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## Sexual Transmission of Hepatitis C: Research Update and Implications for Gay Men's Health Providers



- Scott Anderson, CATIE
- Rob Gair, Positive Health Services
- Deb Schmitz, Pacific Hep C



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# **Sexual transmission of hepatitis C: HIV-positive gay, bi and other men who have sex with men**

Scott Anderson, hepatitis C researcher/writer, CATIE  
April 25<sup>th</sup>, 2017.

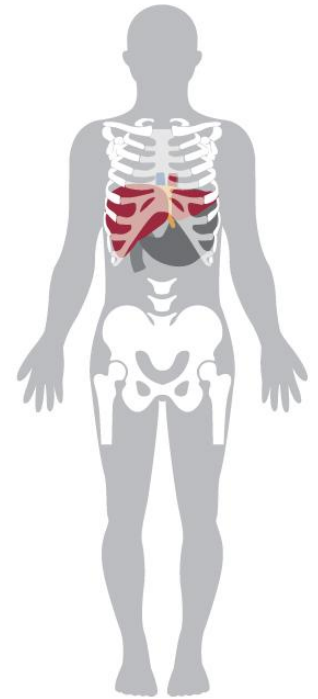
# Overview

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- What is hepatitis C (HCV)?
- Biology of the transmission of hepatitis C – overview
- Why a focus on sexual transmission of HCV in HIV+ gay, bi and other men who have sex with men (GBMSM)?
- Rates of hepatitis C in GBMSM
- Factors in the sexual transmission of HCV
- Prevention of the sexual transmission of HCV

# What is hepatitis C?

- Virus that damages the liver
- In general, transmitted blood-to-blood
- An estimated 44% of people in Canada with HCV don't know they have it<sup>1</sup>
- There are highly effective treatments that cure the virus



# Populations most affected by hepatitis C <sup>1</sup>

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- Current or former injection drug users
- Prisoners
- Immigrants and newcomers from high-prevalence countries
- Gay, bisexual and other men who have sex with men
- Indigenous people
- Homeless people
- Older adults

# Biology of hepatitis C transmission

- Blood-to-blood transmission
  - Borrowing or lending injection drug use equipment (most common)
- Hepatitis C virus has also been found in semen<sup>2</sup> and rectal fluid<sup>3</sup>



# Hepatitis C in semen and rectal fluid

- Semen
  - One-third (11/33) of HIV-positive men with HCV shed HCV in their semen<sup>2</sup>
- Rectal fluid
  - HCV found in rectal fluid of 47% (20/43) of HIV-positive men with HCV in the study<sup>3</sup>

# Why a focus on HIV-positive GBMSM?

- In 2004, reports of an increase in hepatitis C in HIV-positive GBMSM men in London, England
- Low reported rates of injection drug use (IDU)
- High reported rates of condomless anal sex<sup>4</sup>

Hepatitis C as a sexually transmitted infection



# Rates of hepatitis C in gay and bisexual men

- Hepatitis C prevalence
  - HIV-positive GBMSM men- 8.3%
  - HIV-negative GBMSM men – 1.5%
  - GBMSM men who use injection drugs – 34.8%<sup>5</sup>
- Evidence that sexual transmission among HIV-positive GBMSM men is increasing<sup>6,7,8,9</sup>

# M-track

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- 5% of gay men and other men who have sex with men were antibody positive for hepatitis C (2005–2007)
- Higher in HIV-positive GBMSM men
  - HIV+ GBMSM men: 7.7%
  - HIV- GBMSM men: 1.4%<sup>10</sup>

## Rates of hepatitis C in GBMSM men- B.C

- 4.9% (56/1132) were hepatitis C positive
- 84.9% of HCV positive people reported a history of injection drug use
- For people without an IDU history, having hepatitis C was associated with bleeding after receptive anal sex and a previous diagnosis of gonorrhoea<sup>11</sup>

# Sexual transmission of hepatitis C

- Factors linked to the sexual transmission of HCV in HIV-positive GBMSM men<sup>5,12,13</sup>
  - Condomless anal sex
  - Serosorting
  - Other STIs
  - Longer or rough condomless anal sex
  - Fisting
  - Multiple sex partners/ Group sex
  - Drug use before or during sex
  - Use of sex toys

# What about HIV-negative GBMSM?

- Amsterdam study of GBMSM seeking PrEP found 4.8% (18/375) had hepatitis C<sup>14</sup>
  - Four people reported injection drug use
  - More anal sex partners
  - More likely to have been diagnosed with an STI in the past 6 months
  - More likely to have used drugs during sex

# Prevention of sexual transmission of HCV

- Using a new condom for each partner
- Using a new glove each time for fisting
- Using individual lube containers
- Don't share drug use equipment
- Use a new condom on sex toys for each partner
- Getting tested regularly for hepatitis C and other STI's

From: Hep C and sex for gay, bi and queer men, AIDS committee of Toronto

# Summary- sexual transmission of HCV

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- Sexual transmission of HCV is mainly occurring among HIV-positive GBMSM men
- HCV most likely passed through blood, but may also be passed by semen or rectal fluid
- Sexual transmission is linked to condomless anal sex, serosorting, having other STI's, rough sex, fisting, group sex, drug use

# Resources



- [catie.ca](http://catie.ca)
  - Ordering Centre
  - Hep C in-depth guide



# References

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# Contact

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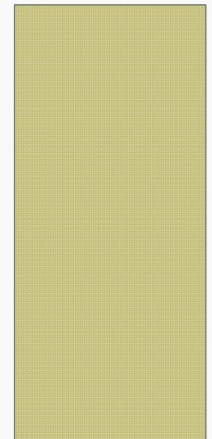
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# SEXUAL TRANSMISSION OF HEPATITIS C

APR 26, 2017

R. GAIR



# DIAGNOSIS

- Spring of 2007
  - HIV-positive x 9 years
  - Stable, undetectable VL
  - Liver enzyme abnormalities on routine labs
    - MD: “Were you partying when you got your labs done?”
  - HCV diagnosis a few weeks later
    - No obvious risk factors
  - Peer/friend:
    - Diagnosed the same way in 2004
    - Sex party prior with several people
      - No needles
      - Called to inform, a few already infected
      - Concluded that blood exchange occurred during group sex
      - Common theme among peers



"I know nothing about the subject,  
but I'm happy to give you my expert opinion."

# FIRST CASE REPORTS

- Emerged in Europe in 2000
- Primarily HIV+ MSM with no history of injecting drugs
- HCV in semen/vaginal fluids
  - Intermittently identified
  - No cases of heterosexual transmission
  - Few cases in HIV neg MSM, even in UAI
    - Attributed to injecting drugs
- Several proposed mechanisms
  - Through semen or rectal fluids in condomless sex
  - Co-infections with ulcerative STIs
  - “rough” , “risky” , or “prolonged” sex
  - Exposure to blood through sharing of partners in group sex

# WHAT IS REALLY GOING ON HERE?

- Literature searches
  - Lots of case reports, and case series by now
  - Qualitative data, suggesting “risky sex”
    - Tendency to sensationalize this
    - No specific mechanisms identified
    - Studies associated UAI but failed to adjust for other behavioral risk factors
    - HCV outbreaks linked to specific viral clusters, unrelated to injection drug use
  - Frank Talk

## FRANK TALK

CBRC/PHSA Grant

Discuss/educate

Concept that HCV  
passed in blood during  
sex

Careful to include  
condoms in the  
discussion

Lead to team seminars  
with Jeff Reinhardt and  
Axel Schmidt





# TROUBLE WITH BLEEDING

- 2006-2008 case-control study
  - Behavioural survey of MSM in Germany
  - HIV+ MSM, acutely HCV-infected
  - No injection drug use
  - HIV+ MSM without HCV as matched controls
  - 34 cases; 67 controls
  - Conclusions
    - Sex practices leading to rectal bleeding and snorting drugs were risk factors
    - Marked overlap of exposures
      - Group sex, NADs, receptive fisting, rectal bleeding, PDE-5 inhibitors
    - Lots of HIV-seroconcordant casual partners
    - Conclusion: Blood not semen is the critical medium for exposure
- Schmidt AJ, et al. Trouble with bleeding: Risk factors for acute hepatitis C among HIV-positive gay men from Germany – A case control study. PLOS One 6(3):E17781

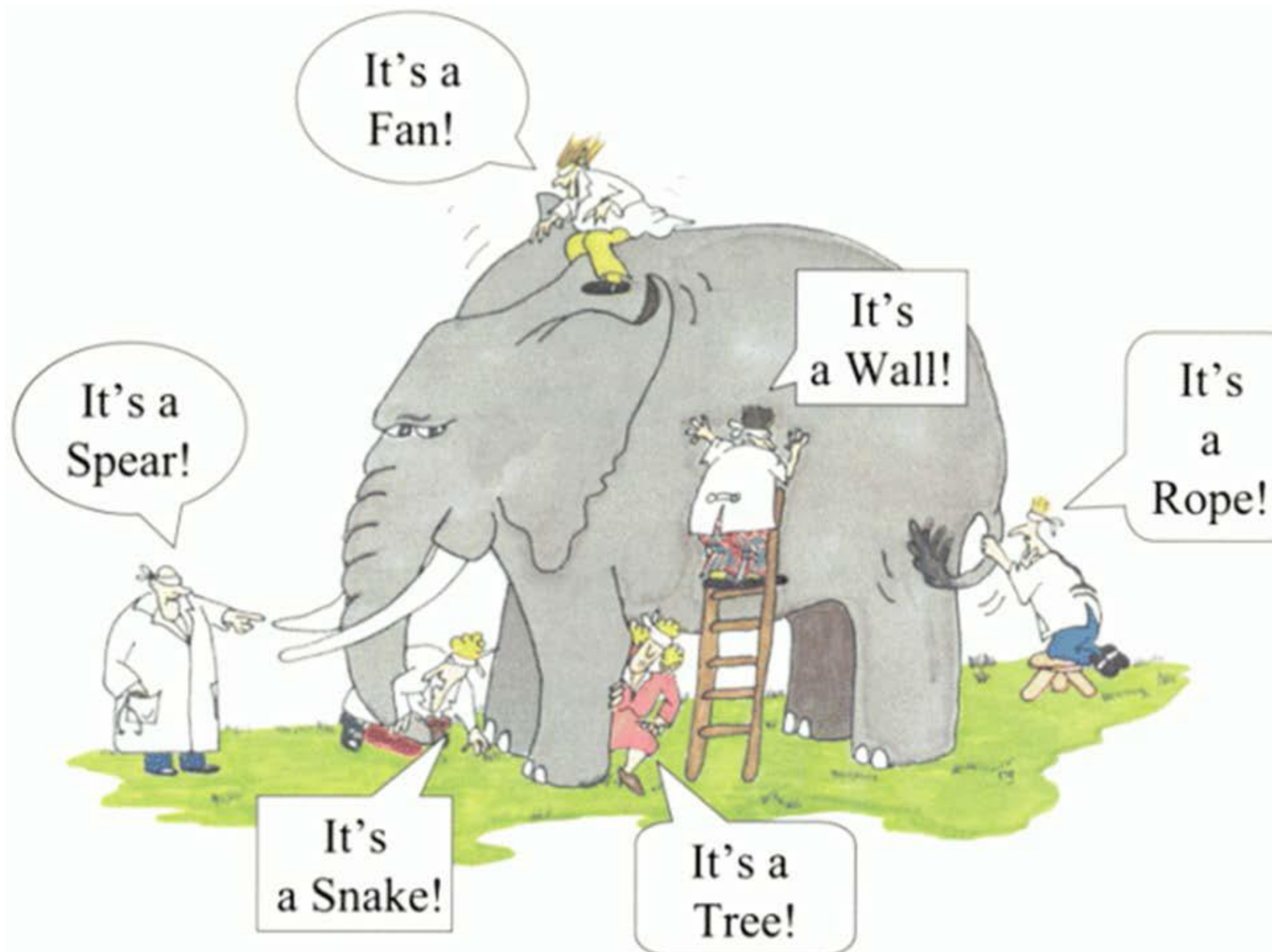
# USE A CONDOM!

- 2 studies published in 2016
  - Mount Sinai in New York
  - HCV levels found in semen and rectal fluid
- Semen: 59 samples from 39 men
  - Collected at home by masturbation
  - HCV found in 27% of semen samples from 33% of men
  - Did not always correlate with HCV blood levels
  - Compared to debate around HBV transmission > 30 years ago
  - Suggests possible “non-bloody” fomite transmission via rectal fluid
  - Use a condom!

# USE A CONDOM!

- Rectal fluid: One sample each from 43 men
  - HCV shedding noted in 47% of samples
  - Collected with polyester swabs
    - Deemed okay if no “visible” blood was on them
  - Correlated better with blood levels
  - Admits that identification of HCV does not mean its infective
  - Rectal shedding coupled with semen shedding is the likely source
  - NOT BLOOD
  - DEFINITELY USE A CONDOM!
- Turner et al. [Open Forum Infect Dis.](#) 2016 Mar 11;3(2):ofw057
- Foster et al. Clin Infect Dis. 2017;64:284-8.

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# WHAT NOW?

- Sharing of HCV contaminated blood vs. HCV in sex fluids
  - Sharing (blood) vs. shedding (semen, rectal fluids)?
  - Qualitative vs. quantitative
- Low numbers of new infections overall
  - Clearly not easily transmitted sexually vs. HIV or other STIs
  - If semen and rectal fluids, why not blood too, why not larger numbers?
  - How does HIV + factor into this?
- Just use a condom
  - Is it simplistic or unrealistic?
  - Age of TaSP and PrEP
  - HCV stigma
- HCV infection has changed
  - Treatment is easier and more effective but \$\$\$
- Who has good ideas that don't scare, sensationalize or stigmatize?



"Sure, we can spend all day nitpicking specifics but aren't sweeping generalities so much more satisfying?"





## Sexual Transmission of Hepatitis C: Research Update and Implications for Gay Men's Health Providers

April 23, 2014  
WEBINAR

# PACIFIC HEPATITIS C NETWORK

## VISION

BC free from new hepatitis C infections with the best possible care and treatment for those living with the virus.

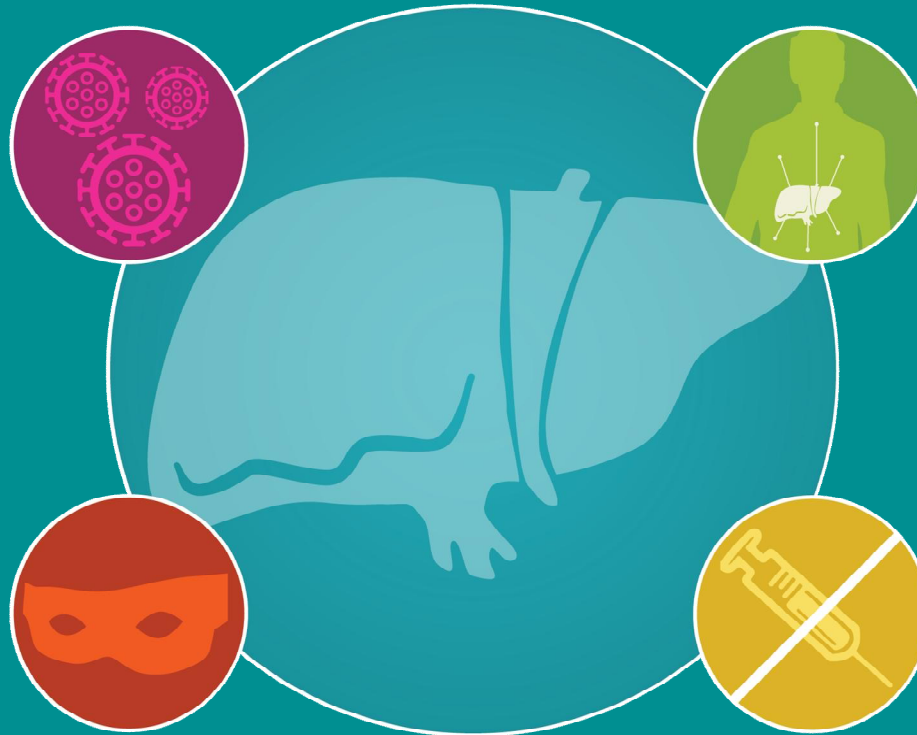




# DID YOU KNOW?

**HEPATITIS C IS A  
VIRUS THAT  
CAUSES DAMAGE  
TO THE LIVER.**

**SILENT KILLER:  
OFTEN NO  
SYMPTOMS FOR  
DECADES**



**THE LIVER DOES  
OVER 500 JOBS  
FOR THE BODY**

mild-to-severe non-specific symptoms can be experienced even without clinical sign of liver disease

**HAS NO  
VACCINE**



# Advocacy



No one left behind.

# FIVE POINT ACTION PLAN!!!!

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- ① Refresh BC Hepatitis C Strategy
- ② Update Testing Guidelines
- ③ More Continuum of Care Resources
- ④ Expanded Awareness
- ⑤ Decrease Stigma

No one left behind.

A comprehensive approach tailored to diverse populations that ensures people living with and at-risk for hep C in BC are appropriately identified, linked with equitable care, are monitored and, when appropriate, treated.

No one left behind.

## Primary Care Providers in BC: Hep C 101 Outreach and Education Project

GOAL 1: Health care system enablers in place for hep C.

GOAL 2: PCP in BC have and apply up-to-date hep C information in their practices and know about and use referral pathways for specialist care.

GOAL 3: All people living with hep C in BC understand hep C, how to access the care, support and treatment available to them and are motivated to engage in testing and care

No one left behind.

**F**AIRY TALES ARE MORE THAN TRUE --  
NOT BECAUSE THEY TELL US DRAGONS **EXIST**,

BUT BECAUSE THEY TELL US  
DRAGONS CAN BE  
**BEATEN.**

-NEIL GAIMAN



The Oatmeal

Pacific  
Hepatitis C  
Network

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# Hep C TIP



## HEPATITIS C TREATMENT INFORMATION PROJECT

[HOME](#)[HEP C TREATMENT](#)[BC'S PHARMACARE COVERED TREATMENTS](#)[TREATMENT COVERAGE ACROSS CANADA](#)[CONSIDERING TREATMENT](#)[HEP C TIP NEWS](#)[SITE MAP](#)

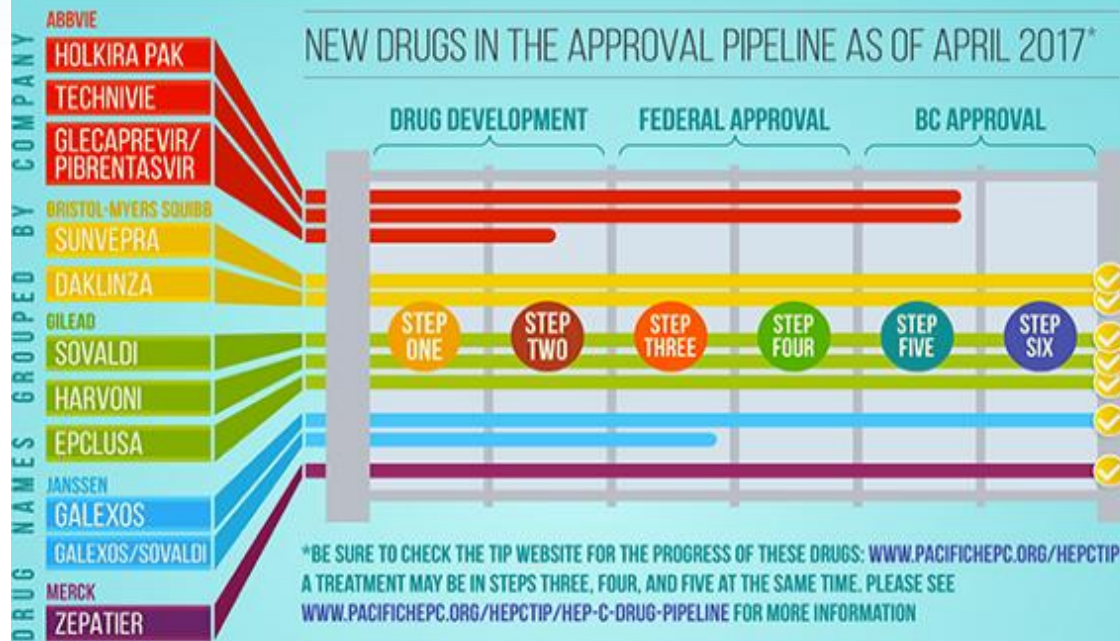
HEP C TIP NEWS  
SIGN-UP

HOME

No one left behind.

# NEW HEP C TREATMENTS

~ STEPS IN THE NEW HEP C DRUG DEVELOPMENT AND APPROVAL PROCESS IN CANADA AND BC ~



## STEPS IN THE DRUG APPROVAL PROCESS

- STEP ONE** - TESTING
- STEP TWO** - CLINICAL TRIALS/NEW DRUG SUBMISSION
- STEP THREE** - NOTICE OF COMPLIANCE + DRUG IDENTIFICATION NUMBER/NOC + DIN
- STEP FOUR** - COMMON DRUG REVIEW BY CADTH AND PCPA PROCESS
- STEP FIVE** - PROVINCIAL REVIEW
- STEP SIX** - PHARMACARE AVAILABILITY



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PACIFIC HEPATITIS C NETWORK

- Launched July 2014
- Tracked new era DAAs through approval pipeline
- Contains up-to-date treatment and treatment access information for BC



# Hep C Tip

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- ☐ A fibrosis stage F2 or greater (Metavir scale or equivalent).

**OR**

- ☐ A fibrosis stage less than F2 (Metavir scale or equivalent) AND one or more of these additional conditions:
  - ☐ Co-infection with HIV or hepatitis B virus.
  - ☐ Post organ transplant (i.e. liver and/or non-liver organ transplant).
  - ☐ Extra-hepatic manifestations. Supporting documentation must be submitted.
  - ☐ Chronic kidney disease stage 3, 4 or 5 (i.e. eGFR < 60mL/min/1.73m<sup>2</sup> for at least 3 months).
  - ☐ Co-existent liver disease with diagnostic evidence for fatty liver disease (eg. non-alcoholic steatohepatitis). A copy of ultrasound report is required.
  - ☐ Diabetes and receiving treatment with anti-diabetic medication(s).
  - ☐ Woman who is planning to get pregnant within the next 12 months.

<http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/pharmacare/prescribers/limited-coverage-drug-program/limited-coverage-drugs-ledipasvir-sofosbuvir>

# HELP4HEP – Hep C Peer Navigation Helpline

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**Get the most important thing of all.  
Someone to talk to.**

Help-4-Hep is a non-profit, peer-peer, toll-free helpline for those with concerns about hepatitis C.

The helpline is toll-free, completely confidential and free-of-charge. Starting May 15 call toll-free at 1 888 411 7578. We'll be there.

For more information and for updates and contact information please go to:

**[help4hepbcc.ca](http://help4hepbcc.ca)**

We hope to talk soon!



# HELP4HEP – Hep C Peer Helpline

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## LAUNCHING MAY 15

- **Peer Support**
- **Referrals**
- **Education**
- **Provincial reach**
- **For any person living with hep C in BC**
- **Health care providers and family – anyone concerned about hep C**

# HELP4HEP – Hep C Peer Helpline



[Home](#) [Software](#) [Pricing](#) [Resources](#) [Testimonials](#) [About](#) [Blog](#) [Contact](#) 



## Volunteer & Staff Mgmt.

Manage contact information, shifts, and other personalized data and communicate using integrated feedback tools, automated emails, internal chatboards, news and events.

[More Features](#)



## Online Shift Scheduling

Authorized staff and volunteers can securely sign up for shifts on your tailored online scheduling system, receiving email reminders to ensure shifts are covered.

[More Features](#)



## Call Management

Customizable forms allow calls, chats or other types of contact to be logged and organized within iCarol for easy and secure access and analysis.

[More Features](#)



## Live Chat and Texting

Offer your service the way it's expected by adding live chat and texting- fully integrated within your iCarol system you will benefit from the robust security and reporting.

[More Features](#)



## Information & Referral

Organize and quickly search your iCarol resource database by keyword, geography, agency, program or site; add mobile apps, live chat and web access to offer even better service delivery.

[More Features](#)



## Statistics & Reporting

Analyze your operations in order to secure funding and improve services with unlimited ways of slicing and representing your data in attractive charts and reports.

[More Features](#)

<http://www.icarol.com/why-icarol/#whyicarol9>



# HELP4HEP – Hep C Peer Helpline



## iCarol

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### Program Manager



#### Maryland 2-1-1

State of Maryland, USA "The commitment to providing excellent customer service is the hallmark of iCarol." - Sandra B, Director 2-1-1 Maryland at the United Way of Central Maryland



#### 211 Canada

Canada "We've been very impressed by the responsiveness and professionalism of the whole iCarol team. Deploying one software solution for 211 Canada-wide poses many challenges. These have been tackled both creatively and sensitively by a company truly committed to help us take 211 to an entirely new level." -Bill M., Executive Director

## Questions we have

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- ① What steps can we take to make sure Help4Hep BC can engage and retain (when appropriate) gay, bi and men who have sex with men?
- ② Is there anything more you feel a service provider would like to know about Help4Hep in order to feel comfortable referring someone?
- ① Would you use this service yourself (as a service provider)?
- ② What services can we list that provide supports and services to gbMSM in the Lower Mainland and in the rest of BC?

# PHCN

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[www.help4hepbcc.ca](http://www.help4hepbcc.ca)

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No one left behind.



**Questions?**

**Please evaluate this webinar.**

**Thank you!**

