Liver Let Die:
Hepatitis C Treatment in Incarcerated Populations

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Disclosures

- I have no financial disclosures
Objectives

- Be knowledgeable about correctional health in the United States
- Assess the risks and benefits of treating hepatitis C in incarcerated populations
- Understand the cost of care for treating hepatitis C
- Become familiar with steps we can take forward in the state of Washington to decrease hepatitis C prevalence
Background: Incarceration in the United States

- Incarcerated individual: Any individual who is currently a prisoner or in jail
- 5% of the world’s population, 25% of the world’s prisoners
- 95% of those incarcerated in the United States will re-enter their communities

http://images.gawker.com/18ebk4rp5njymjgq/c_scale,fl_progressive,q_80,w_800.jpg
### Background: Correctional Health

<table>
<thead>
<tr>
<th></th>
<th>Jail</th>
<th>State Prison</th>
<th>Federal Prison</th>
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<tbody>
<tr>
<td>Population Numbers (US)</td>
<td>700,000</td>
<td>1.3 million</td>
<td>200,000</td>
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</table>
| Reason for incarceration | ● Unable to post bail  
● Awaiting trial/transfer  
● Picked up on suspicion  
● Sentence < 1 year | ● Longer sentences  
● Usually felonies/serious crimes |
| Healthcare Access     | Limited, contracts with local healthcare providers | Varies, some on-site, more focused on substance abuse and mental health. Clinical Practice Guidelines available. |
| Healthcare Coverage   | County or State | State | Bureau of Prisons |
Background: Hepatitis C in the United States

- CDC: chronic HCV affects at least 2.7 million people in the United States (1.3%), but as much as 5.2 million.
- Nearly one third of all Americans with hepatitis C spend at least part of the year in a correctional facility.
The Progression of Hepatitis C

- Patients with hepatitis C (75-85%)
  - Chronic Hepatitis C (20-30%)
    - Cirrhosis
      - 1-4% annual risk
      - HCC
      - ESLD
The Cost of Hepatitis C

Forecasted Burden of HCV-Related Morbidity and Mortality

DCC = decompensated cirrhosis; HCC = hepatocellular carcinoma.
A Moral Dilemma

R.I. Prison Inmate gets Liver Transplant

Printed
Updated
By: Melissa Toepke
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Wayne Gomesves has been on the organ transplant waiting list for 3 years. The Providence man was diagnosed in 2009 with liver disease and has been hoping for a new liver ever since.

It’s the same organ Jose Pacheco, an inmate at the Adult Correctional Institutions in Cranston, received in a transplant last week.

“I think I could have lived longer, but I can’t,” said Gomesves.

Pacheco is the first Rhode Island prisoner to undergo an organ transplant. He has served a 6 1/2 year sentence for robbery.

Gomesves says he could have been angry, but instead feels compassion for the 27 year-old inmate.

“I wish I could take back that liver for myself, but I can’t because it wasn’t deemed necessary for me,” said Gomesves.

Valerie Fillers has been at her son’s side since his diagnosis. She has watched as Wayne went from a hard working man to someone who could barely stand with out the help of cane.

“I wish it was my son... of course,” said Fillers.

A spokesperson for the Rhode Island Department of Corrections says the exact cost of the procedure is unknown. Liver transplant operations can cost more than $1 million. The bill will likely be paid for by Medicaid and you, the tax payer.
The yearly impact of HCV in Washington includes:

- Around 60 to 80 acute HCV infections reported.
- An average of 5,115 chronic HCV infections reported.
- Around 550 hospitalizations for HCV infection with charges totaling over $22 million.
- Over 200 HCV-related liver and bile duct cancers.
- About 40 HCV-related liver transplants.
- Over 600 HCV-related deaths, six times the deaths due to HIV, with an ongoing increase.
- An average of 19 years of life lost with each death.
- In state correctional facilities, the overall prevalence of chronic HCV is 16% among inmates in Washington.
- Prevalence among incarcerated women: 25%.

Comprehensive study using survey data in 2015-2016
   - 41 states responded to this
     - Of 106,266 inmates with known hepatitis C, 949 inmates were being treated
   - Wide variation in cost of medications
     - States paying the lowest prices (Nevada, Connecticut, Virginia) pursued discounts through the 340B Drug Discount Program. Lowest $44,421 in Nevada.
     - States paying the highest price (South Dakota, Idaho, Michigan): Highest price: $94,500 in Michigan
Individual benefits
- Reduces liver-related adverse health consequences
- Reduces all-cause mortality

Treatment of everyone results in a public health benefit, treating transmission and infection

‘The panel continues to recommend treatment for all patients with chronic HCV infection, except those with short life expectancies that cannot be remediated by treating HCV, by transplantation, or by other directed therapy.’
Risks of Treatment

- Cost of treatment
- Treatment failure
- Risk of reinfection
- Side effects
- Treatment noncompliance

https://www.youtube.com/watch?v=rEESyCzoGTE
Acute costs of treatment

- Cost of medication: $40,000 to $85,000
- Cost of surveillance: quantitative HCV RNA level at baseline, at 4 weeks after starting therapy, and at 12 weeks after completing treatment (SVR), Complete blood count (CBC), International normalised ratio (INR), LFTs, serum creatinine
- Hospitalization for side effects
- Who pays for this?
  - In Washington: Offender Health Plan: Separate from Medicaid
Treatment Noncompliance

- Data from latent tuberculosis treatment in correctional health
  - Santa Clara County Jail: Among 91 patients, 77 (85%) completed 3 month isoniazid + rifapentine treatment. Compared to 28 out of 154 (18%) of patients who completed the 9-month isoniazid treatment.

Treatment Failure/Risk of Reinfection

- Treatment goal: Sustained Viral Response (SVR)
- Paucity of data on reinfection rates
- We know that the rates of hepatitis C are higher in incarcerated populations
Projected savings from treatment

- Decreased risk of hepatocellular carcinoma
- Decreased risk of liver failure
- Decreased risk of transmission
- Increase in QALYs

http://www.hepatitis.uw.edu/pdf/evaluation-staging-monitoring/natural-history/core-concept/all
Washington’s Department of Corrections (DOC) currently treats a percentage of inmates identified with chronic infection, but is limited in ability to treat the estimated 600-700 individuals with advanced liver disease in the system on any given day.

A significant number of deaths within the prison system over the past several years have been due to end stage liver disease and liver cancer as a result of underlying HCV infection.

Cost: Almost $90K for ledipasvir/sofosbuvir, $77K for sofosbuvir
Project ECHO

- Extension for Community Healthcare Outcomes
- Only two clinics in the state of New Mexico were treating hepatitis C, many New Mexico residents were not being treated because of lack of access to specialists
- Washington: UW has foci in hepatitis C, HIV, heart failure, chronic pain
Future Applications: Washington

- Work with state prison systems to deliver care to persons with hepatitis C
- Screen all those who enter jail for hepatitis C, ensure better re-entry programs
- Utilize ECHO
- Advocate for Medicaid coverage to be expanded to incarcerated individuals
Learning Objectives

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Primary Care Opportunities

- Learn More!:
  http://www.hepatitisc.uw.edu/
- Consider working in Correctional Health
- Part of an FQHC? Team up with a correctional facility to address the funding model
References


  https://www.health.ny.gov/diseases/aids/proven/communications/hepprogram.htm


- Mathis AS. Economic burden and current managed care challenges associated with hepatitis C. Amer Jour Managed Care 2012 Dec;18(14 Suppl):S350-359
References

- http://www.hepatitisc.uw.edu/page/treatment/drugs