British HIV Association
BHIVA

in partnership with

anrs France REcherche Nord & sud Sida-hiv Hépatites
Agence autonome de l'Inserm

BASL British Association for the study of the Liver

BVHG British Viral Hepatitis Group

DAIG Deutsche AIDS-Gesellschaft e.V.

GEHEP
GRUPO DE ESTUDIO DE HEPATITIS VÍRICAS - SEIMC

SIMIT Società Italiana di Malattie Infettive e Tropicali

Dr Emma Page

Leeds Teaching Hospitals Trust, UK

COMPETING INTEREST OF FINANCIAL VALUE ≥ £1,000

Statement
None
Date: December 2015

The Leeds Teaching Hospitals NHS
NHS Trust

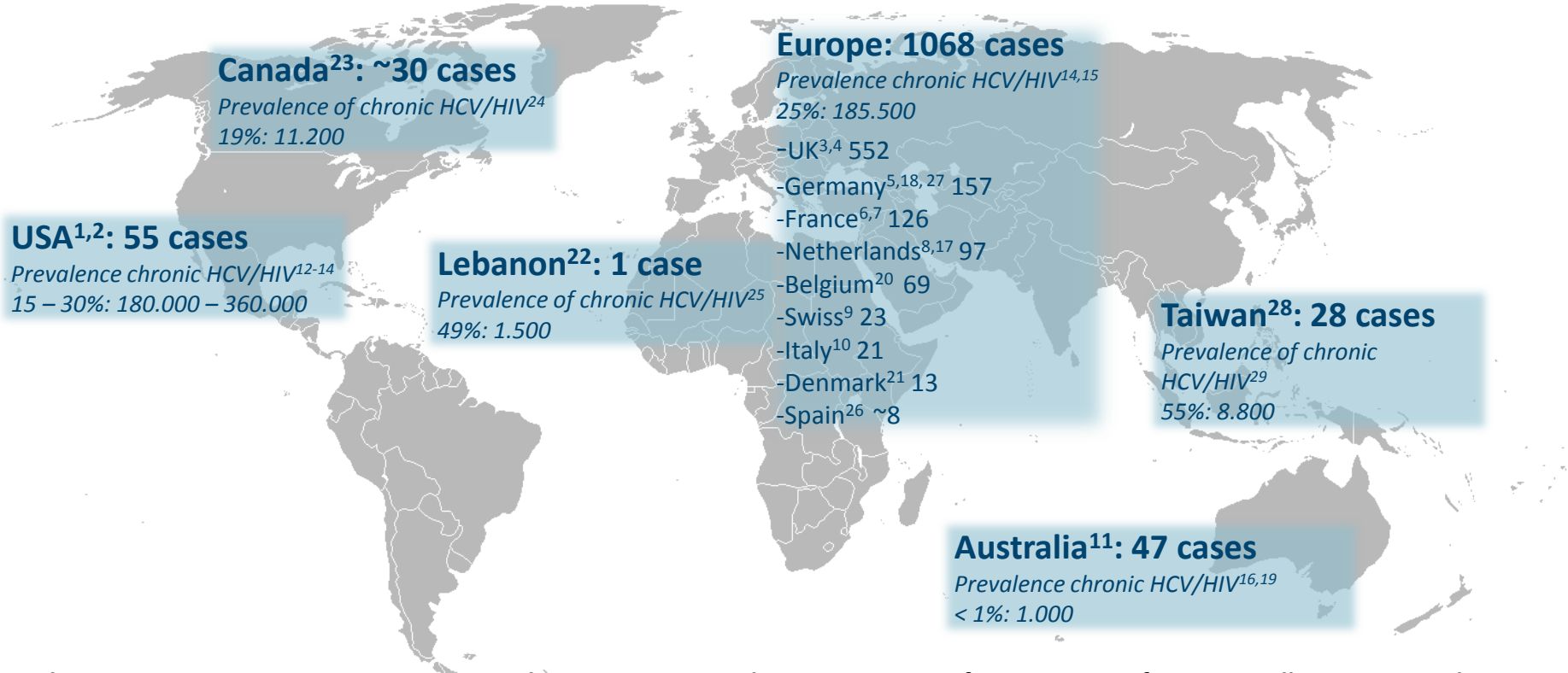
Acute hepatitis C what is the future?

Dr Emma Page MBBS MRCP MD(Res)
Leeds Teaching Hospitals NHS Trust

The Future of acute hepatitis C

The Future of acute hepatitis C

The epidemic



1:Luetkemeyer JAIDS 2006; 2:Cox Gastroenterology 2008; 3:Giraudon Sex Transm Infect 2008; 4:Ruf Eurosurveill 2008; 5:Vogel CID 2009; 6:Gambotti Euro Surveill 2005; 7:Morin Eur J Gastro Hepat 2011; 8:Urbanus AIDS 2009; 9:Rauch CID 2005; 10:Gallotta 4th Works. HIV & Hep. Coinf. 2008; 11:Matthews CID 2009; 12:Sherman CID 2002; 13:Backus JAIDS 2005; 14:UNAIDS Report 2008; 15:Soriano JID 2008; 16:Matthews CID 2011; 17:Arends Neth J Med 2011; 18:Neukam HIV Med 2011; 19:Pfafferott PLoS One 2011; 20:Bottieau Euro Surveill 2010; 21:Barfod Scand JID 2011; 22:Dionne-Odom Lancet Infect Dis 2009; 23:Hull personal conversation 2011; 24:Remis Public Health Agency of Canada 2002; 25:UNGASS Country progress Report 2010; 26:Soriano personal conversation 2011; 27:Boesecke 18thCROI Boston 2011 abstract #113; 28:Sun Liver International 2011; 29:Lee J F Med Assoc 2008

The Future of acute hepatitis C

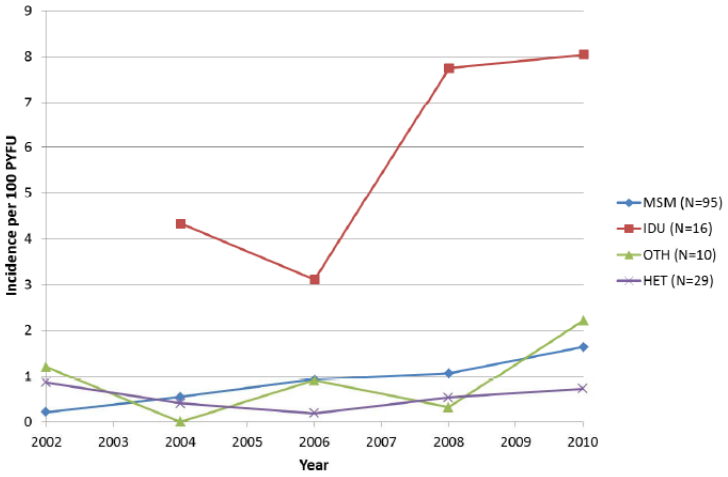
Current incidence

EuroSIDA[1]

n = 4296 HIV+

Incidence: 0.79/100 py

MSM incidence highest 2010 at > 1.5/100 py



1. Rockstroh JK et al. 11th International Congress on Drug Therapy in HIV Infection.

The Future of acute hepatitis C
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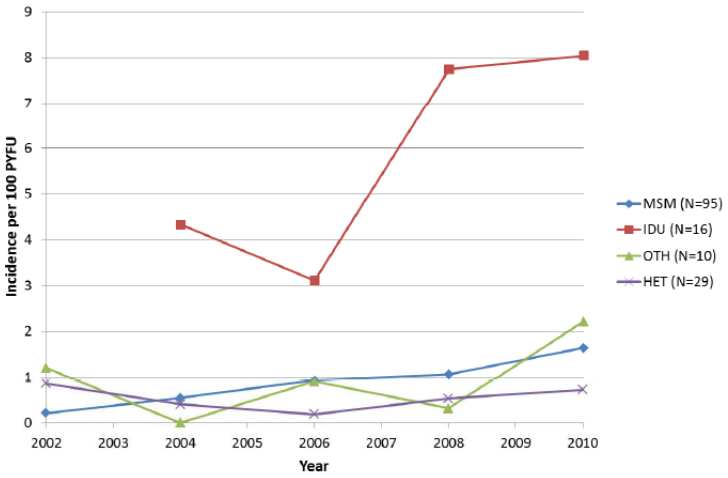

Hepatitis C Virus Infections in the Swiss HIV Cohort Study: A Rapidly Evolving Epidemic

Gilles Wandeler,[1,2,a] Thomas Gsponer,[2] Andrea Bregenzer,[3] Huldrych F. Günthard,[4] Olivier Clerc,[5] Alexandra Calmy,[6] Marcel Stöckle,[7] Enos Bernasconi,[8] Hansjakob Furrer,[1] Andri Rauch[1,a]; and the Swiss HIV Cohort Study

[1]Department of Infectious Diseases, Bern University Hospital and University of Bern, [2]Institute of Social and Preventive Medicine, University of Bern, [3]Cantonal Hospital, St Gallen, [4]Division of Infectious Diseases and Hospital Epidemiology, University Hospital Zurich, University of Zurich, [5]University Hospital Lausanne, [6]University Hospital Geneva; [7]University Hospital Basel, and [8]Regional Hospital, Lugano, Switzerland

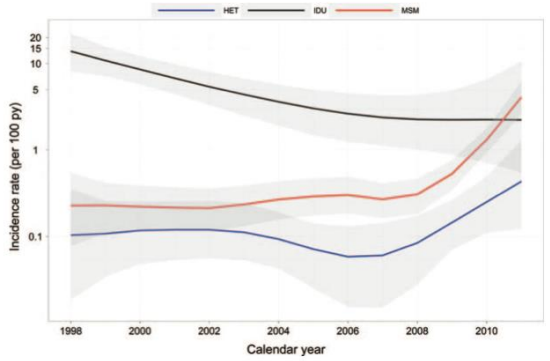

Figure 2. Hepatitis C virus infection incidence rates by transmission group (shaded: 95% credible intervals). Abbreviations: HET, heterosexual; IDU, injection drug user; MSM, men who have sex with men; py, person-year.

	n	1998	2011
		100py	100py
IDU	123	13.9	2.2
MSM	3333	0.2	4.1
HET	3144	<0.5	<0.5

1. Rockstroh JK et al. 11th International Congress on Drug Therapy in HIV Infection.

The Future of acute hepatitis C
Current incidence

Prevalent and Incident Hepatitis C Virus Infection Among HIV-Infected Men Who Have Sex With Men Engaged in Primary Care in a Boston Community Health Center

Shikha Garg,[1,2] Lynn E. Taylor,[2] Chris Grasso,[3] and Kenneth H. Mayer[3,4,5]

[1]Tufts Medical Center, Boston, Massachusetts; [2]Brown University, Providence, Rhode Island; [3]The Fenway Institute, [4]Harvard Medical School, and [5]Beth Israel Deaconess Medical Center, Boston, Massachusetts

CID 2013:56 (15 May) • HIV/AIDS

Boston Community Health Centre

Retrospective, 1997-2009

n = 379 HIV+ve MSM

1408 py follow up

23 (6%) AHC - 1.63/100 py

<u>Longitudinal data:</u>

'97 - '01	0
'01 - '04	6
'07 - '09	17

The Future of acute hepatitis C
Current incidence

Prevalent and Incident Hepatitis C Virus Infection Among HIV-Infected Men Who Have Sex With Men Engaged in Primary Care in a Boston Community Health Center

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CID 2013:56 (15 May) • HIV/AIDS

Incidence and Risk Factors for Incident Hepatitis C Infection Among Men Who Have Sex With Men With HIV-1 Infection in a Large Urban HIV Clinic in Tokyo

Takeshi Nishijima, MD,† Takuro Shimbo, MD, PhD,‡ Hirokazu Komatsu, MD, PhD,§ Yohei Hamada, MD,* Hiroyuki Gatanaga, MD, PhD,*† and Shinichi Oka, MD, PhD*†*

(*J Acquir Immune Defic Syndr* 2014;65:213–217)

Boston Community Health Centre

Retrospective, 1997-2009

n = 379 HIV+ve MSM

1408 py follow up

23 (6%) AHC - 1.63/100 py

<u>Longitudinal data:</u>

‘97 - ’01	0
’01 - ’04	6
’07 - ’09	17

AIDS Clinical Center Tokyo

Retrospective, 2005-2012

n = 753 HIV+ve MSM

2246 py follow up

21 (2.8%) AHC - 0.94/100 py

<u>Longitudinal data</u>:

’05 - ’06	0/100 py
’07 - ’08	0.3/100 py
’09 - ’10	0.8/100 py
’11 - ’12	2.5/100 py

The Future of acute hepatitis C

The Future of acute hepatitis C
the possibilities

Pessimistic view:

Ongoing / increased incidence

Optimistic view:

Reduction in incidence

The Future of acute hepatitis C

The Future of acute hepatitis C
evolution in substance use

Pessimistic view:

Ongoing / increased incidence

- **evolution substance use: Chem-Sex**

Optimistic view:

Reduction in incidence

The Future of acute hepatitis C
evolution in substance use

Gay club scene for years has normalized the use of substances

- associated with high risk sexual behaviour[1,2,3]
- associated with transmission of STI[4] and HIV[5,6]
- leads to less serosorting[7]

- Outbreak AHC in HIV positive MSM: IDU denied

1: McCarty-Caplan D. AIDS Behav 2014 [Epub ahead of print]. 2: Boone M AIDS Behav 2013:17;1883-1887. 3: Santos GM JAIDS 2013;63:540-544. 4: Heiligenberg M Sex Trans Dis 2012:39;518-527. 5:Chesney MA. Am J Public Health 1998;88:113-6. 6: Buchbinder SP. JAIDS 2005;39:82-9. 7: Hatfield LA. J Additc Dis 2009;28:208-18.

The Future of acute hepatitis C

evolution in substance use

COVER STORY

GETTING SLAMMED

Drug fucking your weekend away?

by Stuart Haggas
@GetStuart

They stand accused of destroying lives, and some say they're destroying the gay scene. Stuart Haggas looks at the truths and consequences of drugs like crystal meth, G and mephedrone.

The Future of acute hepatitis C
evolution in substance use

Social site and apps have made finding Chem-Sex easy and anonymous

The Future of acute hepatitis C
evolution in substance use

Social site and apps have made finding Chem-Sex easy and anonymous

IDU or 'slamming' has become more common place

The Future of acute hepatitis C
evolution in substance use

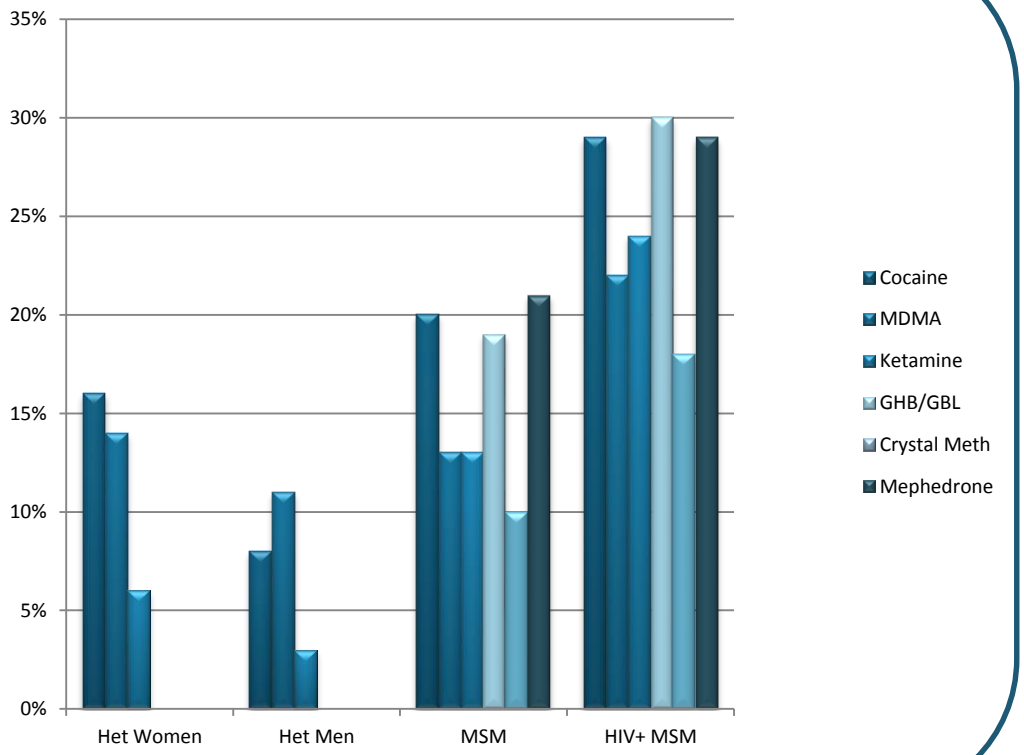
Recreational Drug Use Amongst GUM Attendees – 56 Dean Street, Chelsea and Westminster Hospital

Self completed survey – all attendees over 3 days

n = 540

% drug use in the last 6 mnths

- Het women: 25%
- Het men: 20%
- MSM: 40%
- HIV+ MSM: 50%



The Future of acute hepatitis C
evolution in substance use

	2005	2012	2013
Crystal Meth	**0%**		
GHB / GBL	**3.2%**		
Mephedrone	**0%**		

Of clients presenting to antidote in 2005 the most common drugs:

- Alcohol
- Cocaine
- Ecstasy
- Ketamine

antidote @friend LGBT drug and alcohol support

The Leeds Teaching Hospitals NHS NHS Trust

The Future of acute hepatitis C

evolution in substance use

	2005	2012	2013
Crystal Meth	**0%**	**40%**	
GHB / GBL	**3.2%**	**27%**	
Mephedrone	**0%**	**18%**	

antidote @friend
LGBT drug and alcohol support

The Leeds Teaching Hospitals NHS
NHS Trust

The Future of acute hepatitis C
evolution in substance use

	2005	2012	2013
Crystal Meth	**0%**	**40%**	**51%**
GHB / GBL	**3.2%**	**27%**	**46%**
Mephedrone	**0%**	**18%**	**64%**

The Future of acute hepatitis C
evolution in substance use

	2005	2012	2013
Crystal Meth	**0%**	**40%**	**51%**
GHB / GBL	**3.2%**	**27%**	**46%**
Mephedrone	**0%**	**18%**	**64%**

Of the Sex-Drug users presenting to antidote

- 95% are using to facilitate sex
- 49% injecting crystal and mephedrone (a decade ago – 0%)
- Average number sexual partners per “episode” is 5
- 75% are HIV positive
  - 60% report being non-compliant with ARV’s while “high”

The Future of acute hepatitis C
evolution in substance use

The Future of acute hepatitis C
DAA – reduced 'fear', infection & re-infection

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- **effective & less toxic DAA**

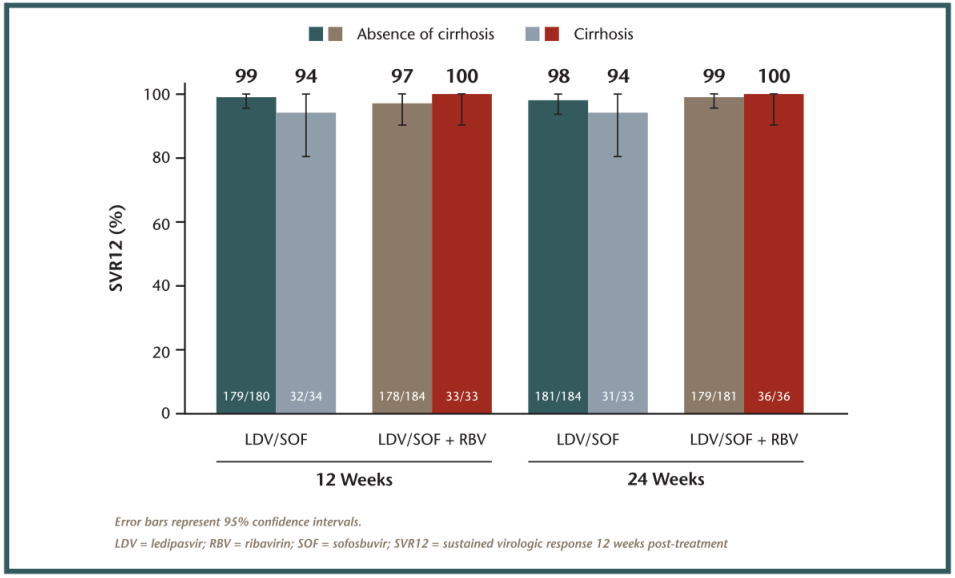
Optimistic view:

Reduction in incidence

The Future of acute hepatitis C

DAA – reduced ‘fear’, infection & re-infection

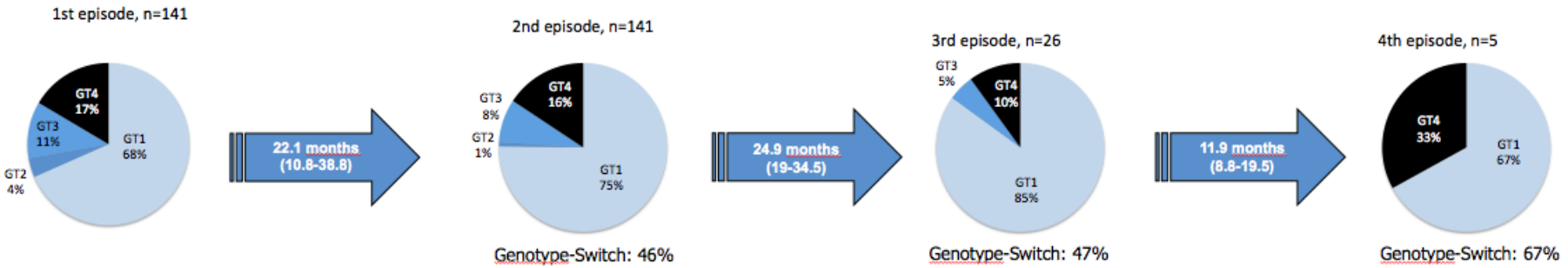
Figure 2. SVR12 rate by cirrhosis status



Error bars represent 95% confidence intervals.

LDV = ledipasvir; RBV = ribavirin; SOF = sofosbuvir; SVR12 = sustained virologic response 12 weeks post-treatment

The Future of acute hepatitis C re-infection

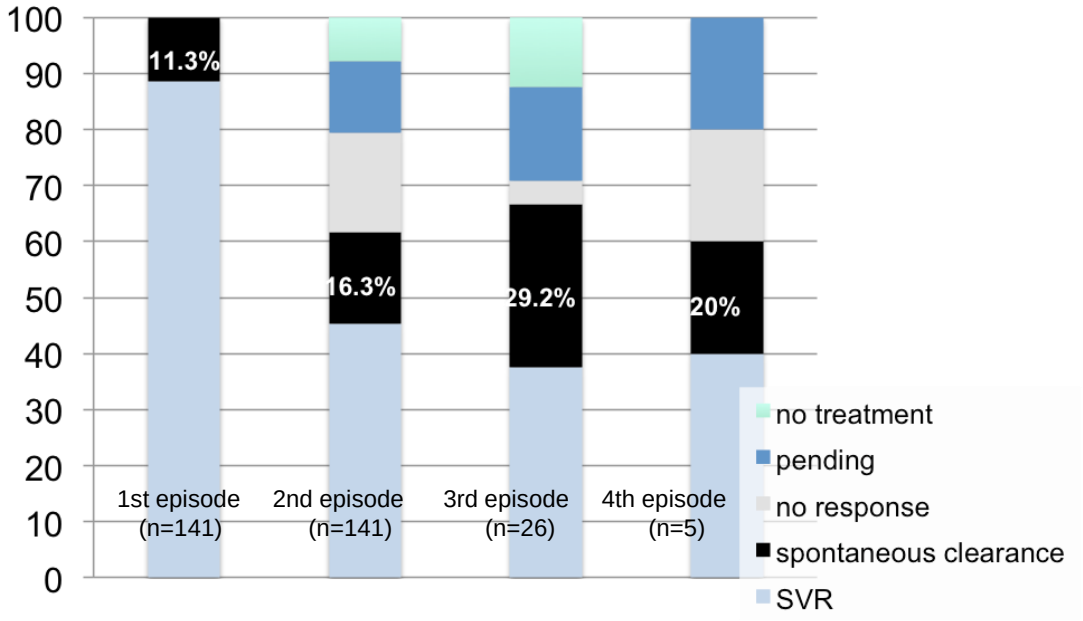


7 NEAT centers (from June 2006):
n = 553 (HIV+ MSM with SC or TC AHC)

141 at least 1 reinfection (25.5%)
1509 ps (median 2.1 years)

Incidence rate: 7.82/100 py

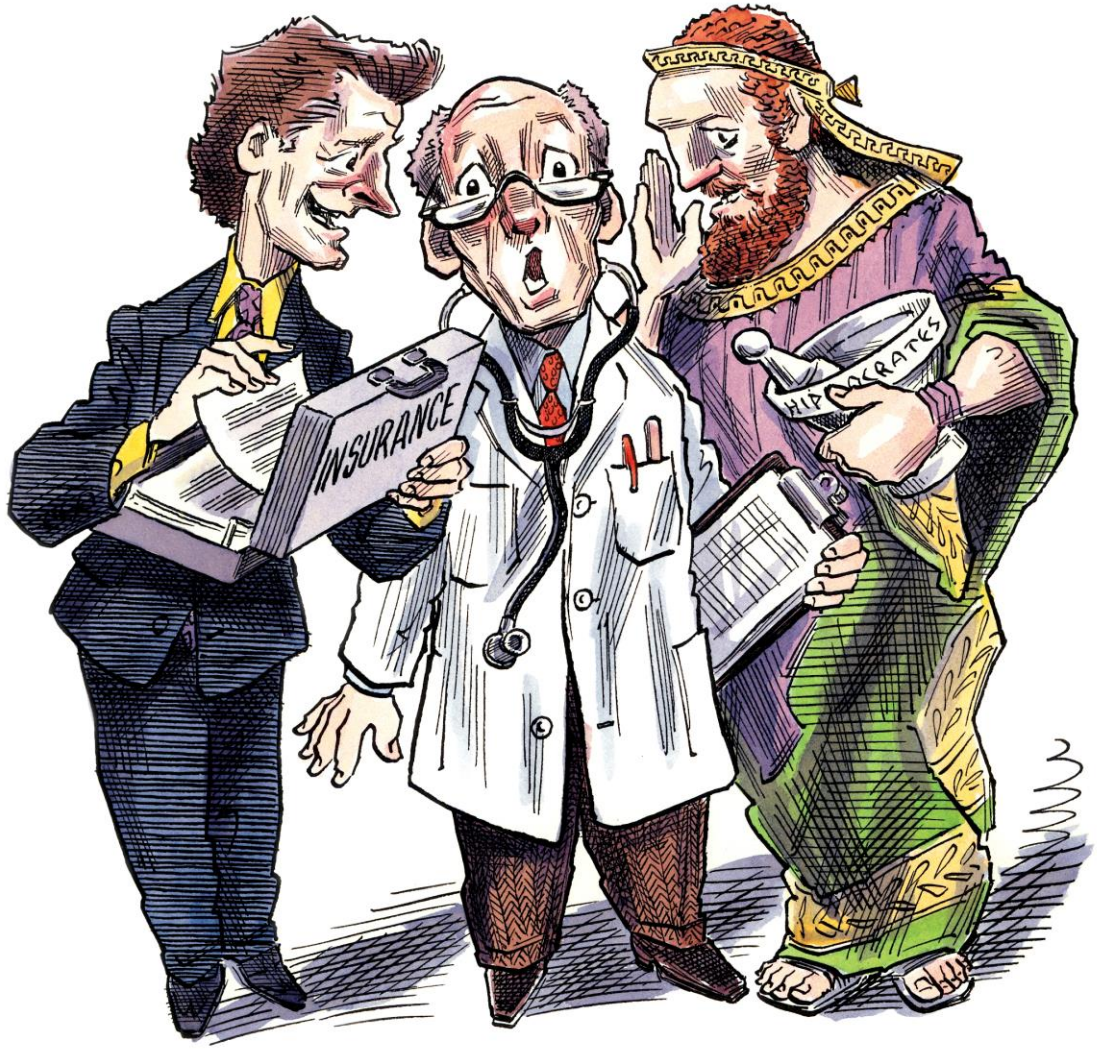
- About ½ genotype switch
- SC: 3.3/100py
- TC: 7.9/100py



Ingiliz et al, EASL 2014, Martin et al, AIDS 2013

The Future of acute hepatitis C

DAA – reduced ‘fear’, infection & re-infection



The Future of acute hepatitis C
spread to HIV negative MSM

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- effective & less toxic DAA
- **spread to HIV- MSM**

Optimistic view:

Reduction in incidence

The Future of acute hepatitis C
spread to HIV negative MSM

- What about HIV- MSM?
  - Lower prevalence

	HIV-		HIV+
• Netherlands[1]:	0.4%	vs	17.8%
• Australia[2]:	1.1%	vs	9.4%

1: Urbanus T. AIDS 2009;23:F1-F7. 2: Jin F. STI 2010;86:25-28.

The Future of acute hepatitis C
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Schmidt et al. BMC Public Health 2014, 14:3
http://www.biomedcentral.com/1471-2458/14/3

BMC Public Health

RESEARCH ARTICLE Open Access

Prevalence of hepatitis C in a Swiss sample of men who have sex with men: whom to screen for HCV infection?

Axel J Schmidt[1,2*], Luis Falcato[3], Benedikt Zahno[1], Andrea Burri[4], Stephan Regenass[5], Beat Müllhaupt[6] and Philip Bruggmann[3*]

Original research article

INTERNATIONAL JOURNAL OF STD & AIDS

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DOI: 10.1177/0956462413515192
std.sagepub.com
SAGE

Limited spread of hepatitis C among HIV-negative men who have sex with men in Stockholm, Sweden

A Blaxhult[1], A Samuelson[2], R Ask[1] and I Hökeberg[3]

1: Urbanus T. AIDS 2009;23:F1-F7. 2: Jin F. STI 2010;86:25-28.

The Future of acute hepatitis C
spread to HIV negative MSM

Brighton[1]

2000-2006

n = 948

25 episodes AHC: 0.30/100 py

HIV-: 0.15/100 py*

HIV+: 1.12/100 py

America[2]**: MACS**

1984-2011

n = 5310

115 episodes AHC: 0.21/100py

HIV-: 0.05/100 py

HIV+: 0.42/100 py

1: Richardson D. JID 2008;197:1213-1214. 2: Witt M. CID 2013;57:77-84.

The Future of acute hepatitis C
spread to HIV negative MSM: why not?

1. Sexual transmission HIV > HCV.....

Brighton[1]

- HIV-ve: 0.15/100 py
- **'A number of the HIV-ve MSM later seroconverted'**

Van de Laar T et al[2]

- 4 individuals: 1 homozygous Δ32 CCR5, 1 CD4 cells refractory to HIV

2. Sero-sorting

1. Richardson D et al. JID 2008;197:1213-1214, 2. Van de Laar TJ et al. STD 2011;38:102-104

The Future of acute hepatitis C
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BUT this may change…….PrEP and TasP

1. Richardson D et al. JID 2008;197:1213-1214, 2. Van de Laar TJ et al. STD 2011;38:102-104

The Future of acute hepatitis C
spread to HIV negative MSM: PrEP

Study (location)	Population	Design	Relative reduction in HIV incidence in intention-to-treat analysis	PrEP detection in blood samples from non-seroconverters
Completed trials (ordered by decreasing HIV risk reduction in primary intention-to-treat analysis)				
Partners PrEP Study (Kenya, Uganda)	4747 heterosexual men and women with HIV infected partners (serodiscordant couples)	1:1:1 randomization to daily oral TDF, FTC/TDF, or placebo	TDF: 67% (95% CI 44-81%, p<0.0001) FTC/TDF: 75% (95% CI 55-87%, p<0.0001)	82% Detection of tenofovir in blood associated with 86-90% HIV protection.
TDF2 Study (Botswana)	1219 heterosexual men and women	1:1 randomization to daily oral FTC/TDF or placebo	FTC/TDF: 63% (95% CI 22-83%, p=0.01)	79%
IPrEx (Brazil, Ecuador, Peru, South Africa, Thailand, US)	2499 MSM and transgender women	1:1 randomization to daily oral FTC/TDF or placebo	FTC/TDF: 44% (95% CI 15-63%, p=0.005)	51% Detection of tenofovir associated with 92% HIV protection, high adherence with >95% protection.
CAPRISA 004 (South Africa)	889 women	1:1 randomization to intercourse-associated use of tenfovir vaginal gel or placebo	Tenofovir gel: 39% (95% CI 6-60%, p=0.02)	Detection of high concentrations of tenofovir (>1000 ng/mL) in cervicovaginal fluid associated with 74% reduced HIV risk.
FEM-PrEP (Kenya, South Africa, Tanzania)	2120 women	1:1 randomization to daily oral FTC/TDF or placebo	FTC/TDF: No HIV protection	35-38% at a single visit, 26% at two consecutive visits
VOICE (South Africa, Uganda, Zimbabwe)	5029 women	1:1:1:1:1 randomization to daily oral TDF, FTC/TDF, oral placebo, tenofovir vaginal gel, or gel placebo	TDF: No HIV protection FTC/TDF: No HIV protection Tenofovir gel: No HIV protection	≤30% of samples had tenofovir detected. ≥50% of women in each of the active arms never had tenofovir detected, at any time during their follow-up
Trials in progress				
Bangkok Tenofovir Study (Thailand)	2413 injection drug users	1:1 randomization to daily oral TDF or placebo	TDF: 49% (95% CI 9.6-772.2, p=0.01)	
IPERGAY (France, Canada)	1900 men who have sex with men	1:1 randomization to FTC/TDF or placebo, used with intercourse	FTC/TDF: Results expected 2016.	Not available

The Future of acute hepatitis C
spread to HIV negative MSM: PrEP

PROUD

Examining the impact on gay men of using Pre-Exposure Prophylaxis (PrEP)

MRC Clinical Trials Unit | Public Health England

PROUD study interim analysis finds pre-exposure prophylaxis (PrEP) is highly protective against HIV for gay men and other men who have sex with men in the UK

16 October 2014

An interim analysis of the PROUD study data has shown that pre-exposure prophylaxis (PrEP) is highly protective against HIV for gay men and other men who have sex with men (MSM) at high risk of infection. On this basis, the PROUD Trial Steering Committee has announced that participants currently on the deferred arm of the study, who have not yet started PrEP, will be offered the opportunity to begin PrEP ahead of schedule.

The Future of acute hepatitis C

spread to HIV negative MSM: TasP

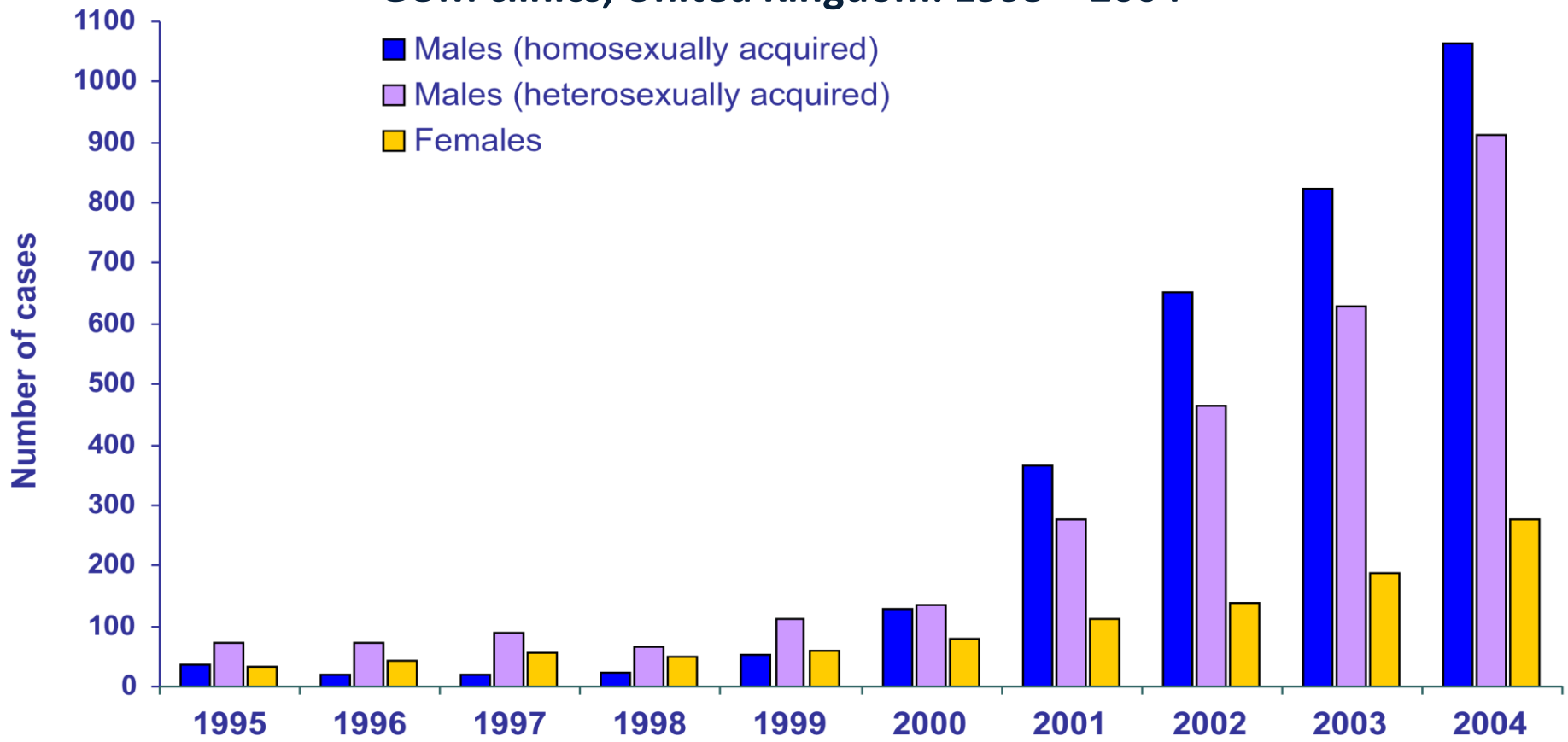
PARTNER

CROI 2014: No One with Undetectable Viral Load Transmits HIV in PARTNER Study

A Rodger, T Bruun, V Cambiano, J Lundgren, et al. HIV Transmission Risk Through Condomless Sex If HIV+ Partner On Suppressive ART: PARTNER Study. Conference on Retroviruses and Opportunistic Infections (CROI 2014). Boston, March 3-6. Abstract 153LB.

The Future of acute hepatitis C
spread to HIV negative MSM

Number of diagnoses of infectious syphilis by sex and male sexual orientation, GUM clinics, United Kingdom: 1995 – 2004

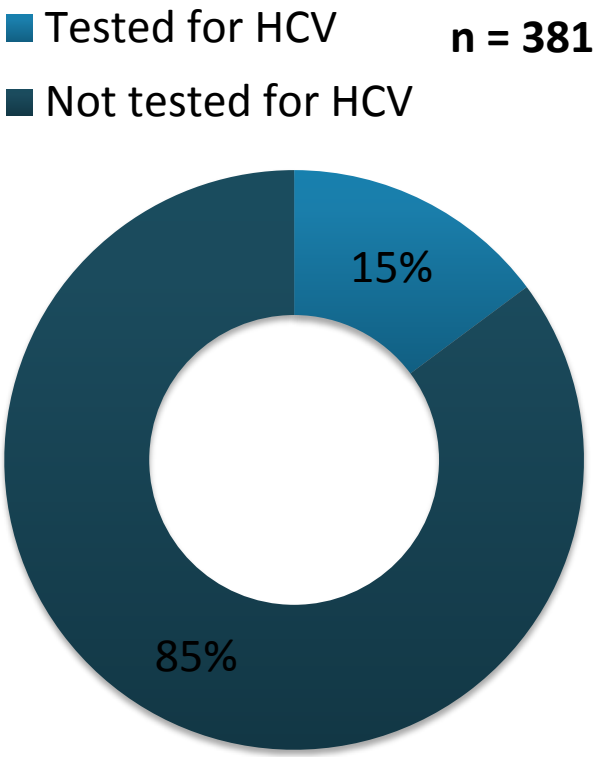


Data source: KC60 statutory returns and ISD(D)5 data.

The Future of acute hepatitis C
spread to HIV negative MSM

HIV negative MSM attending a Sexual Health Clinic

n = 3811 in Nov 2013



Jan 2010 to Dec 2013

- 45 AHC in HIV negative MSM
- High risk sexual practices
- 1/3rd STIs: Gc, CT, STS
- 57% recreational drugs: GHB, crystal mephedrone
- 1/3rd ChemSex

Nelson M, 10th Co-Infection Workshop 2014

The Future of acute hepatitis C transmission mechanisms

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- effective & less toxic DAA
- spread to HIV- MSM
- **lack of effective/consistent prevention messages**

Optimistic view:

Reduction in incidence

The Future of acute hepatitis C transmission mechanisms

London (Danta AIDS 2007)	New York (Fierer MMWR 2011)	Germany (Schmidt PLoS One 2011)
Group sex with receptive or insertive UAI or receptive or insertive fisting (AOR 9.2 to 23.5)	Receptive UAI with ejaculation (AOR 23.0)	Rectal trauma with bleeding, frequently or always (AOR 6.2)
	Sex while high on crystal methamphetamine (AOR 28.6)	Frequent receptive fisting without gloves (AOR 5.7)
		Nasal drug use (AOR 3.3)

The Future of acute hepatitis C transmission mechanisms

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	Sex while high on crystal methamphetamine (AOR 28.6)	Frequent receptive fisting without gloves (AOR 5.7)
		Nasal drug use (AOR 3.3)

Possible non-IDU, sexual routes of HCV transmission:

- Blood – Blood: blood loss from contact and mucosal tearing in partner
- Genital fluid - Blood: semen from contact and mucosal tearing in partner
- Blood – Mucosa: blood loss from contact and mucosal immune cells in partner
- **Genital fluid – Mucosa: semen from contact and mucosal immune cells in partner**

The Future of acute hepatitis C
can semen transmit HCV

Seminal HCV RNA level may mirror dynamics of plasma HCV RNA in HIV-positive men with acute HCV

Daniel Bradshaw[1], François Lamoury[1], Beth Catlett[2], John Mcallister[2], Tanya L Applegate[1], Gregory J Dore[1], Gail V Matthews[1], Mark Danta[3]
1. The Kirby Institute for Infection and Immunity in Society, University of New South Wales 2. St Vincent's Hospital, Sydney 3. Faculty of Medicine, University of New South Wales

Hypothesis

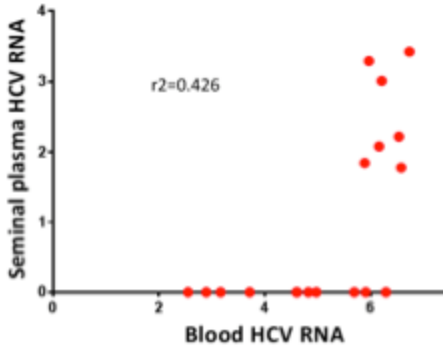
- High semen HCV RNA may contribute to sexual transmission of HCV in HIV-positive men with acute HCV

Methods

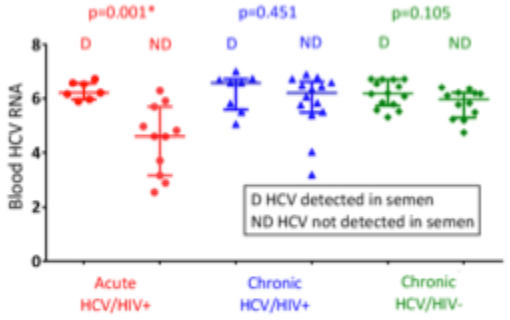
- Prospective cohort (n=66)
- Baseline and one follow up visit
- HCV RNA quantification in blood and semen on Abbott M2000

Results

Seminal plasma HCV RNA according to blood HCV RNA level for men with acute HCV/ HIV (log IU/mL)



Detection of HCV RNA in seminal plasma according to blood HCV RNA (log IU/mL). Error bars indicate median and IQR.



Discussion

- Semen HCV RNA levels were generally low.
- The relationship between blood and semen HCV RNA in HIV-positive men with acute HCV indicates a potential for heightened infectiousness in the setting of high early infection HCV RNA levels.

The Future of acute hepatitis C
can semen transmit HCV

CROI 2014

Assessing HCV Acquisition Routes in HIV-infected MSM Using Single Genome Sequencing – A Pilot Study

Daniel S. Fierer, Andrew A. Talal, Kristen M. Marks, Wouter O. van Seggelen, Andrea D. Branch, Shirish Huprikar, Shuyi Wang, George M. Shaw, and Hui Li

Route of infection correlates with number of transmitted viruses for HIV

- sexual transmission: single virus (1-2 for MSM)
- IDU: multiple viruses

HCV may be similar to HIV:

- 20 anonymous blood donors (no risk-factor data) (Li 2012)

ID#	Max Diversity	No. transmitted HCV viruses
10051	0.08%	1
10021	0.14%	1
10025	0.15%	1
9055	0.10%	1
105431	0.40%	2
105686	0.70%	2
10012	3.49%	3
10062	0.71%	3
6213	6.83%	3
10004	4.56%	3
6222	0.57%	4
110069	0.80%	4
10017	1.03%	6
10024	1.32%	7
10029	3.15%	9
10020	0.27%	10
10002	3.22%	12
10016	0.36%	13
10003	0.35%	17
106889	1.22%	>33

Hypothesis:

- Sexual transmission of HCV can be distinguished from other routes based on number of transmitted viruses
- Sex results in few transmitted viruses; percutaneous transmission multiple; and bloody sex an intermediate number

(Simmonds 1990; Liu 1996; Shriner 2004; Palmer 2005; Salazar 2008; Keele 2008; Salazar 2009; Keele 2009; Bar 2010)

Assessing HCV Acquisition Routes in HIV-infected MSM Using Single Genome Sequencing – A Pilot Study

ID#	HCV Ab	HCV VL	genotype	# of 5' half sequences	max diversity	#trans viruses	HCV exposure(s)
1-first	pos	7,630,000	1a	93	0.28%	1	sex only
1-second	n.a.	5,880,000	1b	117	0.12%	1	sex only
2	neg	2,740,000	1b	65	0.16%	1	sex only
3-first	neg	23,492,010	2b	53	0.32%	1	sex only
3-second	n.a.	760,793	1a	46	0.69%	1	sex only
4	neg	2,636,512	1a	28	0.41%	>10	sex only
5	neg	31,434,330	1a	65	0.17%	1	IDU no share +sex
6	n.d.	2,875,900	1a	20	0.12%	1	sex only
7	neg	3,626,615	1a	57	2.0%	>10	shared IDU +sex
8	neg	157,504	1a	45	0.18%	1	sex only

Results:

- All 8 men had UAI, some continuing after initial infection
- none reported ever having rectal trauma with bleeding

Conclusions:

- Most MSM with no percutaneous exposures were infected by a single virus
- Suggests that HCV infection of MSM during sex occurs across relatively intact mucosa

The Future of acute hepatitis C

The Future of acute hepatitis C
increased ease of diagnosis

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- effective & less toxic DAA
- spread to HIV- MSM
- lack of effective/consistent prevention messages

Optimistic view:

Reduction in incidence

- **increased ease of diagnosis**

The Future of acute hepatitis C
increased ease of diagnosis

- 'gold standard' conversion to HCV Ab positivity with a positive HCV RNA BUT
  - Longitudinal monitoring: impractical & most unaware of previous status
  - HCV Ab positive within 6 weeks of exposure - ? Delayed in immunocompromise

The Future of acute hepatitis C
increased ease of diagnosis

- ‘gold standard’ conversion to HCV Ab positivity with a positive HCV RNA BUT
  - Longitudinal monitoring: impractical & most unaware of previous status
  - HCV Ab positive within 6 weeks of exposure - ? Delayed in immunocompromise

Delayed anti-HCV antibody response in HIV-positive men acutely infected with HCV

Emma C. Thomson, Eleni Nastouli, Janice Main, Peter Karayiannis, Joseph Eliahoo, David Muir and Myra O. McClure

AIDS 2009, **23**:89–93

- HCV Ab seroconversion:
  - 25% baseline, 63% 3 months, 87% 6 months, 95% 12 months

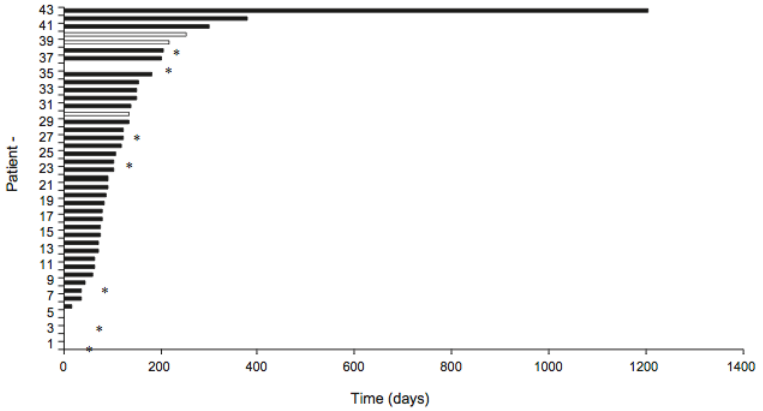


Fig. 1. Time to seroconversion. Seroconversion time (days) was calculated as the time from the first PCR positive sample to the first positive antibody (range 0–1206 days). Four patients (patients 30, 36, 39 and 40 shown in white) did not produce an antibody by 133, 183, 205 and 218 days of follow-up. Seven patients (asterisked) spontaneously cleared the infection, two of whom did not produce an antibody response.

The Future of acute hepatitis C
increased ease of diagnosis

- Other options:
  1. **ALT – cheap, sensitive, not specific**
     - More sensitive than HCV Ab – 93% rise in ALT at 3 months post infection

The Future of acute hepatitis C
increased ease of diagnosis

- Other options:
  1. ALT – cheap, sensitive, not specific
  2. **Anti-HCV IgG Avidity Index**
     - Diagnostic levels only occur within 8 days of onset of symptoms

ELSEVIER

Journal of Clinical Virology 40 (2007) 110–115

JOURNAL OF CLINICAL VIROLOGY

www.elsevier.com/locate/jcv

Anti-HCV IgG avidity index in acute hepatitis C

Nicola Coppola[a], Raffaella Pisapia[a], Cecilia Marrocco[a], Salvatore Martini[a,b], Luisa Maria Vatiero[a,b], Vincenzo Messina[b], Gilda Tonziello[a,b], Caterina Sagnelli[a], Pietro Filippini[a], Felice Piccinino[a], Evangelista Sagnelli[a,b,*]

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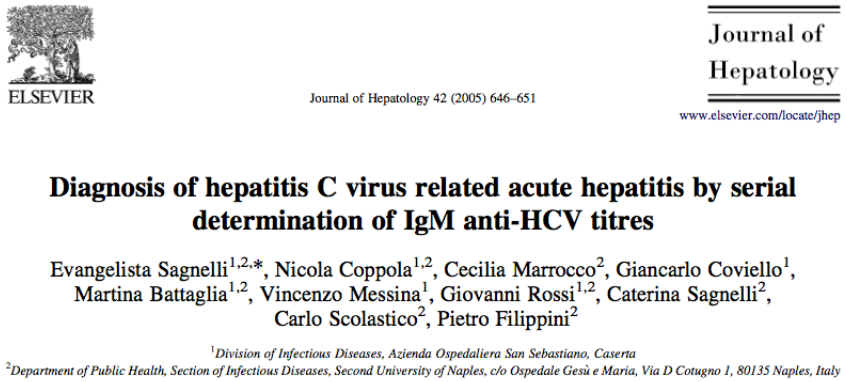
Received 26 February 2007; received in revised form 22 June 2007; accepted 11 July 2007

The Future of acute hepatitis C
increased ease of diagnosis

- Other options:
  1. ALT – cheap, sensitive, not specific
  2. Anti-HCV IgG Avidity Index
  3. **Anti-HCV IgM titre**
     - IgM commonly detected in chronic HCV, need serial titires for AHC



ELSEVIER

Journal of Hepatology 42 (2005) 646–651

Journal of Hepatology

www.elsevier.com/locate/jhep

Diagnosis of hepatitis C virus related acute hepatitis by serial determination of IgM anti-HCV titres

Evangelista Sagnelli[1,2,*], Nicola Coppola[1,2], Cecilia Marrocco[2], Giancarlo Coviello[1], Martina Battaglia[1,2], Vincenzo Messina[1], Giovanni Rossi[1,2], Caterina Sagnelli[2], Carlo Scolastico[2], Pietro Filippini[2]

[1]*Division of Infectious Diseases, Azienda Ospedaliera San Sebastiano, Caserta*
[2]*Department of Public Health, Section of Infectious Diseases, Second University of Naples, c/o Ospedale Gesù e Maria, Via D Cotugno 1, 80135 Naples, Italy*

The Future of acute hepatitis C
increased ease of diagnosis

- Other options:
  1. ALT – cheap, sensitive, not specific
  2. Anti-HCV IgG Avidity Index
  3. Anti-HCV IgM titre
  4. **HCV RNA**
     - As early as one week post infection
     - Gold standard for ongoing infection
     - Does not differentiate between acute and chronic infection
     - Expensive

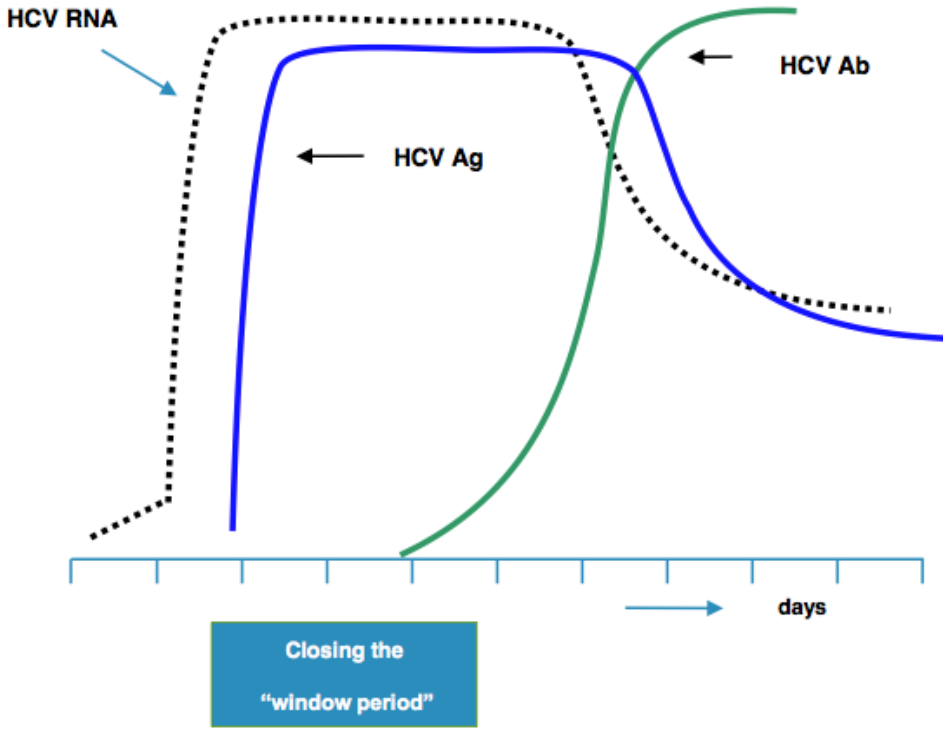
The Future of acute hepatitis C
increased ease of diagnosis

- HCV core Ag
  - Does not differentiate between acute and chronic infection

BUT

- Detected earlier than HCV Ab
- Allows detection of re-infection
- Cheap & rapid vs HCV RNA
- Quantitatively correlates with RNA
- Lower limit of detection:

700-1100 IU/ml HCV RNA



The Future of acute hepatitis C
increased ease of diagnosis

Clinical Infectious Diseases Advance Access published October 9, 2014

Hepatitis C core antigen testing: a reliable, quick and potentially cost-effective alternative to Hepatitis C polymerase chain reaction in diagnosing acute hepatitis C virus infection

Cresswell F.V.[1], Fisher M.[2,1], Hughes D.J.[1], Shaw S.G.[1], Homer G.[3], Hassan-Ibrahim M.O.[3]

Manuscript

- n = 111 HIV+ individuals with acute rise in ALT in 20 months
  - All screened with: HCV Ab, HCV RNA, HCV c-Ag
  - 15 acute hepatitis C
  - HCV core-Ag: Sensitivity 100% & Specificity 98% (2 false indeterminate results)
  - HCV Ab sensitivity 60% (rest took 112 days to seroconvert)
  - ¼ of the cost of HCV RNA (3/15 were re-infections)

The Future of acute hepatitis C
effective screening programmes

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- effective & less toxic DAA
- spread to HIV- MSM
- lack of effective/consistent prevention messages

Optimistic view:

Reduction in incidence

- increased ease of diagnosis
- **effective screening programmes**

The Future of HIV & acute hepatitis C
effective screening programmes

Acute hepatitis C in HIV-infected individuals: recommendations from the European AIDS Treatment Network (NEAT) consensus conference

The European AIDS Treatment Network (NEAT) Acute Hepatitis C Infection Consensus Panel

AIDS 2011, **25**:399–409

Consensus recommendation screening for acute HCV infection (grade A, level II, *grade C, level II)

(1) All newly diagnosed HIV individuals should be screened for anti-HCV antibody [42].

(2) HIV-infected MSM at risk for contracting acute hepatitis C infection should be screened at 6-month interval with ALT and annually with anti-HCV antibody.

The Future of acute hepatitis C
effective screening programmes

Mathematical model: HIV+ MSM; Linas et al

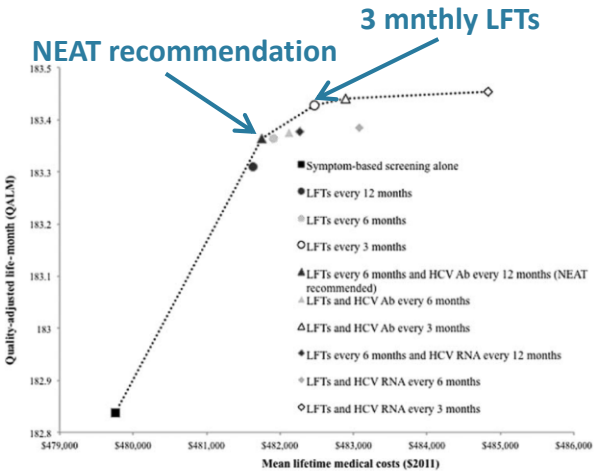


Figure 1. Efficiency frontier of a cost-effectiveness analysis of screening for acute hepatitis C virus (HCV) infection in human immunodeficiency virus (HIV)–infected men who have sex with men. The figure illustrates the effectiveness, cost, and incremental cost-effectiveness of all 10 strategies for screening. The black square in the lower left corner represents symptom-based screening alone, the comparator for the analysis. Circles represent strategies that use liver function tests (LFTs) alone. Triangles represent strategies employing LFTs and HCV antibody tests. Diamonds represent strategies that use LFTs and HCV RNA tests. The color of each shape represents the frequency of screening. The dotted line represents the efficiency frontier. Strategies that lie to the right of the efficiency frontier result in either lower quality-adjusted life expectancy at higher cost than an alternative strategy or a higher cost per quality-adjusted life-year gained. All costs and quality-adjusted life expectancy were discounted at a 3% annual rate. Abbreviations: Ab, antibody; HCV, hepatitis C virus; LFT, liver function test; RNA, ribonucleic acid.

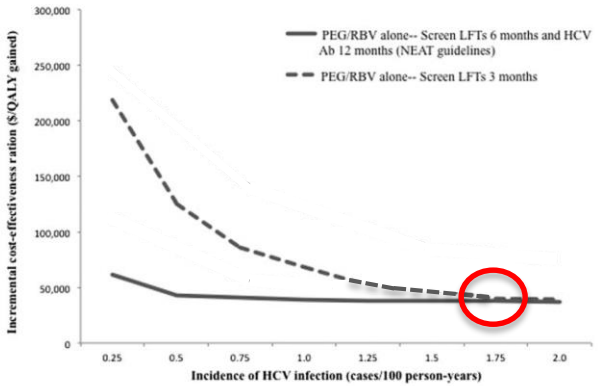


Figure 2. Sensitivity analysis on the cost-effectiveness of screening for acute hepatitis C virus (HCV) infection as a function of the incidence of HCV infection. Black lines represent screening followed by treatment with pegylated interferon and ribavirin (PEG/RBV) alone. Grey lines illustrate therapy with an HCV protease inhibitor in combination with PEG/RBV. Solid lines illustrate the incremental cost-effectiveness of current European AIDS Treatment Network (NEAT) guidelines for HCV screening (liver function tests [LFTs] every 6 months plus an HCV antibody test every 12 months), compared with the next best alternative, which varied depending on the incidence of HCV infection. Dashed lines represent the incremental cost-effectiveness of screening with LFTs every 3 months, compared with NEAT guidelines. Abbreviations: Ab, antibody; HCV, hepatitis C virus; LFT, liver function test; NEAT, European AIDS Treatment Network; PEG, pegylated interferon; RBV, ribavirin; $/QALY, cost/quality-adjusted life-year.

NEAT & 3 monthly LFTs: larger gain in QALE at a lower cost / QALY gained

NEAT less cost / QALY gained until incidence > 1.75 / 100 py

Linas et al. CID 2012;55;279-290

The Future of acute hepatitis C
DAA – reduction in infective pool

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- effective & less toxic DAA
- spread to HIV- MSM
- lack of effective/consistent prevention messages

Optimistic view:

Reduction in incidence

- increased ease of diagnosis
- effective screening programmes
- **DAA: reduction in infective pool**

The Future of acute hepatitis C

DAA – reduction in infective pool

HCV treatment rates and sustained viral response among people who inject drugs in seven UK sites: real world results and modelling of treatment impact

N. K. Martin,[1,2] G. R. Foster,[3] J. Vilar,[4] S. Ryder,[5] M. E. Cramp,[6] F. Gordon,[7] J. F. Dillon,[8] N. Craine,[9] H. Busse,[1] A. Clements,[6] S. J. Hutchinson,[10,11] A. Ustianowski,[4] M. Ramsay,[12] D. J. Goldberg,[11] W. Irving,[13] V. Hope,[12] D. De Angelis,[14] M. Lyons,[9] P. Vickerman[1,2] and M. Hickman[1]
[1]*School of Social & Community Medicine, University of Bristol, Bristol, UK;* [2]*Social and Mathematical Epidemiology Group, London School of Hygiene and Tropical Medicine, London, UK;* [3]*Blizard Institute, Queen Mary's University of London, London, UK;* [4]*Pennine Acute Hospitals NHS Trust, Greater Manchester, UK;* [5]*Nottingham University Hospitals NHS Trust, Nottingham, UK;* [6]*Plymouth Hospital NHS Trust, Plymouth, UK;* [7]*University of Bristol Health Trust, Bristol, UK;* [8]*University of Dundee, Dundee, UK;* [9]*Health Protection Wales, Bangor, Wales, UK;* [10]*Glasgow Caledonian University, Glasgow, UK;* [11]*Health Protection Scotland, Glasgow, UK;* [12]*Public Health England, London, UK;* [13]*University of Nottingham, Nottingham, UK; and* [14]*MRC Biostatistics Unit, Cambridge, UK*

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Cramp *et al. BMC Gastroenterology* 2014, **14**:137
http://www.biomedcentral.com/1471-230X/14/137

BMC Gastroenterology

RESEARCH ARTICLE **Open Access**

Modelling the impact of improving screening and treatment of chronic hepatitis C virus infection on future hepatocellular carcinoma rates and liver-related mortality

Matthew E Cramp[1], William M Rosenberg[2], Steven D Ryder[3*], Sarah Blach[4] and Julie Parkes[5]

Research Article

CrossMark

EASL European Association for the Study of the Liver | JOURNAL OF HEPATOLOGY

Increased uptake and new therapies are needed to avert rising hepatitis C-related end stage liver disease in England: Modelling the predicted impact of treatment under different scenarios

Ross J. Harris[1], Brenda Thomas[2], Jade Griffiths[2], Annastella Costella[2], Ruth Chapman[3], Mary Ramsay[2], Daniela De Angelis[1,4], Helen E. Harris[2,*]

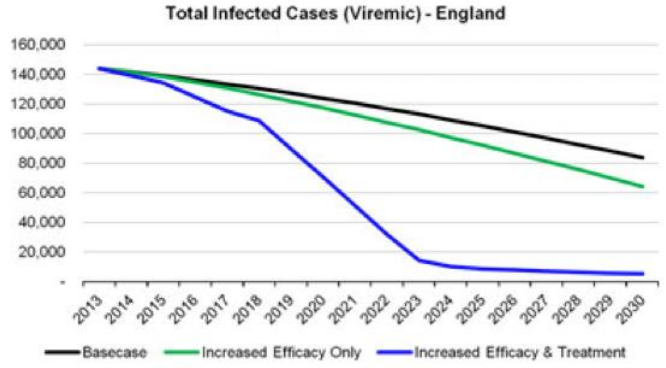
The Future of acute hepatitis C

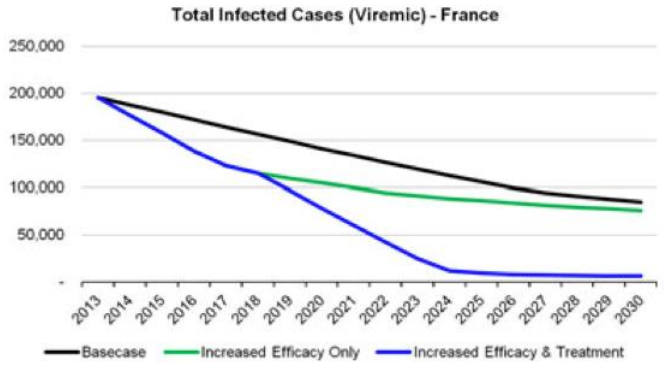
DAA – reduction in infective pool

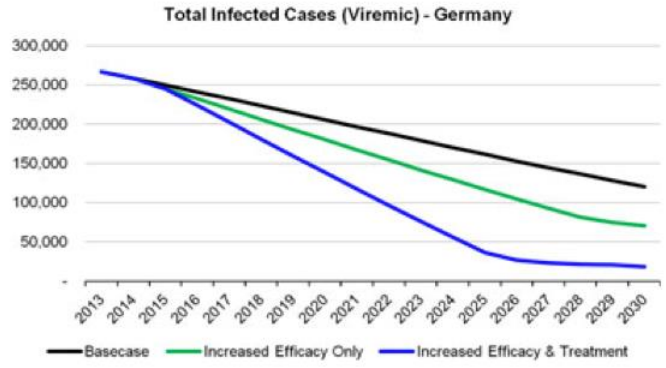
Journal of Viral Hepatitis, 2014, **21**, (Suppl. 1), 60–89 doi:10.1111/jvh.12249

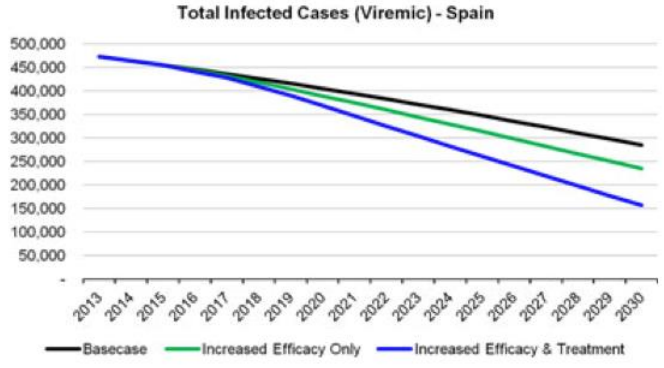
Strategies to manage hepatitis C virus (HCV) disease burden

H. Wedemeyer,[1,†] A. S. Duberg,[2,3,†] M. Buti,[4,†] W. M. Rosenberg,[5,†] S. Frankova,[6,†]









Only 58% diagnosed with AHC currently opt for treatment

The Future of acute hepatitis C

Current treatment

Table 1 Studies to evaluated the treatment of AHC in HIV positive individuals (n=≥15)

Author/country Study type	year	n	risk	SC	n Rx	Rx groups	Time to Rx	Duration (weeks)	SVR	SVRG1/4	SVRG2/3	RVR PPV	RVR NPV	EVR NPV
Gileece UK, R & P	2005 JAIDS	50	MSM 88% IDU 2%	24%	27	pIFN+RBVwb	4wks	24	59%	55%(12/20)	100%(4/4)	n/m	n/m	n/m
Kruk Russia, P	2005 IAS	17	MSM 5% IDU 87%	n/a	17	pegIFN+RBVwb	n/m	24	53%	n/m	n/m	n/m	n/m	n/m
Vogel Germany, P	2006 Anti Ther	47	MSM 81% IDU Unknown 19%	25%	36	Overall pIFN (n=15) pIFN+RBVwb (n=21)	7wks	 24 (n=27) 48 (n=9)	61% 80% 48% 52% 89%	59%(16/27)	71%(5/7)	n/m	n/m	91%(c)
Schnuriger France, P	2009 AIDS	38	MSM 100%	13%	20	pIFN+RBV800	18wks	24	65%	63%(12/19)	100%(1/1)	n/m	n/m	n/m
Matthews ATAHC, P	2009 CID & 2010 Gastroent	27	MSM 56% IDU 44%	7%	35	pIFN+RBVwb	30wks	24	74%	64%(7/11)	100%(9/9)	75%	13%	stoppin rule
Fierer USA, R	2009 AASLD	53	MSM 100%	9%	16	pIFN+RBVwb	n/a	24-48	75%	n/m	n/m	n/m	n/m	n/m
Stellbrink Germany, R	2010 CROI	72	MSM 100%	19%	42	Overall pIFN (2) pIFN+RBVwb (40)	90 days	48	71%	63%(21/33)	100%(9/9)	n/m	n/m	n/m
Piroth HEPAIG, R	2010 Hepatol	53	MSM 100%	15%	39	Overall pIFN (2) pIFN+RBVwb (37)	5+/- 5mths	 24 (+/- 4) 48 (+/- 15)	82% 50% 84% 64% 92%	77%(24/31)	100%(6/6)	n/a	n/a	stoppin rule
Thomson UK, R	2011 GUT	112	MSM 100%	15%	32	pIFN+RBVwb	12wks	48	66%					
Obermeier Germany, R	2011 Eur J Med R	319	MSM 93% IDU 1%	26%	135	pIFN+RBV +/- wb (135)	13wks	33 (either 24 or 48)	69%	n/m	n/m	87%	n/m	85%(c)
Arends Netherlands, P	2011 Antiviral Ther	23	n/m	4%	19	Overall pIFN (16) no RVR add RBVwb (3)	12wks	 24 (n=9) 48 (n=10)	37% 38% 33%	37%	n/a	71%	83%	stoppin rule
Lambers Netherlands, P	2011 AIDS	52	MSM 100%	4%	50	Overall pIFN+RBVwb	21wks	 24 (n=21) 48 (n=29)	76% 71% 79%	77%(36/47)	67%(2/3)	95% 81% 89%	44% 60% 36%	stoppin rule
Dorward UK, R	2011 J Clin Virol	34	MSM 100%	3%	22	Overall pIFN+RBVwb	14wks	 24 (n=12 RVR) 48 (n=10 no RVR)	91% 92% 90%	n/m	n/m	 91% n/a	 n/a 10%	stoppin rule
Laguno Spain, R	2012 AIDS RHR	38	MSM 95%	3%	32	pIFN+RBVwb	12wks	24	47%	n/m	n/m	92%	80%	stoppin rule
Webster UK	2013 AIDS RHR	74	MSM 100%	20%	43	pIFN+RBVwb	24wks	48	83%	n/m	n/m	100%	71%	100%

P: prospective, R: retrospective, MSM: men who have sex with men, IDU: intravenous drug user, SC: spontaneous clearance, Rx: treatment, G: genotype, SVR: sustained virological response, RVR: rapi virological response, EVR: early virological response, PPV: positive predictive value, NPV: negative predictive value, pIFN: pegylated interferon, RBV: ribavirin, wb: weight-based.

The Future of acute hepatitis C

Current treatment – PegIFN monotherapy

Antiviral Therapy 2011; 16:979–988 (doi: 10.3851/IMP1843)

Original article

Pegylated interferon-α monotherapy leads to low response rates in HIV-infected patients with acute hepatitis C

Joop E Arends[1,2], Sander van Assen[3], Cari J Stek[3], Annemarie MJ Wensing[4], Justin H Fransen[1,2], Ingrid M Schellens[2], Sanne NM Spijkers[1,2], Tania Mudrikova[1], Debbie van Baarle[1,2], Herman G Sprenger[3], Andy IM Hoepelman[1]*

- 19 patients treated (all G1/4)
- If no RVR: RBV added (3/12)
- Treated for 24-48 weeks
- SVR: 37%

The Future of acute hepatitis C

Current treatment – PegIFN monotherapy

Antiviral Therapy 2011; 16:979–988 (doi: 10.3851/IMP1843)

Original article

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- Treated for 24-48 weeks
- SVR: 37%

Journal of Viral Hepatitis, 2014, **21**, 780–785 doi:10.1111/jvh.12272

Peginterferon-alfa mono-therapy in the treatment of acute hepatitis C in HIV-infection

C. Boesecke,[1,2] S. van Assen,[3] H.-J. Stellbrink,[4] A. Baumgarten,[5] P. Ingiliz,[5] C. P. Strassburg,[1,2] C. Schwarze-Zander,[1,2] J.-C. Wasmuth,[1,2] A. I. M. Hoepelman,[6] J. K. Rockstroh[1,2] and J. E. Arends[6] *[1]Bonn University Hospital, Bonn, Germany; [2]German Centre for Infection Research (DZIF), Partner Site Cologne-Bonn, Bonn, Germany; [3]University Medical Center Groningen, Groningen, the Netherlands; [4]ICH Study Center, Hamburg, Germany; [5]Medical Center for Infectious Diseases, Berlin, Germany; and [6]University Medical Center Utrecht (UMCU), Utrecht, the Netherlands*

- Retrospective cohort study
- 69 PegIFN & RBV, 36 PegIFN
- 24 or 48 weeks
- SVR 63% vs 69%

The Future of acute hepatitis C
Current treatment – PegIFN & RBV

1040

Treatment of Acute Hepatitis C (HCV) Infection with Pegylated Interferon and Ribavirin (P/R) in Patients Co-infected with Human Immunodeficiency Virus (HIV): a systematic review and meta-analysis

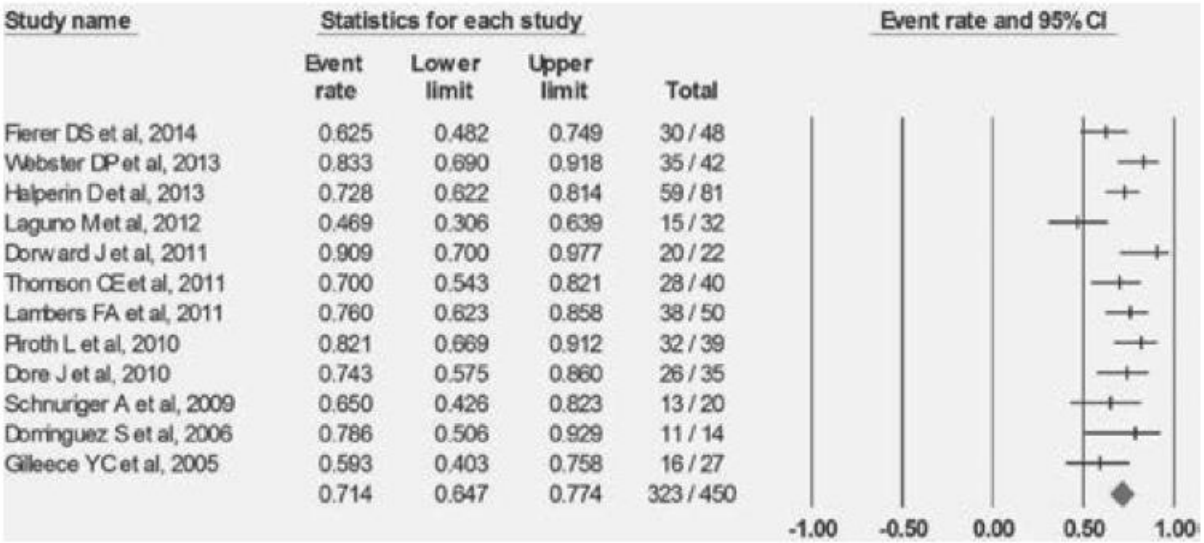
Zhang et al. Abstract 1040 AASLD 2014

Treatment of AHC – 12 studies:

Peg INF & RBV for 24 or 48 wks

SVR 71% overall

- RVR SVR 93%
- EVR SVR 85%



The Future of acute hepatitis C

Current treatment – PegIFN & RBV

Acute hepatitis C in HIV-infected individuals: recommendations from the European AIDS Treatment Network (NEAT) consensus conference

The European AIDS Treatment Network (NEAT) Acute Hepatitis C Infection Consensus Panel

AIDS 2011, **25**:399–409

Consensus recommendation on treatment of acute hepatitis C infection

(1) Pegylated IFN and weight-based ribavirin is recommended for the treatment of acute hepatitis C in HIV-infected patients (grade A, level II).

(2) Duration of treatment should be based on RVR [negative HCV-RNA at week 4 (evidence based on using a 615IU/ml cut-off to define negative HCV-RNA)], regardless of HCV genotype.

(a) In patients with RVR, treatment duration should be 24 weeks (AII).

(b) In patients without RVR, treatment duration of 48 weeks should be considered (BIII).

(c) In non-RVR patients not achieving a 2 $\log_{10}$ drop in HCV-RNA at week 12, treatment can be discontinued (BIII).

Contents lists available at SciVerse ScienceDirect

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journal homepage: www.elsevier.com/locate/jcv

Short communication

Successful treatment of acute hepatitis C virus in HIV positive patients using the European AIDS Treatment Network guidelines for treatment duration

Jienchi Dorward, Nigel Garrett, Duncan Scott, Matthew Buckland, Chloe Orkin, Guy Baily*

The Grahame Hayton Unit, Barts and the London NHS Trust, Royal London Hospital, Whitechapel, London E1 1BB, United Kingdom

n=22 following NEAT guidelines:
RVR n=12: SVR 92%
No RVR n=10: SVR 90%

The Future of acute hepatitis C

DAA – reduction in infective pool

Telaprevir in the Treatment of Acute Hepatitis C Virus Infection in HIV-Infected Men

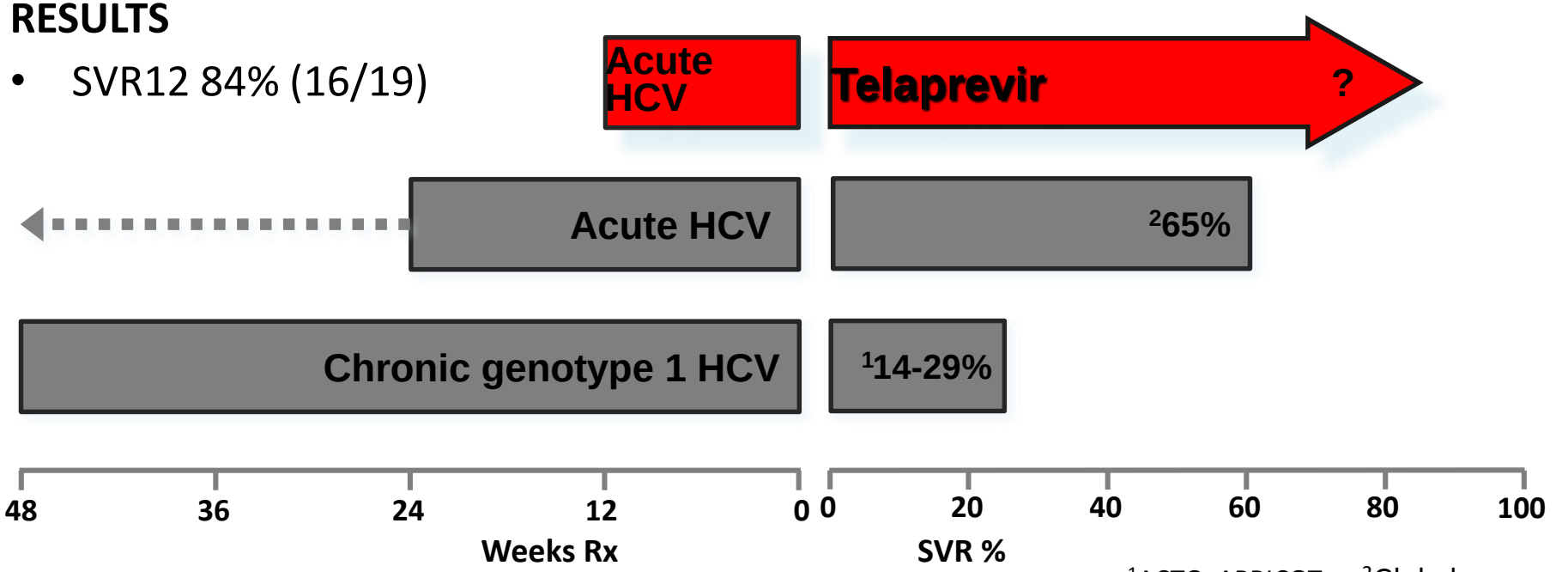
Daniel S. Fierer,[1] Douglas T. Dieterich,[2] Michael P. Mullen,[1] Andrea D. Branch,[2] Alison J. Uriel,[2] Damaris C. Carriero,[2] Wouter O. van Seggelen,[1] Rosanne M. Hijdra,[1] and David G. Cassagnol[1]; for the New York Acute Hepatitis C Surveillance Network[a]

Divisions of [1]Infectious Diseases and [2]Liver Diseases, Department of Medicine, Mount Sinai School of Medicine, New York, New York

HIV/AIDS • CID 2014:58 (15 March) • 873

RESULTS

- SVR12 84% (16/19)



[1]ACTG, APRICOT [2]Global average

The Future of HIV & acute hepatitis C

DAA – reduction in infective pool

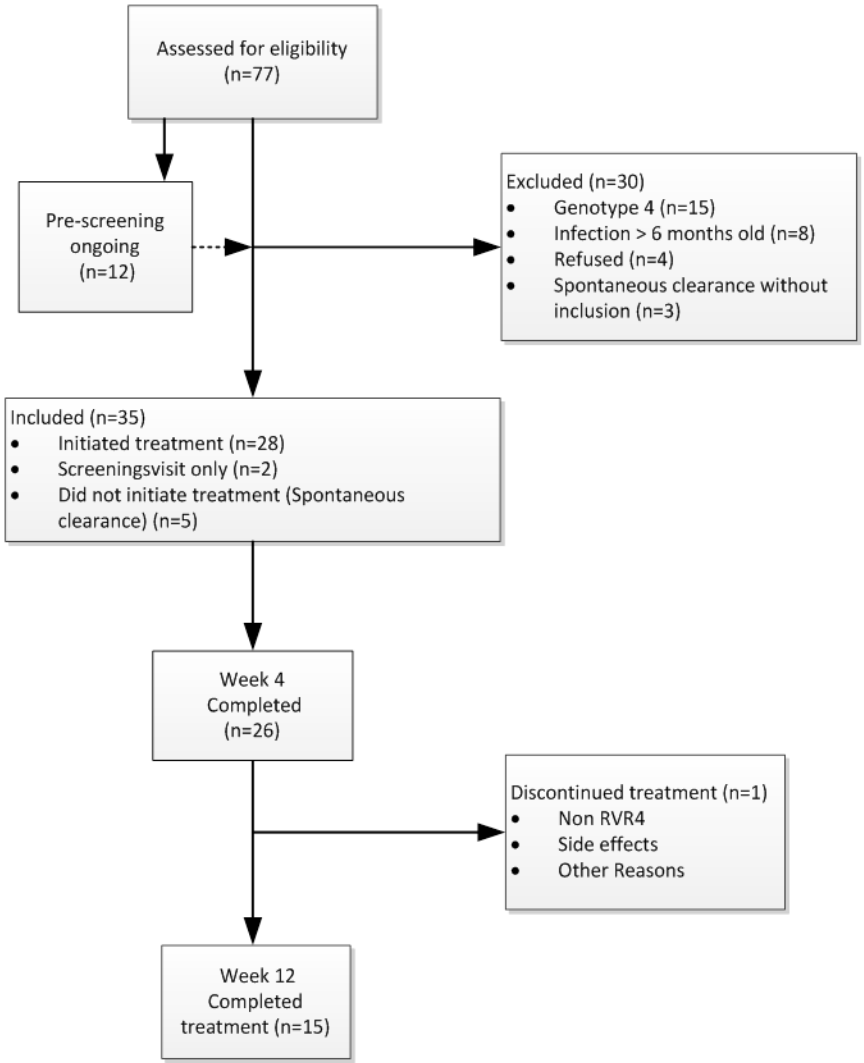
Table 1 Current and future studies with DAAs in acute HCV

Study name	Coordinator	DAAs	HCV genotype	Duration (weeks)	HIV status
DAHHS	Erasmus MC	BOC + pegIFN + RBV	1	12	pos
CHAT	UKB	TPV + pegIFN + RBV	1	12	pos
DARE-C I	Kirby Institute	TPV + pegIFN + RBV	1	8–24	neg + pos
DARE-C II	Kirby Institute	SOF + RBV	all	6	neg + pos
SWIFT-C	ACTG	SOF + RBV	all	8 *vs* 12	pos
SOL	UKB	SOF + LDV	1, 4	6	pos
Hep-Net acute HCV	MHH	SOF + LDV	1	6	neg

The Future of HIV & acute hepatitis C

DAA – reduction in infective pool

Dutch Acute HCV HIV Study



DAHHS: BOC +PegIFN + RBV

- G1
- HIV co-infected
- 12 weeks
- 10 centers
- Incidence: 1.6/100 py
- Opened Sept 2013
- Interim June 2014:
  - 35 recruited
  - 26 wk 4: RVR 73% (96% ≤ 50)
  - 15 wk 12: ETR 94%

The Future of HIV & acute hepatitis C

DAA – reduction in infective pool

universitäts klinikum bonn

Clinical Protocol

NEAT
EUROPEAN AIDS TREATMENT NETWORK

Section #1	
Study Title (Acronym)	**An open label, randomised, non-inferiority trial of pegylated interferon, ribavirin and telaprevir versus pegylated interferon and ribavirin alone in the response guided treatment of acute hepatitis C genotype 1 virus infection in patients with HIV-1 co-infection (CHAT Study)**
Protocol Date	January 16th 2013
Protocol Version	Version 9
Protocol Number	TPVAHC2012
Eudra-CT Number	2012-001419-21

CHAT: 1. P + R vs 2. T + P + R

- G1
- HIV co-infected
- 12 weeks vs 24 weeks (RGT)
- Multi-centered
- Interim Oct 2014:
  - 23 screened
  - ETR 4 (50% arm 1)
  - SVR 3 (100% arm 2)
  - 6 failures
    - 1 SE (arm 2)
    - 1 re-infection (arm 2)
    - 4 virological (50% arm 4)

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government / public health engagement

Pessimistic view:

Ongoing / increased incidence

- evolution substance use: Chem-Sex
- effective & less toxic DAA
- spread to HIV- MSM
- lack of effective/consistent prevention messages

Optimistic view:

Reduction in incidence

- increased ease of diagnosis
- effective screening programmes
- DAA: reduction in infective pool
- **government / public health engagement**

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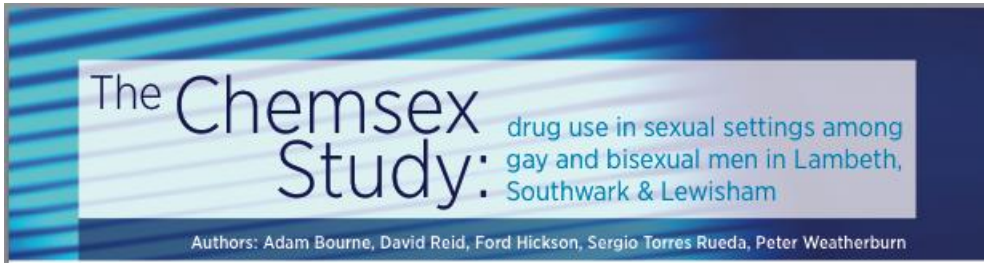
government / public health engagement



Lambeth: largest estimated population of MSM in UK

Large commercial gay scene with sex-on-premises venues

Aims

- Describe social context of sexualised drug use
- Understand harms experienced (eg sexual health, STIs, HIV) & motivations

Methods

- Survey data (EMIS), in-depth interviews, focus groups MSM & providers

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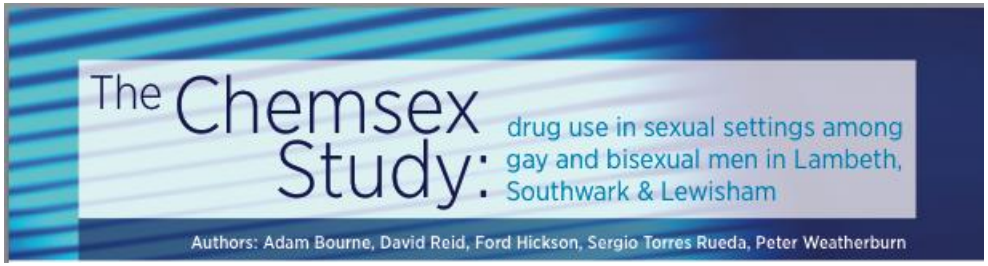

Table 4: Comparison of data on drug use by MSM and all adult populations in England and Wales

Substance	% MSM use (EMIS)			% adult use CSEW
	Lambeth, Southwark & Lewisham	Rest of London	Rest of England	
Crystal meth	4.9	2.9	0.7	0.1
Mephedrone	10.2	5.2	2.9	0.5
GHB/GBL	10.5	5.5	1.6	n/a
Powder cocaine	18	11	4.8	1.9
Ketamine	9.6	5.9	3.8	0.4
Alcohol	93.2	90.6	87.6	n/a

Context

Diverse & complex: variety MSM, times, places, drugs

Harms

Used to overcome low self-esteem: become reliant – impossible to have sex without

Allow sex with more partners for longer

⅓ found it difficult to control engagement in HIV/STI transmission risk behaviour

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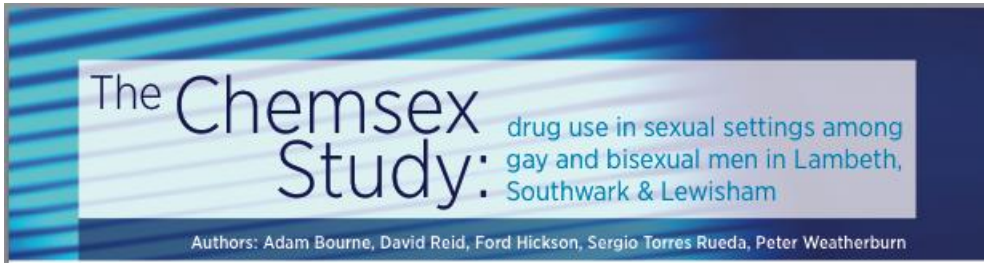
government / public health engagement



RECOMMENDATIONS

We do not recommend a social marketing campaign on the dangers of chemsex (either LSL, London or national). Very few of the needs identified in this research are amenable to resolution via a social marketing approach. Instead there are a number of broad areas related to policy and practice that this research highlights.

1. We recommend the production and dissemination of a range of resources that provide drug harm reduction information.
2. We recommend ensuring access for men to gay-friendly drug and sexual health services that are competent to address the psychosocial aspects of their health and any harms arising from chemsex.
3. We recommend co-ordinated work with managers of commercial sex-on-premises venues to facilitate development of clear harm reduction policies and procedures.
4. We recommend co-ordinated engagement (local, national and international) with commercial companies and gay media, including those which provide geo-spatial networking apps and websites, to explore opportunities for health promotion and harm reduction as part of a corporate responsibility to their users.

Chelsea and Westminster Hospital NHS
NHS Foundation Trust

The Leeds Teaching Hospitals NHS
NHS Trust

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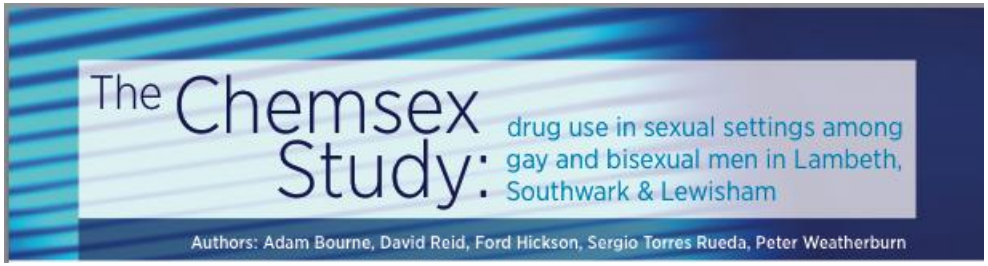

Leeds Centre for Sexual Health

The Leeds Teaching Hospitals NHS
NHS Trust

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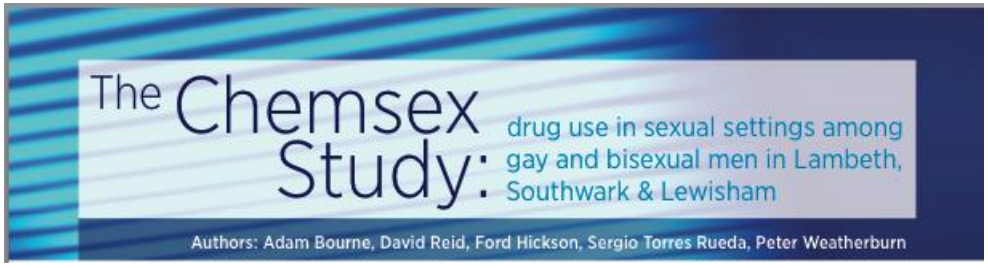

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government / public health engagement

Public Health England

Strategic framework to promote the health and wellbeing of gay, bisexual and other men who have sex with men

Reduce the proportion* of MSM reporting the use of a range of illicit substances associated with harm, including those associated with 'chem sex', by 2020.

The Future of HIV & acute hepatitis C

The control and end of the epidemic of AHC in HIV+ MSM and prevention of its spread to the HIV- population is with in our grasp BUT likely to require a multi-focused approach:

1) Increased rates of early diagnosis

2) Early & effective treatment

3) Targeted & consistent prevention and harm reduction message – investment needed

FIVE NATIONS CONFERENCE

on

HIV and Hepatitis

8–9 December 2014

Queen Elizabeth II Conference Centre

LONDON

British HIV Association
BHIVA

in partnership with

anrs France REcherche Nord & sud Sida-hiv Hépatites
Agence autonome de l'Inserm

BASL British Association for the study of the Liver

BVHG British Viral Hepatitis Group

DAIG Deutsche AIDS-Gesellschaft e.V.

GEHEP

GRUPO DE ESTUDIO DE HEPATITIS VÍRICAS - SEIMC

SIMIT Società Italiana di Malattie Infettive e Tropicali