

# **Cherokee Nation HCV Program: From Evaluation to Cure to Elimination**

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# Objectives

- Define elimination as it relates to infectious diseases
- Identify interventions required to achieve HCV elimination
- Describe the CNHS HCV Elimination program

# Considerations: Elimination



Available at: [nas.edu/hepatitiselimination](https://nas.edu/hepatitiselimination)

- National Academies of Sciences, Engineering and Medicine (*formerly IOM*)
  - Released report on April 11, 2016
  - Committee determined that:
    - Both hepatitis B and C could be rare diseases in the US
    - Considerable will and resources would be required to do this
  - Released report in April 2017 addresses what steps must be taken

***Decrease the incidence of HCV by 90 % and mortality by 65 %  
by the year 2030***

Linkage to Care

Screening

Quality of Care

**HCV**

Unsafe Medical Practices

**IVDU**

Harm Reduction Strategies

Poverty

Domestic Violence

Mental Illness

Historical Trauma

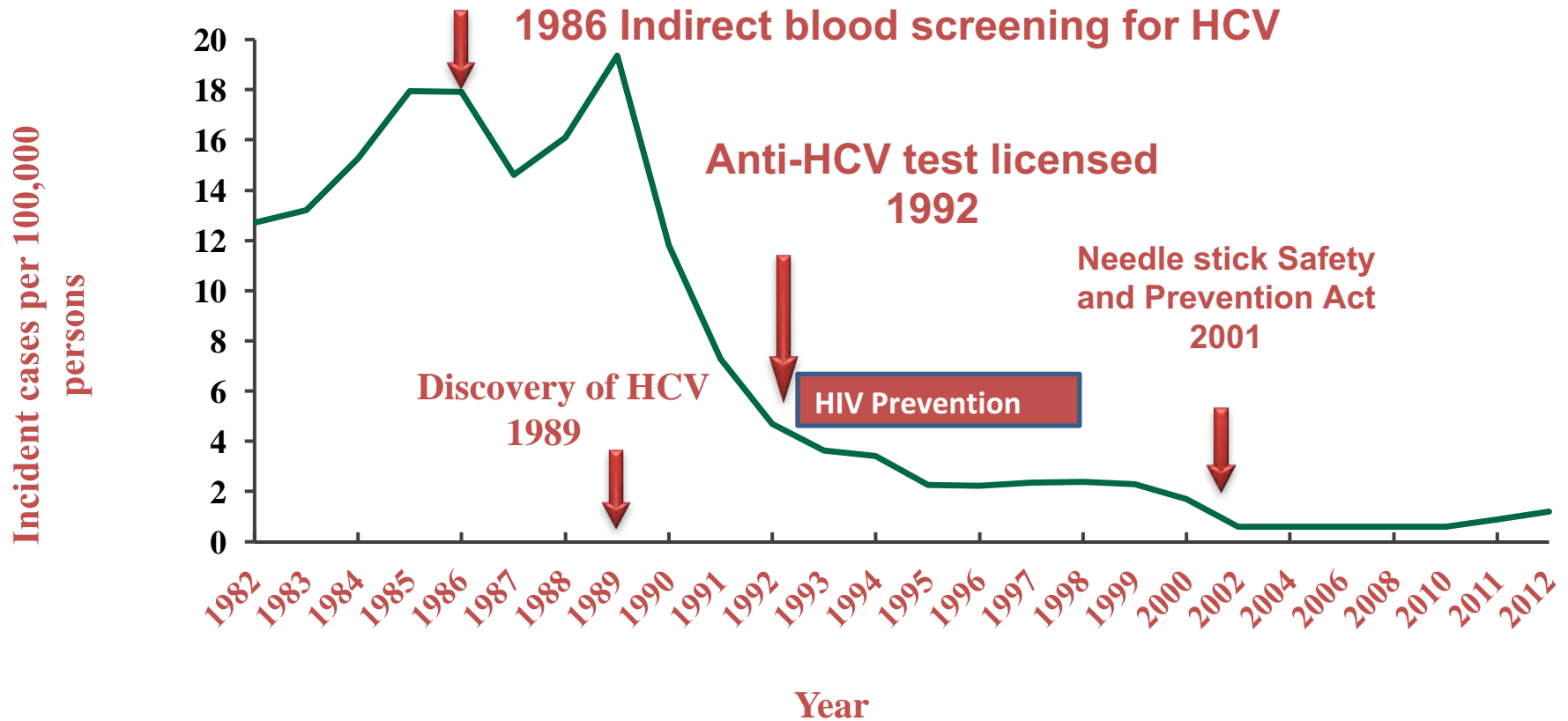
Cultural

Disconnection

others

Prevention

# Discovery of HCV and Impact on HCV Incidence in US







**22,000 cases of incident HCV infection reported in 2012**



# Definitions

- **Control:**
  - The reduction of disease incidence, prevalence, morbidity or mortality to a *locally acceptable level* as a result of deliberate efforts; continued intervention measures are required to maintain reduction. Example: diarrheal diseases
- **Elimination:**
  - Reduction to zero of the incidence of infection caused by a specific agent in a *defined geographical area* as a result of deliberate efforts; continued measures to prevent re-establishment of transmission are required. Example: measles, poliomyelitis.
- **Eradication**
  - *Permanent reduction to zero of the worldwide* incidence of infection caused by a specific agent as a result of deliberate efforts; *intervention measures are no longer needed.* Example: Smallpox

# Feasibility Criteria for Elimination

In General <sup>1</sup>	Hepatitis C Virus	Check list
No non- human reservoir and the organism can not multiply in the environment	No human reservoir	
There are simple and accurate diagnostic tools	Serology widely available	
Practical interventions to interrupt transmission	Treatment as prevention Needle exchange programs Opioid substitution programs	
The infection can in most cases be cleared from the host	Treatment is 95 % curative	

1. Hopkins DR NEJM 2013. 368;1

# Essential Goals to Eliminate HCV

- **Prevent sequelae of advancing liver disease in those already infected**
  - Baby Boomers, born 1945 -1965
- **Prevent new or “incident” infections**
  - Persons who inject drugs
  - Unsafe healthcare practices
  - Sexual exposures in Immunocompromised individuals



# Cherokee Nation Jurisdiction

Sovereign Nation within a Nation



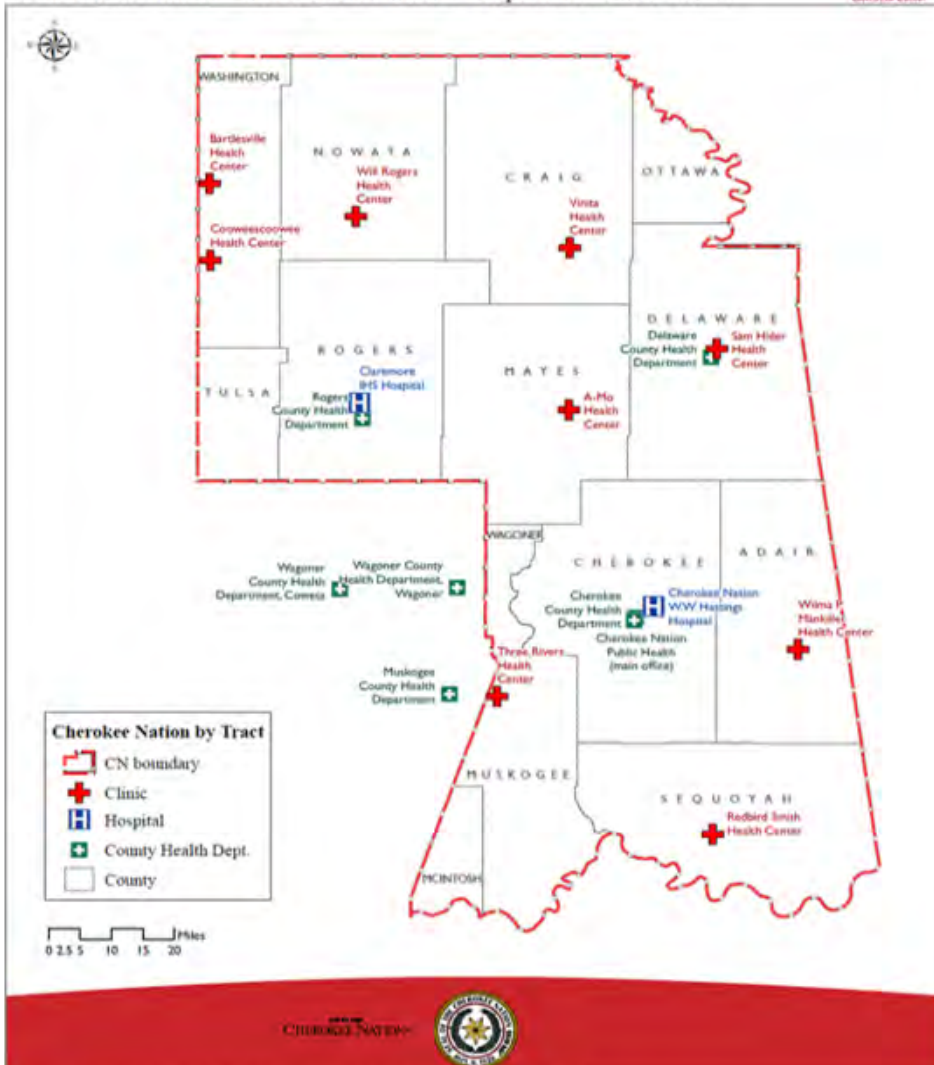
AI/AN: American Indians/ Alaskan Natives



- 14 county area (over 9,200 sq mi.)
- Largest tribal operated health system (U.S.)
- Second largest Indian Nation in the U.S.
- 322,855 Registered citizens world-wide
- Medically serves 130,000 AI/AN

# Cherokee Nation Jurisdiction

Cherokee Nation: Medical and Health Department Locations



- Rural area with high HCV prevalence
- 130,000 AI/AN
- 80,928 citizens *ages 20 – 69*
- HCV program since in 2012
  - ECHO model for delivery of HCV care
  - Clear pathways for medication procurement

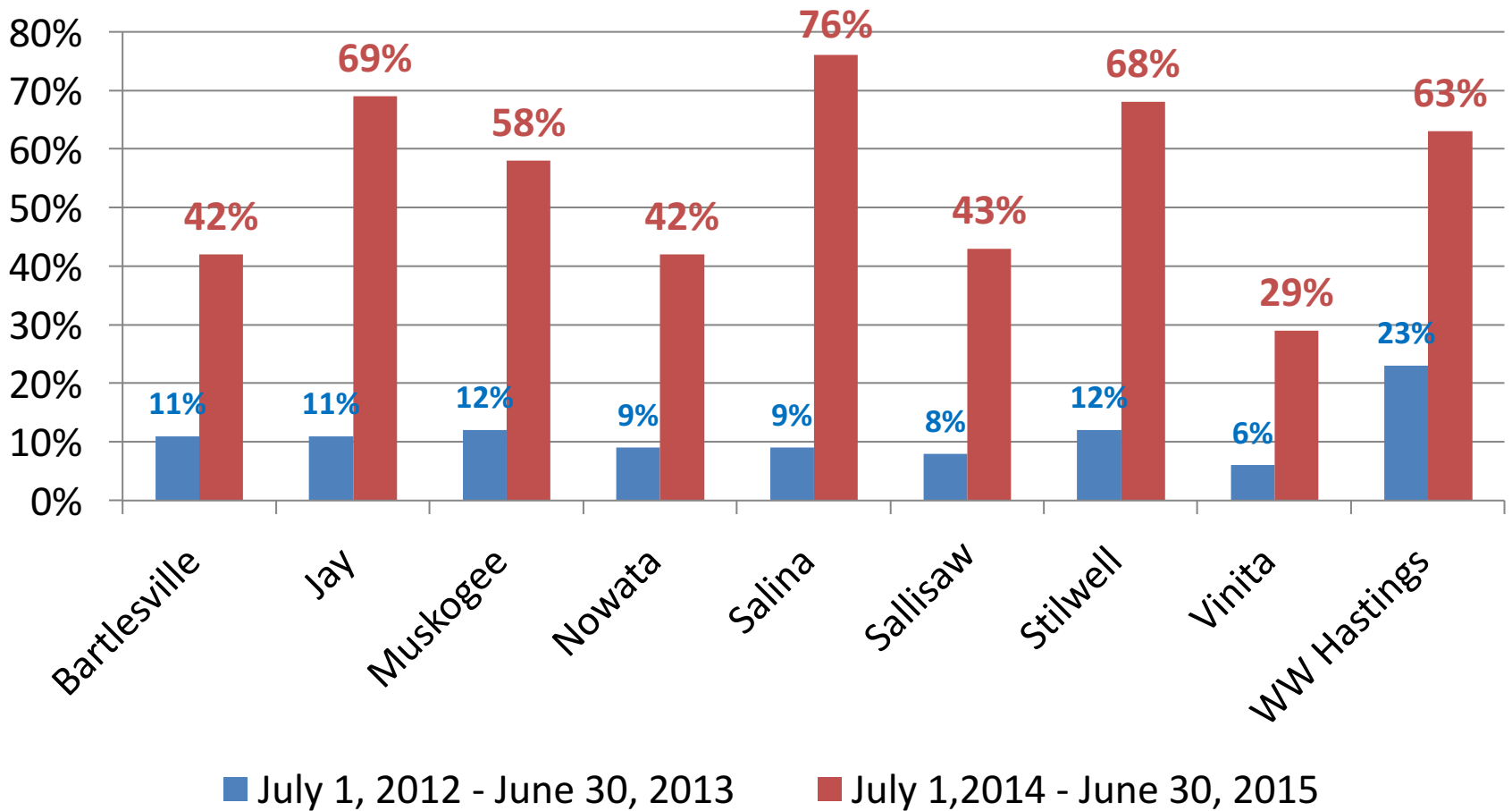
# CNHS HCV Clinic 2012-2014



- 262 HCV infected patients waiting to be treated
- Prevalence unknown, possibly 5.8 %
- Possibly 3,285 patients!!!!!!
- How do we increase screening?
- How we do we engage and treat more patients?

# Hepatitis C Screening

## Electronic Health Reminders Work!!!!!!



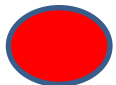
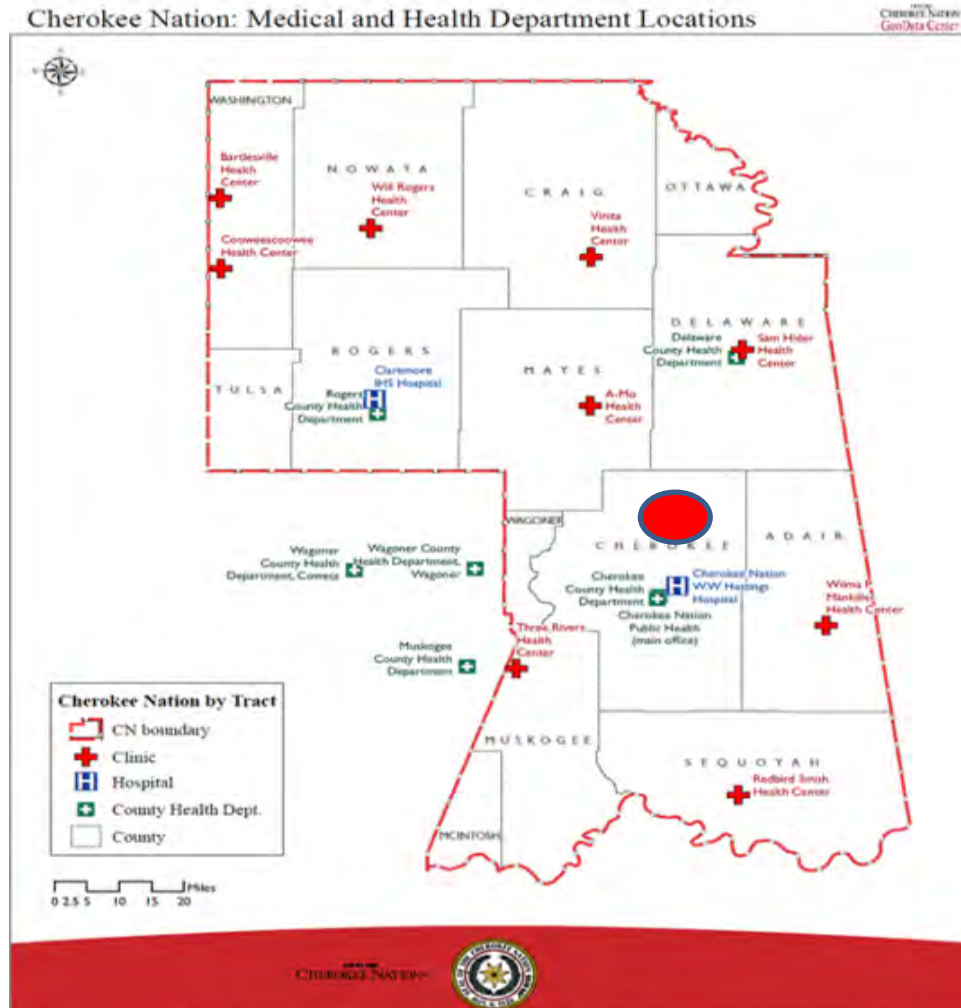


## *Moving Knowledge Instead of Patients*

### ➤ GOALS:

- Develop capacity to safely and effectively treat HCV in all areas and to monitor outcomes
- Develop a model to treat complex diseases in rural locations and developing countries

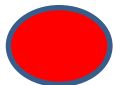
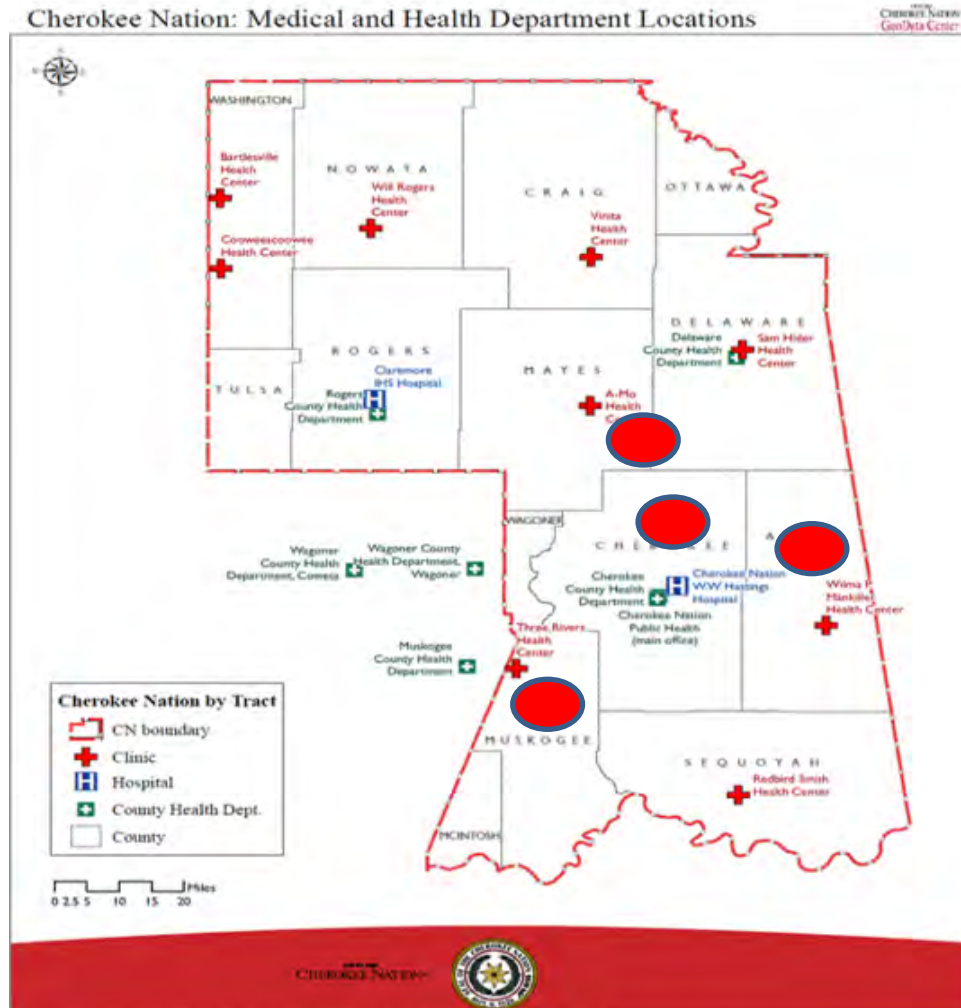
# HCV Services Available at CNHS 1/2012 -6/2014



HCV Clinics

# HCV Services Available at CNHS

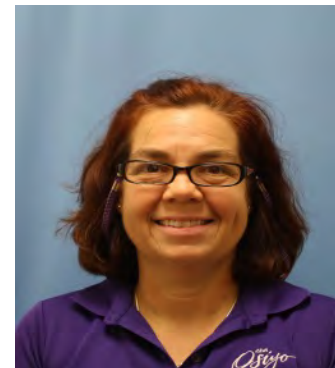
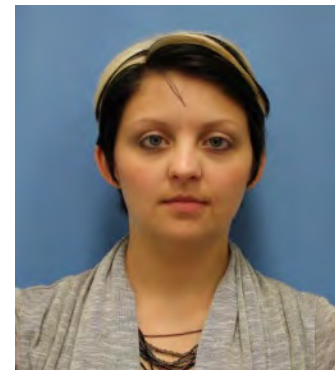
## 7/2014 – 7/2015



HCV Clinics



# First ProjectECHO HCV Team 2014





# **CNHS HCV Elimination Program Goals**

## **8/2015 – 10/2018**

- 1. Secure political commitment for HCV elimination**
- 2. Expand the HCV screening program**
- 3. Establish robust programs to link to care, treat, and cure patients with HCV.**
- 4. Reduce the incidence of new HCV infections**

# Goal #1: Political Commitment

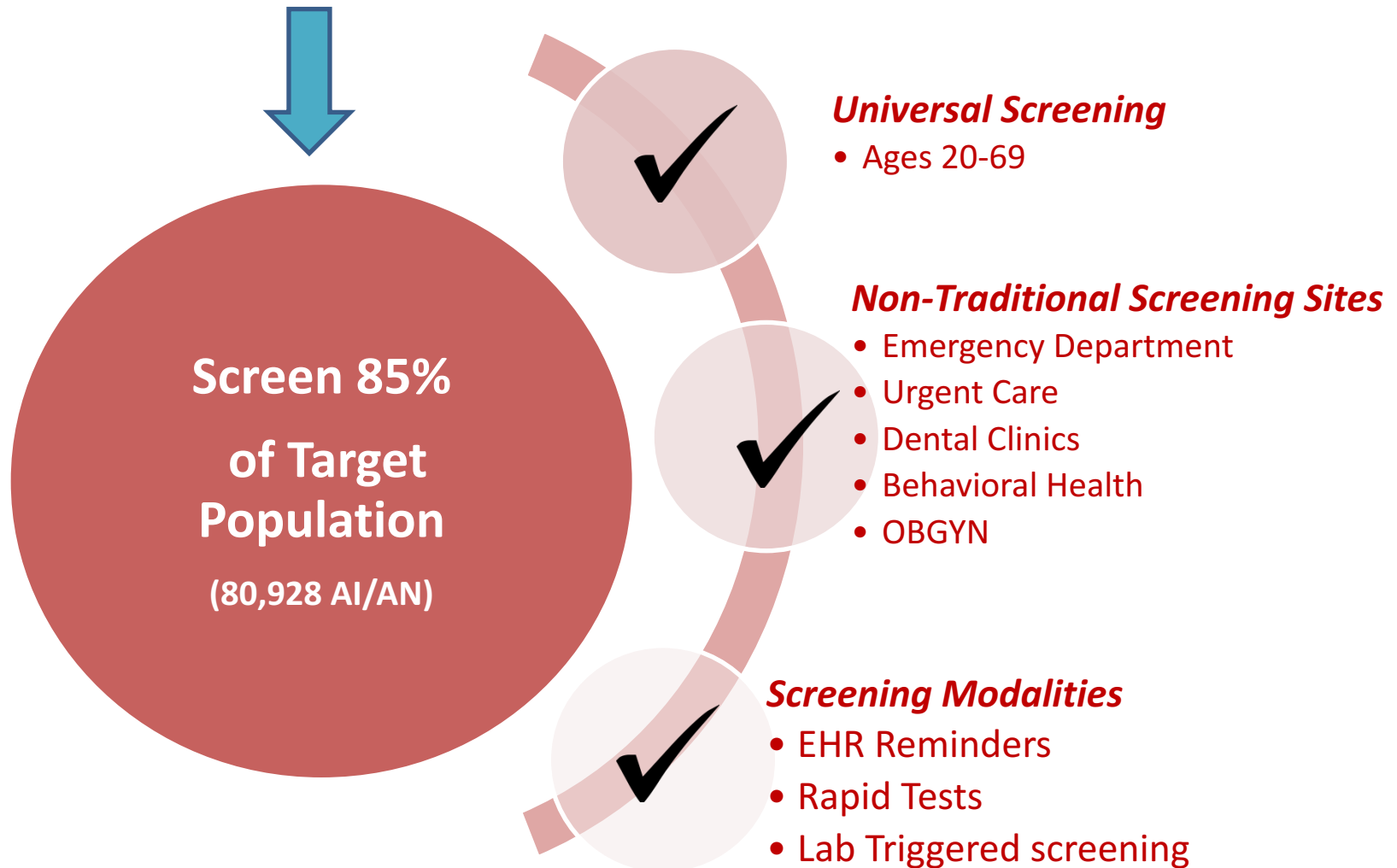
October 30, 2015, CNHS HCV Awareness Day



*“As Native people and as Cherokee Nation citizens, we must keep striving to eliminate hepatitis C from our population.”*

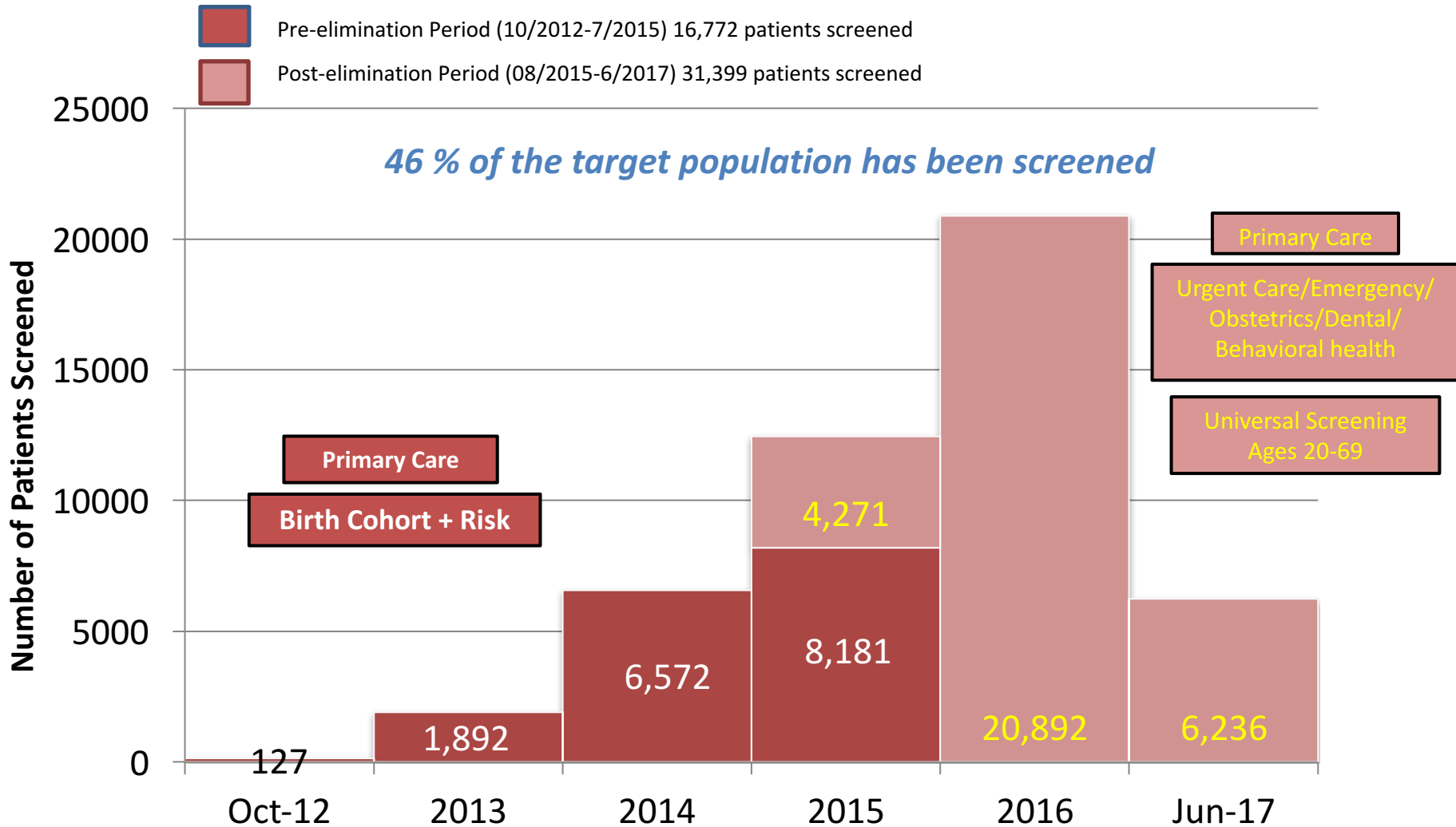
*Chief Bill John Baker*

# Goal #2: Expand Screening Program



# HCV Screening in CNHS\*

## 10/2012 – 6/2017



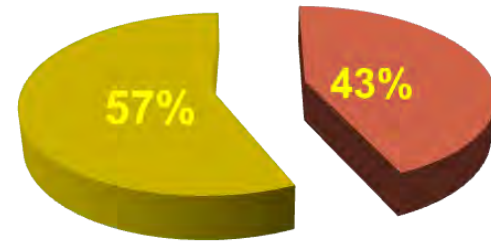
# HCV: Prevalence and Age Distribution\*

## Post Elimination Period, 8/2015 – 5/2017

### Prevalence

- 31,399 patients screened
- 1,076 HCV seropositive
  - Overall Prevalence ~ **3.4%**
    - **Male 4.4%**
    - **Female 2.9%**
  - **Baby boomers**
    - **3.7%** (12,540)
  - **Younger than Baby Boomers**
    - **3.3%** (18,319)

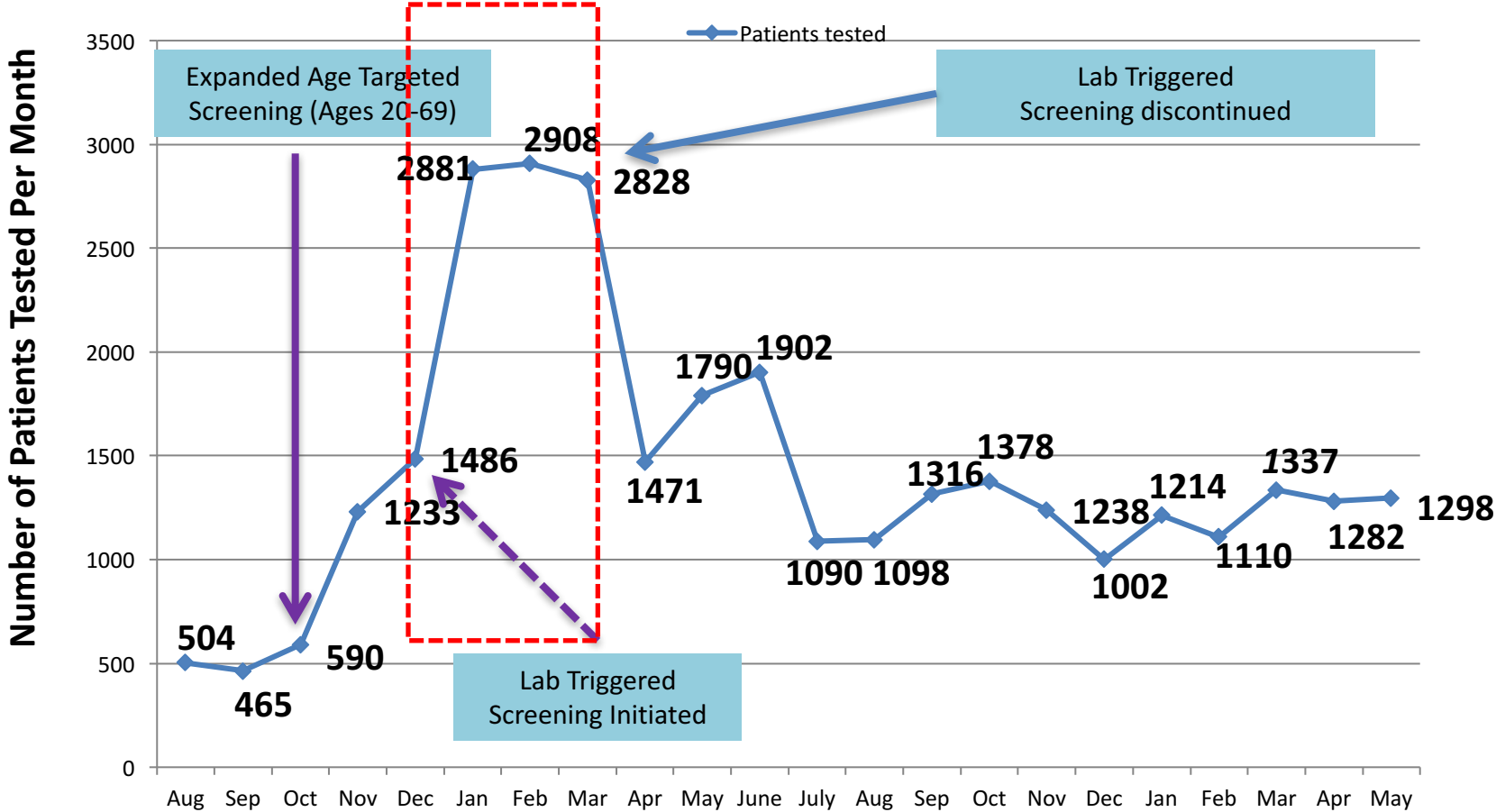
### Age Distribution of HCV Ab (+) patients



- Baby Boomers
- Younger than Baby Boomers

# HCV Screening in Cherokee Nation\*

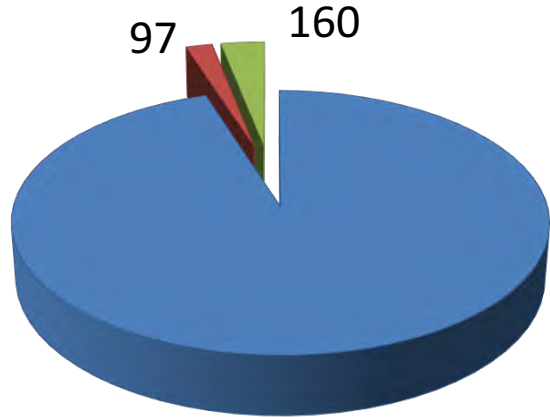
8/2015 – 5/2017



\*preliminary data

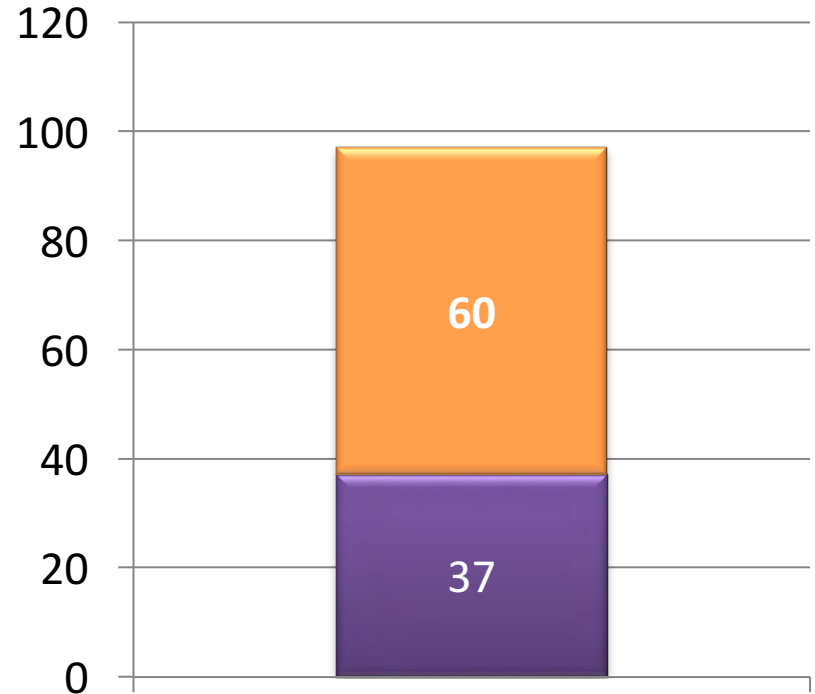
# HCV "Lab Triggered" Screening\* WW Hastings Hospital

Patients Screened 11/15 - 2/16



- HCV Negative (4908)
- New HCV Positive
- Known HCV Positive

■ Baby Boomers ■ Non Babyboomers



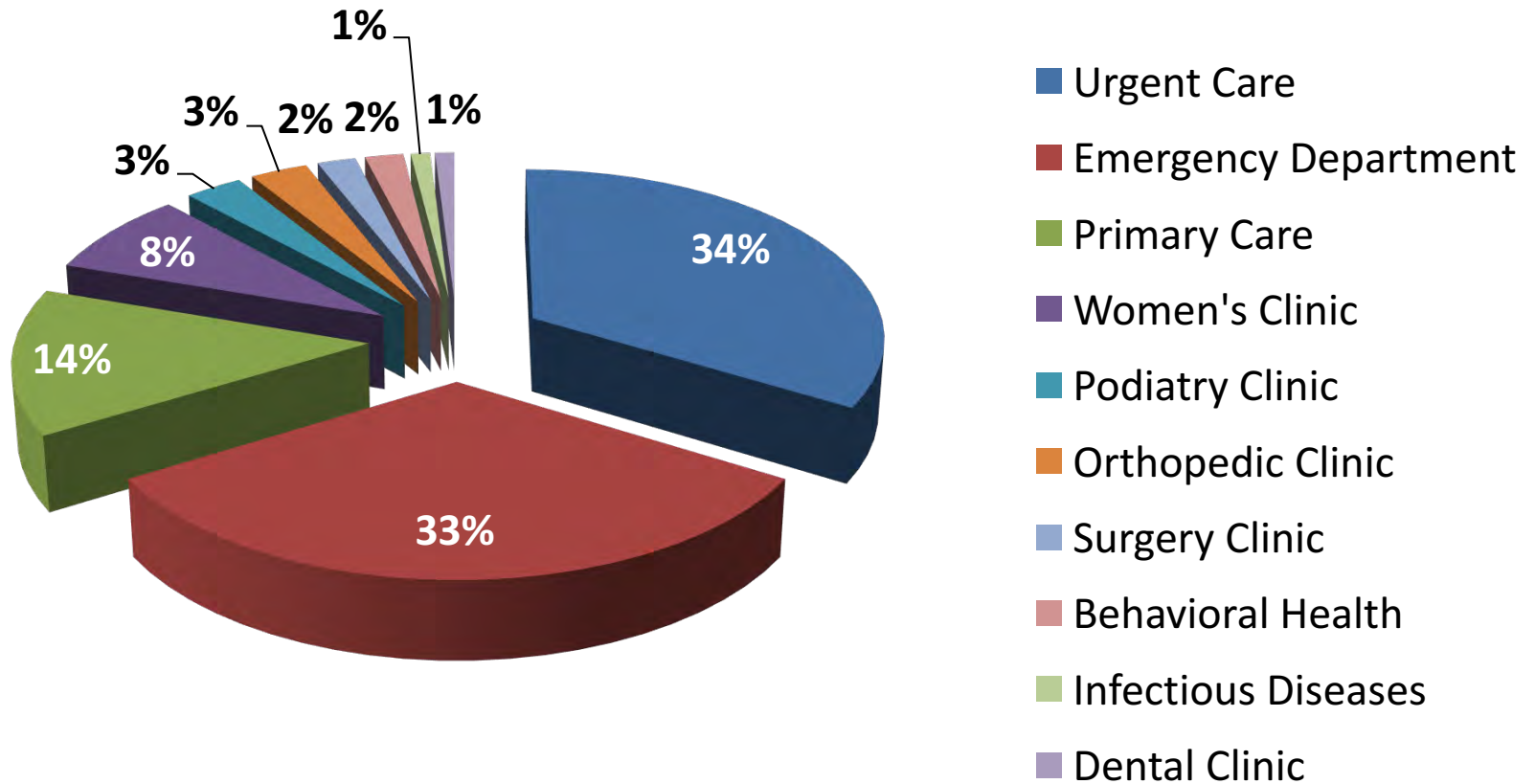
New HCV Positive Patients

\*preliminary data

# Lab Triggered Screening:

## Location Where Patients Were Screened

97 patients with new HCV antibody screen at WW Hastings Hospital

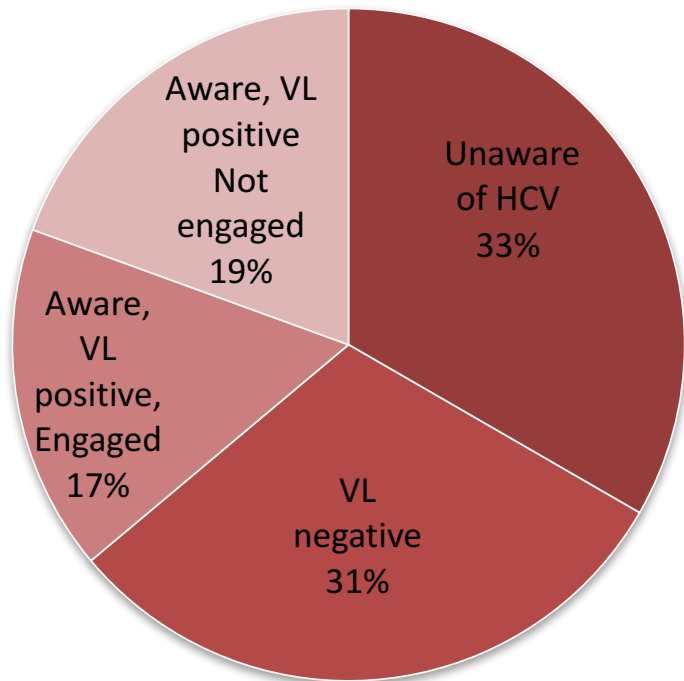


**67 % of the HCV seropositive patients were detected in the Urgent Care/Emergency Department**

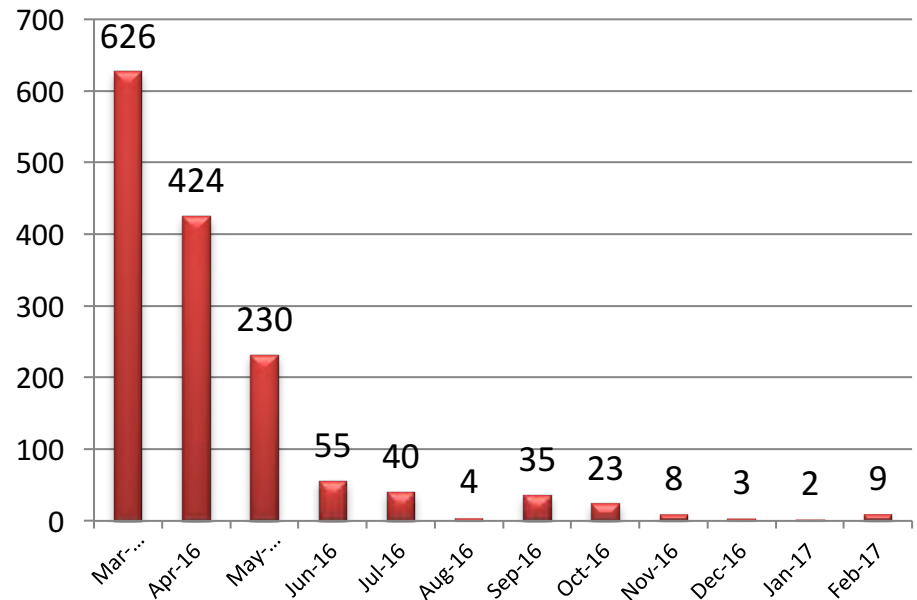


# HCV Screening in the Hospital Dental Clinic\*

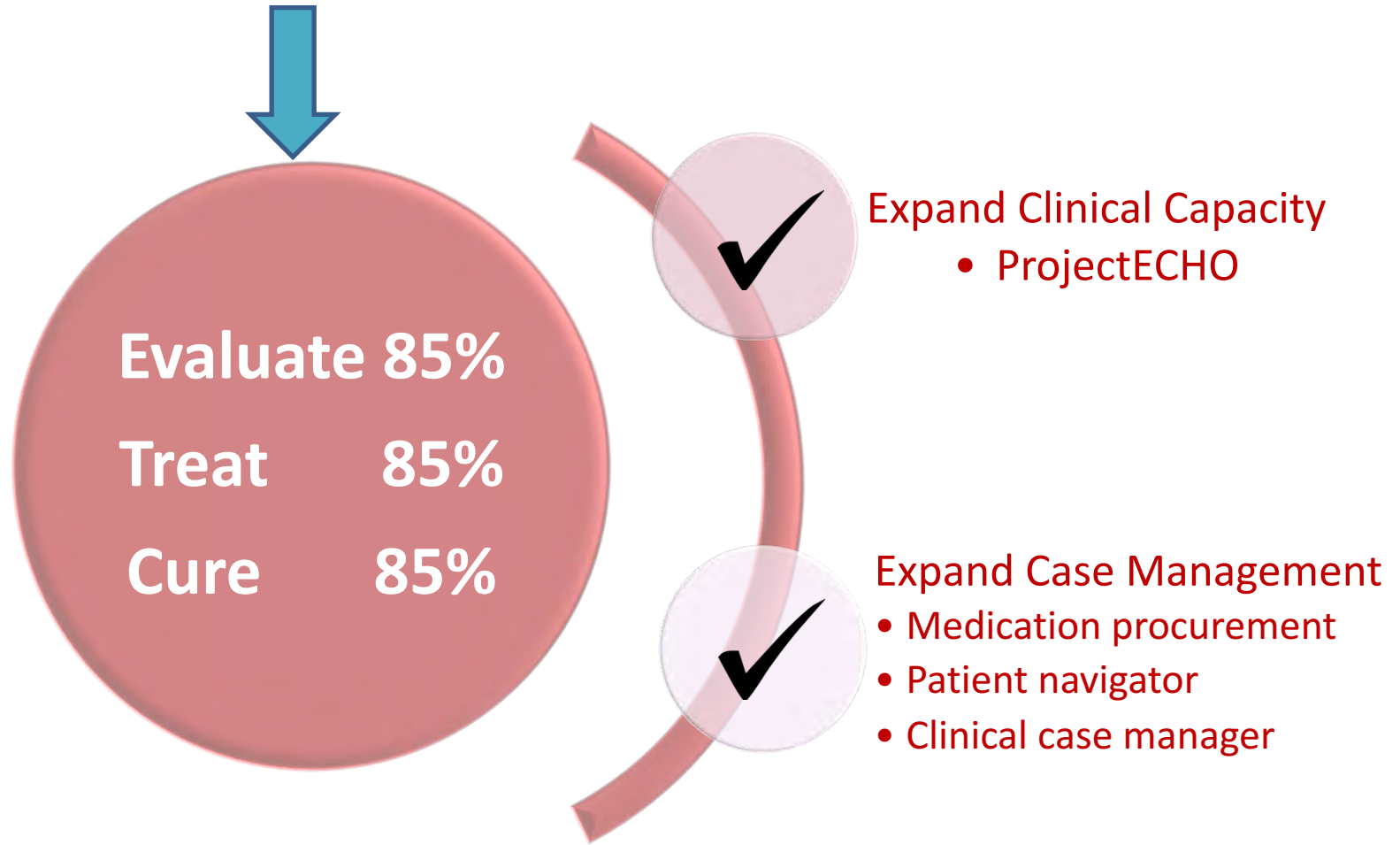
**AWARENESS AND ENGAGED IN CARE STATUS AT THE TIME OF SCREENING IN THE DENTAL CLINIC N=36**



**NUMBER OF PATIENTS SCREENED FOR HCV IN THE DENTAL CLINIC, MARCH 2016 – FEB 2017**

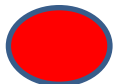
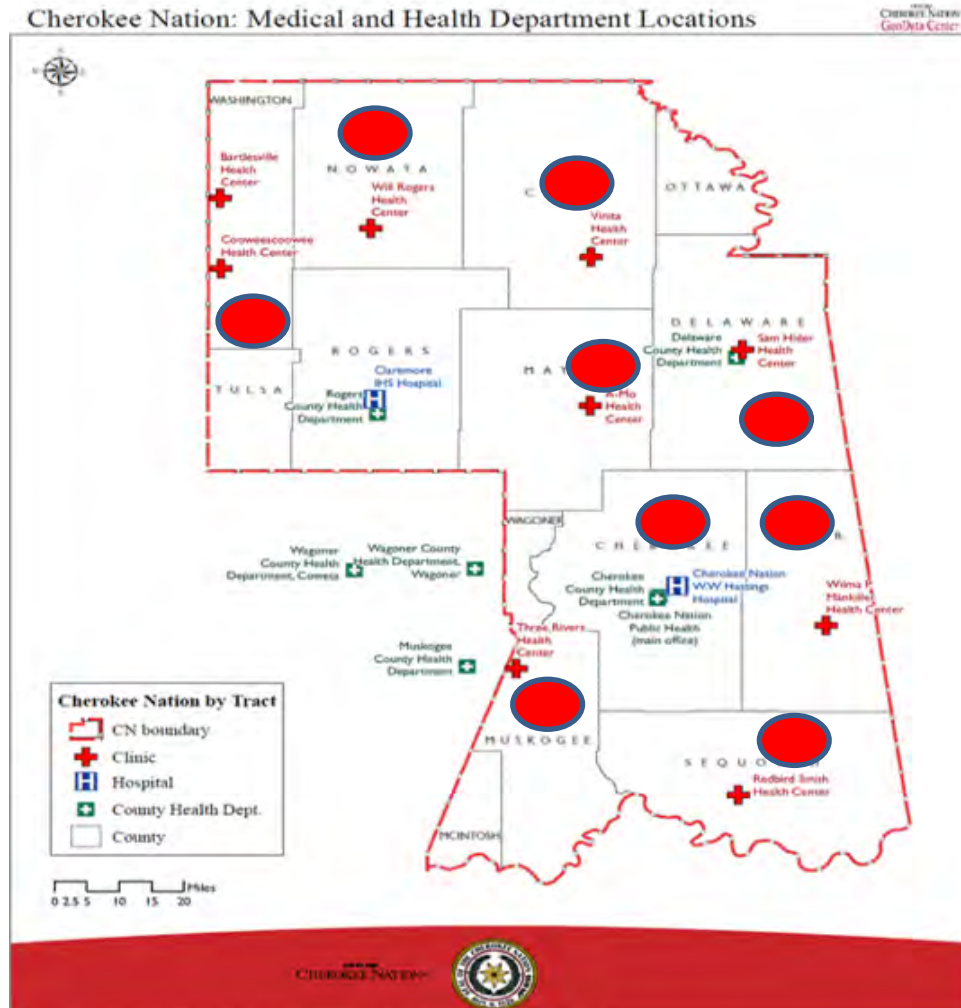


# Goal #3: Link to Care, Treat, and Cure



# HCV Services Available at CNHS

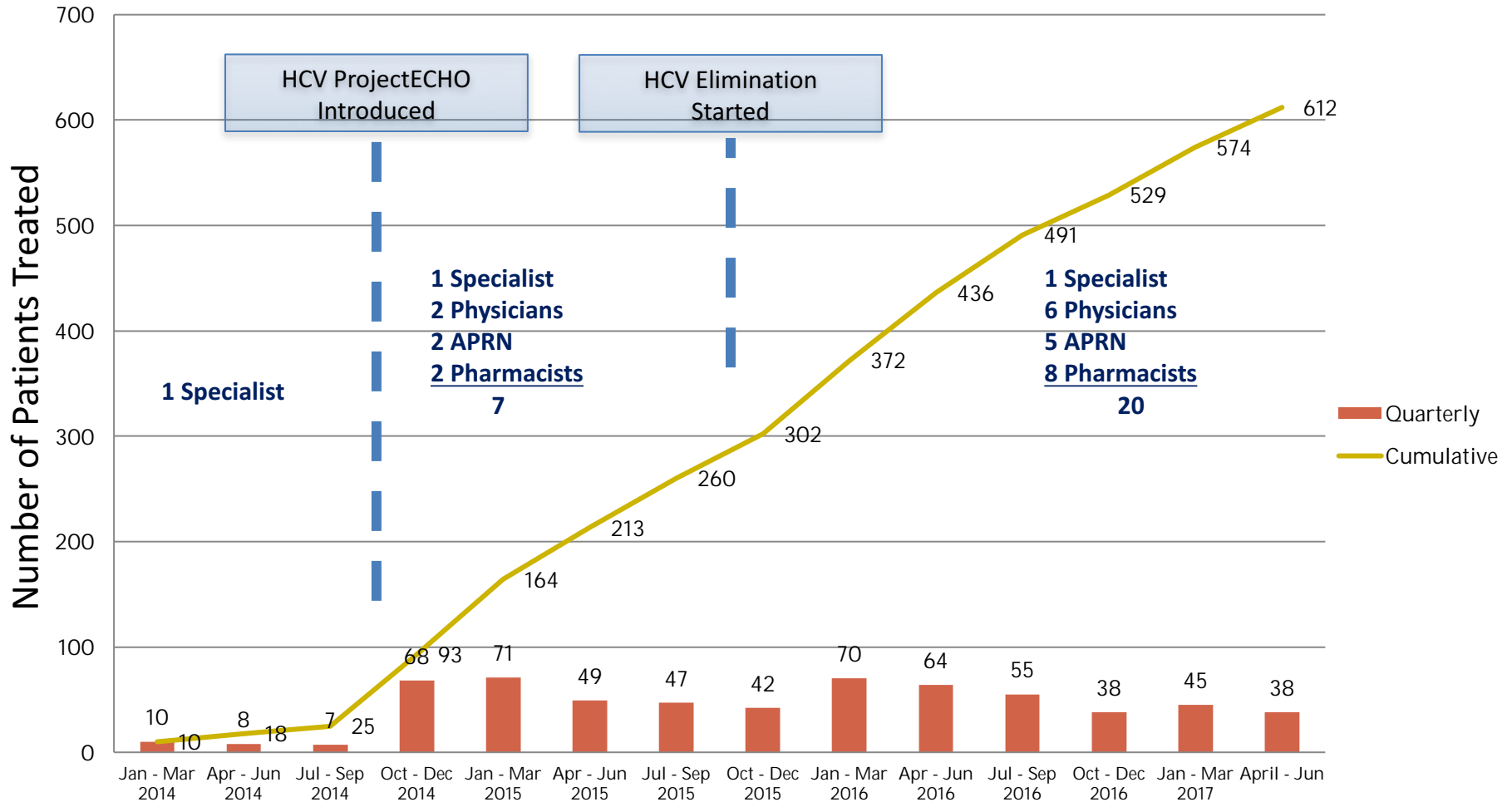
## 8/2015 – 9/2017



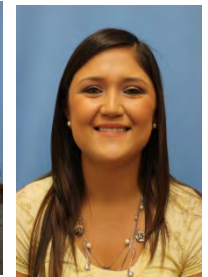
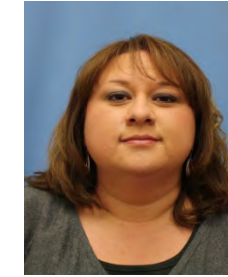
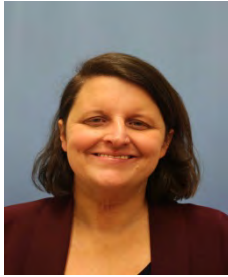
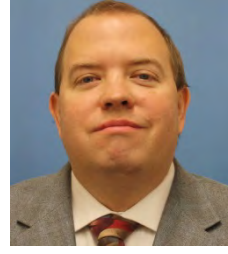
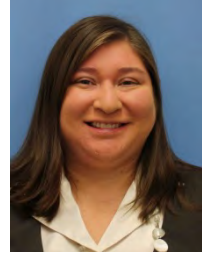
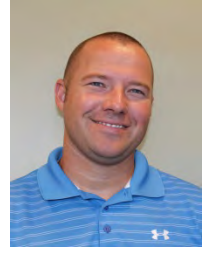
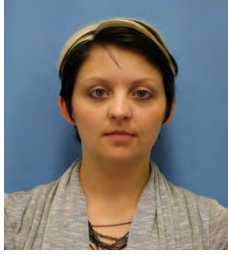
HCV Clinics

# CNHS HCV Program: Clinical Capacity Expansion\*

## 1/2014 – 6/2017

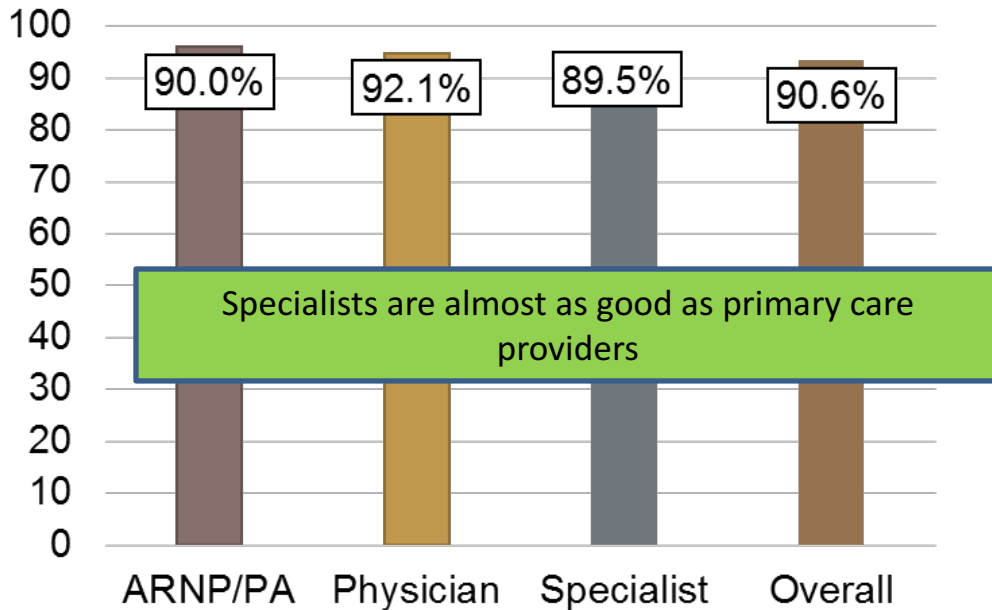


\*preliminary data

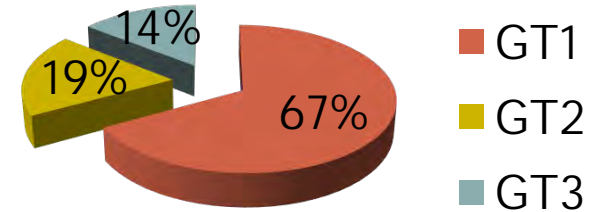


# Treatment Group Characteristics\*

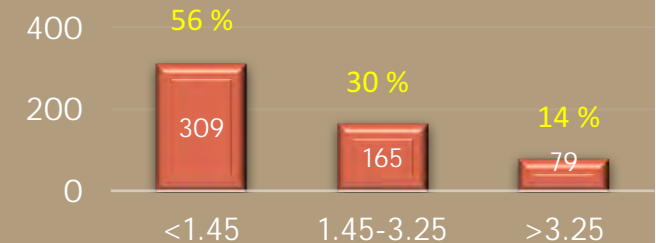
No Difference in HCV Cure Rates between Provider Types at CNHS (n= 365)



Genotypes  
n= 547

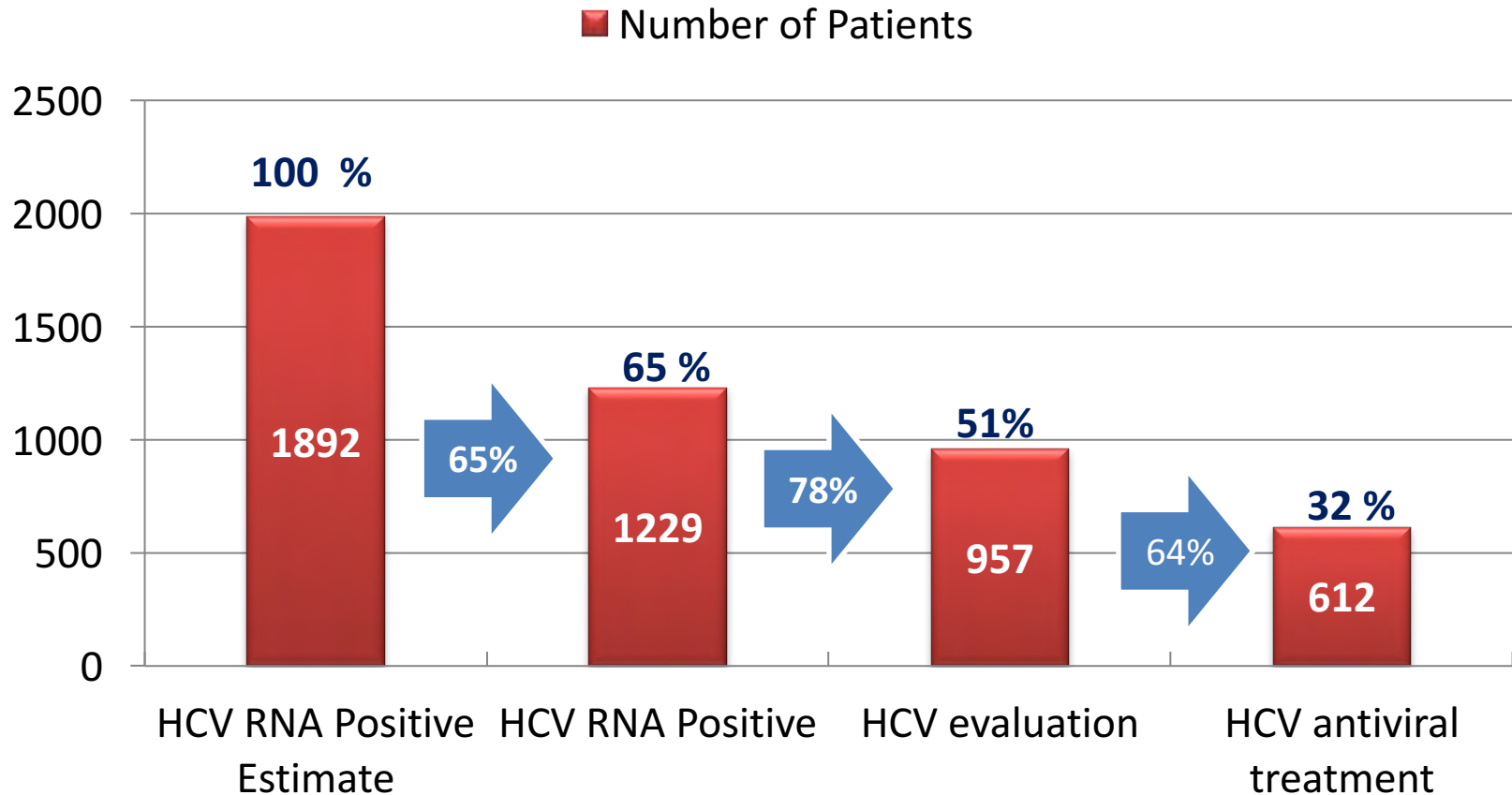


Fib-4 Index n=553



# CNHS HCV Cascade of Care\*

## 10/2012 - 6/2017

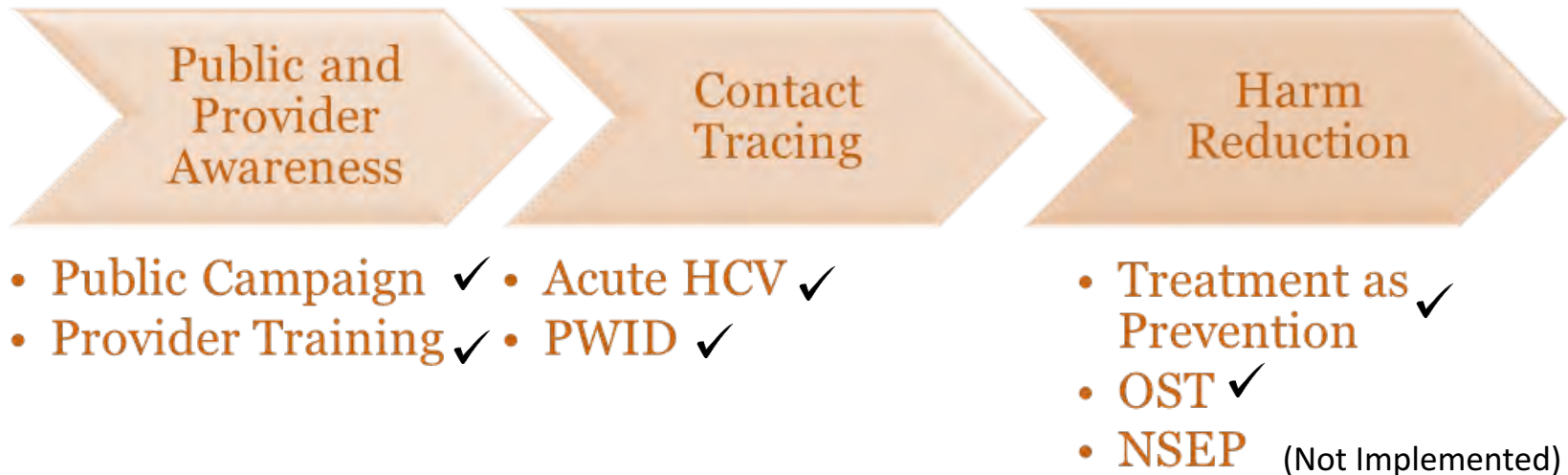


90% of patients who have completed treatment have achieved cure

\*preliminary data



# Goal #4: Reduce the Incidence of New HCV Infections





# Public Campaign

September 20, 2016 - September 28, 2016.

## Advertisement

- Gas pumping
- Indoor advertisement
- Radio advertisement
- Digital marketing
- Social media

The poster features a grey background with a decorative red and white border at the top and bottom. The main text is in large, bold, white letters with a red dotted pattern: "ONE NATION. UNDER THREAT." Below this, in smaller black text, is "FIGHT BACK AGAINST HEPATITIS C." and "GET TESTED + GET CURED". The background also includes a faint silhouette of a person and a gear. At the bottom, there is a paragraph of text, a logo for the Cherokee Nation, and the Cherokee Nation Public Health logo with the motto "Prevent. Promote. Protect."

**ONE NATION.  
UNDER THREAT.**

**FIGHT BACK AGAINST HEPATITIS C.**

**GET TESTED + GET CURED**

Hepatitis C is posing a threat to the Cherokee Nation. You may have Hepatitis C without knowing it. You can have it and live for a long time and not feel sick. But over time, Hepatitis C can cause serious health problems and even lead to liver cancer. You can also give it to loved ones or friends without knowing it. Getting tested is the only way to know if you're infected.

Through the Cherokee Nation Health Service, you can get tested and treated. Better treatment options are now available with minimal side effects and lasting as little as 8 weeks. If you want to be tested for Hepatitis C, contact your medical provider and request to be tested.

**FIGHT BACK AGAINST HEPATITIS C. GET TESTED TODAY.  
IT COULD SAVE YOUR LIFE – AND OUR NATION.**

**CHEROKEE NATION  
Public Health**  
Prevent. Promote. Protect.

# Gas Pump Advertising



**ONE NATION.  
UNDER THREAT.**

**PROTECT THE CHEROKEE NATION  
FROM HEPATITIS C.**

**GET TESTED. GET CURED.**  
Contact your medical provider today.

CHEROKEE NATION  
Public Health  
Prevent. Promote. Protect.

800.525.8762 www.AllOverMedia.com



# Provider Education

- ***HCV Providers***
  - University of Washington HCV Website
  - ½ day Preceptorship at the hub HCV clinic
  - Shadowing the provider on their first day of HCV clinic
  - Biannual workshops in the 8 outlying clinics
  - Bimonthly HCV projectECHO telehealth clinics
- ***All providers***
  - Biannual workshops in the 8 outlying clinics

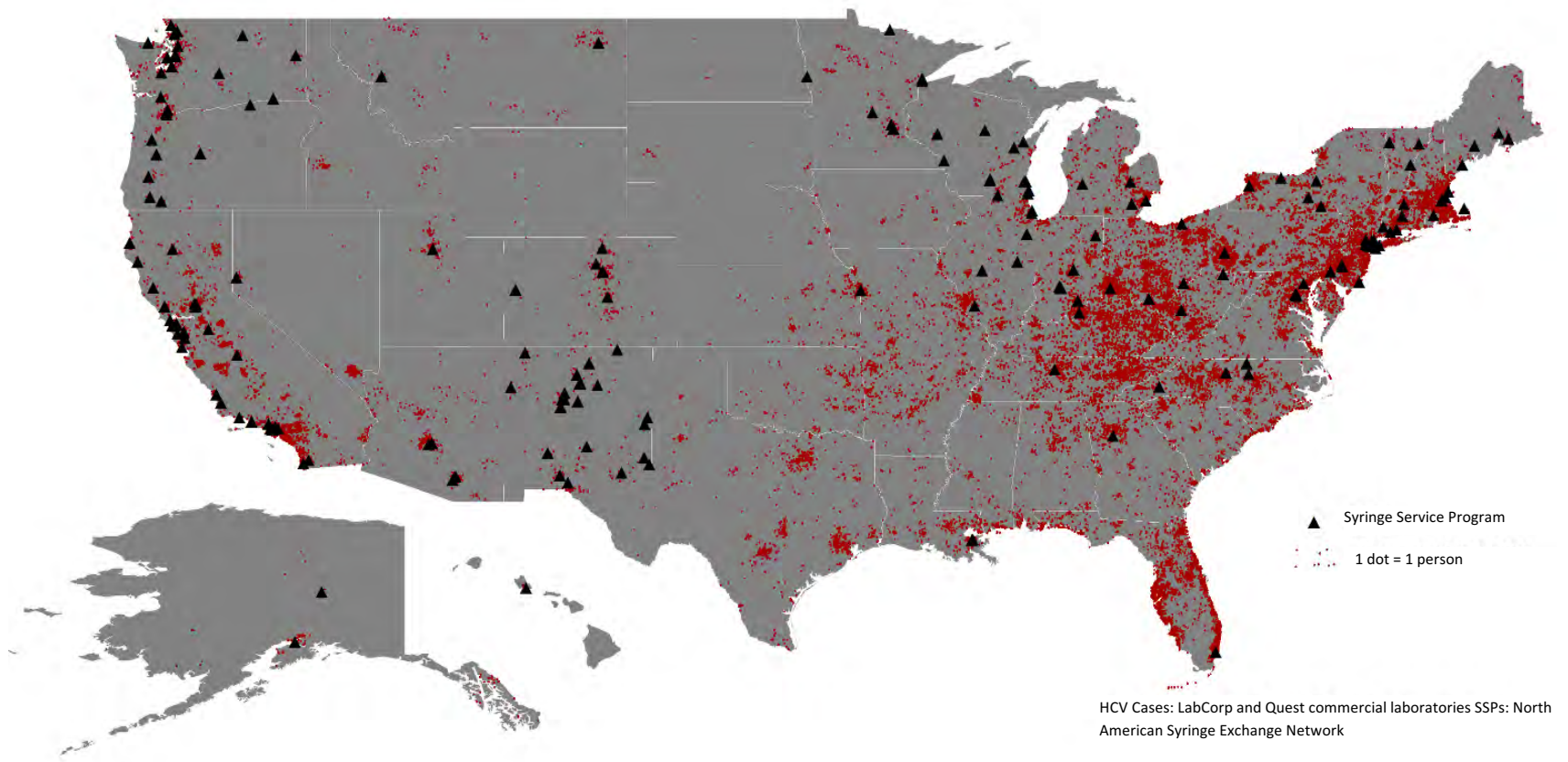
# CNHS Buprenorphine Clinic\*

- Buprenorphine Clinic started in March 2016 with 2 prescribers currently managing ~ 40 patients each
- Drop out rate has been < 10 % since March 2016
- No Emergency Department (ED) visits or hospitalizations due to buprenorphine misuse
- No ED visits or Hospitalizations for opioid overdose in patients managed with buprenorphine

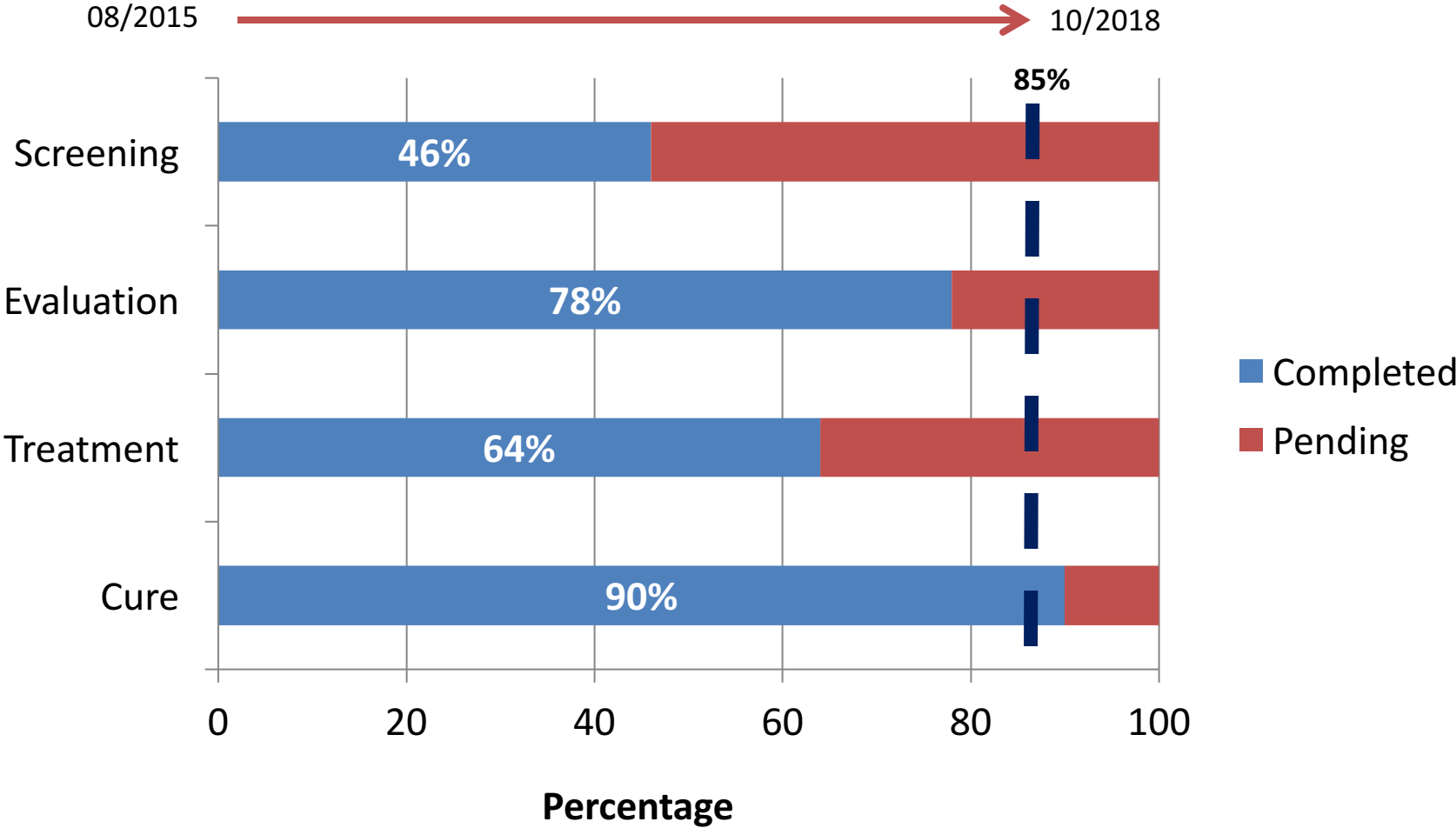


# Distribution of HCV Among Young Persons and Location of Syringe Service Programs

Of 29,382 persons 15-29 yrs. with HCV, 20% lived within 10 miles of a syringe service program.



# How are we doing with our 85% Goals?



# Moving Forward

- Advocate for NSEP
- Expand OST to all CNHS clinics
- Increase public awareness
- Intensify HCV screening in “hot spots”
- Engage and retain in care difficult to reach populations
- Identify networks of transmission to implement focused interventions (GHOST program)
- Adapt program goals to the newly defined recommendations for HCV elimination in the United States
- Define measures to monitor program outcomes
  - HCV incidence
  - HCV related mortality

# Thank You

