



Zentrum für Infektiologie
Berlin/Prenzlauer Berg

La réinfection par le VHC chez les HSH (à risque)

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Conflits d'interêts

Consultations et enseignement: abbvie, Gilead, ViiV, MSD

Etudes cliniques et soutien scientifique: abbvie, Gilead, ViiV, MSD, Janssen-Cilag

Qui infecte qui en Europe ?

Hépatite C – l'épidémie dans le contexte allemand

Population étudiée	Etude	Année	N	Prévalence anti-VHC (%)
Population générale ¹	German Health Interview and Examination Survey for Adults DEGS	2008-2011	7,047	0.3%
Migrants ^{2,3}	Studie unter Migranten in 8 Praxen Studie unter Migranten in 42 Innere oder Hepatologie	2010-2012	1,313	1.9%
		2008-2010	8,009	5.8% - 6.3%
HSH coinfecté VIH ⁴	HIV-1 Serokonverter Studie	Cohorte depuis 1997	1,945	8.2%
Injecteurs de drogues ⁵	DRUCK-Study (8 deutsche Städte)	2011-2014	2,077	42% - 75%
Personnes incarcérées ⁶	Studie unter Gefängnisinsassen, 6 Gefängnisse in 3 Bundesländern	2006-2007	1,515	20.6%

¹ Poethko-Müller et al. *Bundesgesundheitsblatt* 2013 ² Heidrich et al. *J Eur Gastro & Hep* 2014

³ Buggisch et al. *EASL conference* 2013

⁴ Jansen et al. *PLoS ONE* 2015

⁵ RKI, *Epid. Bull* 22/2015

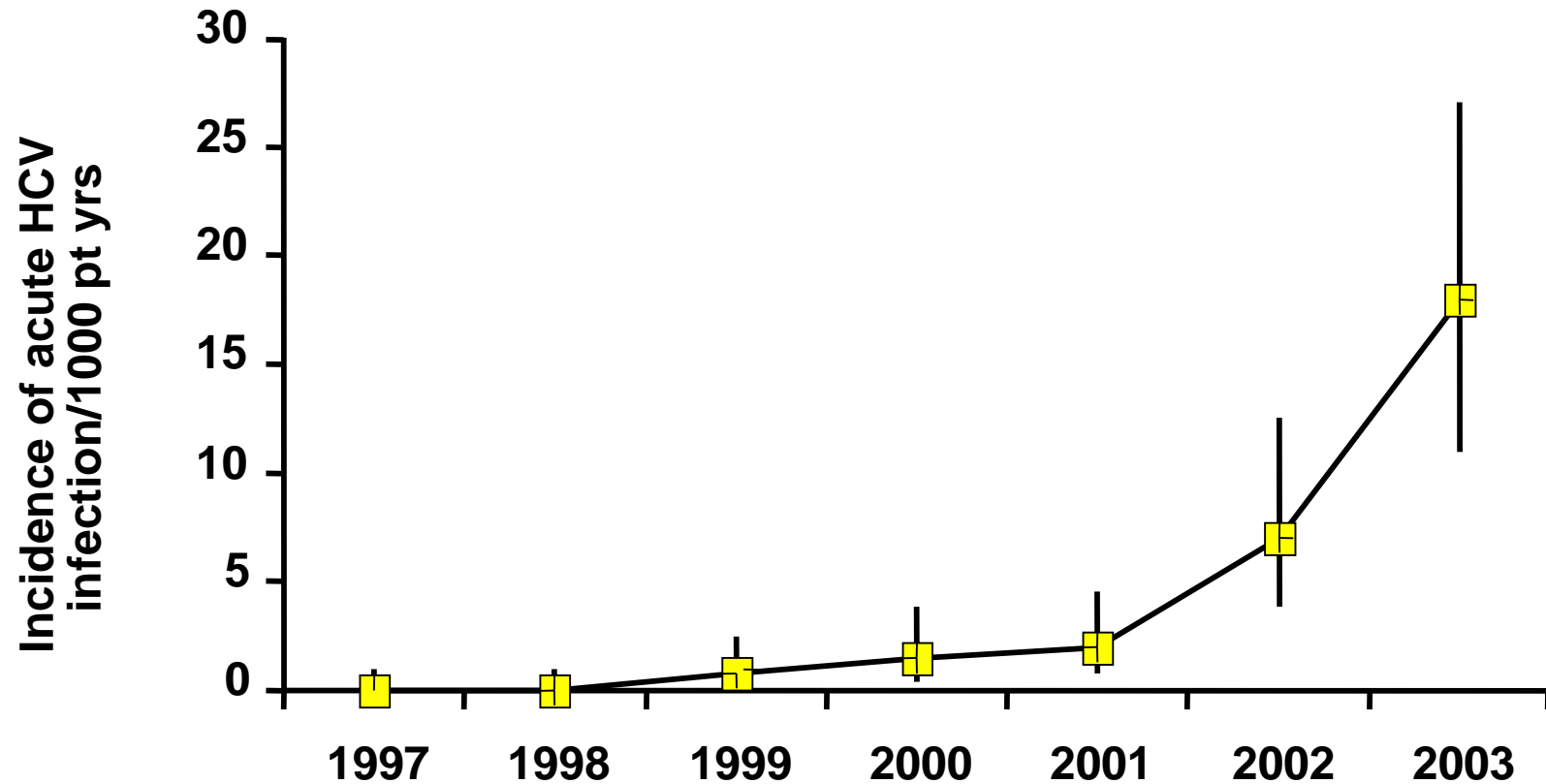
⁶ Radun et al. *ESCAIDE conference* 2007

Pourquoi VHC chez les HSH ?



...il était une fois au Royaume-Uni

Significant increase in new acute HCV infections amongst HIV+ men who have sex with men (MSM) in London and South England since 2001



- Test for trend p-value using Poisson regression $p < 0.001$
- Error bars = 95% CI

Est-ce que l'hépatite C est une maladie sexuellement transmissible ?

Couples hétérosexuels: HCV Partners Study: 1/190,000 rapports sexuels¹

Mais chez les HSH:

Danta et al. AIDS 2007²
Case-control, HIV+

More partners

High-risk sex

Drugs intranasal
or intranal

Urbanus et al. AIDS 2009³
Cross-sectional, HIV+/-

HIV

GHB

Fisting

PWID

Schmidt et al. PLoS One 2011⁴
Case-control, HIV+

Rectal bleeding

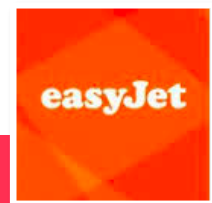
Fisting

NADs

Fisting was strongly correlated with the use of sex toys, group sex, bleeding during sex and GHB use

GHB: gamma-hydroxybutyrate;
NAD: nasally-administered drug;
PWID: people who inject drugs

1. Terrault N, et al. Hepatology 2013;57:881-9; 2. Danta N, et al. AIDS 2007;21:983-91;
3. Urbanus AT, et al. AIDS 2009;23:F1-7; 4. Schmidt A, et al. PLoS One 2011;6:e17781



Usage de drogues récréatives et sex: „ChemSex“



Crystal
méthamphétamin



Mephedrone

ChemSex

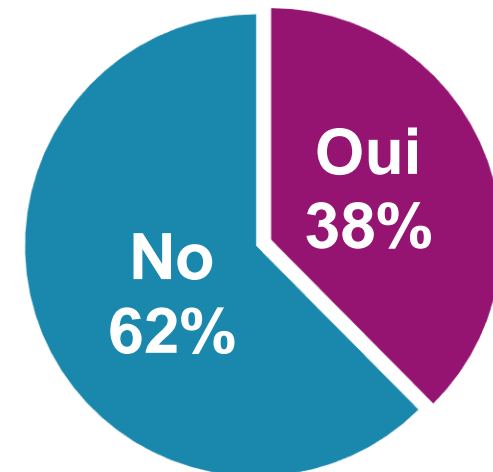


GBL/GHB

Viagra®

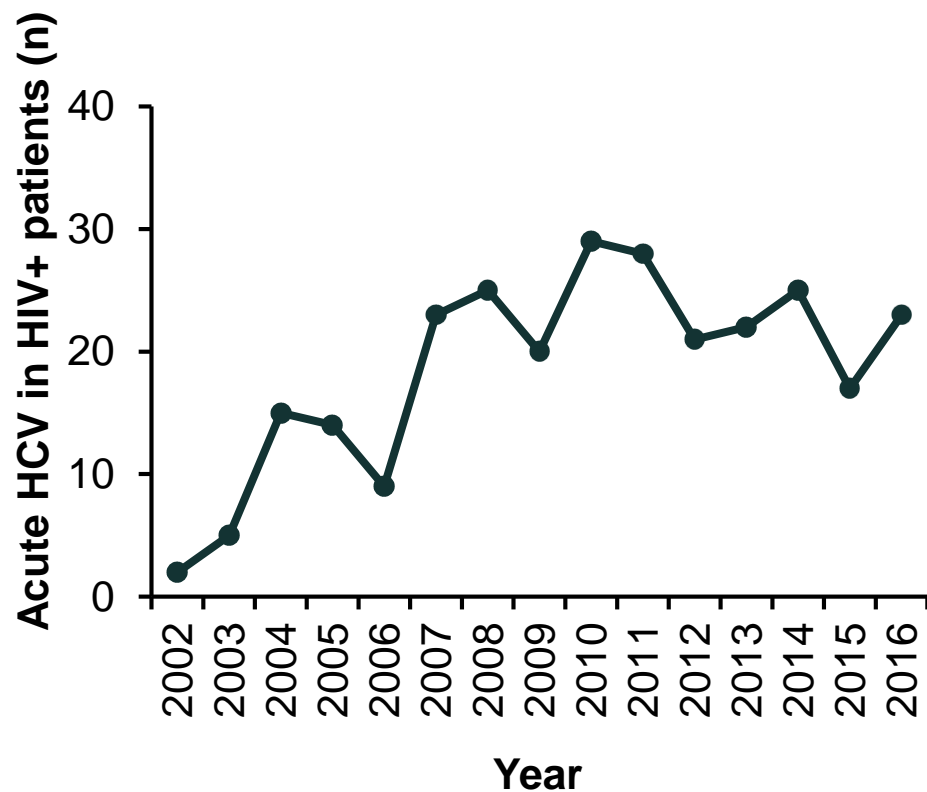


Avez-vous déjà utilisé des
syringes pour injecter des
drogues récréatives ?

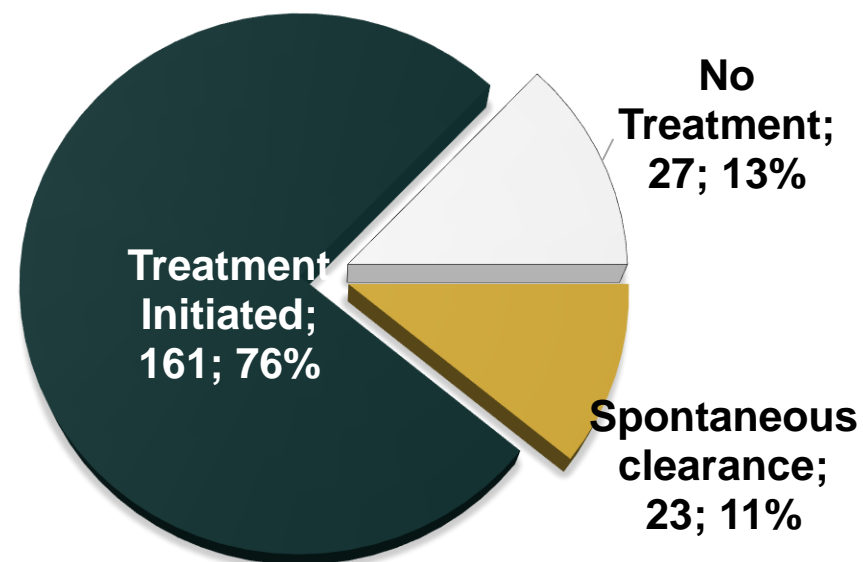


VHC/VIH et MSM: couverture thérapeutique VHC

Berlin, 2,000 HIV+: 211 cas d'hepatite C aigue 2002–2013

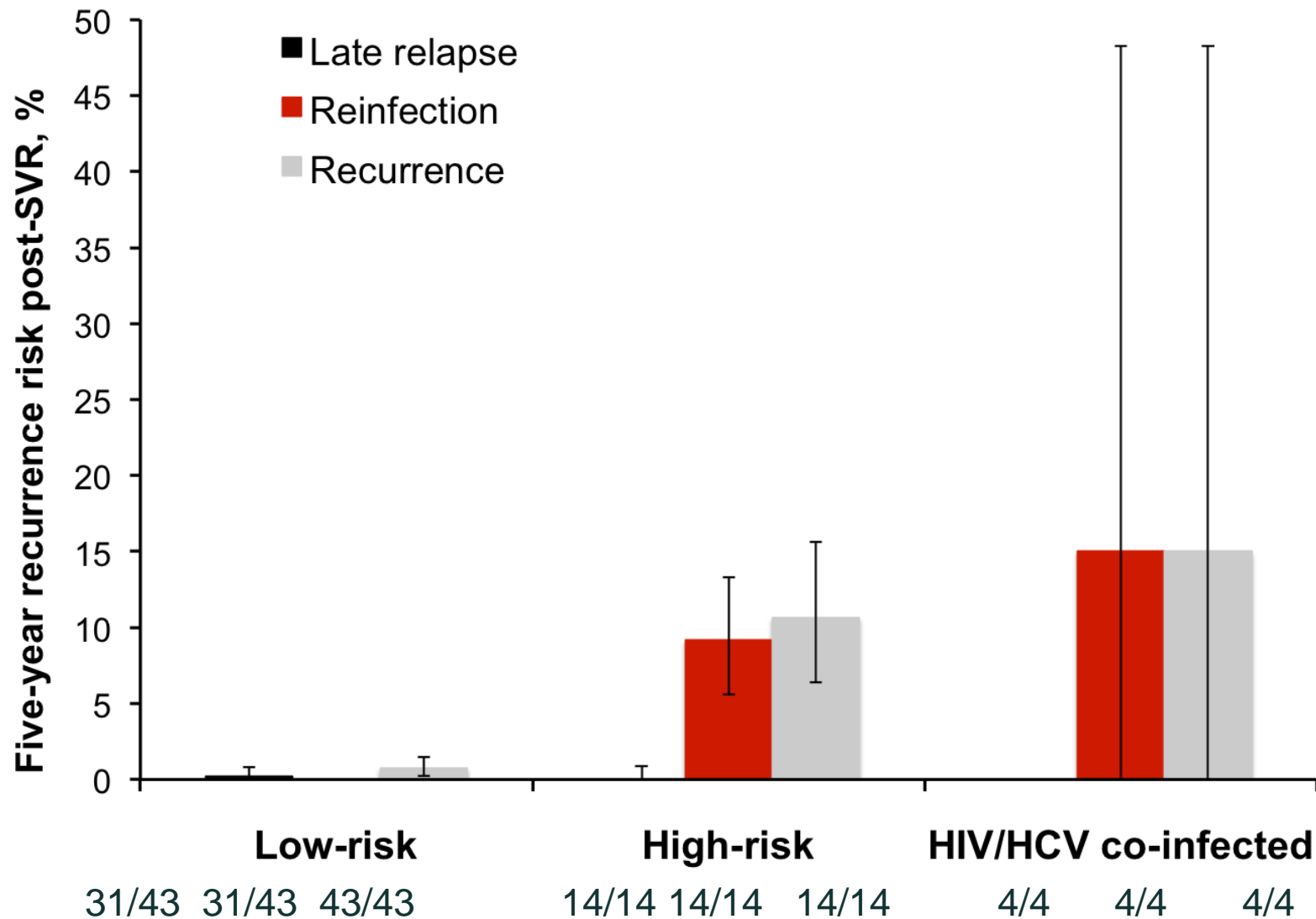


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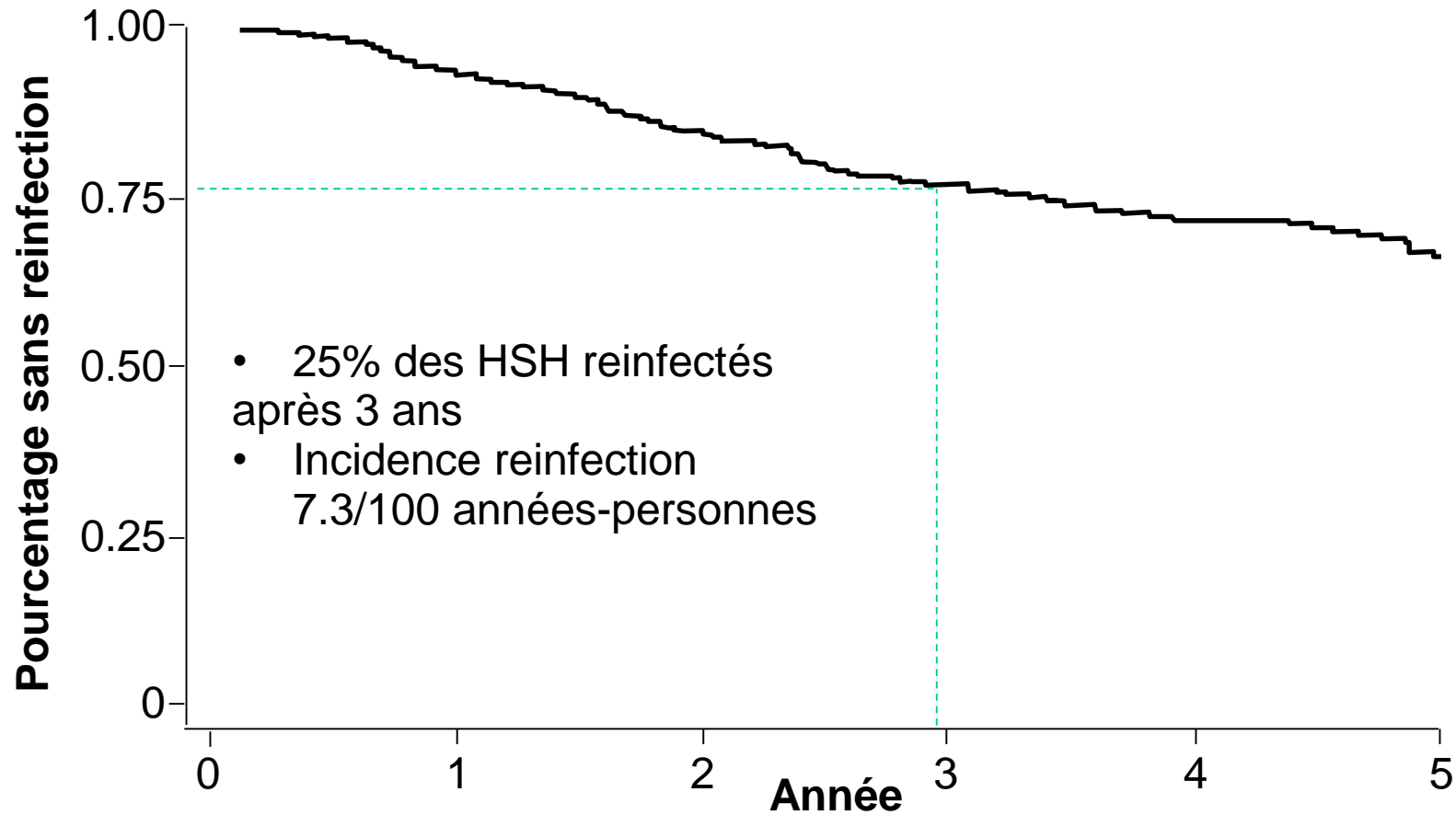
Quel est le taux de reinfection?

Risque de reinfection VHC après RVS à 5 ans



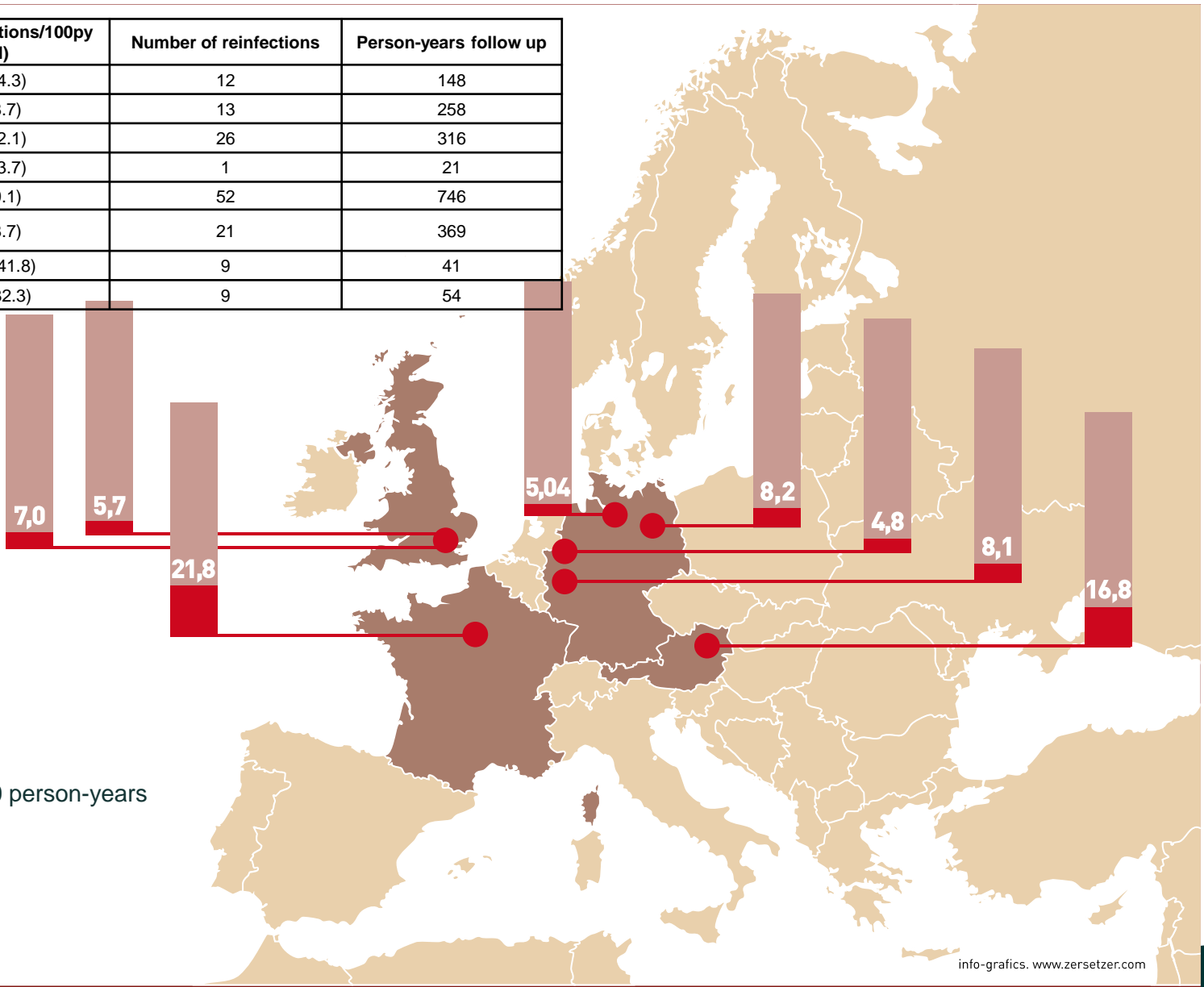
Reinfections VHC chez les HSH-VIH+ en Europe de l'Ouest

Data from the European AIDS Treatment Network (NEAT) consortium centres in Western Europe (UK, Germany, Austria and France), n=606



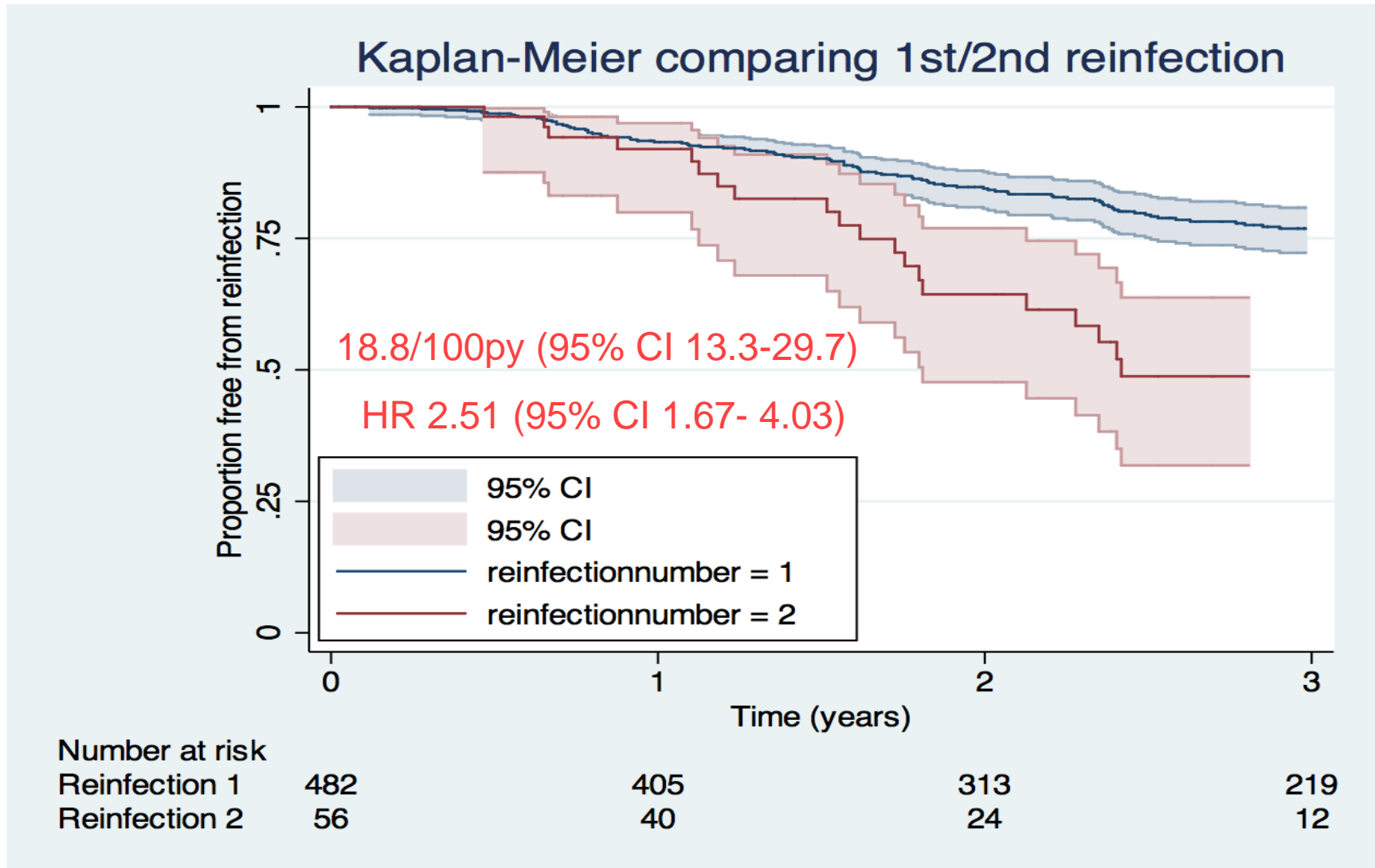
Incidence reinfection chez les HSH-VIH+: 7.3/100pa

Centre	Incidence reinfections/100py (95% CI)	Number of reinfections	Person-years follow up
Duesseldorf (n=59)	8.1 (4.6-14.3)	12	148
Hamburg (n=73)	5.0 (2.9-8.7)	13	258
Berlin (n=95)	8.2 (5.6-12.1)	26	316
Bonn (n=11)	4.8 (0.7-33.7)	1	21
London – Chelwest (n=190)	7.0 (5.3-9.1)	52	746
London – Royal Free (n=69)	5.7 (3.7-8.7)	21	369
Paris (n=27)	21.8 (11.3-41.8)	9	41
Vienna (n=28)	16.8 (8.7-32.3)	9	54



■ Incident reinfections per 100 person-years

Incidence 2eme reinfection plus haute que de la 1ere reinfection



Reinfections à l'ère des nouvelles molécules



Reinfection après les études phase 2/3 de sofosbuvir

3004 patients des études SOF: 12 avec résultats discordants entre RVS12 et RVS24

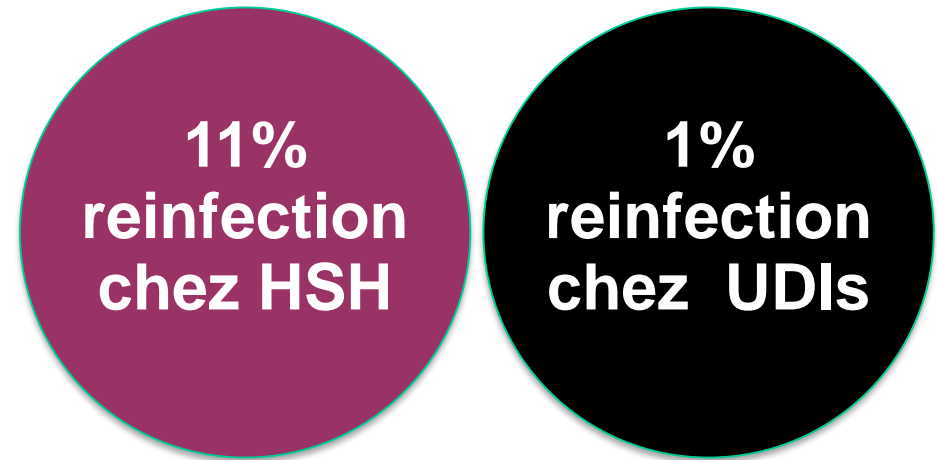
Patient	Study	Genotype		Phylogenetic Distance
		Baseline	Post-Treatment	
1	PHOTON-2	4d	1a	Not related*
2	PHOTON-1	1a	1a	Not related*
3	PHOTON-2	1a	1a	Not related*
4	GS-US-334-0119	1b	1b	Not related*
5	FUSION	3a	3a	Not related†
6	PHOTON-2	1a	1a	Distantly related
7	FUSION	3a	3a	Distantly related
8	PHOTON-1	3a	3a	Closely related
9	VALENCE	3a	3a	Closely related
10	VALENCE	3a	3a	Closely related
11	FISSION	3a	3a	Closely related
12	PHOTON-2	3a	3a	Closely related†

*Similar results were obtained for NS3, NS5A, and NS5B when sequences were available.

†Short fragment NS5B sequencing only, due to low viral load.

Reinfections après traitement avec DAA

	Reinfection n=24
Median Age [years (IQR)]	49 (42-54.5)
Male [n (%)]	24 (100)
Mode of HCV transmission	
- IVDU [n (%)]	5 (21)
- MSM [n (%)]	14 (58)
- MSM + IVDU [n (%)]	5 (21)
HIV coinfection [n (%)]	20 (83)
Median time to reinfection [weeks (IQR)]	41 (25-67)
Previous HCV treatment	
- SOF-PEG-RBV [n (%)]	7 (29)
- SOF/LDV [n (%)]	11 (46)
- PTV/r/OBV+/-DSV+/-RBV	2 (9)
- SOF/RBV	1 (5)
- SOF-DCV	2 (9)
- SIM-SOF	1 (5)



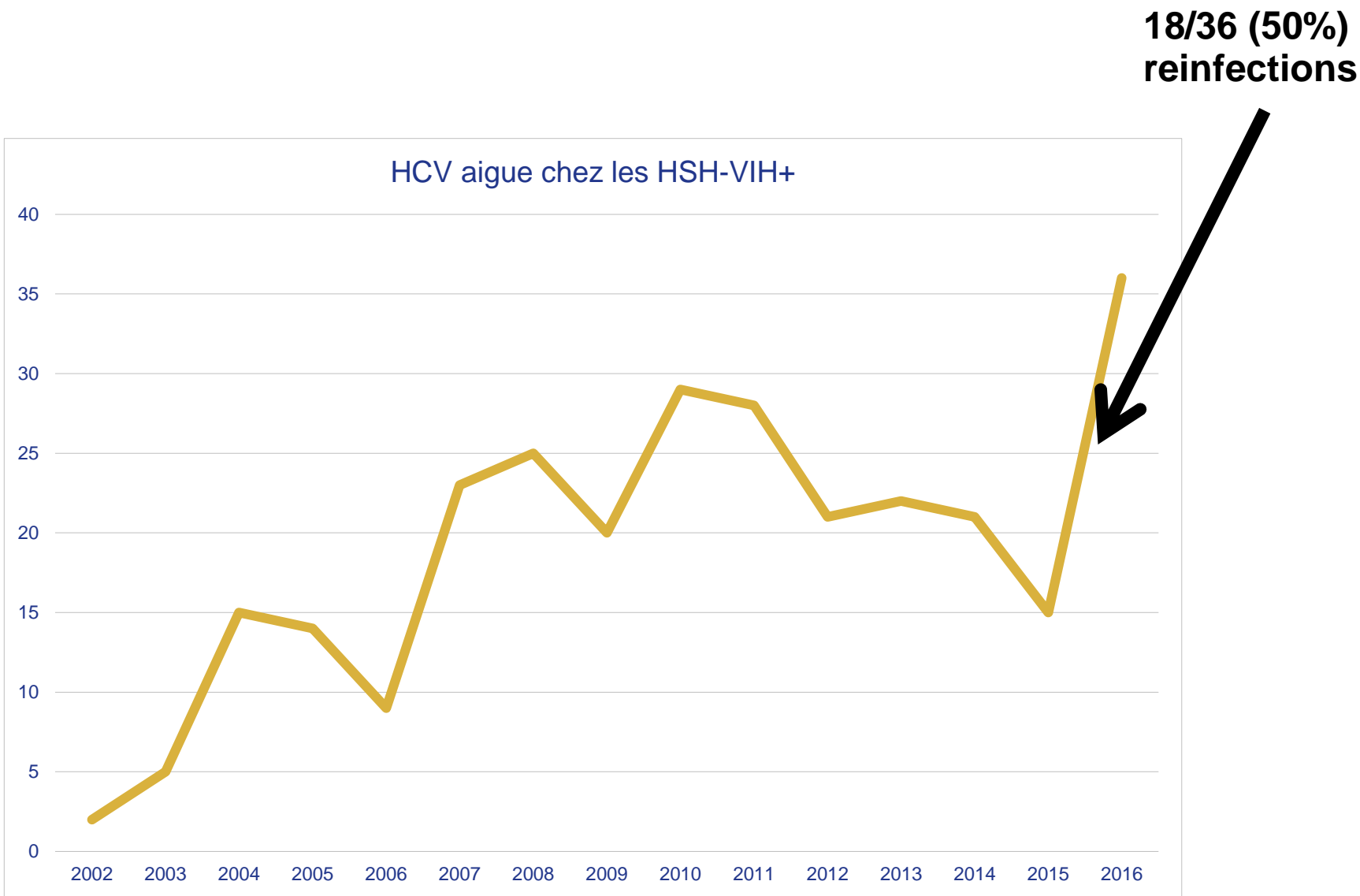
- 11% (19/166) chez HSH après 45 semaines
- 1% (5/454) chez UDIs après 40 semaines



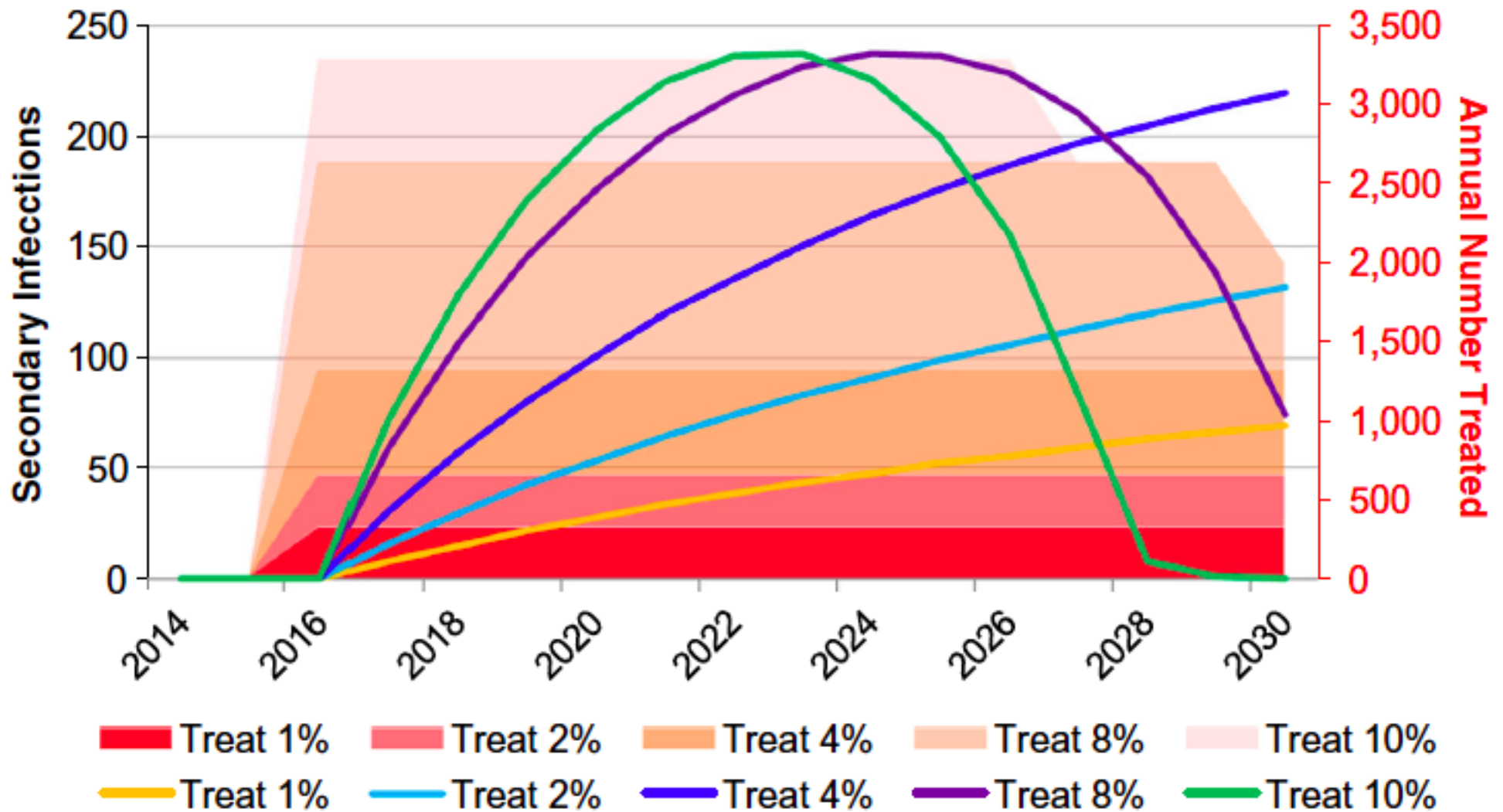
**Est-ce que l'incidence/prévalence
va baisser dans ces populations
?**



Berlin cohort



Plus de traitements, plus de reinfection ?

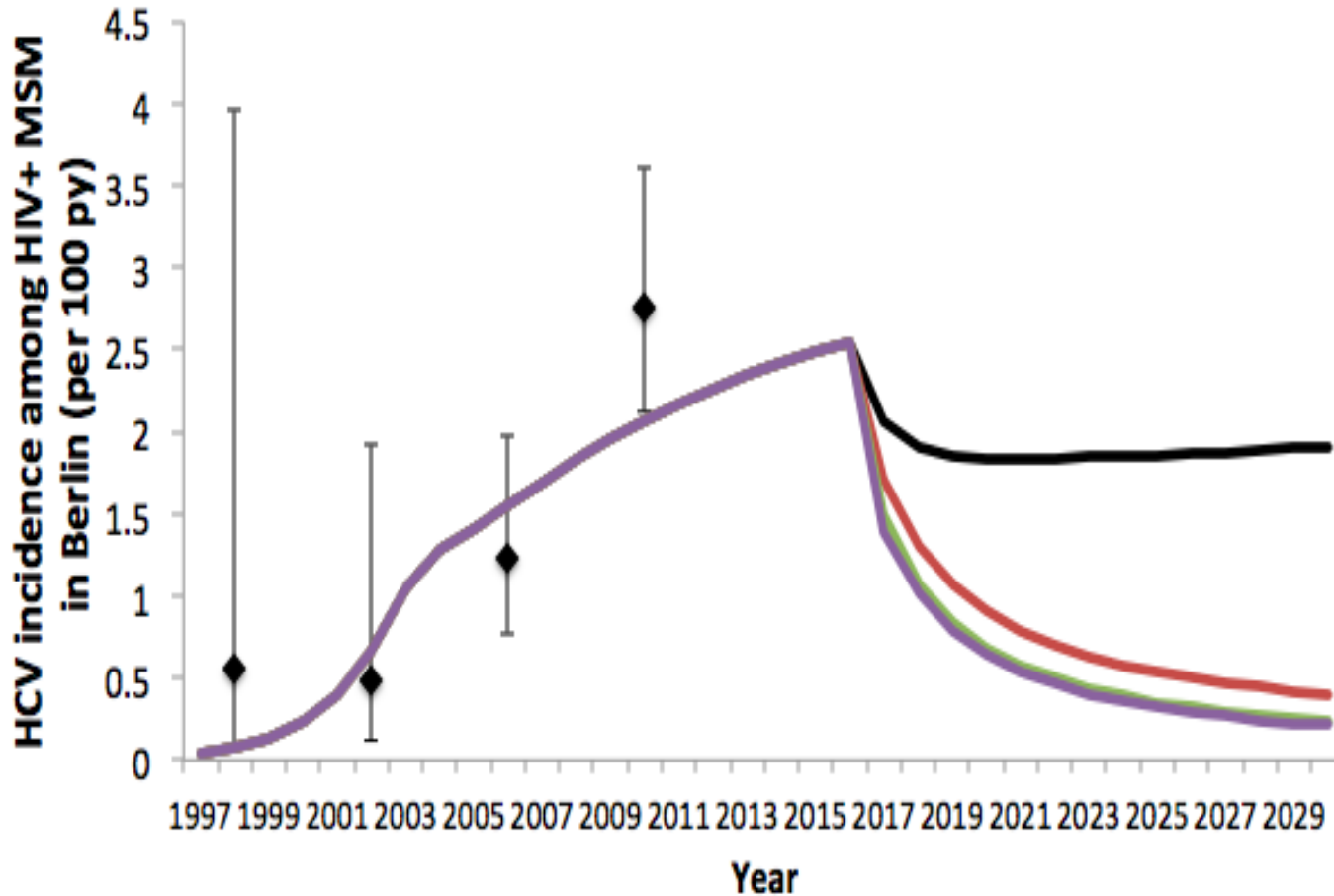


BERLIN: INCREASING INCIDENCE AND HIGH TESTING/TREATMENT, NEED ACUTE TREATMENT OR BEHAVIOR CHANGE

Difficult to reverse increasing incidence with existing high testing/treatment rates.

Requires:

- All newly diagnosed treated within 3 months (licensing for acute treatment), or
- All newly diagnosed treated within 6 months plus 10% risk behavior reduction



- Current Treatment with DAAs (80% newly diagnosed treated after 6 months)
- All newly diagnosed treated after 6 months, 25%/year previously diagnosed
- All newly diagnosed treated after 3 months, 25%/year previously diagnosed
- All newly diagnosed treated after 6 months, 25%/year previously diagnosed, plus behavior reduction
- ◆ Data

Martin NK and Ingiliz P et al, preliminary work

Conclusions

- **Le problème n'est pas la préférence sexuelle mais le comportement de risque**
- **Reinfection font partie du setting à forte risque dans le contexte des options thérapeutiques très efficace**
- **Une augmentation du taux de traitements va probablement augmenter la taux des reinfections**
- **Traitement de VHC aigue nécessaire (reservoir virémic)**

Remerciement

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