Public Health Issues in Managing Hepatitis C in the US

Camilla S. Graham, MD, MPH
Assistant Professor in Medicine
Harvard Medical School
Medical Staff
Department of Medicine
Beth Israel Deaconess Medical Center
Vice President, Medical and Government Affairs
TREK Therapeutics, PBC
Disclosure

• Dr. Graham is a part time employee of Trek Therapeutics, Public Benefits Corporation
HCV Treatment: A Time for Celebration

• SVR rates >90% for nearly all patient groups
  – Gaps in cure rates for African Americans and HIV-coinfected patients finally closed

• Almost everyone can become a “treatment candidate”

• Potential to
  – Lower overall mortality
  – Improve quality of life
  – Reduce long-term costs of complications
  – Implement cure as prevention
Are States Illegally Rationing Hep-C Drugs?

Report Puts Hep C Price Tag as High as $5 Billion for California

California taxpayers could be on the hook for billions of dollars to treat hepatitis C patients in various state-funded programs, according to a new report by a trade group for insurers.

The analysis commissioned by the California Association of Health Plans estimates that paying for the patients’ high-priced hepatitis C medications in prisons

Charles Bacchi, president and CEO of the association, said the report underscores what is to come in the near future when more costly prescription drugs are approved. The high costs aren’t sustainable for health plans, consumers or taxpayers, Mr. Bacchi said.

“With a slew of new high-priced drugs set to hit the market this year … this report really shows how that debate about their out sized hite into health care budgets. The estimated costs have led to policy changes, hearings, lawsuits and ethical debates about who should receive the treatments.

An estimated 3.2 million people nationwide have hepatitis C, the leading cause of cirrhosis and liver cancer.

Gilead Sciences, which won approval for the drug

White House Is Pressed to Help Widen Access to Hepatitis C Drugs via Medicaid

By ROBEI

California Could Spend Nearly $5 Billion on HCV Drugs Over Next Year

In a new report, California is projected to spend $4.7 billion on new treatments for hepatitis C virus infection over the next 12 months to aid people with the infection, according to a press release from the California Association of Health Plans.

Also found for California was

Study Shows Medicaid Restrictions for Sofosbuvir Create Barriers for Care

It is projected the California could spend a total of $3 billion on hepatitis C treatments in the next 12 years.

How to pay the bill for hepatitis C

By D. Steven Fox and Jeffrey S. McCombs

The debate over whether the government should pay for hepatitis C treatments has grown more heated as the price of the drugs continues to rise.

The cost of a standard course of treatment is currently around $100,000, but some experts predict it could rise to $200,000 or more.

States have been divided in their approach to paying for the treatments.

In some states, Medicaid has decided to cover the costs of the treatments, while in others, the decision has been left to local health departments.

One study found that states that opted to pay for the treatments saw a reduction in the number of people infected with hepatitis C.

However, the cost of the treatments has also led to concerns about the sustainability of the programs.

Researchers at the University of California, San Francisco, estimated that California could spend as much as $5 billion on hepatitis C treatments over the next 12 years.

The study found that the cost of the treatments could be offset by savings in other areas, such as reduced hospitalizations and lower health care costs.

But the high price of the treatments has also raised questions about whether the benefits outweigh the costs.

Some experts have argued that the treatments could save lives and prevent the spread of the disease.

But others have raised concerns about the potential for misuse of the treatments, particularly among individuals who are not at high risk.

Researchers are continuing to study the long-term impact of the treatments and whether they are effective in preventing the disease.

One study published in the New England Journal of Medicine found that individuals who received the treatments were less likely to transmitted the virus to others.

But the study also found that the treatments were not effective in preventing the disease in all individuals.

The debate over whether to pay for the treatments continues as states and federal agencies continue to grapple with the issue.

In California, a state task force has been examining the issue and is expected to release a report later this year.

In the meantime, researchers are working to develop new treatments that are more affordable and effective.

One approach is to use a combination of drugs that do not require as costly treatments.

Researchers are also examining the potential for using fixes to the existing treatments that could reduce the need for costly new drugs.

Ultimately, the decision of whether to pay for the treatments will likely depend on a variety of factors, including cost, efficacy and the potential for misuse.

As more data becomes available, it will be important to carefully consider the trade-offs and make decisions that are in the best interest of the public.
Epidemiology Needed to Understand HCV in US

• Countries who best understand their disease burden:
  – Australia, Scotland, France, Iceland, (Egypt)

• In US we don’t know:
  – How many people have HCV (2.4 to 5+ million)
  – How many people acquire HCV each year (20,000 to 100,000)
  – How many people die of HCV each year (10,000 to 60,000+)

• Difficult to prioritize resources for screening and treatment when HCV disease burden is unknown
Poor Estimates of Acute HCV Infection in US

• The CDC estimates that 29,718 cases of acute HCV occurred in the US in 2013 based on cases reports meeting stringent criteria:
  – Symptoms of acute viral hepatitis (occurs in <20% of acute cases) plus either
    • Jaundice (yellow color of skin)
    • ALT >400 IU/L
  – OR, documented HCV antibody negative test followed within six months by HCV antibody positive test
• Most patients who present with new HCV infection do not meet these criteria
Estimated Actual New Cases of HCV in US

Bars indicate point estimates per year; lines indicate range of estimates

Acute HCV

www.cdc.gov/hepatitis/statisticshcv.htm; accessed 09/28/15
183 Patients Identified with Acute HCV in MA – One Patient Counted in CDC Nationwide Statistics

Under-ascertainment of Acute HCV

- Unreported acute HCV: 66%
- Reported acute HCV, no review: 19%
- MDPH review: 15%
- CDC Acute HCV: <1%

Onofrey Annals Int Med 2015; 163:254
In a Perfect Public Health World

- Hepatitis C would be viewed as an infection that causes personal devastation and societal costs:
  - Severe liver complications
  - Extra-hepatic complications
  - Fear of transmission and shame
- Goal needs to be elimination:
  - Devise strategies to diagnose all patients
  - Increase care capacity
  - Ensure availability of curative drugs and monitoring
  - Provide tools to decrease risk of new infection and reinfection
  - Treat individuals at high risk of ongoing transmission (and reinfection)
    - Active injection drug users and MSM
Efficient Identification of Patients with HCV

~4 million people with anti-HCV in US

~3 million with HCV RNA

~0.6 – 0.8M with antiviral treatment

People who need to be tested to find those infected with HCV (80+ million)

? cured with ongoing follow up

1Tomaszewski Am J Public Health 2012; 102 (11):e101
HCV Antibody Test Volume Increased after EMR Prompt for 1945-1965 Cohort

![Graph showing increased HCV antibody test volume after EMR prompt for Boomers.]

- **Average = 303 tests/4 weeks** (pre-EMR prompt)
- **Average = 438 tests/4 weeks** (CDC 1945-1965 testing guidelines)
- **Average = 1192 tests/4 weeks** (after EMR prompt)

Beth Israel Deaconess Medical Center, Boston, MA, Quality Outcomes Data, 6/5/14
Populations Still Being Left Behind

- People outside health care system
- Fee-for-service and managed care Medicaid
- People who inject drugs (PWID)
- Incarcerated
- Indian Health Services (IHS) covered patients
Best Practices for Addressing Screening Barriers

• Lynn Taylor facilitated 1945-1965 birth cohort anti-HCV testing with reflex HCV RNA at Brown
• Stacey Trooskin (Drexel) helps coalition of DPH, non-profit, and academic centers with community testing (vans) and navigators for linkage to care
• James Galbraith (Birmingham) works with emergency medicine departments to do HCV testing and referral from emergency rooms

www.cdc.gov/knowmorehepatitis; www.nvhr.org
Welcome to the NVHR Hepatitis C Baby Boomer Resources Page

NVHR's program aims to increase the number of people born 1945-1965 (baby boomers) tested for hepatitis C. This page has information for providers, patients, and organizations and highlights the work of our community partners.
Best Practices for Addressing Barriers

• Linkage to Care
  – Many ECHO/Telemedicine programs across the US for urban, rural, IHS, prisons
    • Provide care to patients who cannot or will not go to specialists
    • Improve HCV care capacity
    • Keep patients in their medical homes
  – NIH and community health centers in DC and Maryland
    • Access to care and clinical trials
Treating HCV in PWID

• We have to treat PWID for their own health and to reduce HCV transmission
• If nobody gets reinjected, we have not been treating the right patients to reduce transmission
• Treating small numbers of patients increases the risk of reinfection
  – Reinfection will increase before it decreases

Negro, CROI 2016;
HCV Treatment in PWID

• Alain Litwin and colleagues are studying approaches to treat people who inject drugs (PWID)
  – Methods of support
  – Cure rates
  – Reinfection rates
• Projects that treat networks of PWID (bring a friend; Shruti Mehta, Baltimore)
• Other countries with innovative projects in PWID:
  – Scotland, Australia, Canada
Treatment for all PWID Plus Harm Reduction are Needed to Decrease Incidence of HCV

Lima, PloS One 2015; 10(12):e143836
Supervised Injection Facilities

- Definition: Legally sanctioned facilities where people who use injection drugs can inject pre-obtained drugs under medical supervision
  - Supervised injection facilities are designed to reduce the health and societal problems associated with injection drug use

- Objectives: Public Health + Public Safety
  - Reduce incidence of overdose
  - Reduce incidence of HIV, hepatitis C, and other injection-related infections
  - Improve access to substance use disorder treatment
  - Improve access to harm reduction and health care for high-utilizing, high-risk populations
  - Improve access to wraparound health, social services
  - Improve syringe and needle disposal
  - Reduce public drug use
  - Improve neighborhood security
  - Improve public safety-public health collaboration

- Existing Facilities
  - 86 facilities throughout Europe; Vancouver, Canada; Sydney, Australia
Hepatitis C in Prisons

Correctional population represented 28.5% to 32.8% of total US HCV Ab+ cases in 2006

Varan, Public Health Rep 2014; 129:187
323% Increase in HCV-Associated Hospitalizations Among Native Americans/Alaskan Natives 1995-2007

Byrd, Public Health Rep 2011; 126(6):816
In our experiences in providing health services and in administering health programs in AI/AN communities, the amount of needless suffering and loss of life related to preventable and treatable illness make IHS funding a matter of social justice and civil rights, and this issue needs to be a national priority for all public health advocates, not just for the AI/AN population.

## IHS Budget and Implications for Elimination of HCV

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<th>Per Capita Health Care Expenditures</th>
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<td>Overall United States</td>
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\(^1\)https://www.ihs.gov/newsroom/index.cfm/factsheets/ihsyear2014profile/(accessed 2/21/16);
\(^2\)http://data.worldbank.org/indicator/SH.XPD.PCAP (accessed 2/21/16);
\(^3\)http://data.worldbank.org/indicator/NY.GDP.PCAP.CD (accessed 2/21/16)
Why Focus on Price and Affordability?

Patients do not benefit from a drug they cannot afford.

John Ward, MD

New England Journal of Medicine Editorial

November 17, 2015
No Reimbursement

→

No Treatment

→

No Elimination
Cost is not Price

• Cost includes manufacturing and distribution costs, costs to meet regulatory requirements
  – Generic drugs tend to more closely reflect actual cost of goods
• Price is the $$ amount actually paid to acquire a drug/regimen, which tends to be far higher for branded drugs
  – Complicated supply chain
  – Rebates/discounts
  – Confidential negotiations
  – Bundling $$ with other drugs made by the same manufacturer
Price per SVR has Decreased in the US

![Graph showing the decrease in price per SVR](Image)

Clinical Gastroenterology and Hepatology 2015 13, 1711-1713DOI: (10.1016/j.cgh.2015.06.005)
Who Are the Payers and What Price Do They Pay?

Pharmaceutical company (sets Wholesale Acquisition Cost = WAC)

Average Manufacturer Price (AMP)

Wholesale distributors (e.g. AmerisourceBergen, McKesson, Cardinal Health) buy drugs

Retail, Mail and Specialty Pharmacies

Pharmacy Benefits Managers (PBM; e.g. ExpressScripts, CVS Health) negotiate discounts and set formularies

Federal Supply Schedule participants (e.g. VA, DoD, IHS, Federal prisons)

50 State Medicaid programs (Fee-for-Service and MCO)

340B Programs (safety net providers)

Private insurers (>600)

State and local prisons and jails

Medicare (prohibited from negotiating prices)

23.1% discount off difference between AMP and "best price"

Relationships can represent negotiated payments, rebates or discounts, or drug distribution; lines are a fraction of the actual relationships.

Payer Limitations on Access to HCV Treatments

• Limits Based on Stage of Fibrosis
• Restrictions Based on Substance Use
• Prescriber Limitations
• Other restrictions
  • HIV Co-Infection limitations
  • “Once per lifetime” limitations
  • Genotype limitations
  • Previous history of treatment adherence requirements
  • Specialty pharmacy restrictions
  • Exclusivity agreements with insurers

MassHealth: Estimated Volume

• 7,658 members with HCV
  – PCC members continuously enrolled 12/6/13-7/30/14 with an ICD-9 code for HCV

• 1,075 members approved for regimens
  • Over 90% of PAs approved
  • ~14% of diagnosed patients engaged in treatment
Institute for Clinical and Economic Review of HCV DAAs for California Medicaid and the CA Department of Corrections

- Analyses found that sofosbuvir/ledipasvir (for 8/12 weeks in naïve and 12/24 weeks in treatment experienced) was very cost effective:
  - Treat everyone (compared to Peg-IFN/RBV) ICER = $19,229
  - Treat at F3, F4 (compared to Peg-IFN/RBV) ICER = $13,611
- Treating younger patients was more cost effective
- Budget Impact: SOF/LDV would need to be priced at $42,000/regimen to result in a 1% per member per month (PMPM) increase in expenditures if everyone was treated
- Grazoprevir/elbasvir list price is $54,600 and 23.1% Medicaid discount is $42,000 (assume additional discounts for VA/IHS)
- FSS/IHS pays $41,280 for Harvoni x 12 wks ($27,520 for 8 wks) and $25,128 for Viekira Pak x 12 wks

(Report finalized 1/30/15; report accessed 1/24/16)
Recommended regimens for patients with HCV genotype 1a or 1b infection who have compensated cirrhosis, in whom prior PEG-IFN and RBV treatment has failed

- Daily fixed-dose combination of ledipasvir/sofosbuvir for 24 weeks
  
  **Rating:** Class I, Level A

- Daily fixed-dose combination of ledipasvir/sofosbuvir plus weight-based RBV for 12 weeks...
  
  **Rating:** Class I, Level B

- Daily fixed-dose combination of paritaprevir/ritonavir/ombitasvir plus twice-daily dosed dasabuvir and weight-based RBV for 24 weeks is recommended for patients with HCV genotype 1a...
  
  **Rating:** Class I, Level A

- Daily sofosbuvir plus simeprevir with or without weight-based RBV for 24 weeks...
  
  **Rating:** Class IIa, Level B

Adapted from www.hcvguidelines.org
SOF/LDV 8 wks = $63,333
SOF/LDV 12 wks = $95,000

323 x $63,333 = $20.5 M
131 x $63,333 + 192 x $95,000 = $26.5 M
$6 M wasted

If all patients received SOF/LDV 12 wks:
323 x $95,000 = $30.7 M

323 subjects qualified for 8 week therapy, but only 41% received an 8 week duration
Australian Plan for HCV Elimination

• Fair price negotiation (discounted price with capped global sum, same price for all drugs and treatment duration)
• Treatment for all
• Treatment as prevention for key populations (prisoners, MSM, PWID)
• Enhanced case finding
• Involvement of various practitioners (PCP)

Courtesy of Greg Dore, Feb 2016
Examples of Approaches to Improve Access to HCV Treatment (for Providers)

• Share successful appeal letters
  – National Viral Hepatitis Roundtable is collecting examples to share (NVHR.org)
• Share stories with media (obtain institutional and patient permission)
• Educate local payers (public and private) about hepatitis C and the value of treatment on a state level
  – Presume that ultimate goal is elimination of HCV
  – Describe care models and patient support
• Work with payers to understand how to best allocate financial resources to specific patient groups
  – Identify regimens that have equal efficacy and safety and lower price for that payer
  – Develop local guidelines that incorporate price
  – Individual or small group with one payer
  – State DPH, local advocates, coalition of HCV treaters and ALL payers
• Consider joining in lawsuits to force access
  – Harvard Law School is developing model suits
Conclusions

- We should be able to systematically tackle HCV in the US
  - Elimination will be difficult
- Hepatitis C treatment is cost-effective but the budget impact will be significant
- Create treatment protocols that simplify treatment and maximize value in regimen choices
- Government needs to invest more in HCV
  - Advocate for new laws for financing treatment of communicable diseases that require a public health approach
HEPATITIS C MANAGEMENT
STATE OF THE ART