

Hepatitis C Epidemic in the Veterans Administration Approach to Screening, Linkage to Care and Treatment

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VA | U.S. Department of Veterans Affairs

Veterans Health Administration

Office of Public Health

DISCLOSURES

I have no disclosures.

Hepatitis C in The VHA

- March 17 1999 amidst concerns that veterans might have increased incidence of HCV, VA did a one day screening of all veterans for HCV undergoing any blood test nationwide.

- Results revealed a higher incidence of HCV in veterans than the general population 6.6% vs 1.7%.

  (Disclosure, comparative screening data are not available from the general population).

March 17 1999
One Day Screening for HCV

- 60% of veterans between 45-60 years of age.
- Majority were from Vietnam era (63%)
    - Post Vietnam 19%
    - Korean war 5%
    - Post-Korean war 4%
    - WWII 4%
    - Other 5%

Creation of Hepatitis C Resource Centers (HCRCs)

In 2001 VA funded the **National Hepatitis C Program** within the Office of Public Health.

VA also became part of **National Viral Hepatitis Action Plan**.

2002 VA funded 5 centers to evaluate, improve hepatitis C screening, testing, clinical care and education:

- West Haven
- Minneapolis
- Portland
- San Francisco
- Seattle

National VA Hepatitis C Program

EDUCATE,
IMPROVE ACCESS,
SCREEN, IDENTIFY,
LINKAGE TO CARE,
TREAT

- **substance abuse treatment**

HCRC Tools

- Creation of pocket cards for HCV
- Creation of educational tools for HCV for provider and patients.
- HCV counseling guidance documents and seminars for providers.
- Vaccination guidance documents
- Treatment guidance documents

- HCRCs get specialized in:
  - Co-infection: San Francisco
  - Advanced liver disease and HCC : West Haven VA
  - HCV Tx: Minneapolis
  - Epidemiology: Seattle

VHA HCV Timelines

- **2002**: HCV Risk Screening clinical reminder
- **2004**: Hepatitis C Case Registry
- **2009**: HCVerify Project to ensure those with positive antibody tests had HCV RNA testing (**REFLEX TESTING**)
- **2009**: Directive that requires HCV RNA reflex testing for positive HCV antibody testing
- **2014**: VA NCP Guidelines align with CDC, USPSTF to recommend one-time HCV testing for those born between 1945-1965 (with continued risk-based testing for everyone else)

VHA HCV Timelines Cont.

- 2014: **VISN HCV Innovation Teams (HIT)** focus on increasing testing and treatment
- 2014: National Network Director Performance Measure on HCV testing for 1945-1965 birth cohort
- 2014: **1945-1965 Birth Cohort Testing clinical reminder**

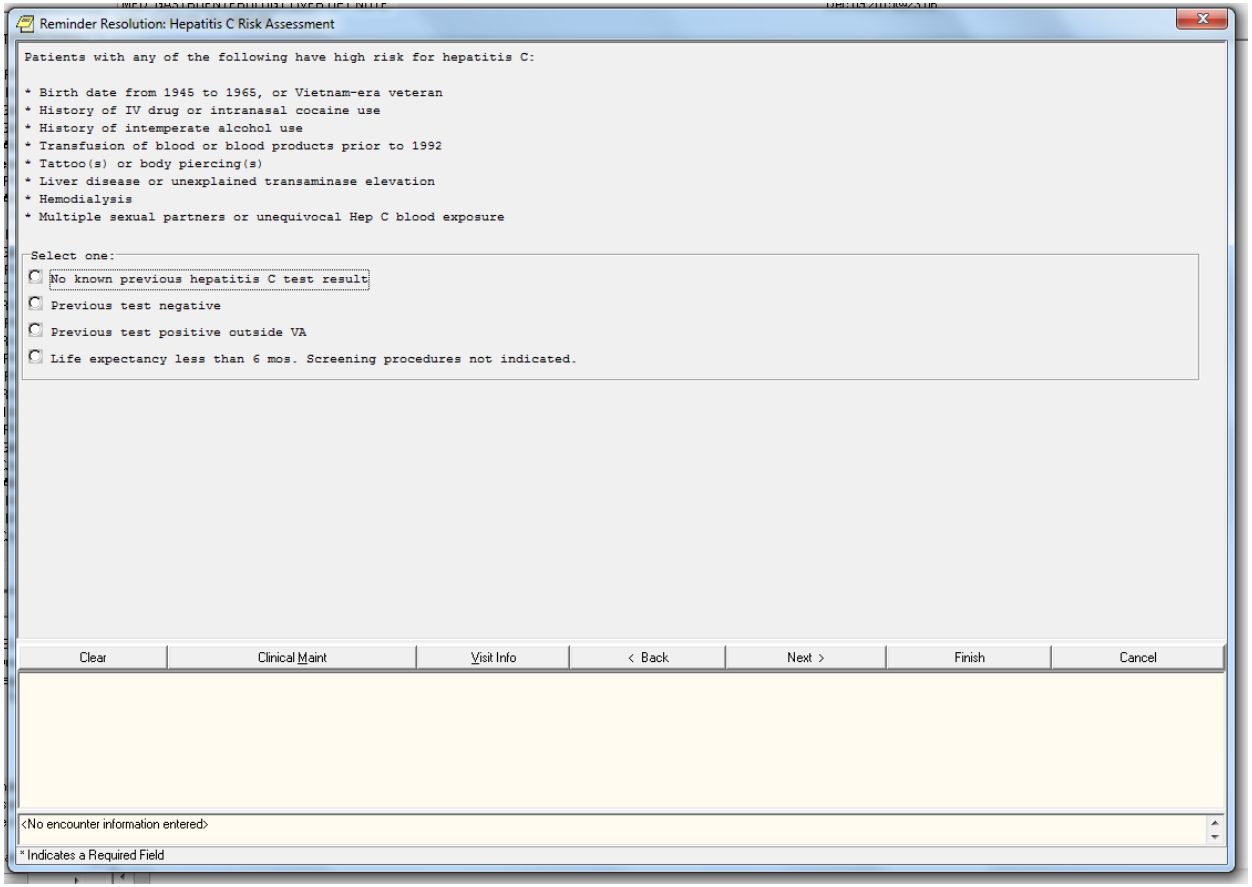
VISN 3 Hepatitis C Program

- VISN team created in 2002
- Co-leads: Late Dr. Edmund Bini (Manhattan VA)
  Dr. Norbert Bräu (Bronx VA)
  Dr. Ayse Aytaman (Brooklyn VA)
  Dr. Lesa Plitnick (VISN Pharmacy Benefits) (2014)

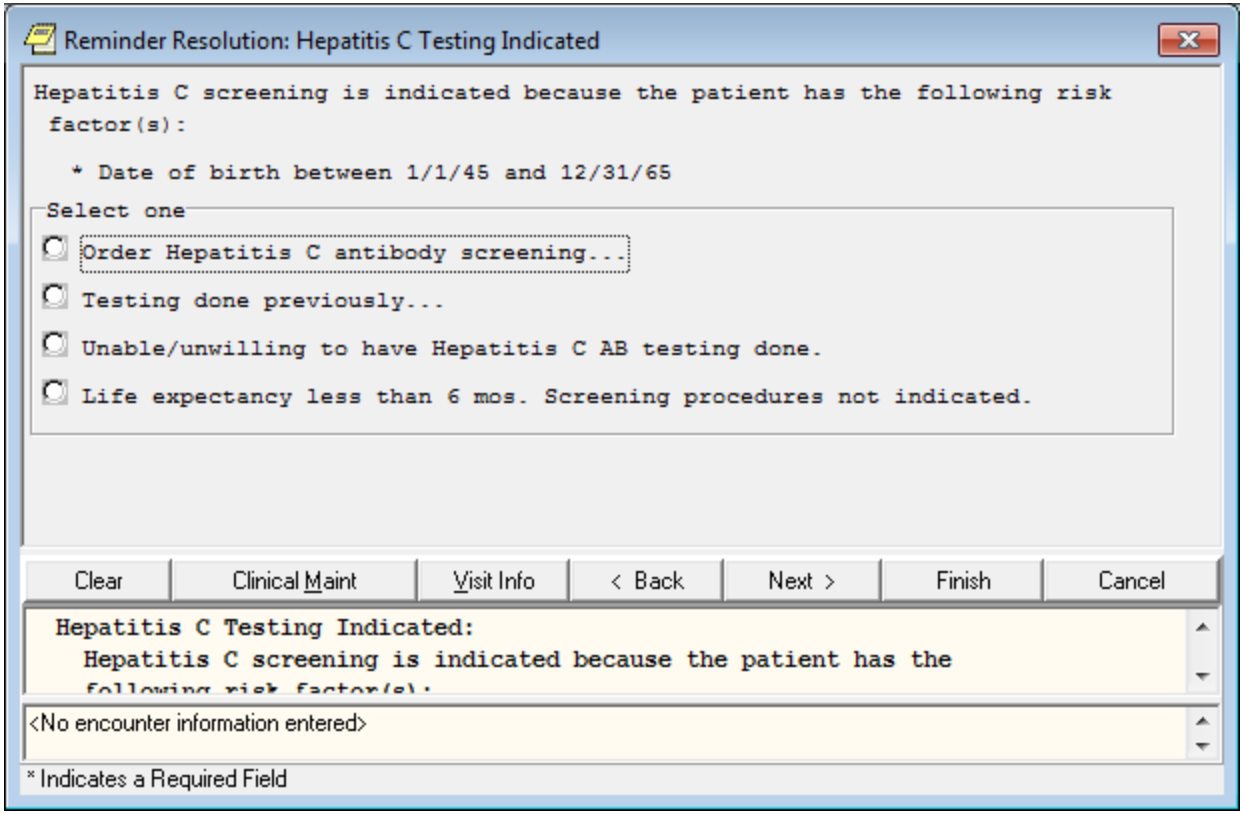
- **Risk based HCV screening reminder** established in EMR.

- **Reflex testing** established in 2005
  - (If HCV Ab ELISA is positive HCV RNA to be done automatically)

Hepatitis C Clinical Reminder: Risk Based Screening



Hepatitis C Clinical Reminder: Birth Cohort Testing (2014)



Creation of a Multi-Disciplinary Liver Team in Brooklyn

- A **multi-disciplinary team** was created **1997**
  - First multidisciplinary team of this detailed membership
  - It actually started in 1993 but became better organized in 1997
- Team included:
  - **Hepatology/GI attending**
  - **Hepatology NP**
  - **Liver PharmD**
  - **Liver psychology (case coordination to mental health)**
  - **Social work**
- Educational materials with team logo
- Support groups
- Specialty clinics initially called “Hepatitis C Clinic”
  changed to “Liver Clinic”

Why a Liver Psychology Team

Veterans with HCV have significantly higher rates of MH comorbidities:
Out of 293 patients being evaluated in Portland VA hepatology clinic:

SEEK AND YE SHALL FIND:

93% had current or past hx of 1 psychiatric disorder
81% depression
62% PTSD
58% any substance use disorder
20% bipolar disorder
17% other psychiatric disorders
35% had BDI-2 score >19 (moderate to severe depression)
21% AUDIT-C scores indicating current heavy ETOH use

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Hauser et al Clin Infec Dis.2005

At the Time of Team Creation 1997

- Hep C Ab positive patients
  54.5% have any alcohol code
  30.4% any cocaine code
  4
  2
- 8.1

High with

MOST VETERANS WERE NOT ELIGIBLE FOR INTERFERON BASED TREATMENTS DUE TO MENTAL HEALTH COMORBIDITIES

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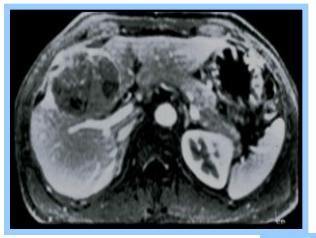
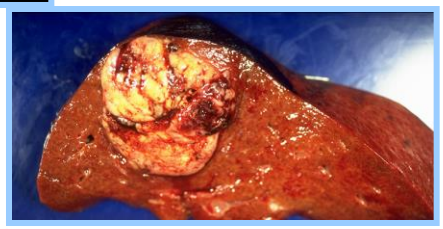
Creation of a VISN Wide Liver Cancer Team

- In 2012 recognizing that Liver cancer is one of the most rapidly increasing cause of cancer death nationally and in the VA we initiated with a grant from VA Public Health creation of the nation's first VISN (Veteran's Integrated Network) wide team.
- Liver cancer needs to be managed by multidisciplinary teams and treatments require highly specialized expertise, which is not available in every facility in our VISN.





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ACCESS

QUALITY

BEST PRACTICES

PATIENT CENTERED CARE

STANDARDIZATION

VIRTUAL MEDICINE

LEAN PROCESSES

Team Initiation

- Get “Buy In” from VISN Leadership:
    - Presentation to VISN COSs Council
- “Buy in” from members early.
    - Visit to every facility
- Even though the team is based strongly on telehealth face to face communication is crucial.
- Identify all key players in each facility who are part of the HCC care (diagnosis, treatment, care coordination, telehealth, IT), get their “Buy In” visiting every facility.
- Set up communication tools as soon as possible.

Stakeholder identification in each facility

- GI/Hepatology
- ID
- Primary care
- Oncologic Surgery
- Cancer registrars
- Radiology/interventional radiology
- Radiation Oncology
- Social Work
- Mental Health
- Telehealth coordinators
- Clinical Application Coordinators/IT
- Performance Improvement/system redesign

Creation of VISN Wide Liver Cancer team and SCAN ECHO Tumor Board

- **Nations first VISN wide virtual tumor board**
- This required:
  - VISN and facility leadership Buy-in
  - Creation of a team encompassing 6 VA facilities 5 with major university affiliations
  - Creation of a VISN wide network space and SharePoint
  - E-mail groups
  - Creation of Tumor Board templates
  - Creation of a web of telehealth clinics (**virtual SCAN ECHO**)
    - Specialty Care Access Network-Extension for Community Healthcare Outcomes
  - Inter-facility agreements
  - Standardization of all Liver protocol imaging across VISN 3
  - Introduction of Eovist MRI to all facilities
  - Timeliness and quality measures

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VISN 3 SYSTEM REDESIGN INITIAL STATE

The patient is found by PC to have a liver lesion on sono.

PC orders a contrast enhanced CT as suggested in the report and GI consult.

CT abdomen with and without contrast is done.

Patient comes to GI clinic. CT is not liver protocol and liver protocol triple phase is reordered.

CT with liver protocol is done.

The patient comes back to GI clinic.

GI puts in surgery and oncology consultations.

The patient goes to oncology and a biopsy is recommended and arranged with IR.

IR obtains biopsy.

Patient comes back to oncology and obtains the biopsy results.
DIAGNOSIS
Sent to surgery

The patient goes to surgery clinic. Told is not resectable due to portal HTN on imaging.

Patient back to oncology/GI/Hepatology: IR consultation for TACE/RFA

IR: TACE
FIRST TREATMENT

★ Blue star denotes patient visits to the hospital

VISN 3 CURRENT STATE

Lesion documented on imaging.

Alert to tumor tracker from PACS

Hepatic protocol imaging ordered via tracker or coordinator via phone.

REVIEW BY TUMOR BOARD: **DIAGNOSIS** TREATMENT PLAN

Patient is seen by provider. Diagnosis and treatment plan discussed, treatment ordered. STAGING ADVANCED DIRECTIVES

The patient comes in for **FIRST TREATMENT:** Surgery or IR or Palliative care

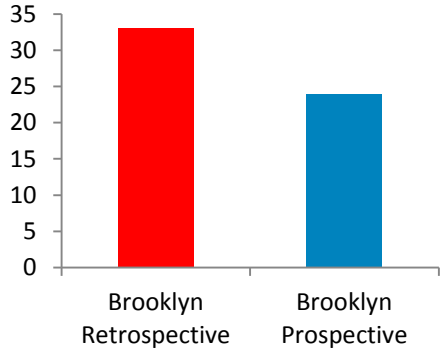
★ Blue star denotes patient visits to the hospital

Utilization of Lean Tools

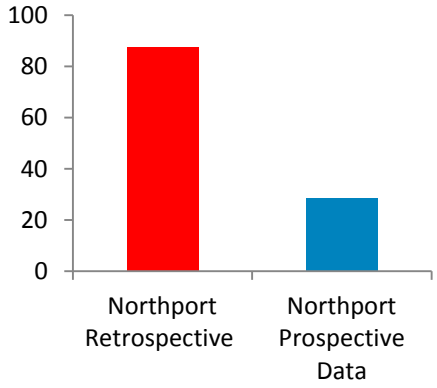
- Expedites progress
- Clarifies task allocations
- Makes timeline adherence easier
- Allows progress overview
- Especially useful in a system redesign project of this magnitude by breaking major tasks into smaller more doable projects.

Time from DX to TX

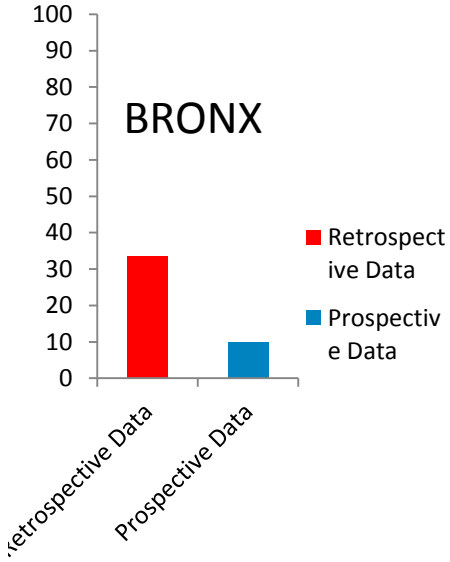
HARBOR



NORTHPORT

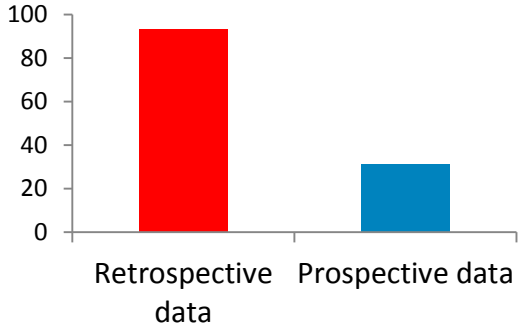


BRONX

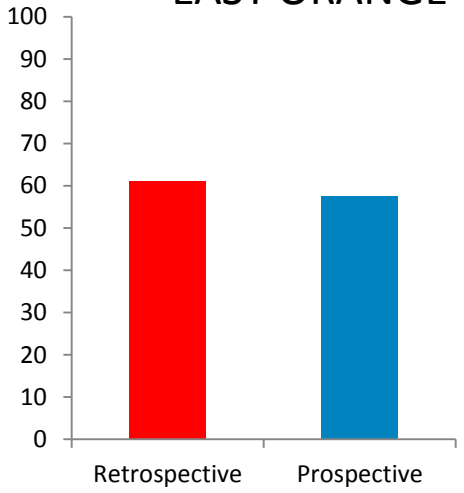


EVERY FACILITY ACHIEVED THE WITHIN 30 DAY GOAL EXCEPT ONE

HUDSON VALLEY



EAST ORANGE



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Tumor Tracker

Pilot site for the HCC Tumor tracker developed by West Haven VA

utilizing natural language processor:

Suspicious lesions will be
pulled out on a daily basis from PACS system,
reviewed and immediately presented
to the tumor board
to improve timeliness of care.

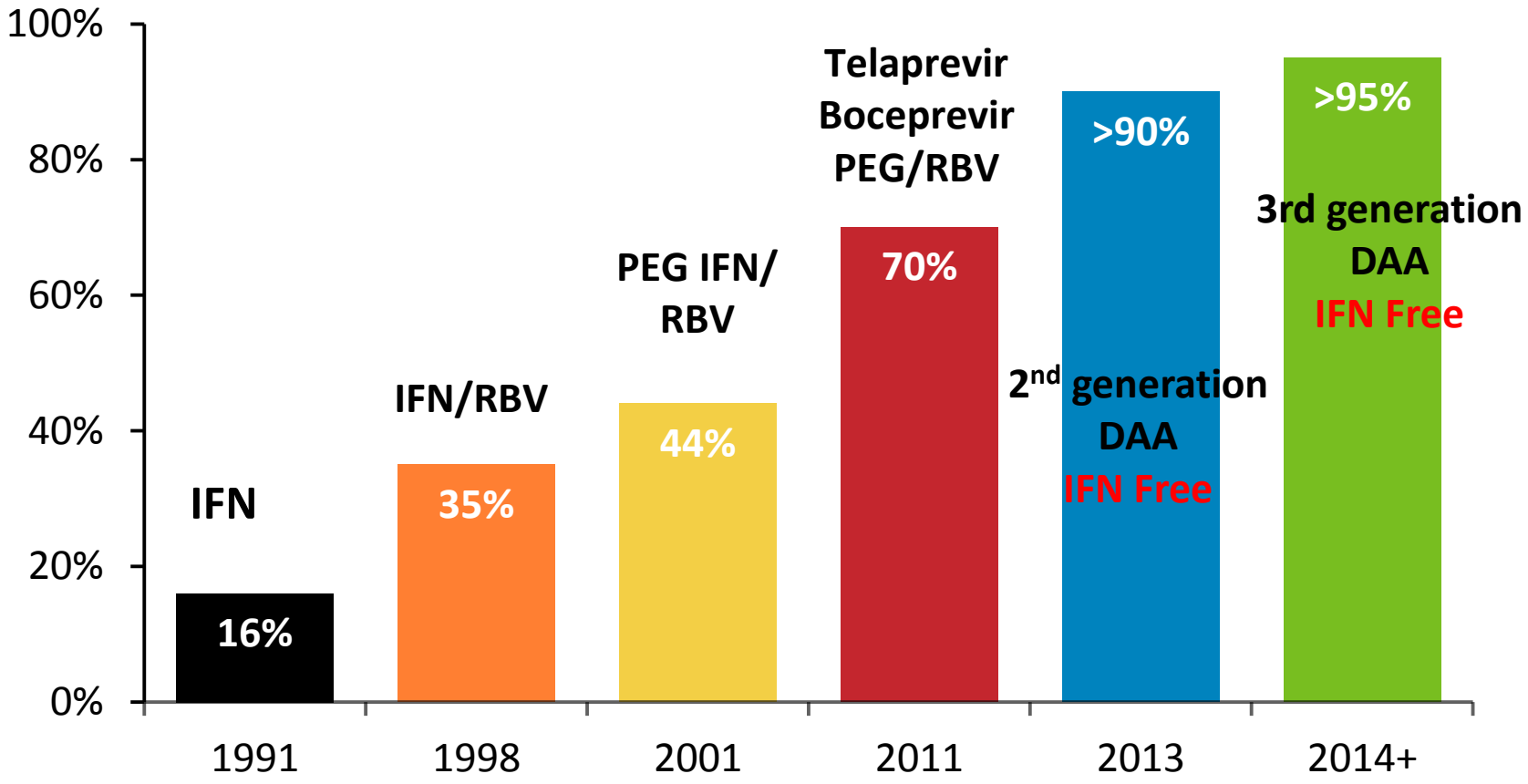
VISN 3 Liver Cancer Team

TEAM WAS CREATED BY HEAVY RELIANCE ON:

TURKISH DELIGHTS

CHOCOLATES

Changing Face of hepatitis C Therapy



Welcoming HCV Epidemic with Established Backbone of Liver Cancer Team: VISN 3 *He*patitis C Team

- The VISN 3 Liver Cancer team created the backbone of also VISN 3 Hepatitis C Team .

- Veterans , who were not eligible for interferon based treatments with significant mental health comorbidities , were now all eligible for hepatitis C antiviral therapy with direct acting antiviral treatments.

VA Public Health Organizing VHA For the HCV AVT in the New Era

- Nationwide face to face education/system redesign meeting with key HCV team members from every VISN
- Brainstorming sessions how to expand access with available manpower
- Creation of High Impact teams (HIT Teams)
- Funding of VISN HCV coordinators
- VISN HCV Dashboards, best practices with weekly V-tel/ Lync meetings for close communication and sharing of best practices

VA Cascade of HCV Care

Step 1: Number estimated with HCV infection

- detectable HCV RNA or genotype + estimated additional cases if RNA testing were performed on those with positive HCV antibody results without RNA testing + estimated additional cases if all unscreened Veterans were screened.

Step 2: Number diagnosed with HCV

- detectable HCV RNA or genotype

Step 3: Number linked to HCV care

- Veterans entered into the HCV CCR and with HCV entered on his/her problem list

Step 4: Number receiving antiviral treatment

- Received HCV antiviral medications from VHA at any time

Step 5: Number achieving SVR

- Veterans with an undetectable HCV RNA on at least one test 12 weeks or more after the end of treatment

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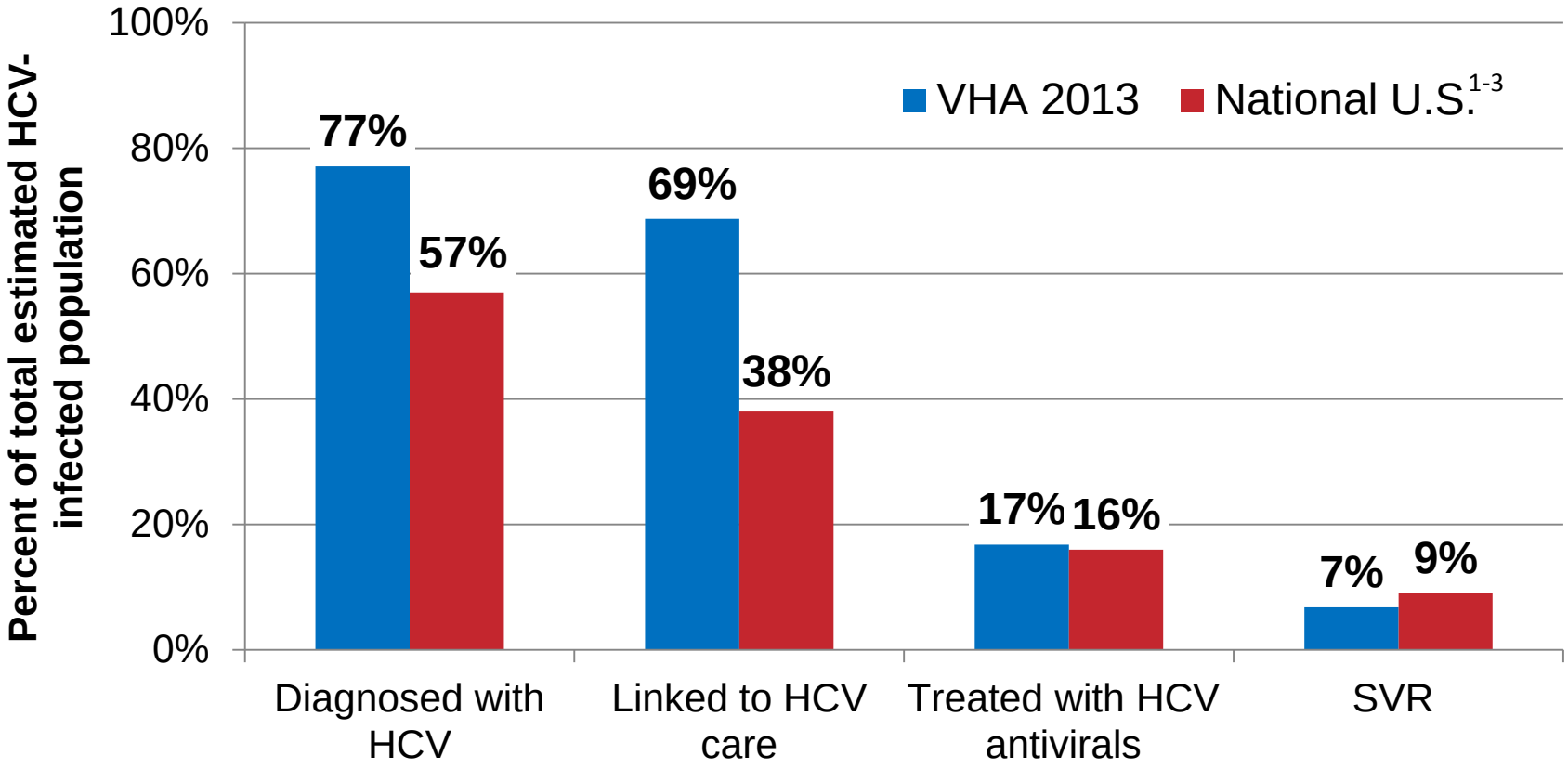
Maier M et al. AJPH (2015), Backus L et al Hepatology (2015)

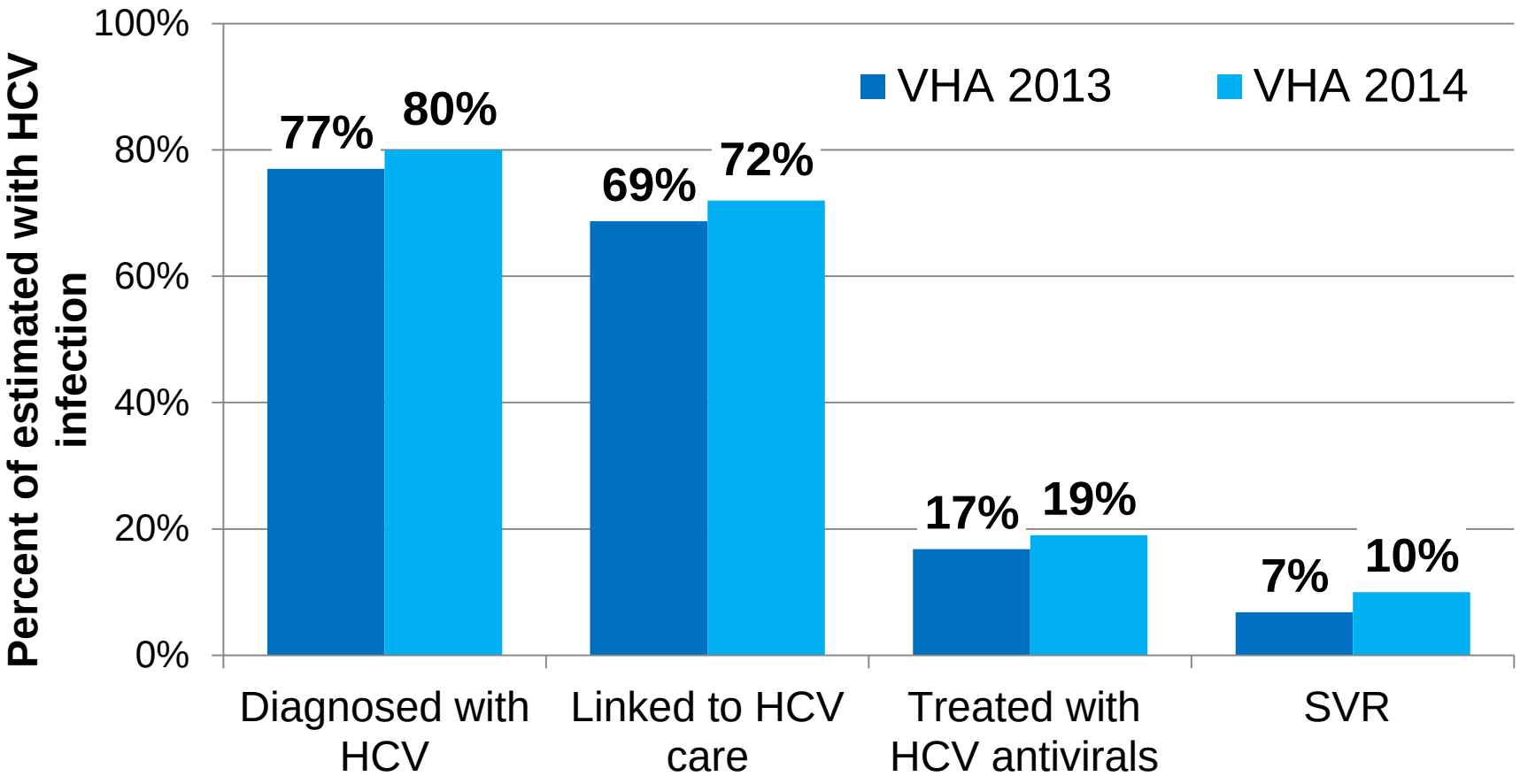
Cascade of HCV care within VA relative to US estimates: 2013



1. Spradling PR, et al. CID 2012;55:1047-55. 2. Holmberg SD, et al. NEJM 2013;368:1859-61. 3. Yehia BR, et al. PLoSONE 2014; 9:e101554.

Maier M et al. AJPH (2015)

HCV Care in 2013 and 2014



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Backus et al. Hepatology (2015)

Cascade of HCV care within VA : 2014

	Total	Percentage of Total	Percentage of prior step
Step 1: Estimated with HCV Infection	224,658	100.0%	
Step 2: Diagnosed with HCV infection	180,489	80.3%	80.3%
Step 3: Linked to HCV care	160,794	72.0%	89.7%
Step 4: Treated with HCV antivirals	43,544	19.4%	26.9%
Step 5: SVR achieved	22,159	9.9%	50.9%

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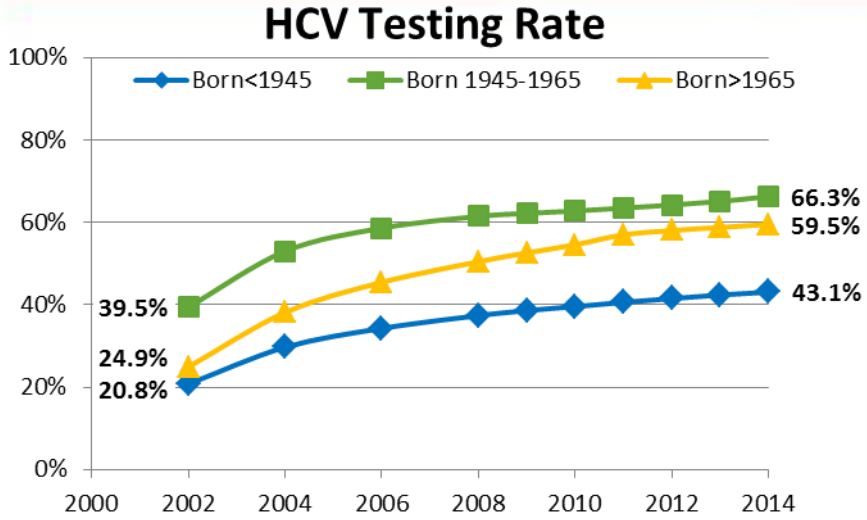
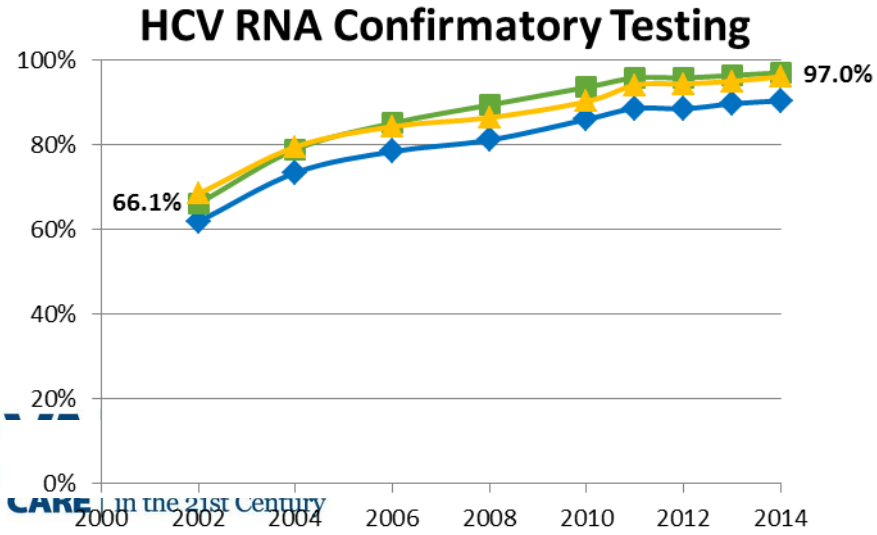
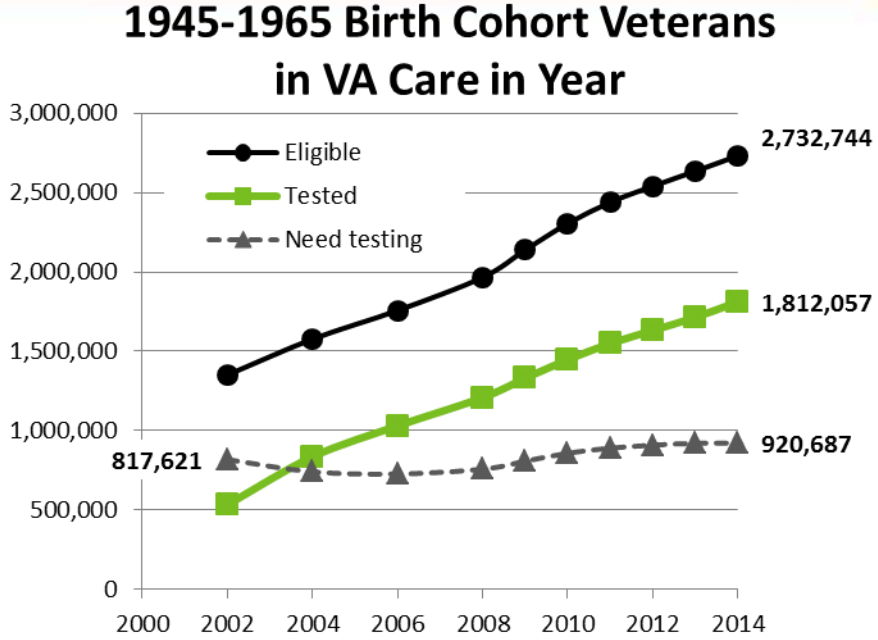
Backus et al. Hepatology (2015)

HCV Testing/HCV RNA Confirmatory Testing Rates 2002 – 2014 by Birth Cohort

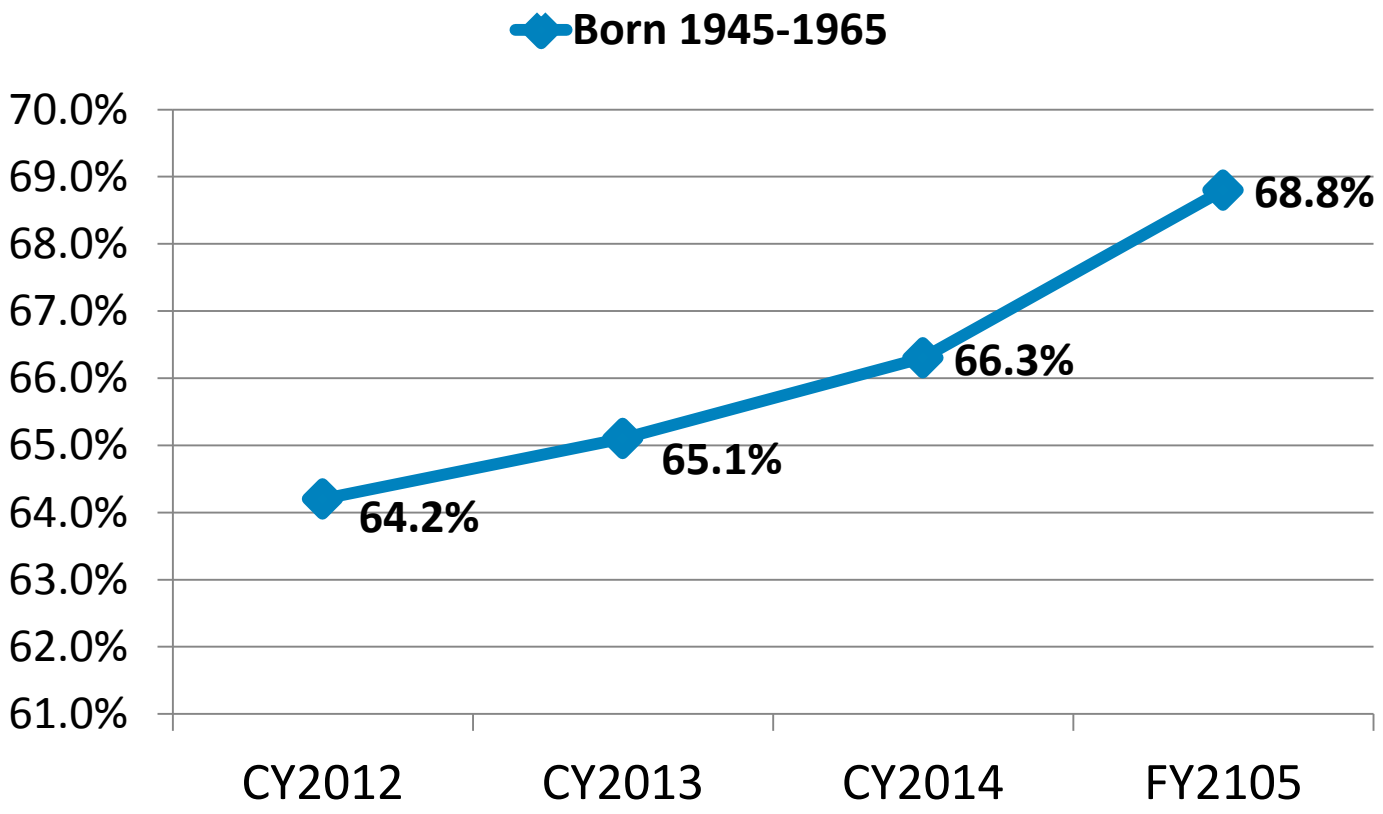






Based on observed VA HCV prevalence in sex and race/ethnicity strata, testing of all 920,687 who still need HCV testing would at the upper estimate identify 28,865 additional cases of HCV in Veterans in VA care.

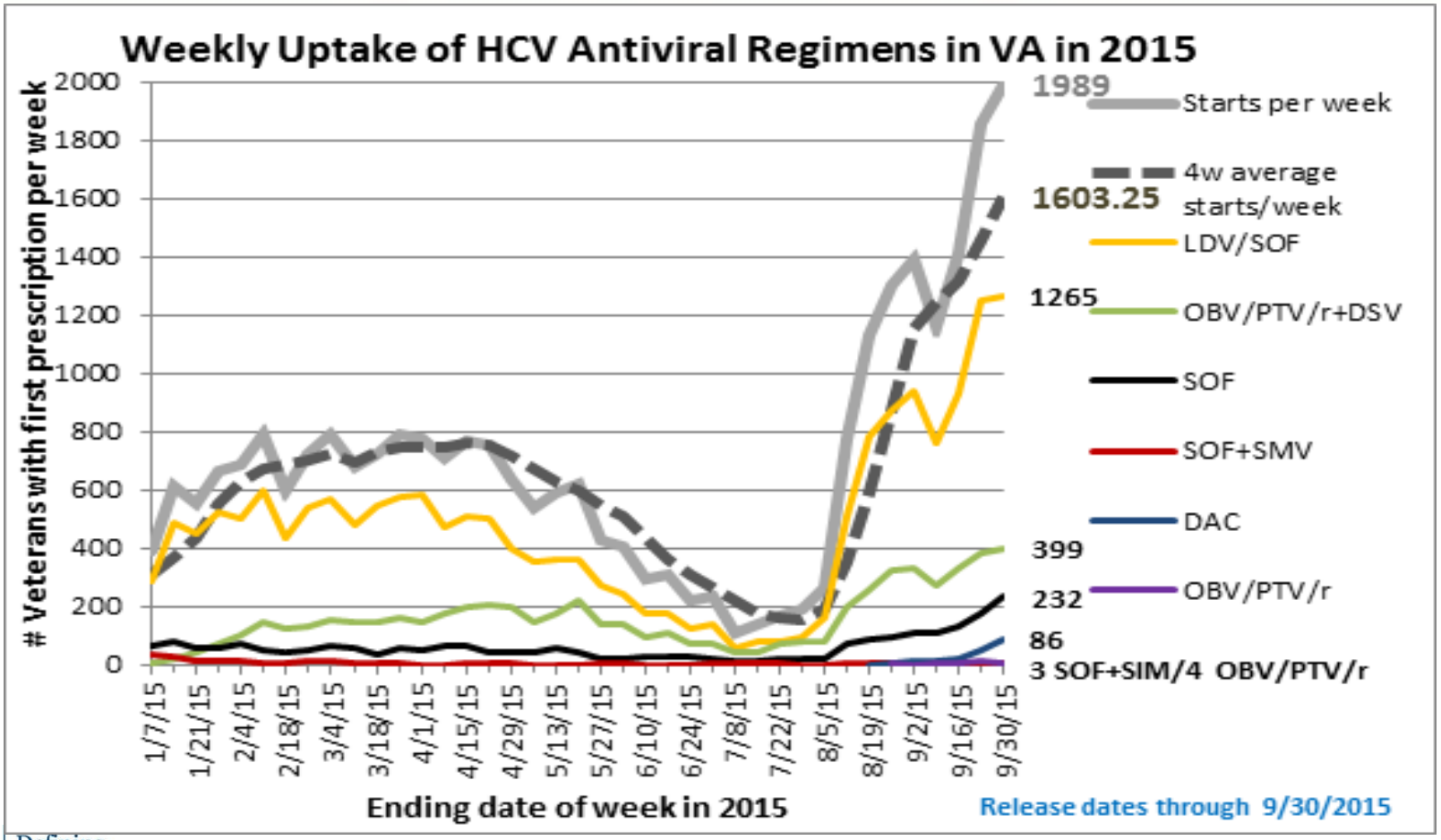
National HCV Birth Cohort Screening Rates 2012 – 2014



n (millions)	2.541		2.635	2.732
	2.779			

Source: CDW prepared by Population Health Services, Oct 2015

HCV Treatment Starts per Week: FY15



Source: Population Health Services HCV Clinical Case Registry

HCV Treatment in FY15: Summary

Total Veterans starting HCV treatment in FY15	30,293
Proportion treated with evidence of Advanced Liver Disease	36%
Veterans starting HCV treatment through Choice	643

Total Veterans started in ALL TIME through 12/31/2014 = 44,380

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Source: PopHealth HCV:CCR Oct 2015

How were we able to increase our capacity so fast so efficiently?

- Rapid reorganization
- Reevaluated our screening reminders (risk based and birth cohort), now set nationwide.
- Increased funding for lab for birth cohort screening related increase in reflex testing and HCV RNA
- HCV registry clean up with linkage of every HCV positive veteran to clinical teams by HCV registry coordinators
- Counseling, pretreatment evaluation
- Creation of tools (templates, order sets in CPRS for ease of evaluation)
- **Creation of "Mini Sabbatical Programs" for Primary care Pharm D, NP, PA for provider expansion.**
- Creation of VISN wide dashboards to identify the high risk patients in immediate need of care and targeting them preferentially

Guidance documents/Education

- Constant Updates to VA HCV Antiviral Therapy Guidance Documents
- Monthly education seminars
- SCAN ECHO Educational seminars monthly in addition to national ones for local VISN team.
- SCAN ECHO Program offers expert help constantly to providers on the field with questions:
  - Case presentations with detailed review of questions (evidence based)
  - Addition of didactic part to the programs increases the educational impact.
- Connected via VA outlook for rapid response to your questions with multiple experts at your fingertip.

HCV Infected Veterans in VA Care estimated to be awaiting HCV treatment: FY16

	Veterans with HCV viremia awaiting HCV antivirals as of 10/01/15*
Total	119,629
Non-ALD (FIB4<3.25)	93,190
ALD (FIB4>3.25)	26,439

*this is a fluid number as new patients will be entering the system (i.e. new transfers to VA, increase in new diagnoses as people are tested, retreatment) and existing patients will leave the system or die

ALD = advanced liver disease

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Source: Report Rpt149, version 1.3, prepared by Population Health Group Staff using data extracted from CCR Development on 10/02/2015-18:42

VETERANS CHOICE PROGRAM

- **Congress created this program initially for veterans:**
  - **who were living over 40 miles from the closest VA facility**
  - **If they had to wait for more than 30 days for care**

- Program now being **expanded** to care that is not available in the VA due to funding cuts (hepatitis C).

- Bulk of HCV funding now is in Veteran's CHOICE program.

- VA facilities will be able to treat the **advanced liver disease, complex , high risk** patients in house and refer the early stage fibrosis patients to community veterans CHOICE providers.

VETERANS CHOICE PROGRAM

1) VA HCV provider evaluates the patient:
    1) Screening
    2) Reflex testing
    3) Linkage to care/ Counseling
    4) Pretreatment evaluation
    5) Recommendation of the treatment regimen
    6) Evaluation of drug-drug interactions
    7) HIPPAA consent form the patient for release of information
2) Creates a HCV CHOICE referral consult:
3) Consult is approved by VA and HealthNet (contract provider)
4) The patient opts in to CHOICE program
5) Given a local provider appointment

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VETERANS CHOICE PROGRAM

6) Patient is seen by the outside provider and is given a prescription for AVT.
7) Patient returns to VA pharmacy to get the medication filled.
8) VA pharm D reevaluates the patient and does also counseling on compliance.
9) Patient receives his medications via VA pharmacy.
10) Follow up by outside provider till treatment completion.
11) Returns back to the VA team.
12) VA pharmacy eventually gets reimbursed by the HealthNet.

VETERANS CHOICE PROGRAM

- Community providers will be seeing more and more veterans.
- We are trying to create a quality provider network for our veterans.
- This process might expand VA expertise to the providers in the community via close communication.

SUMMARY

- VHA is the leader in hepatitis C care nationwide.
- Our screening rates surpass the rest of the national numbers significantly thanks to electronic reminders.
- With the aid of our clinical care registry for hepatitis C we are able to identify the screen positive veterans immediately and link them to counseling /hepatology/ ID/ PC clinics.
- Antiviral therapy provider pool is expanded by very well trained pharm D, NP, PA and interested primacy care providers.

SUMMARY cont.

- Virtual telemedicine, SCAN ECHO/telehealth tools widely available in the VA system aid in spread of knowledge and bring the experts to the providers in rural areas with ease.

- We were able to treat last year over 30,000 veterans whereas in all prior years total number of veterans with any antiviral therapy was 44,000.

SUMMARY cont.

- Electronic clinical reminders with enhanced primary provider education can improve detection rates.
- Registry or dashboards are crucial in tracking the identified patients and for linkage to care and treatments.
- Reflex testing has improved timelines of diagnosis and is easy to set up by creating an order menu.
- With constantly evolving landscape of treatment options easy access to expert care is crucial in making the most effective and also cost efficient choices.

HEPATITIS C CURE

AND ELIMINATION

IN THE VERY NEAR FUTURE

IS A REALITY NOW.