%
Male	2332	34.8%	2699	37.7%	2729	36.6%
Ethnicity						
Chinese	3294	49.2%	3543	49.5%	3665	49.1%
Vietnamese	2340	34.9%	2403	33.6%	2553	34.2%
Filipino	294	4.4%	322	4.5%	305	4.1%
Korean	243	3.6%	257	3.6%	276	3.7%
Cambodia	110	1.6%	104	1.5%	111	1.5%

*Study Population included patients aged 18-74 with a medical encounter during the time period of interest

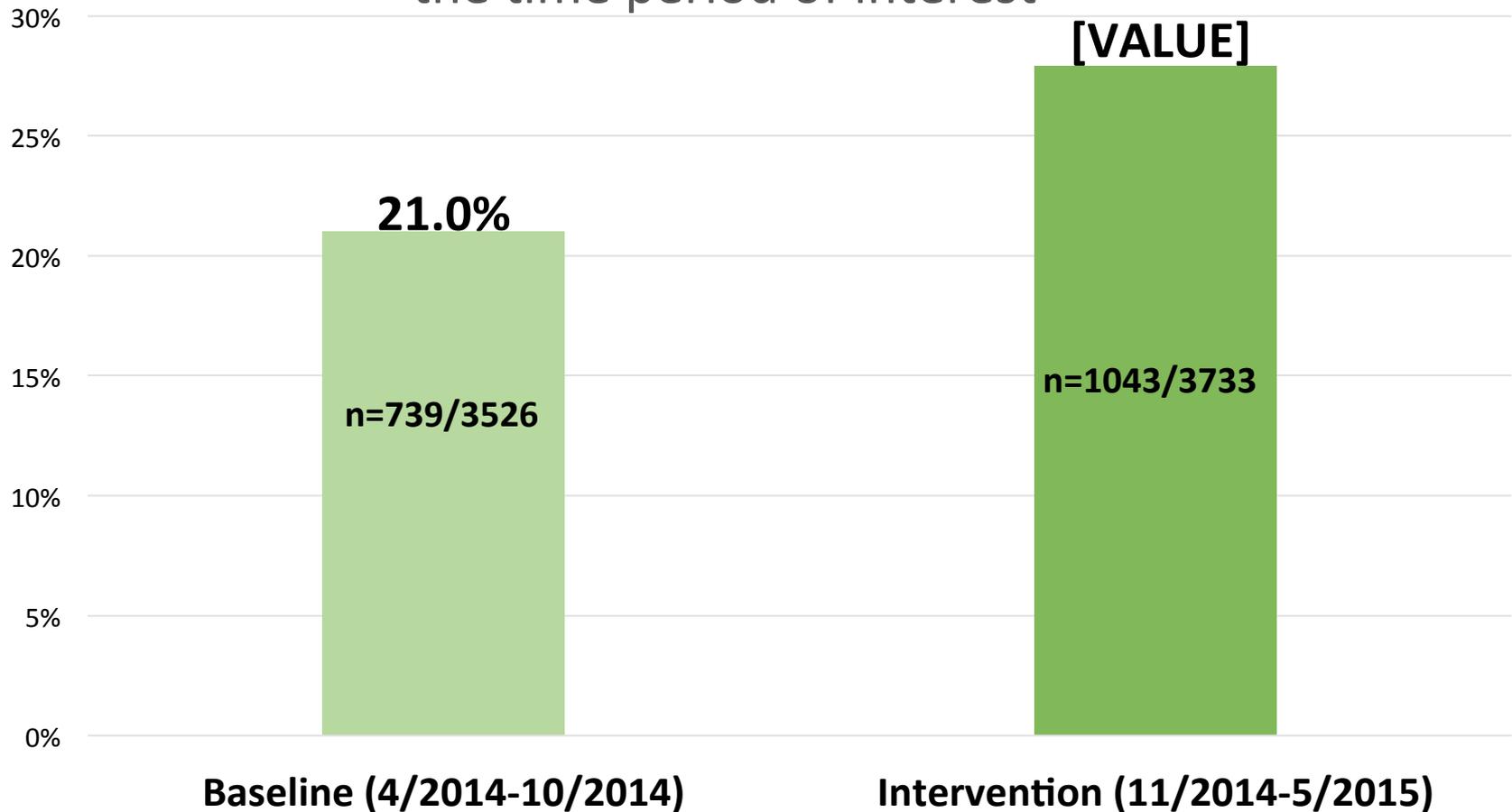
Study Population Demographics

Age	Baseline	Baseline (%)	Phase 1	Phase 1 (%)	Phase 2	Phase 2 (%)
18-30	999	14.9%	1088	15.2%	1171	15.7%
31-40	757	11.3%	911	12.7%	926	12.4%
41-50	1397	20.9%	1594	22.3%	1646	22.1%
51-60	1594	23.8%	1744	24.4%	1792	24.0%
61-70	1796	26.8%	1818	25.4%	1924	25.8%
CHBV Prevalence						
HBsAg Results	3767		4318		4730	
Negative	3433	91.1%	3947	91.4%	4331	91.6%
Positive	333	8.8%	370	8.6%	399	8.4%
Total Sample						
CHBV	492	7.3%	543	7.6%	560	7.5%

* Study Population included patients aged 18-70 with a medical encounter during the time period of interest

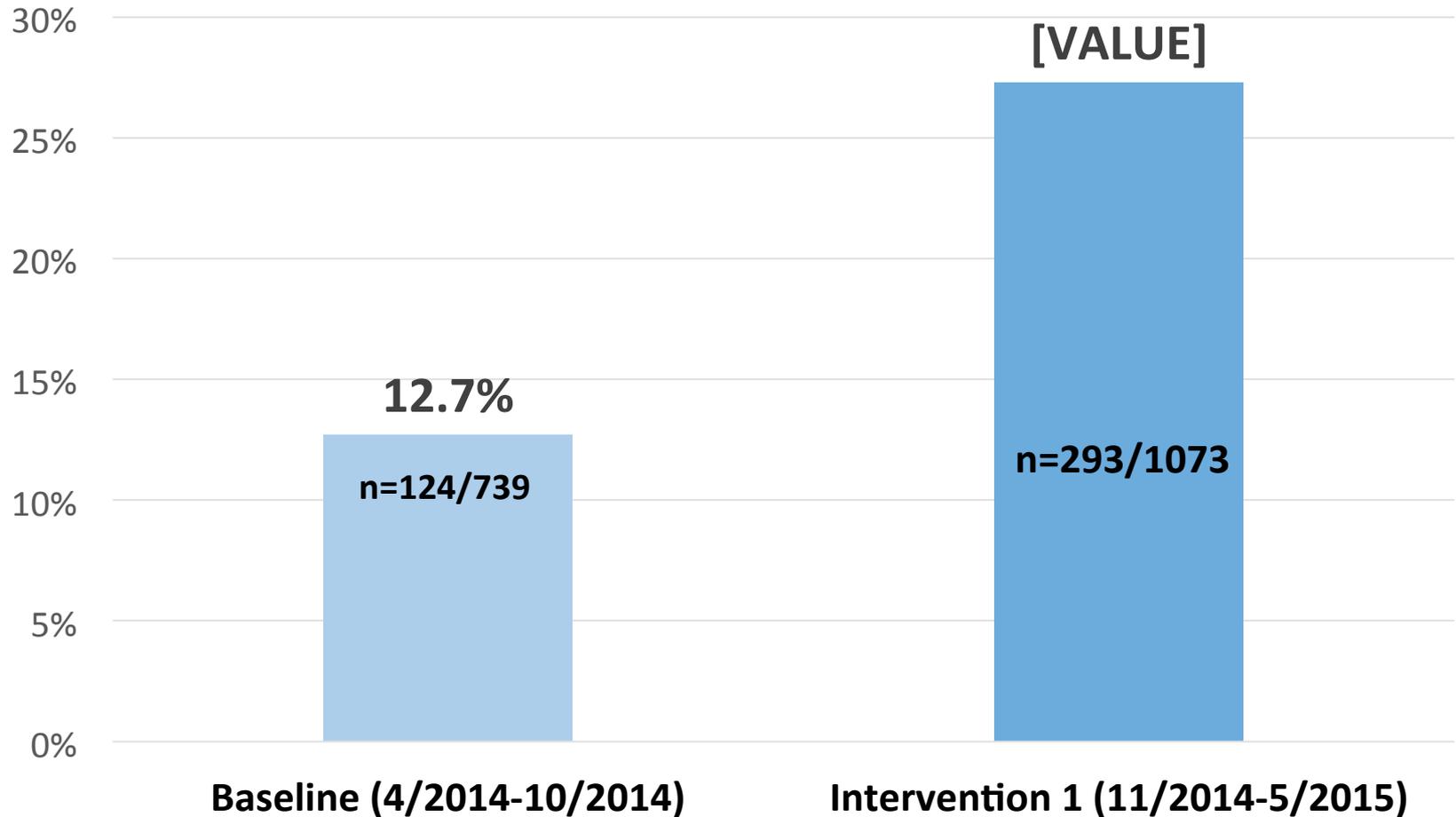
Testing Results

Percent of eligible patients with HBsAg fulfilled during the time period of interest



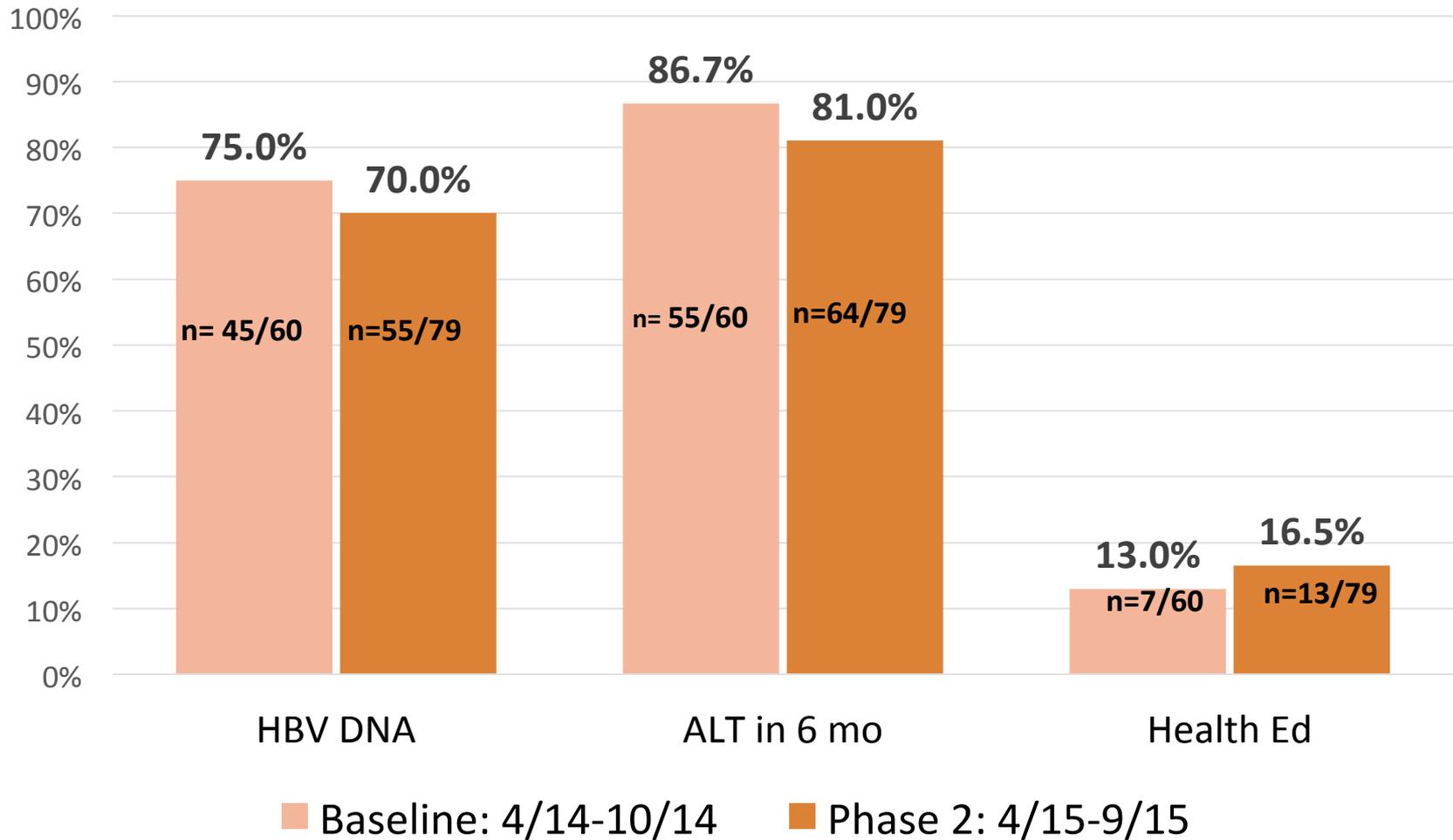
Vaccination Results

Percent of eligible patients with at least one dose of HBV vaccine during the time period of interest

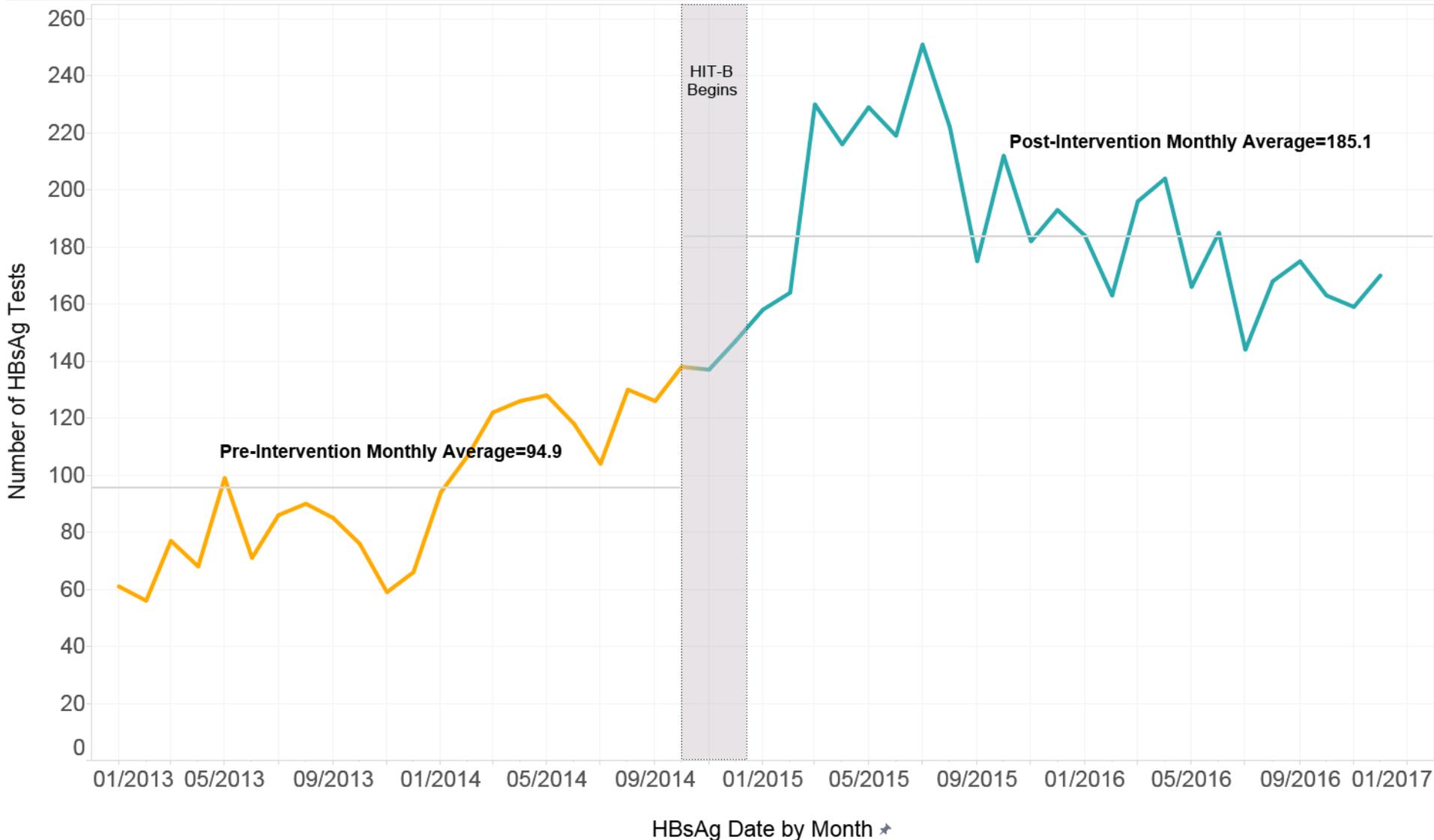


Linkage to Care Outcomes

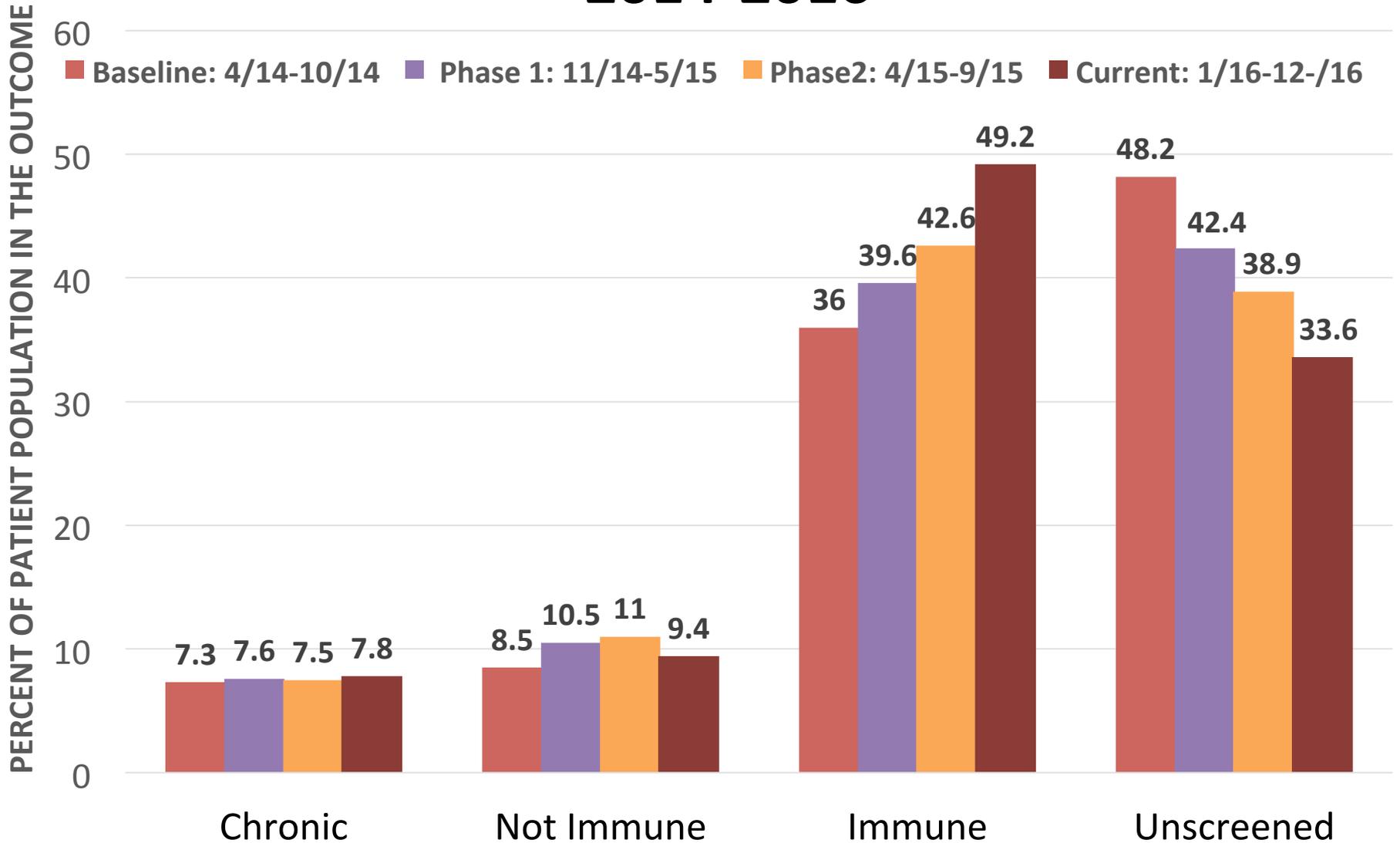
Linkage to Care Measures for CHBV Patients Diagnosed During the Time Period of Interest



HBsAg Screening Jan 2013- Dec 2016



ICHS Hepatitis B Population Outcomes 2014-2016



Lessons Learned

- Site-based champions facilitated intervention development, adoption, use and improvement
- Designing interventions to work across the care team was essential for program success
- Resourcing IT training enhanced program sustainability and organizational capacity
- Addressing EHR data issues is challenging and resource intensive, but may provide long term benefits
- Insurance and access to care remain a challenge in the community
- FQHCs with HIT resources can develop innovative tools to leverage HIT systems and data to help address health disparities

Steps For Implementation

1. Identify EHR data that can be used to assess risk, or expand capacity to collect relevant data.
2. Assess organizational IT capacity, resources, data quality and training needs
3. Identify opportunities in current workflows to provide relevant HBV data.
4. Develop team-centered interventions that empower clinical staff to assess risk and take action on hepatitis B
5. Provide staff evidence-based training on viral hepatitis disparities, prevention and chronic disease management
6. Incorporate health education into your program to empower patients, families and communities

Thank you!



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