

# **AN ADVANCED MODEL TO ROUTINIZE HEPATITIS C TESTING AND LINKAGE TO CARE FOR HOMELESS PATIENTS IN PHILADELPHIA, PENNSYLVANIA**

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National Healthcare for the Homeless Council

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# Disclosures

- Presenters have no disclosures to report

# NNCC Background

- National Nursing Centers Consortium (NNCC)
  - PHMC affiliate
  - Advances nurse-led care through technical assistance and capacity building nationally
  - CDC and Gilead-grantee for the project



- Public Health Management Corporation (PHMC):
  - Public health institute located in Philadelphia
  - Runs 5 Federally Qualified Health Centers
    - Joint Commission accredited for Ambulatory Care and Patient-Centered Medical Home
    - NCQA recognized Patient-Centered Medical Home, level 2

# BACKGROUND AND DEMOGRAPHICS

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# HCV in the US

- Approximately 3 million (0.8%-1.2%) persons in the US are currently infected in HCV
- Baby boomers (1945-1965)
  - Fivefold higher risk of infection
  - 75% of all actively infected HCV cases
  - Likely infected in 1970s-1980s enough time to progress to liver disease, cirrhosis, etc.
- African Americans
  - Twice as likely than whites to be infected
  - Count for 22% of currently infected cases

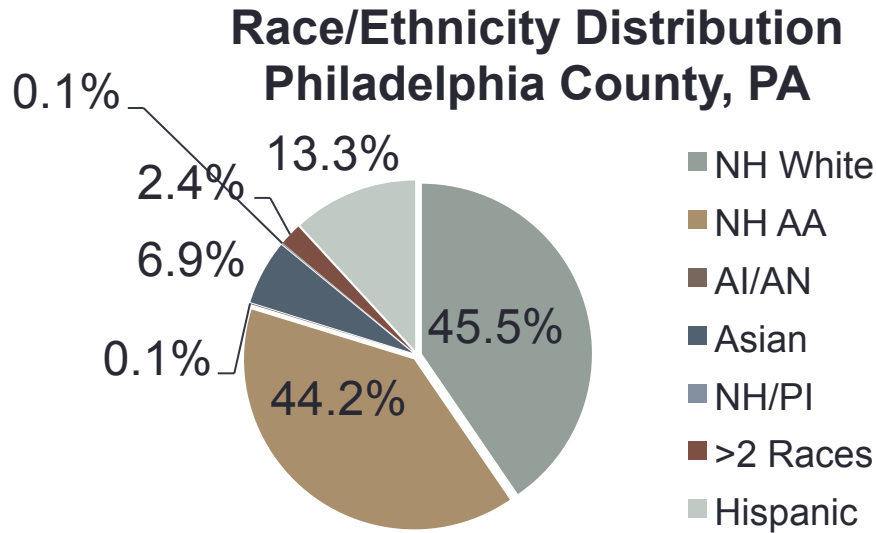
# HCV in the US

- Public Health Implications
  - Of infected 60%-70% progress to chronic liver disease
  - 5%-20% develop cirrhosis
  - 1%-5% will die from chronic infection
  - Leading indication of transplantation in the US
- Newest high-risk group
  - Young (18-34 years old)
  - White
  - Male
  - Start as oral opioid user then transitions to IDU
  - Rural

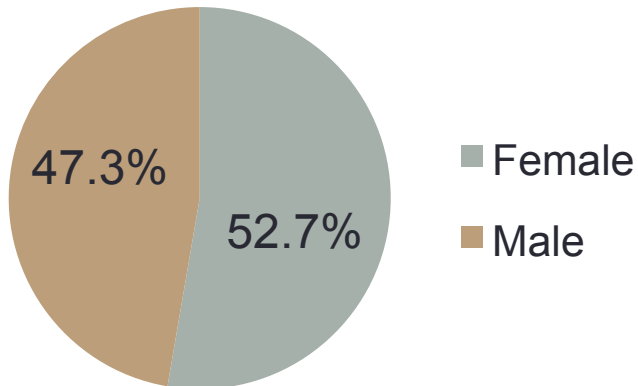
# Prevalence Among Homeless in U.S.

- Seroprevalence ranges 13%-52%
- Modes of transmission
  - Sharing IDU paraphernalia
  - High rates due to risk factors not commonly seen in general population
    - Sharing razors or toothbrushes

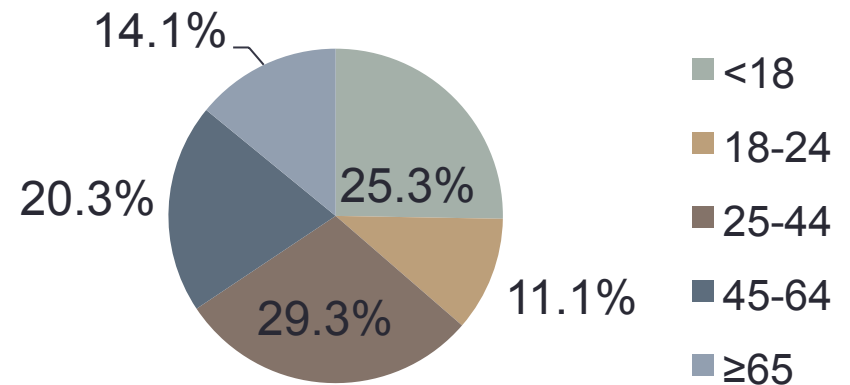
# Demographics of Philly



### Gender Distribution Philadelphia County, PA

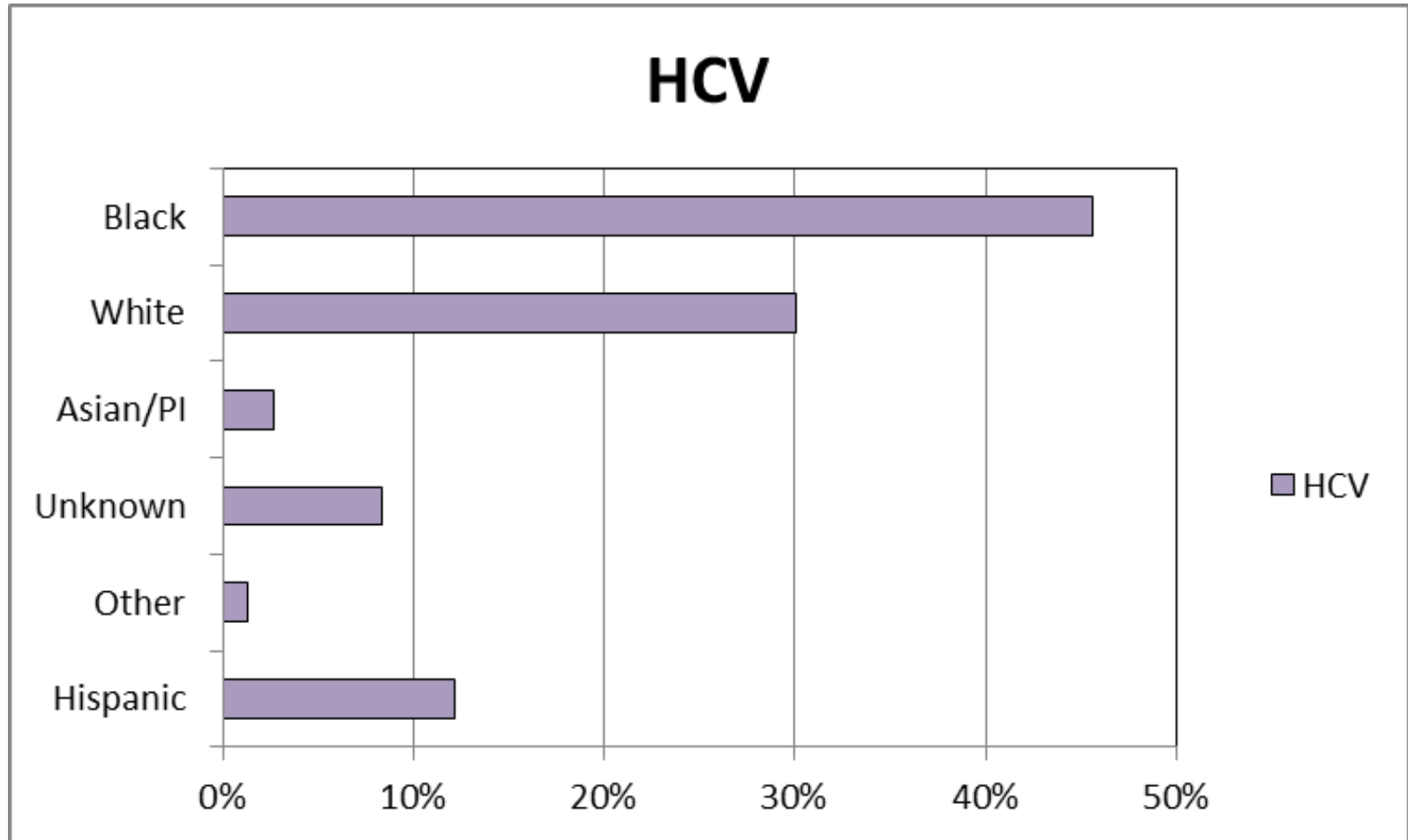


### Age Distribution Philadelphia County, PA

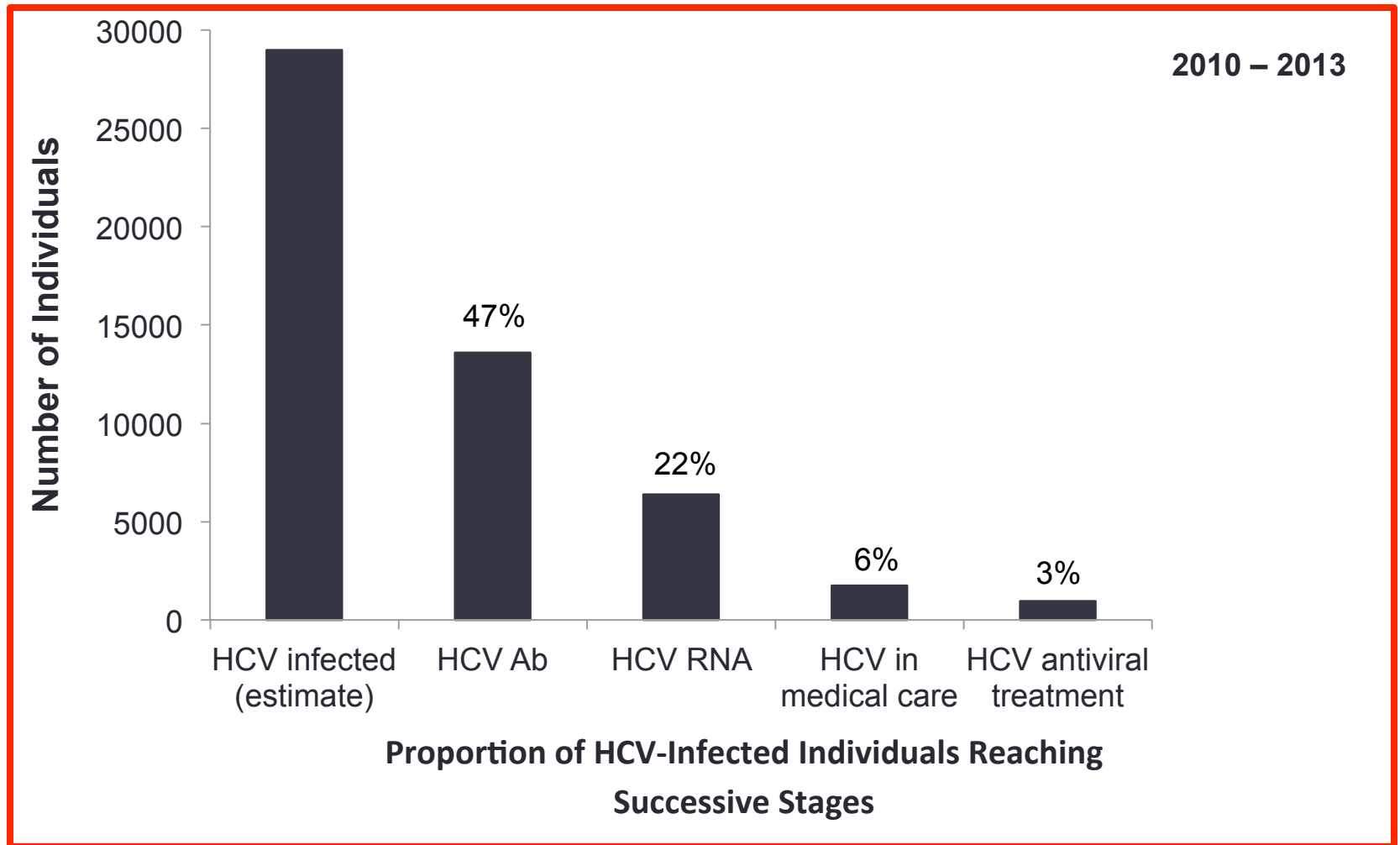




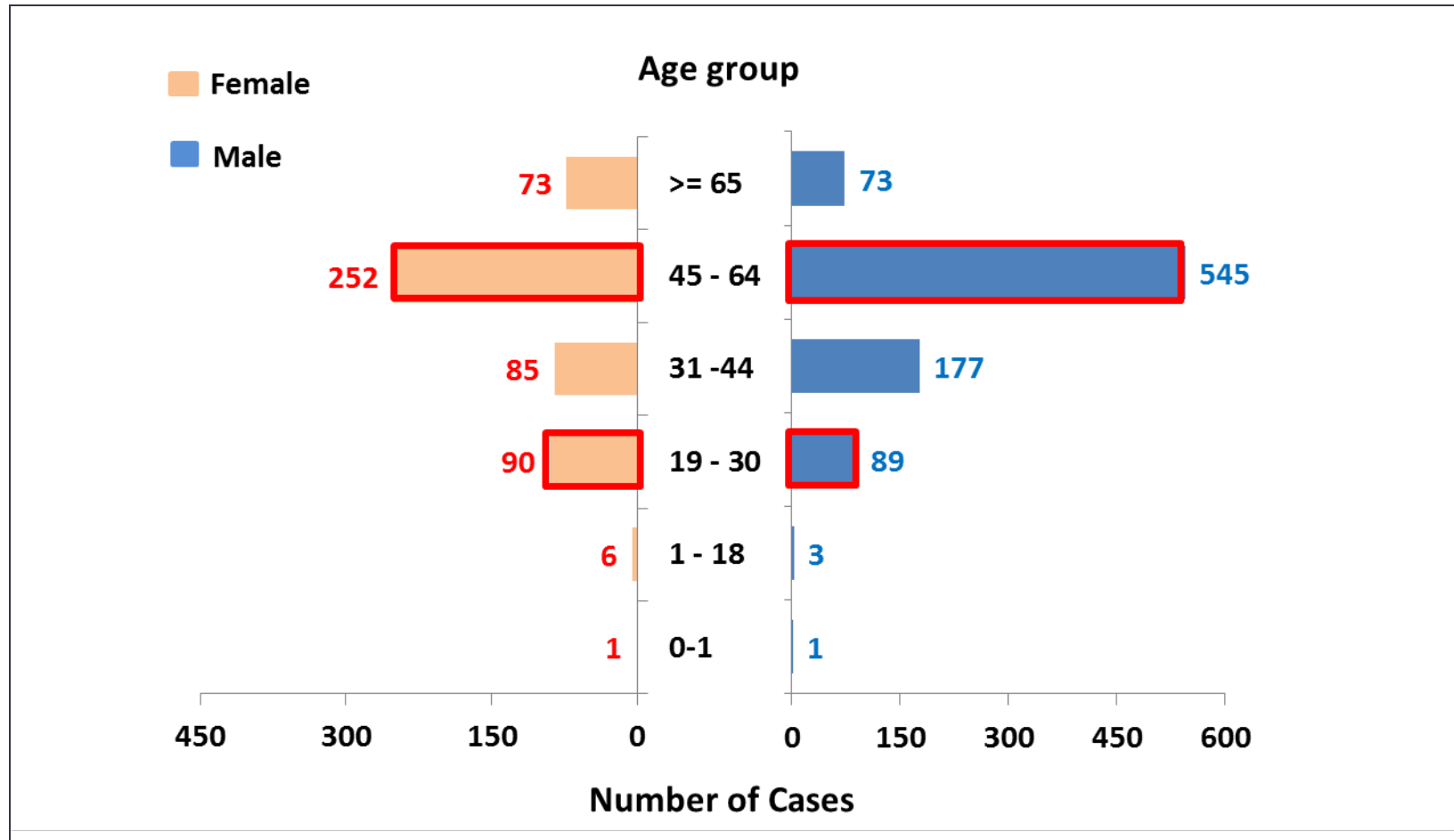
# Investigated HCV cases by race: Philadelphia, 2013-2014



# Care Cascade in Philadelphia

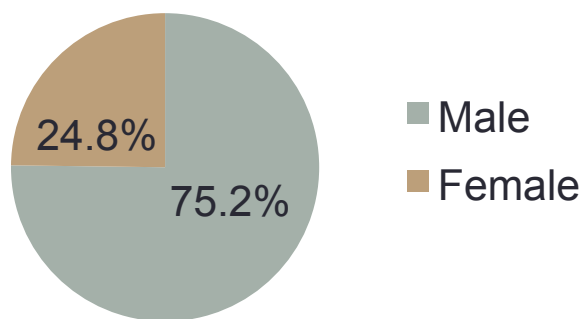


# Investigated HCV cases by age and gender: Philadelphia, 2013-2014

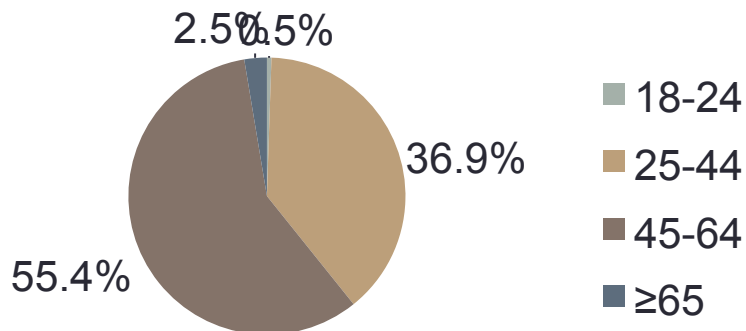


# Demographics of Mary Howard

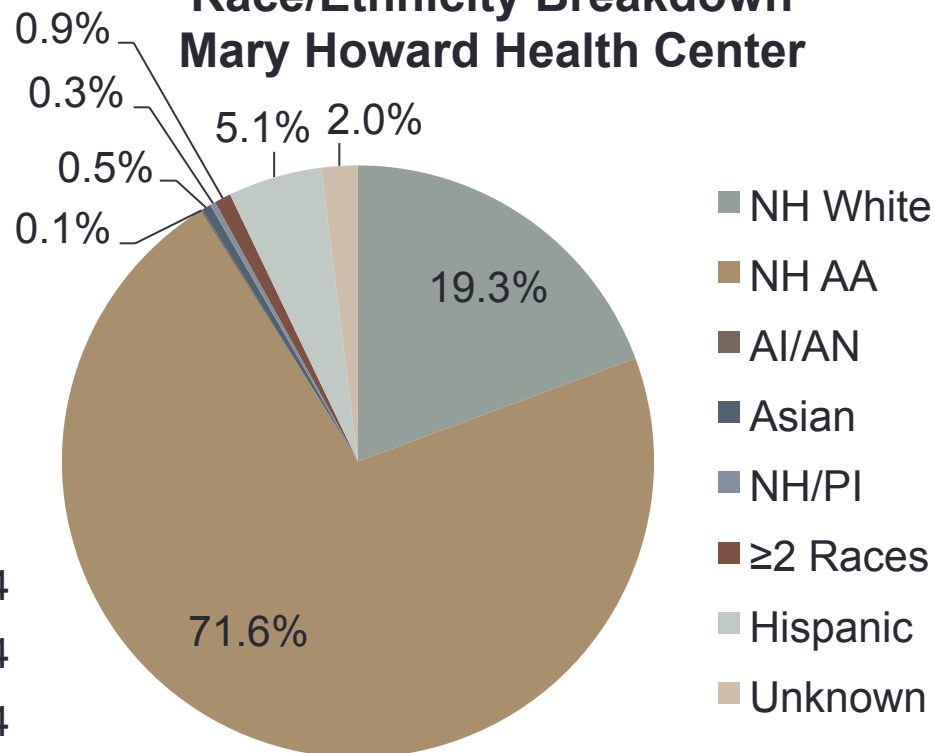
## Gender Distribution Mary Howard Health Center



## Age Distribution Mary Howard Health Center



## Race/Ethnicity Breakdown Mary Howard Health Center



# THE MODEL

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# The Model


- Routine HCV testing
  - Medical Assistant initiated
  - Opt-out
  - One-time testing on all patients  $\geq 18$  years old, without an HCV diagnosis; subsequent risk-based
- Laboratory-based reflex testing
  - HCV antibody screen with reflex to confirmatory HCV RNA
- Linkage to Care Coordinator
  - Helps transition from primary to specialist care
  - Able to provide patient escorts, tokens, helps address simple social barriers

# The Model: EMR modifications

- Prompt testing and linkage services
  - Project progress and patient tracking
  - Report to funders
  - Templates to collect discrete data
  - Results Summary for HCV antibody, RNA and genotype
- Facilitate payment for HCV tests performed on uninsured patients
    - Separate account to perform tests on uninsured patients added to EMR
    - Invoice with HCV tests sent to project manager and paid with grant funding

# Testing Protocol

- MA initiates testing during vitals
- Patient agrees to test
  - Standing orders for MA
    - Order HCV Ab w/ Reflex to Quant RNA, Real-Time PCR
  - Results back in 2-4 days
  - Performed by Quest Diagnostics and Labcorp
    - Upload test results into patient chart
    - Abnormal results highlighted in red

	HIV-1/2 Antigen and Antibodies, Fou...	Reviewed	Collect: 11/11/2013 12:39 PM	Req:	Rising Sun Health Center
	Hepatitis C Antibody With Reflex to ...	Reviewed	Collect: 11/11/2013 12:38 PM	Req:	Rising Sun Health Center
	HCV RNA, QUANTITATIVE REAL TIM...	Reviewed	Collect: 11/11/2013 12:38 PM		(unspecified)



# Billing and Reimbursement Protocol

- Uninsured lab work
  - Run through Quest Diagnostics
    - Chronic uninsured patient: \$60
      - HCV Antibody Test: \$9.98
      - Quantitative RNA Confirmatory Test: \$50.02
- Uninsured labs billed to “Hep C Project” account
  - Facilitates billing
  - Quest Diagnostics invoice comes to project manager

# Results Disclosure Protocol

- Test Results
  - Negative
    - Follow health center policy – given at next appointment
  - Positive
    - Not given over the phone
      - Health center staff member inform patient they need to come in to discuss lab results

# Follow-Up

- Referred to Linkage to Care Coordinator by provider or RN
- On-site services for currently infected patients
  - Referral coordinator
  - Social worker
- Off-site services for currently infected patients
  - Monthly support group
  - Biweekly education classes

# Insurance Status

- If insured
  - Referred to medical specialist
    - Academic Medical Center
    - PHMC Care Clinic
    - Research project
- If uninsured
  - Referred to on-site Social Worker and Certified Application Counselor to start insurance application
  - Referred to medical specialist, once insured

# Linkage to Care Coordinator

- Contacted by health center directly
- Gets weekly list of positive HCV tests from Project Manager
- Tracks all patients with positive HCV tests starting 10/1/2012
- Responsibilities
  - Notify providers of patients that were no show or have not scheduled follow-up appointments
  - Calls patients that are no shows
  - Aids in rescheduling
  - Identifies and addresses barriers for patient
  - Determines if patients are lost to care and why
    - Emergency contact
    - Field visit

# Linkage to Care Services

- Patient escort to appointment to receive results and first 2 medical specialist appointments
- Transportation services
  - Tokens
  - Cab vouchers
- Translation services
  - Bilingual English and Spanish
  - Arrange translation services at visit

# Mid-Course Adjustments

- September 1, 2013
  - Added HIV testing
  - Changed standing orders to bundle dual HIV/HCV model

# STEPS FOR IMPLEMENTATION

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# Institutional Policy Change

- Changing dynamic from reactive medicine to proactive
  - Buy-in early from *all* health center staff

# Integrated Testing Model

- Decreases the amount of added work for the health center staff
  - Input from all positions at the health center
    - Provider versus MA initiated testing
  - Analyze patient flow to develop protocol
    - When are labs drawn?
- Service integration at point of access: bundle tests and services
  - Increases likelihood that patient will agree to testing if only need to get labs drawn once
- Be willing to change
  - Adjusting protocol to meet the specific patient population

# Provider Training

- Initial training
  - Disease etiology and epidemiology
    - Lab results
    - Which patients to refer
    - Risk factors
  - Important for Medical Assistants as providers
- Project specific training
  - For entire health center- protocol affects all health center staff
  - Medical Assistants- what is opt-out testing
- Provider continuing education
  - Peer-to-peer education
  - Updates on research, new treatments, new guidelines

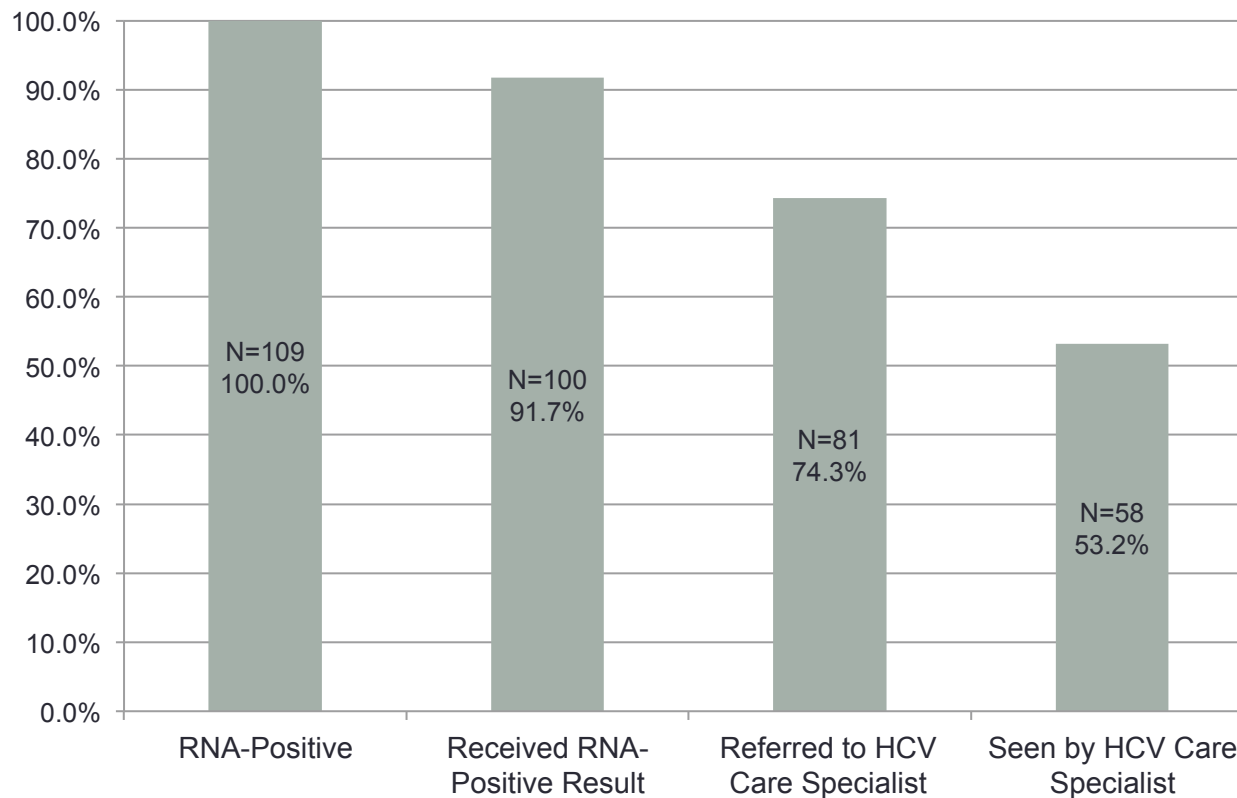
# RESULTS

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# Results

- October 1, 2012-July 31, 2014
  - 1,079 tests performed
  - 159 HCV-antibody positive (14.7%)
    - 98 new cases (9.1%)
  - 146 RNA test (91.8%)
  - 109 currently infected (74.7%)
    - 10.1% overall prevalence

# HCV Care Cascade for Currently Infected Patients Mary Howard Health Center October 2012-July 2014

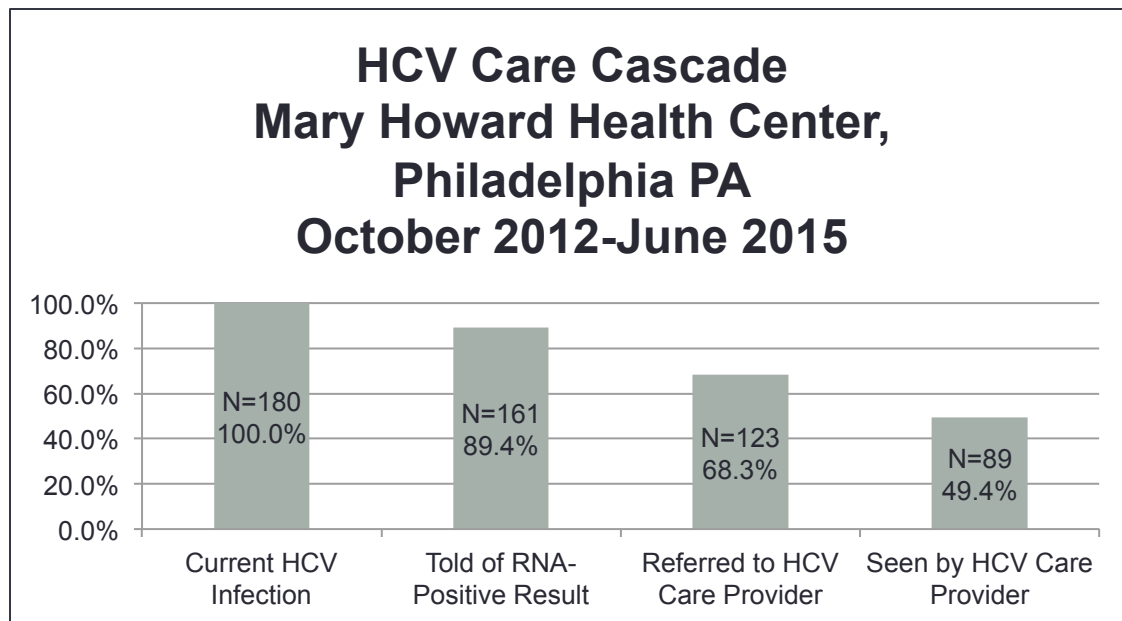


## Number, percentage and prevalence of patients HCV tested, antibody-positive and with current infection

Characteristic	Tested		Antibody-Positive			Currently Infected		
	No.	%	No.	%	Prevalence (%)	No.	%	Prevalence (%)
Total	1079	100	159	100	14.7%	109	100	10.1%
Gender								
Male	813	75.3%	121	76.1%	14.9%	90	82.6%	11.1%
Female	266	24.7%	38	23.9%	14.3%	19	17.4%	7.1%
Age Distribution								
18-24	32	3.0%	4	2.5%	12.5%	3	2.8%	9.4%
25-44	357	33.1%	37	23.3%	10.4%	22	20.2%	6.2%
45-64	652	60.4%	111	69.8%	17.0%	78	71.6%	12.0%
≥65	38	3.5%	7	4.4%	18.4%	6	5.5%	15.8%
Race/Ethnicity								
NH White	185	17.1%	48	30.2%	25.9%	31	28.4%	16.8%
NH AA	782	72.5%	93	58.5%	11.9%	66	60.6%	8.4%
Hispanic	71	6.6%	15	9.4%	21.1%	10	9.2%	14.1%
Other	41	3.8%	3	1.9%	7.3%	3	2.8%	7.3%

# Updated Results

- October 2012-September 2015
- 2,395 HCV-antibody tests performed
- 275 HCV-antibody positives tests (11.5% seropositivity)
  - 262 (95.3%) received HCV-RNA confirmatory testing
- 191 (72.9%) found with current HCV infection (overall prevalence=8.0%)





# CONCLUSION

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# Lessons Learned

- HCV testing in the homeless community is needed
- This model improved identification and subsequent linkage to specialists for medical evaluation
- Social barriers are the most common cause for delay in referral and medical evaluation
- Increasing the number of primary care providers serving homeless patients who are able to treat will improve linkage to care results and ultimately health outcomes