Increases of Hepatitis C in Suburban and Rural Youth: What is the appropriate public health response?

January 29, 2014

Rachel McLean, MPH, CA Department of Public Health Caycee Cullen, VIP Study, UC San Francisco Dan Church, MPH, MA Department of Health



Overview

- 1. Hepatitis C virus (HCV) transmission and epidemiology (Rachel McLean, CA DPH)
- 2. HCV Infection in adolescents and young adults: The second wave epidemic (Dan Church, MA DPH)
- 3. Effective HCV prevention messages for the field (Caycee Cullen, UCSF VIP Study)
- 4. Discussion/Q&A (All)
- 5. Resources (Rachel McLean, CA DPH)



Hepatitis C Transmission and Epidemiology— A Quick Review

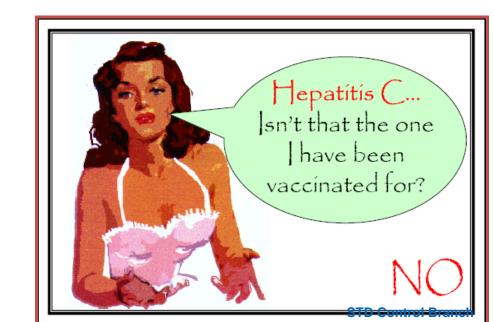
Rachel McLean, MPH
Viral Hepatitis Prevention Coordinator/
STD Health Care Policy Analyst
CA Department of Public Health



Hepatitis C Virus: What Is It?



- Bloodborne virus that enters the body and replicates in the liver
- Can live outside the body
- No vaccine (yet)





Transmission routes

Primarily:

- -- receiving a blood transfusion before 1992 or
- -- EVER sharing injection drug use equipment

Other, less common routes:

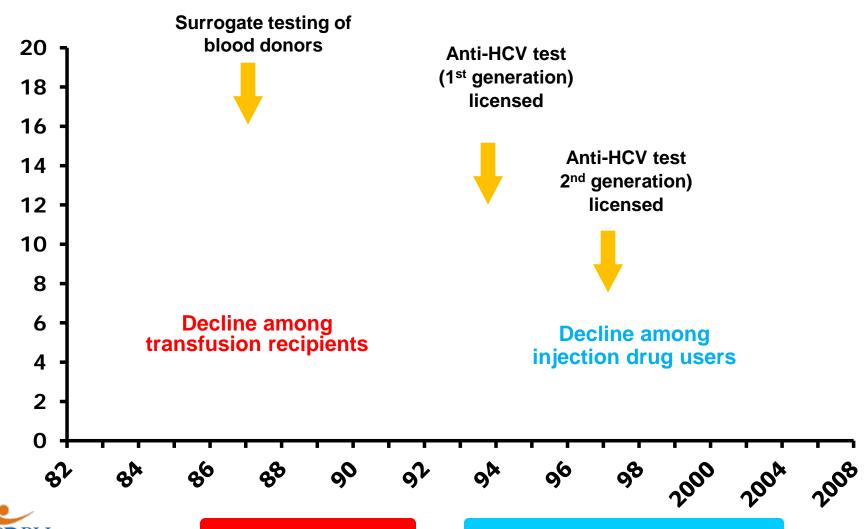
- -- health care-related exposures (accidental needlesticks, dialysis, etc.)
- -- household contact (sharing razors, tattoo equipment in prisons)
- -- very limited sexual transmission; risk increased by HIV coinfection



HCV Transmission Risk – It's All About the Blood



Incidence of Acute HCV in the United States, 1982-2008

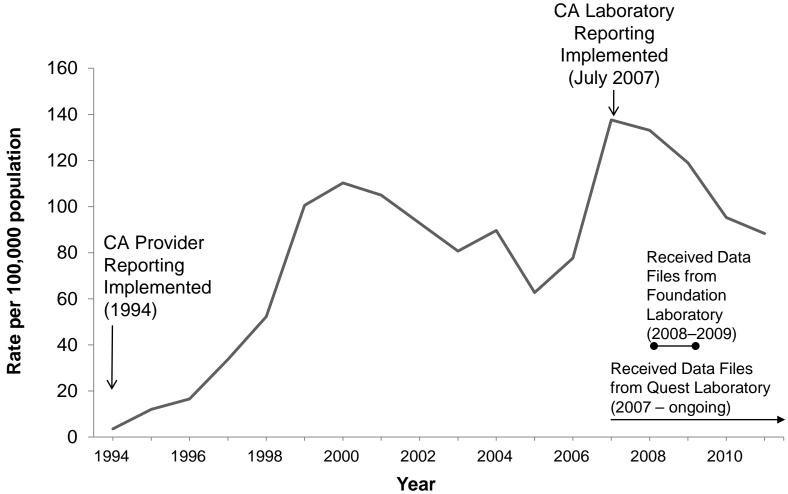


Chronic HCV Prevalence, Costs, and Consequences

- 3-4 million people with HCV infection in U.S.
 - 3 out of 4 were born during 1945-1965
 - Most are unaware of their infection
 - CDC recommends HCV testing for baby boomers and for persons who have ever injected drugs*
- HCV causes liver disease, liver cancer, death
 - Leading cause of liver transplants
 - Annual HCV deaths now outnumber HIV deaths
 - \$2.3 B in HCV hospitalization charges, CA, 2010

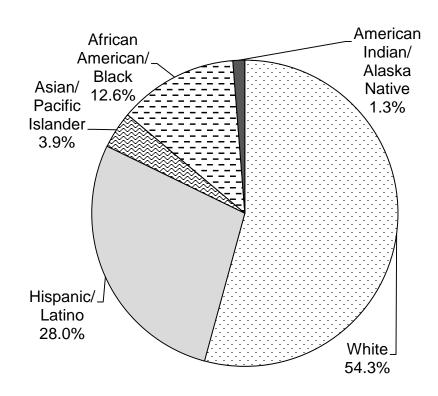


Chronic Hepatitis C – Rates of Newly Reported Cases, California, 1994-2011





Chronic Hepatitis C – Percent of Newly Reported Cases for Which Race/Ethnicity is Known, by Race/Ethnicity compared with the General Population, California, 2011



African American American/ Indian/ **Black** Alaska 5.9% Native 0.6% Asian/_ Pacific Islander 12.7% White 42.4% Hispanic/ Latino 38.3%

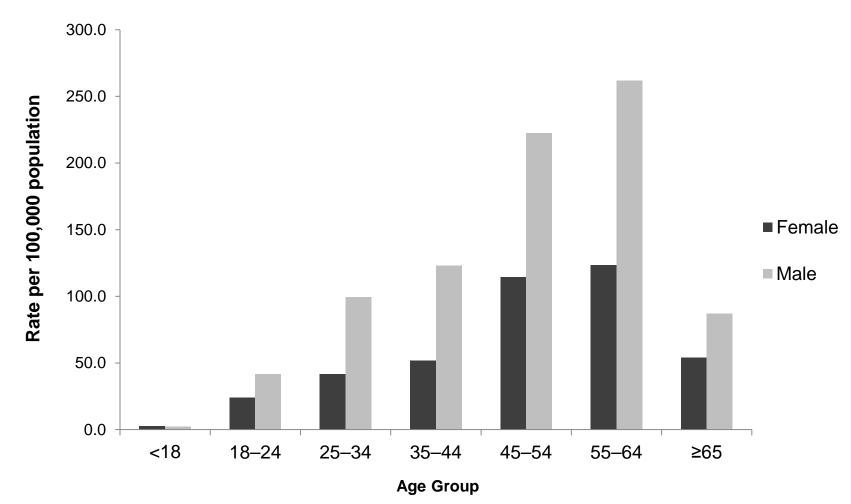
Newly Reported Cases of Chronic Hepatitis C

General Population of California



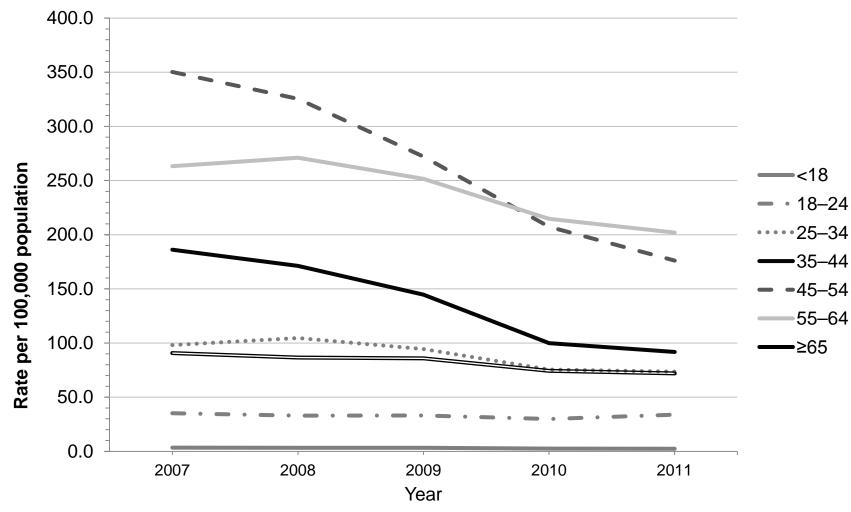
Note: The percentages shown are among the cases with known race/ethnicity. Race/ethnicity information was missing for more than two-thirds (67.9 to 81.8 percent) of cases from 2007-2011.

Chronic Hepatitis C – Cases and Rates of Newly Reported Cases (per 100,000) by Age and Gender, California, 2011



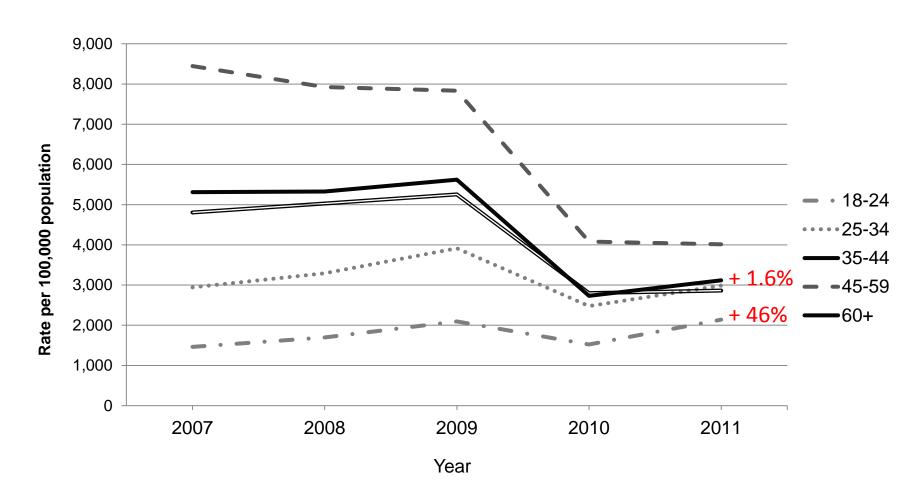


Chronic Hepatitis C – Rates of Newly Reported Cases by Age, California, 2007-2011





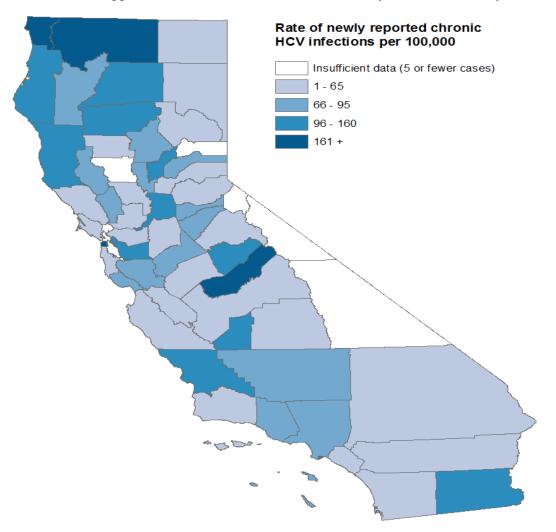
Chronic Hepatitis C – Rates of Newly Reported Cases in State Prisons by Age*, California, 2007-2011



^{*} State prison census data use different age group categories than the California Department of Finance categories used in this slide set.

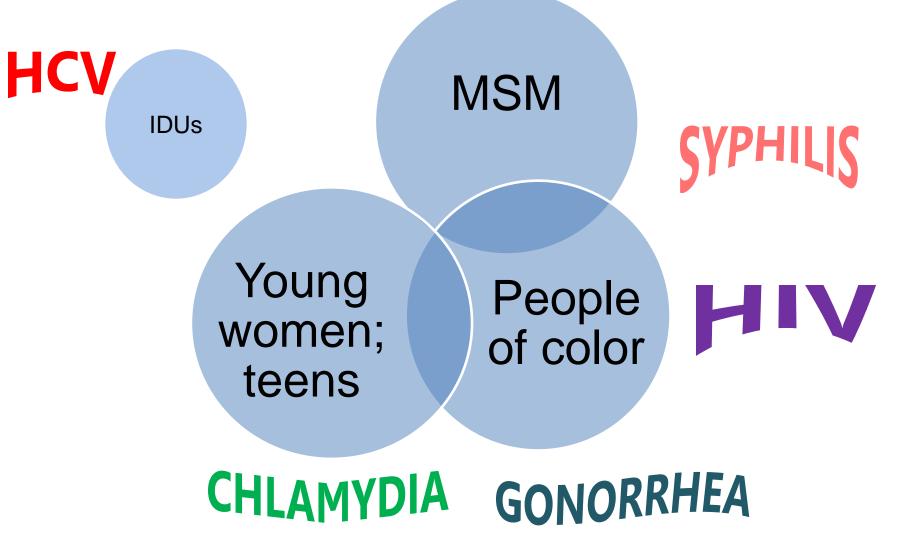


Chronic Hepatitis C, Rates of Newly Reported Cases (per 100,000) by County, Excluding Cases in State Prisons, California, 2011

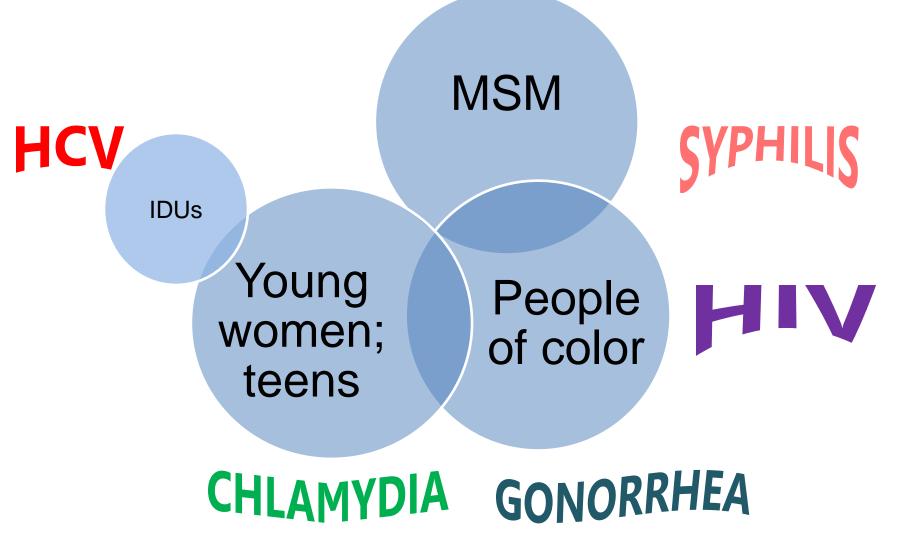


- Notes: Rates were not calculated for the following local health jurisdictions, which reported 5 or fewer cases in 2011: Alpine (0), Colusa (2), Inyo (2), Mono (1), and Sierra (1) counties.
 - State prison cases were removed from local health jurisdiction totals and attributed to the state prison system as a whole.

HIV, STDs, and HCV – Do the high risk groups overlap?



HIV, STDs, and HCV – Do the high risk groups overlap?





too expensive, users switch to cheaper heroin



Video: After months of undercover investigations. Prince William county policy officers execute 'Operation Blue Dragon' targeting suspected prescription pill and heroin dealers. The Fold's Gabe Silverman takes you behind the scenes as officers arrest dozens of suspects.

By Tom Jackman, Published: November 13 E-mail the writer 🤄

dealsaver' > \$40 for a 30-day membership at Bella Forza Fitness! (\$99 value!)

Heroin replacing pain pills as drug of choice in some parts of Kentucky

bmusgrave@herald-leader.com January 25, 2013













Heroin has rapidly replaced prescription pain pills as the drug of choice in much of Northern Kentucky and Louisville, raising fears that a heroin scourge will soon ravage the state.

In Northern Kentucky, police are finding people passed out in cars at gas stations with needles poking from their arms. In Louisville initial statistics suggest more than 50 people died of heroin overdoses in 2012.

We've even found parents in the front seat with kids in the back seat in car seats. wondering what was going on," said Covington police Chief Spike Jones.

Police in Louisville and the Northern Kentucky suburbs of Cincinnati said they began seeing more heroin as early as four years ago, but it was in the last 12 months that heroin surpassed pain pills as the preferred drug of addicts



Aggressive pill enforcement pushes young suburbanites to heroin

By Phil Trexler Beacon Journal staff writer

Published: January 6, 2014 - 10:55 PM



Akron Firefighter Captain Joseph Natko with the drug Narcan, used to revive heroin overdose victims. In Akron, paramedics have used Narcan 45 times for 250 overdose cases. The drug reverses the effects of heroin and "brings people back from the dead." (Phil Masturzo/Akron Beacon Journal

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RELATED STORIES

- Where to find help
- Akron-area heroin deaths soar, suburbs and rural areas fall victim
- Ex-users help heroin addicts out of death

In the '60s, the focus was on LSD, marijuana, turning on and tuning out.

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that led Nancy Reagan to plead: "Say no to drugs." The '90s saw a rise in methamphetamine and

homemade potions. Americans learned the drug could be made with similar household products.

As the century turned, opiate use, such as prescription painkillers and heroin, came into vogue. Abuse rose, and the government and media are

To many, the opiate/heroin plague is simply a shift in America's attention on drug abuse

Efforts to stamp out pill abuse simply led to the

increased popularity of heroin, a dark drug that has been lurking in the hackground during all these

DEAL OF THE DAY

Print 🕒 Font Size: 🖃 🕕

drug study says

By Katie Wedell

Staff Writer

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Pain pill addicts use heroin when money gets tight,

The over prescription of opioid medications — like OxyContin, Vicodin, Percocet and methadone

The Ohio Substance Abuse Monitoring Network's annual report, which compiles information from

eight regions in the state, shows that heroin use has increased in the past six months in Dayton

prescriptions, which often lead to addiction and then heroin use when pills become too expensive

The report, distributed by the Ohio Department of Drug and Alcohol Addiction Services, covers

June 2010 through January 2011. The findings are based on interviews with treatment providers,

active and recovering drug users, and law enforcement officials as well as crime lab data and

and statewide. The report attributes the spike in part to the wide availability of opioid

is not only leading to increased overdose rates on those drugs, but may be leading to an

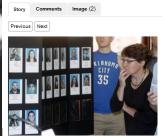
increase in heroin use, according to a annual statewide study of drug trends.





Associated Press I

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MONTPELIER, Vt. (AP) - Behind the facade of pristine ski slopes, craft beer, quaint village greens and one of the lowest unemployment rates in the country, Vermont is grappling with painkiller and heroin abuse, a challenge leaders say is fueling crime and wrecking lives and families disproportionately in this tiny state

Posted: Wednesday, January 15, 2014 4:25 pm |

Nearly every day, police across Vermont respond to burglaries or armed robberies investigators believe are prompted by the unslakable hunger for money to feed heroin or pill habits. In many cases, law enforcement officials say what began as the abuse of prescription drugs has turned into heroin use because it's less expensive and, more recently, easier to get.



COLLEGE SAVINGS



Hepatitis C Virus Infection in Adolescents and Young Adults: The Second Wave Epidemic

Dan Church, MPH

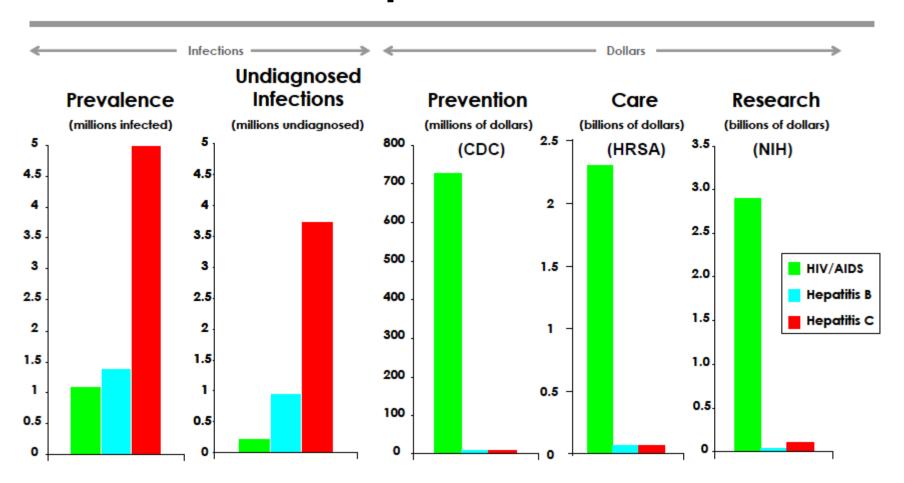
Massachusetts Department of Public Health

Bureau of Infectious Disease

Goals of presentation

- Discuss what we know about HCV infection among young IDU
 - What is the scope of the problem?
 - What are the challenges?
- Discuss what needs to be done to address the issue

U.S. Response to HIV and Viral Hepatitis Epidemics



HCV and injection drug users

- Up to 10 million HCV+ IDU globally¹
- IDU accounts for 68% of all new HCV infections in the US²
- ≤32% IDUs infected with HCV within 1 year of first injecting; 53% within 5 years
 - Has this changed?

How reliable are current estimates of HCV incidence?

CDC estimates only 17,000 new HCV infections annually

Number of New HCV Infections	Population	Number of Cases reported to public health	Source
56	IDUs	0	Hagan et al. 2002
188	Hospital	1	Kim et al. 2013

HCV surveillance at the state and local levels

- Limited capacity to monitor cases of HCV infection at local and state level
 - High volume
 - Wide range of available infrastructure
 - Most jurisdictions have no funding to support efforts
- Even so....

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Morbidity and Mortality Weekly Report (MMWR)

MMWR





















Notes from the Field: Risk Factors for Hepatitis C Virus Infections Among Young Adults ---Massachusetts, 2010

Weeklv

October 28, 2011 / 60(42);1457-1458

During 2002--2009, rates of newly diagnosed hepatitis C virus (HCV) infection increased from 65 to 113 cases per 100,000 population among persons aged 15--24 years in Massachusetts (1). Accordingly, the Massachusetts Department of Public Health (MDPH) and CDC interviewed persons aged 18--24 years with HCV infection reported to MDPH during July 1--December 31, 2010, to elicit detailed information regarding demographic, clinical, and risk characteristics.

Of the 394 patients indentified, 193 (49%) had a valid telephone number; of those 193 patients, 101 (52%) did not answer after three call attempts, 19 (10%) were either in a drug treatment facility or incarcerated, 19 (10%) refused to participate, 31 (16%) agreed to participate but did not come on the scheduled interview day, and 23 (12%) completed the interview. An additional five persons aged 18--24 years with diagnosed HCV infection during July 1--December 31, 2010, but not reported to MDPH, were interviewed in a correctional facility, where they were incarcerated.

Mean age of the 28 respondents was 21.9 years (range: 19--24 years); 15 (54%) patients were female, 23 (82%) were white, nine (32%) did not finish high school, nine (32%) were unemployed, and 25 (89%) had health insurance. Twenty-six (93%) had used drugs; of these, 100% reported marijuana use, with a median age of initiation of 13 years (range: 9--17 years); 92% reported opioid analgesic abuse (oxycodone and/or Oxycontin), with a median age of initiation of 17 years (range: 12--23 years); and 89% reported heroin use, with a median age of initiation of 18 years (range: 14--21 years). Nearly all respondents (95%) used opioid analgesics before switching to heroin. During the preceding 6 months, the most frequently injected drugs among respondents were heroin (50%) and opioid analgesics (30%).

Medical record reviews showed that five respondents had visited emergency departments on multiple occasions complaining of pain and were prescribed opioid analgesics. Most respondents (70%) reported sharing syringes and drug paraphernalia within networks of injection drug users that included persons with known HCV infection (43%). One in four respondents reported never being informed of their HCV infection by their health-care provider, and 11 (39%) were tested for HCV in a drug treatment program or during incarceration.

The findings in this report are subject to at least three limitations. First, only a small number of persons agreed to be interviewed, which limits the ability to generalize these findings. The low response rate might be attributed, in part, to the characteristics of the targeted population (young injection drug users) coupled with lack of provision of incentives. Second, comparison of the demographic and clinical characteristics of persons who were interviewed with those who could not be interviewed was not possible because information was lacking for nearly 60% of the 394 hepatitis C cases reported during July 1--December 31, 2010. However, of those cases with available information, 229 (58%) occurred among females and approximately 80% occurred among whites, which is consistent with the demographic characteristics of interviewed respondents. Finally, persons with HCV infection who were in drug rehabilitation centers could not be interviewed because of federal confidentiality regulations specific to these centers.

Consistent with other studies, most respondents reported opioid analgesics abuse before switching to heroin (which is less expensive) (2,3). Health-care providers should routinely ask about prescription and illicit drug use and screen all persons with risk factors for HCV infection, regardless of age (4). They also need to be aware of warning signs of prescription opioid and drug abuse, such as frequent complaints of pain and request for opioids. Drug treatment

Increasing reports of injection-related HCV infections among persons under 30

Massachusetts

MMWR, Hepatitis C Virus Infection Among Adolescents and Young Adults – Massachusetts, 2002—2009, May 6, 2011 / 60(17);537-541

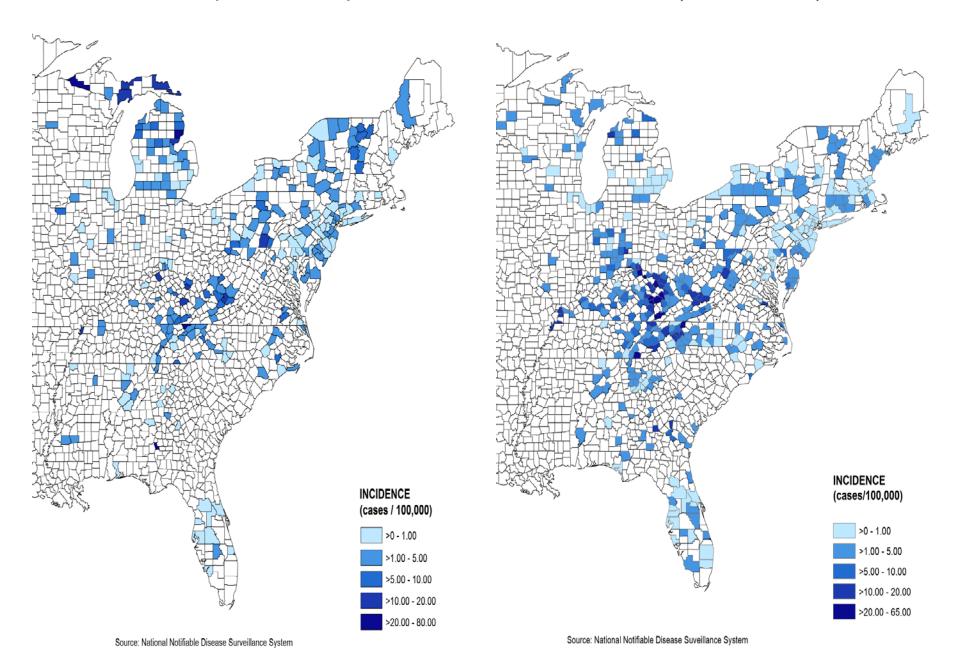
Upstate New York

MMWR. Use of enhanced surveillance for hepatitis C virus infection to detect a cluster among young injection drug users---New York, November 2004—April 2007. 2008; 57:517—21.

Wisconsin

MMWR, Notes from the Field: Hepatitis C Virus Infections among young adults – rural Wisconsin, 2010, May 18, 2012 / 61(19);358-358

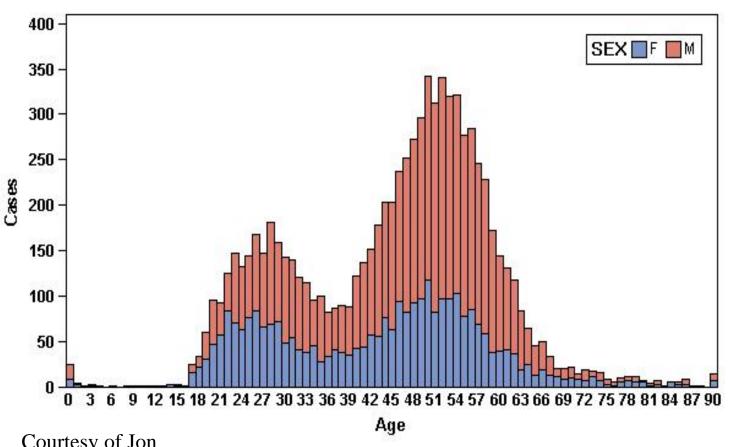
Additional states reporting increases in HCV cases: Alabama, Colorado, Connecticut, Georgia, Indiana, Kentucky, Maine, Maryland, Montana, New Mexico, North Carolina, Oregon, Tennessee, Washington and West Virginia



Why is this happening now?

- Oral prescription opioid sales quadrupled between 2000 and 2010¹
- Increased access appears to be impacting increase in heroin injection²
 - Variability in drug use patterns between jurisdictions, urban v. suburban v. rural
- Reduced focus on prevention of bloodborne diseases among IDU nationally, due in part to decreased HIV rates

Hepatitis Case Counts by Age Pennsylvania, 2010



Courtesy of Jon Zibbell, CDC, 2013

Reports of increasing HCV infections related to IDU among persons under 30 in New York State

- 1. Cluster identified in Buffalo suburbs in 2007 (MMWR 2008;57:517-21)
- 2. Rise in reported cases in town of Corinth, located in Saratoga county in Upstate NY
- 3. Most recently, reports in Cortland county, rural county outside of Syracuse, sparked initial investigation (n=11) and follow-up targeted survey

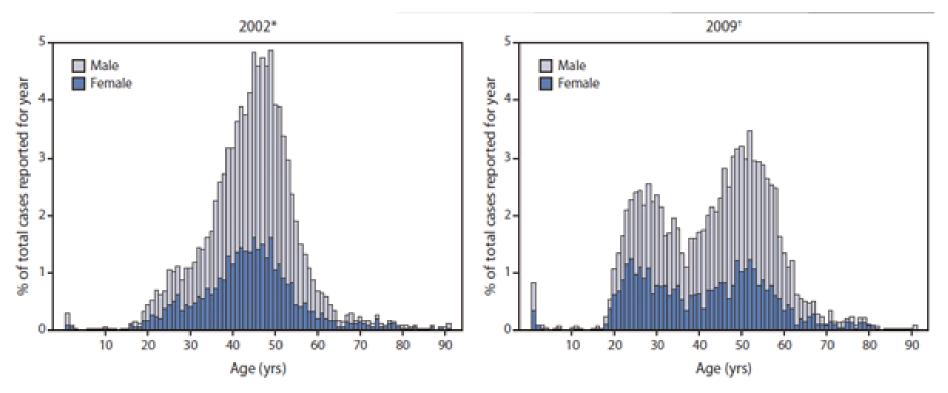


Courtesy of Jon Zibbell, CDC, 2013

HCV among youth in Massachusetts 2007-2012

- Increase of newly diagnosed HCV infection noted among people 15-29 years of age
- Between 2002 and 2012, an increase of 68 to 156 cases per 100,000 population was reported in this age group
- Surveillance data suggest increase is due to youth injecting drugs (mostly heroin)

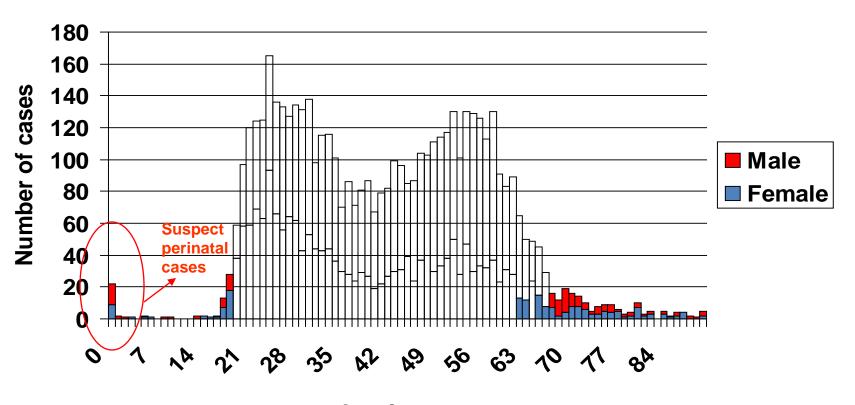
MMWR: Age distribution of newly reported confirmed cases of hepatitis C virus infection --Massachusetts, 2002 and 2009



* N = 6,281; excludes 35 cases with missing age or sex information. † N = 3,904; excludes 346 cases with missing age or sex information.

Source: Onofrey et al MMWR: May 6, 2011 / 60(17);537-541

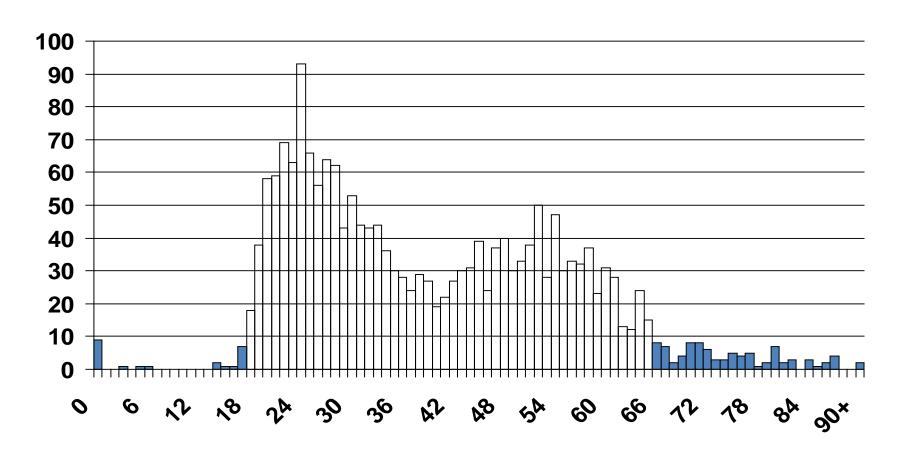
Confirmed and probable reported HCV cases in Massachusetts, 2012



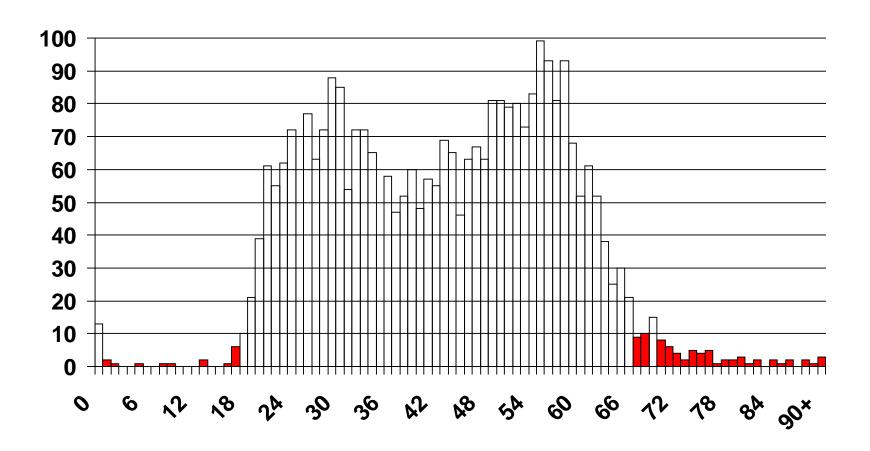
Age in years

Data as of 13AUG2013 and subject to change

Confirmed and probable reported female HCV cases in Massachusetts, 2012



Confirmed and probable reported male HCV cases in Massachusetts, 2012



Data as of 13AUG2013 and subject to change

Injection equipment sharing practices, MDPH enhanced surveillance, 2012

Of 41 interviewed cases who reported ever IDU:

	n	%
Ever used syringe previously used by another injector		71
Ever divided up drugs using a needle (back loading)		59
Ever used cooker, bottle cap, or spoon after someone else used it		71
Ever used cotton after someone else used it		68
Ever used rinse water after someone else used it		61
Knew where they could access clean needles		76

What has MDPH done in response?

- Fully integrated HCV education, screening, testing services with all 34 HIV prevention/ screening programs
 - Testing programs now required to completed HCV case report form (including for rapid test)
- 5 needle exchange programs, pilot Narcan distribution, pharmacy access to sterile syringes
- Integration of HCV medical management into 5 HIV case management programs
- Education by MDPH staff and community partners
- Ongoing data collection and dissemination of findings

Service delivery outcomes at prevention and screening programs: CY2012

- In FY2013, 69,114 HIV tests conducted (0.4%+)
 - 9,152 HCV tests conducted (7% antibody positive)
- Of HIV testing clients, 9,692 (14%) reported IDU
 - 1,356 (14% of all IDU seen) were tested for HCV
- Of clients tested for HCV:
 - 28% were between 13 24 years of age
 - 24% were Black, 30% Hispanic, and 42% White

Other service delivery outcomes

- In FY2013, 1,744 (26%) of enrolled needle exchange program clients were ages 18-29
 - A total of 12,719 syringes were distributed
- More than 2,000 overdoses reversed with the Narcan pilot program
- Between 2010-2013, 3,055 clients received some HCV case management services, 7% reported as having started HCV treatment

Challenges to HCV prevention among IDU

- Low awareness by public and providers (IOM, 2010)
- Stigma regarding drug use and addiction
- Variability in the epidemiology of addiction
 - Injection of prescription opioids v. heroin
- Limited distribution of sterile drug injection equipment
 - Currently, no federal funds can be spent on distribution of sterile syringes
 - Engagement of young people by syringe exchange programs?
- Public health response is greatly underfunded
 - Testing availability limited
 - Inconsistent national surveillance

What is needed: multi-component prevention programs

- Distribution of sterile drug injection equipment*
- Education (including peer-based)*
 - Focus on harm-reduction principles
- Opioid replacement therapy*
- Provider education: reduce stigma, increase access to IDU services in primary care
- Overdose prevention
- Testing, treatment
 - Impact of new HCV medications on prevention?

^{*} Source: Hagan H, Pouget ER, Des Jarlais DC. A Systematic Review and Meta-Analysis of Interventions to Prevent Hepatitis C Virus Infection in People Who Inject Drugs. *JID*. 2011;204 (1 July):74-83

Dan Church, MPH
William A Hinton State Laboratory
305 South St. Jamaica Plain, MA 02130
617-983-6830

Daniel.church@state.ma.us

Effective HCV Prevention Messages for the Field Lessons from the UFO Model

Caycee Cullen
Recruitment and Retention Coordinator
Vaccination is Prevention (VIP) Study
University of California San Francisco

About the UFO Model



ESTABLISHED 1996

A series of community-based research studies of HIV, HBV and HCV, health consequences of drug use, vaccine feasibility and adherence in young adult injectors in San Francisco

Source: University of California San Francisco, Center for AIDS Prevention Studies http://caps.ucsf.edu/ufo-study/

The UFO Model A hep C intervention for young adult IDU

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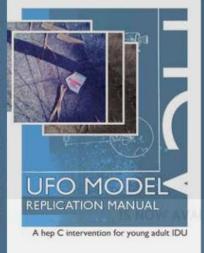


Are you seeing this among young adults in your community?

- * Addiction to prescription opiates (like oxycontin) that turns into injecting
- * Hepatitis C (HCV) infections
- * Drug overdoses

If so, the UFO Model could be helpful







GET STARTED

ASK QUESTIONS

CONNECT

PROVE IT

UFO Model Approach







Cultural competency/non-judgment Youth-centered focus Outreach and consistency Collaboration and referrals

Core Components







Outreach and education
Youth-centered referrals
Drop in center
Syringe access
HCV testing and HAV/HBV vaccination
Education and support groups

HCV Transmission Risk – It's All About the Blood



The Drug Injection Process



Add drug to cooker/spoon



Add water



Heat



Add cotton filter



Draw up liquid into syringe



Tie on a tourniquet to make vein more prominent



Clean injection site with alcohol wipe



Inject drug



Put pressure on injection site to stop bleeding



Dispose of equipment in sharps container

Source: Images courtesy of Chicago Recovery Alliance

Sample Safer Injection Kit



- 1. Empty bottle
- 2. Bleach (optional)*
- 3. Band-Aid
- 4. Sterile water and saline solution
- 5. Tourniquet
- 6. Bottle cap or "cooker"
- 7. Cotton pellets
- 8. Syringe
- 9. Safer injection instructions
- 10. Alcohol wipes

^{*} Many SEPs no longer distribute bleach as it is not necessarily effective in killing HCV

Core HCV Prevention Message







Do not share needles or injecting equipment (e.g. cookers, cottons, water, tourniquets)! Always use your own stuff and use it ONCE Use "a new kit for every hit"

WHERE to get new equipment

Alameda

City of Sacramento

City of San Diego

Contra Costa

Fresno

Humboldt

Lake

Los Angeles

Marin

Mendocino

Monterey

San Francisco

San Luis Obispo

San Mateo

Santa Barbara

Santa Clara

Santa Cruz

Shasta

Sonoma

Ventura

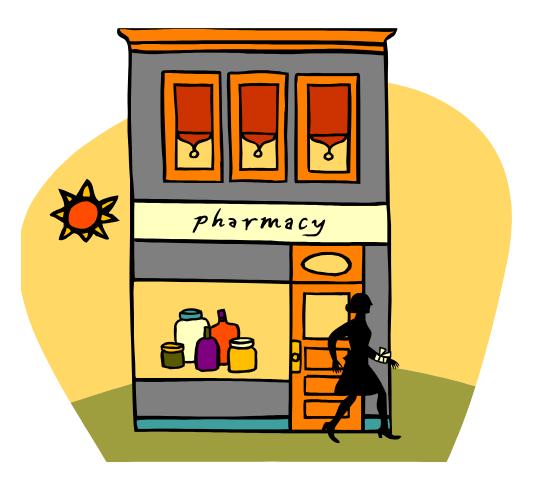
Yolo





Source: http://www.cdph.ca.gov/programs/aids/Pages/OASyringeAccess.aspx

WHERE to get new equipment



All pharmacies in California may sell up to 30 syringes to adults without a prescription

Source: http://www.cdph.ca.gov/programs/aids/Documents/SAPharmacyList.pdf

HOW to avoid sharing equipment



Label your equipment so you know it's yours Keep it all in one place so it doesn't get mixed up Dispose of your equipment after use, ideally in a biohazard container

More HCV Prevention Messages





Get tested for hepatitis C Know the status of your injecting partners Teach your injection partners how to be safe

More HCV Prevention Messages



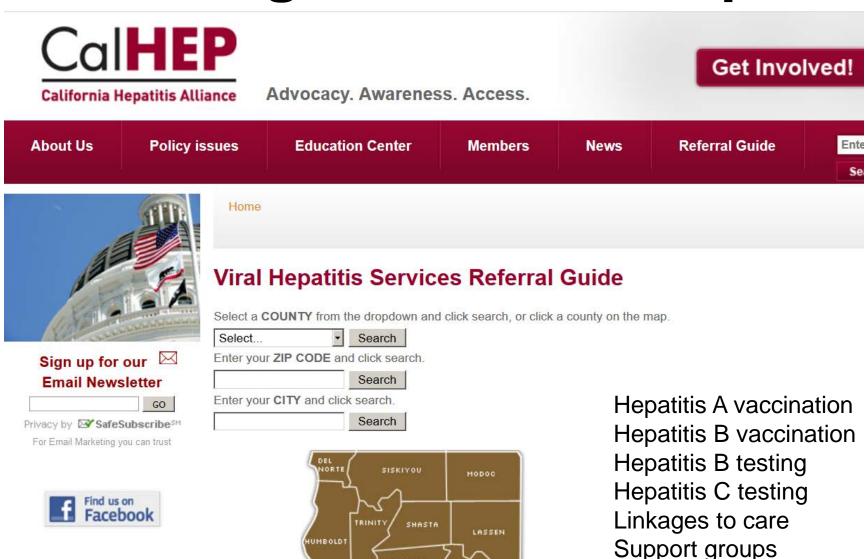




If someone else injects you, make sure they inject you first and themselves second Avoid sharing tattoo eqpt., razors, nail clippers

Get vaccinated against hepatitis A and hepatitis B

WHERE to get tested for hep C



Syringe exchanges

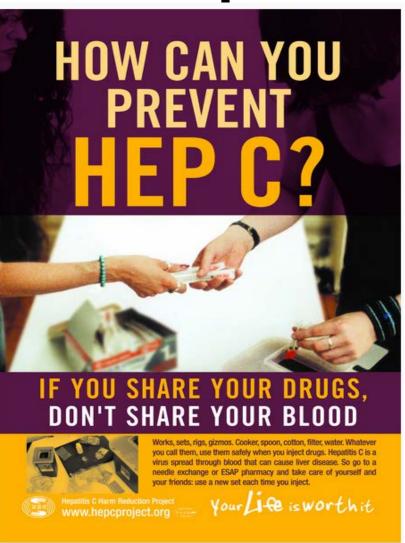
Source: http://calhep.org/referralguide.asp

HCV Myths Debunked



You CANNOT get hepatitis C from yourself Bleach does NOT kill hepatitis C Hepatitis C CAN be treated and cured

HCV prevention materials



About Hepatitis C Exposure

Imagine your body is a castle, and Hep C is a dragon.

Any time you share needles or equipment you put yourself at risk for Hep C, and the Hep C dragon can storm your castle.





Your body fights back by creating antibodies.



If you receive a positive Hep C antibody test result, it means you have been exposed to the virus. The next step is to get another blood test to look for the virus. About 30% of people who are exposed to the Hep C virus will clear it and kick it out of their body.

You may have Hep C and not even know it.

If you do have the virus, you might not feel sick. The dragon can sleep inside the castle walls for years before waking up to affect your liver.

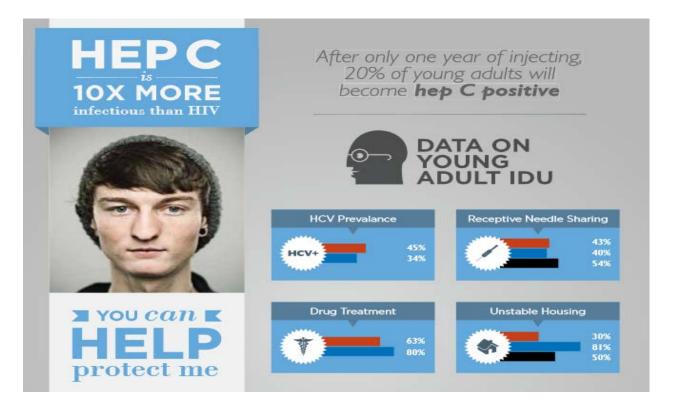


PROTECT YOURSELF & OTHERS FROM THE HEP C DRAGON
Use a *clean needle* and *new equipment* every time.

Source: <u>www.harmreduction.org</u> Source: <u>www.u</u>

Source: www.ufomodel.org

WHAT you can do to prevent HCV



Find out what drugs youth in your community are using and how Find out where to refer young IDUs for injection equipment and HCV testing Integrate HCV testing into your services

Source: www.ufomodel.org

Contact Information

Caycee K. Cullen

VIP Study (Vaccination is Prevention)

Recruitment and Retention Coordinator

Phone: 415-298-3108

Email: CCullen@psg.ucsf.edu

www.ufomodel.org

Questions?



Questions for Discussion

- How do these findings compare with what you are seeing in the field (e.g., HIV/STD partners services and disease investigations)?
- What kinds of questions (if any) do you get during trainings or in the field about hep C?
- What resources can local health departments and community-based organizations leverage to increase HCV awareness among youth who may be using prescription drugs or injecting?

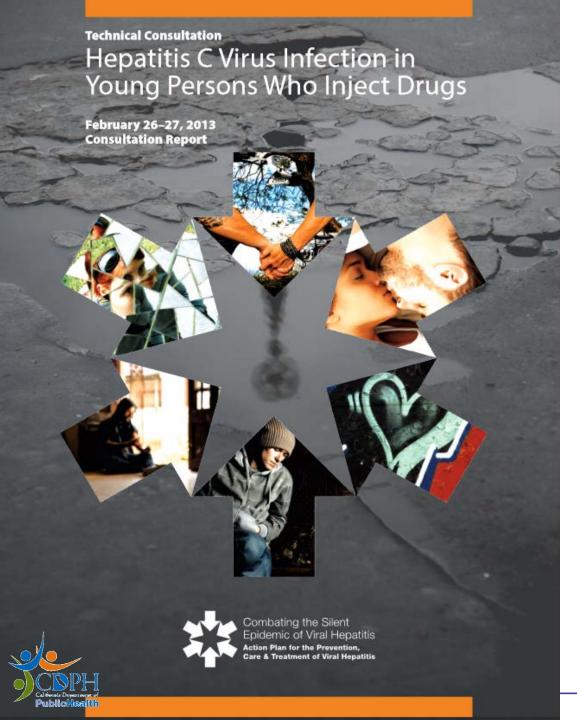


Possible roles for local health departments, educators, providers

- Integrate education on misuse of prescription opiates and HCV risk into sex and drug education curricula for youth
- Provide referrals to local syringe exchange programs, pharmacies that sell syringes and to local opiate replacement therapy programs
- Integrate HCV testing into HIV testing services, HIV/STD partner services?



What else?



Topline Strategies Identified

- Create community-led education and messaging strategies on hepatitis C risks, injection transmission risks (e.g., sharing ancillary injection equipment), and HCV testing resources.
- Improve and increase infrastructure for HCV surveillance and data collection.
- Create age-appropriate (e.g., young adult) substance use and hepatitis C interventions and prevention strategies that are evidence based and effective.
- Expand both community-based and basic science research activities to better understand how to effectively address the emerging crisis of hepatitis C infection among young IDUs.

Meeting Themes

- Understand the influence of family.
- Use adolescent- and youth-appropriate strategies.
- Include the voices of young people.
- Address social networks.
- Expand access to sterile preparation and injection equipment for drug users who cannot or will not stop injecting.
- Leverage opportunities related to advances in HCV treatment.
- Address HCV surveillance gaps.
- Use community-level interventions to address systems barriers to prevention, treatment and care services.
- Foster a coordinated federal and private sector response to this public health issue.

Additional Resources

CDC, Division of Viral Hepatitis

www.cdc.gov/hepatitis

CalHEP viral hepatitis services referral guide

http://calhep.org/referralguide.asp

 CDPH, Office of AIDS, Syringe Access Information for California, including informational materials for pharmacists

www.cdph.ca.gov/programs/aids/Pages/OASyringeAccess.aspx

CDPH, Office of AIDS, HCV Rapid Testing Guidelines

www.cdph.ca.gov/hcvtest

CDPH Office of Viral Hepatitis Prevention

www.cdph.ca.gov/programs/pages/ovhp.aspx

Harm Reduction Coalition

http://harmreduction.org/issues/syringe-access/



Contact Information

Rachel McLean, MPH

Viral Hepatitis Prevention Coordinator/

STD Healthcare Policy Analyst

STD Control Branch

California Department of Public Health

Phone: 510-620-3403

Email: Rachel.McLean@cdph.ca.gov

Website:

www.cdph.ca.gov/programs/pages/ovhp.aspx

