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

Catelyn Coyle & Kara Cohen
National Healthcare for the Homeless Council
Regional Meeting
Philadelphia, PA
October 16, 2015
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
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
- Female: 52.7%
- Male: 47.3%

Race/Ethnicity Distribution
Philadelphia County, PA
- NH White: 45.5%
- NH AA: 13.3%
- AI/AN: 6.9%
- Asian: 0.1%
- NH/PI: 0.1%
- >2 Races: 2.4%
- Hispanic: 11.1%

Age Distribution
Philadelphia County, PA
- <18: 25.3%
- 18-24: 29.3%
- 25-44: 20.3%
- 45-64: 14.1%
- ≥65: 11.1%
Investigated HCV cases by race: Philadelphia, 2013-2014
Care Cascade in Philadelphia

Proportion of HCV-Infected Individuals Reaching Successive Stages

- HCV infected (estimate)
- HCV Ab: 47%
- HCV RNA: 22%
- HCV in medical care: 6%
- HCV antiviral treatment: 3%

2010 – 2013
Investigated HCV cases by age and gender: Philadelphia, 2013-2014

- **Female**
  - 0-1: 1
  - 1-18: 6
  - 19-30: 90
  - 31-44: 85
  - 45-64: 252
  - >= 65: 73

- **Male**
  - 0-1: 1
  - 1-18: 3
  - 19-30: 89
  - 31-44: 177
  - 45-64: 545
  - >= 65: 73
Demographics of Mary Howard

**Gender Distribution**
Mary Howard Health Center

- Male: 24.8%
- Female: 75.2%

**Age Distribution**
Mary Howard Health Center

- 18-24: 2.5%
- 25-44: 36.9%
- 45-64: 55.4%
- ≥65: 5%

**Race/Ethnicity Breakdown**
Mary Howard Health Center

- NH White: 71.6%
- NH AA: 19.3%
- AI/AN: 0.1%
- Asian: 0.3%
- NH/PI: 0.9%
- ≥2 Races: 0.5%
- Hispanic: 0.5%
- Unknown: 2.0%
THE MODEL
The Model

• Routine HCV testing
  • Medical Assistant initiated
  • Opt-out
  • One-time testing on all patients ≥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
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
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
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

- RNA-Positive: 109 (100.0%)
- Received RNA-Positive Result: 100 (91.7%)
- Referred to HCV Care Specialist: 81 (74.3%)
- Seen by HCV Care Specialist: 58 (53.2%)
### Number, percentage and prevalence of patients HCV tested, antibody-positive and with current infection

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Tested</th>
<th>Antibody-Positive</th>
<th>Currently Infected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Total</td>
<td>1079</td>
<td>100</td>
<td>159</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>813</td>
<td>75.3%</td>
<td>121</td>
</tr>
<tr>
<td>Female</td>
<td>266</td>
<td>24.7%</td>
<td>38</td>
</tr>
<tr>
<td>Age Distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>32</td>
<td>3.0%</td>
<td>4</td>
</tr>
<tr>
<td>25-44</td>
<td>357</td>
<td>33.1%</td>
<td>37</td>
</tr>
<tr>
<td>45-64</td>
<td>652</td>
<td>60.4%</td>
<td>111</td>
</tr>
<tr>
<td>≥65</td>
<td>38</td>
<td>3.5%</td>
<td>7</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH White</td>
<td>185</td>
<td>17.1%</td>
<td>48</td>
</tr>
<tr>
<td>NH AA</td>
<td>782</td>
<td>72.5%</td>
<td>93</td>
</tr>
<tr>
<td>Hispanic</td>
<td>71</td>
<td>6.6%</td>
<td>15</td>
</tr>
<tr>
<td>Other</td>
<td>41</td>
<td>3.8%</td>
<td>3</td>
</tr>
</tbody>
</table>
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%)

HCV Care Cascade
Mary Howard Health Center, Philadelphia PA
October 2012-June 2015

- Current HCV Infection: N=180 (100.0%)
- Told of RNA-Positive Result: N=161 (89.4%)
- Referred to HCV Care Provider: N=123 (68.3%)
- Seen by HCV Care Provider: N=89 (49.4%)
CONCLUSION
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