

PrEP et IST



Pr Eric
Caumes,
Sorbonne
Université
Hal Hotel-
Dieu, Paris

IST
Tropicales,
9/11/2023

Conflits d'Interet

- Au cours des trois dernières années, j'ai reçu des honoraires de **Takeda**, et **Valneva**, pour des participations à des comités scientifiques (vaccins dengue et chikungunya)
- Pas de liens relatifs au VIH et antirétroviraux
- Mais.....
- Age > 65 ans (generation sida)
- Et auteur de....

Pr. Éric Caumes

SEXE LES NOUVEAUX DANGERS DANGERS LES NOUVEAUX SEXE

BOUQUINS

document

« Les dérives de la PrEP sont une porte ouverte à l'émergence de nouvelles maladies »

Propos du Pr Eric Caumes dans l'Express le 23/10/2022



La PrEP est un traitement préventif contre le VIH, à prendre avant et après un rapport sexuel. Propager de fausses informations sur la PrEP c'est se rendre complice du VIH-sida !

La SFLS va-t-elle condamner ces propos ?

Epidemiology and déterminants of reemerging STIs and emerging STIs in Europe

- « Regarding the impact of PrEP on STI cases, studies yield conflicting results.
- Some suggest higher STI prevalence among PrEP users related to enhanced screening, biological synergies, and risk compensation behaviors (3 ref)
- While other find no significant increase (2 ref) »

IST. Juillet 2023. OMS.

- IST > 30 bactéries, virus et parasites
- Trans mère enfant (gross, accouch, lait).
- 8 principales IST:
 - 4 Curable: Tv, Ct, Ng, Tp
 - 4 non curable: HSV, HPV, HBV, VIH
- Apparition de Nelles IST
- Réapparition d'IST négligées (LGV)
- Defis croissants pour prévention et lutte

Facteurs de risque IST/MST

- Deux 1ères décennies activité sexuelle
- Précocité du 1er rapport sexuel
- RS non protégées
- **Nombre partenaires sexuels**
- Antécédents de MST
- Infection VIH
- Niveau socio-économique faible.

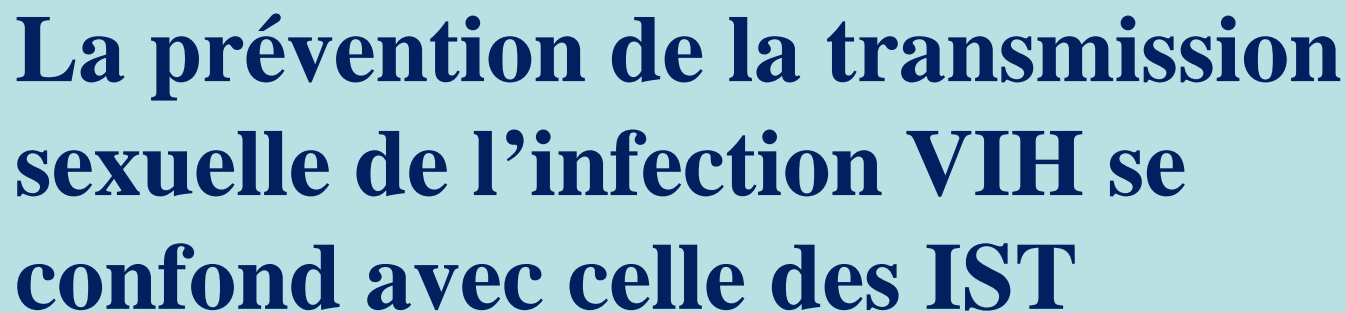
**Point
clé**



Ce n'est pas l'orientation sexuelle qui compte mais la pratique sexuelle

Il était une fois..... Les années 1980

- Premiers cas de sida reconnus en 1981
- Premiers Tt ARV efficaces: fin des années 1990



La prévention de la transmission sexuelle de l'infection VIH se confond avec celle des IST

= Safer sex (securisexe)

Undetectable = untransmissible

- 90% (95%) des personnes infectées par le VIH doivent être dépistées
- 90% (95%) des personnes dépistées doivent être traitées
- 90% (95%) des personnes traitées doivent être indétectables

Tenofovir-Emtricitabine prophylaxis HIV - IPERGAY -TDF/FTC 2 tbs D0, 1 tb D1 and D2

Ecstasy
Crack
Cocaine
Crystal
Speed
HBABL

| | TDF/FTC | Placebo |
|-----------------------|------------------|-----------------|
| N = | 199 | 201 |
| Nb SP (<2 m) drugs | 8 (5-17) 43% | 8 (5-16) 46% |
| HIV PI n= | 2 ** | 14 |
| Incidence * | 0.91/100 pers-an | 6.6/100 pers-an |
| STI*** | 41% | 33% |
| EI - GI (S) | 14% | 5% |

* Risk reduction = 86% (40-98%; p=0.002);

** blood dosage : not détectable

*** STI : 81 Ct, 88 Ng, 39 Tp, 5 HCV (NS)

Molina JM et al. NEJM
2015; 373: 2237-46

**BE SURE
BEFORE YOU
SHOOT!**

**+ USE PrEP
+ FREE HIV TEST
+ FREE CONDOM
+ Emergency PEP**

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Bangkok, Silom Road 30 August 2017



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Bangkok, Silom Road 2nd September 2018

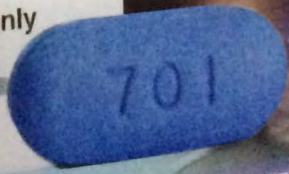
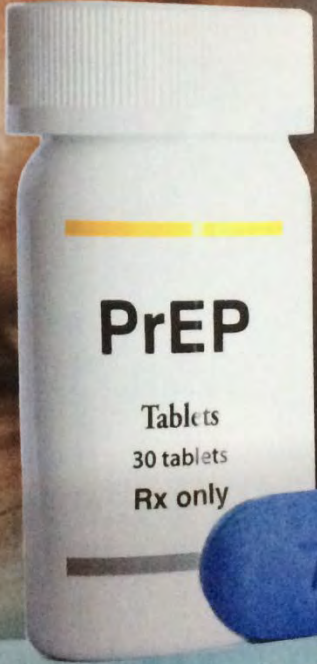
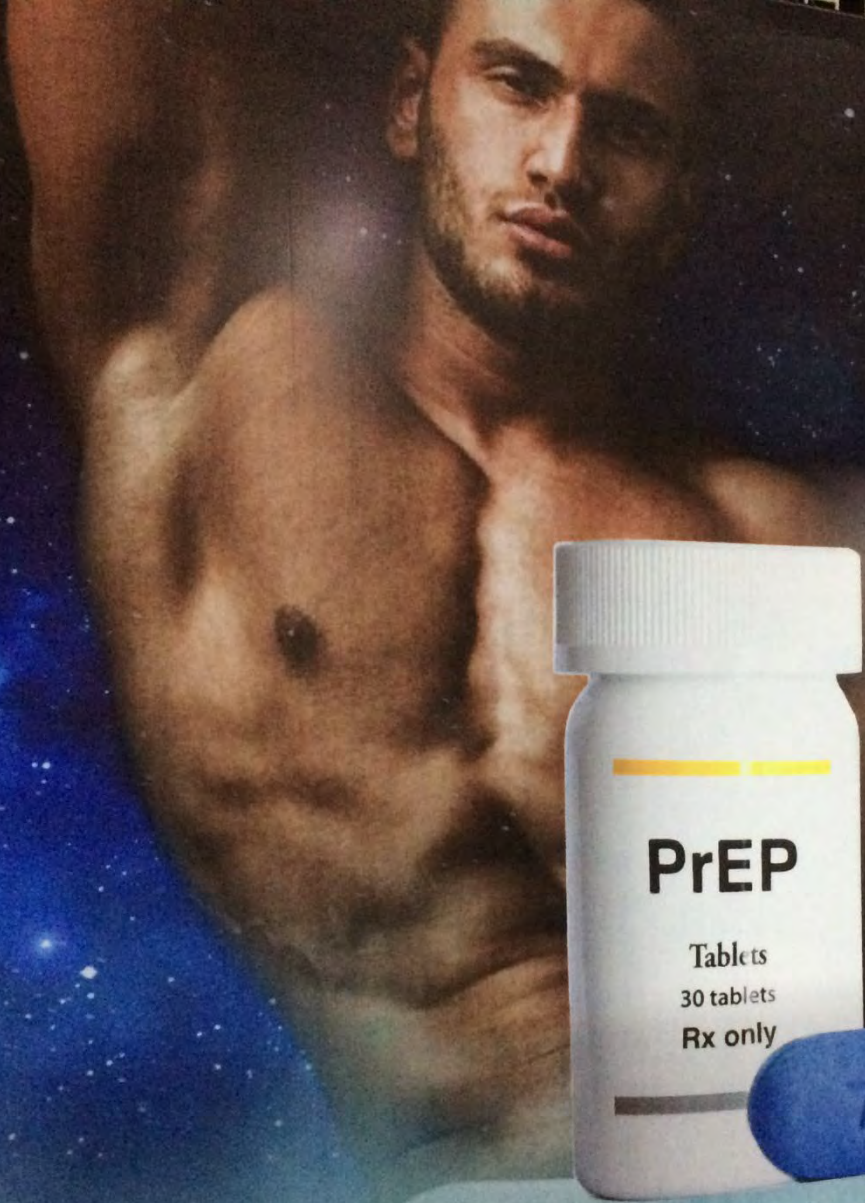


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C

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SEXU
++ RA
++ SYP
STI TEST
HANGOV
AFTER PA
CHEMSEX

OPEN DA
BOOK APP
WWW.SI

*FREE RAPID TEST FOR ALL GAY MEN AND
ARTWORK DESIGNED AN



"PREP: A PILL A DAY THAT KEEPS HIV AWAY,
SCIENCE GOD SENT FROM ABOVE"

PREVENTION
TREATMENT
RESEARCH

Bangkok, Silom Road 2nd September 2018

Bangkok,
Silom
Road

PULSE CLINIC (SILOM) พัลส์ คลินิก (สีลม)

**8000 LIVES IN BKK ARE ON PrEP
AND PARTY ON...
WHAT ABOUT YOU ?**

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SEE IT CLEARLY 2020

PrEP

BETTER THAN A
CONDOM

HIV risk reduction

| | |
|--------|---------|
| PrEP | 99+%* |
| Condom | 72-91%* |

GET tested at
PULSE
CLINIC

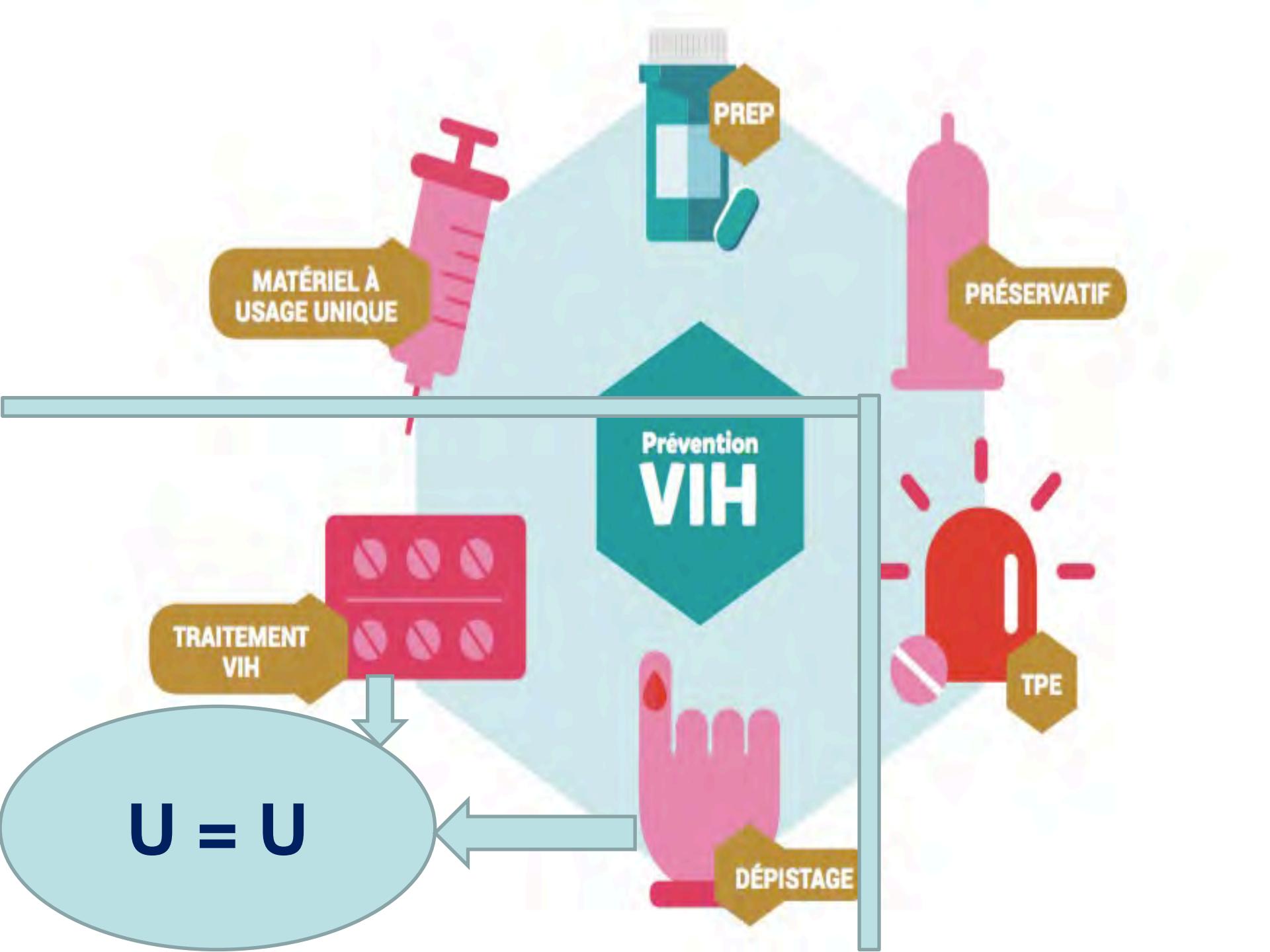
November
2019
(pre covid-
19 area)



Pulse clinic, Bangkok, Phayathai, Juin 2023

La prévention du VIH change dans les années 2010, elle devient « diversifiée »

- Moins de promotion du safer sex
- Moins de promotion du préservatif
- Promotion de la PrEP po VIH
- Promotion de « Test and treat »



MATÉRIEL À USAGE UNIQUE

PREP

PRÉSERVATIF

Prévention
VIH

TRAITEMENT VIH

TPE

DÉPISTAGE

U = U

L'intérêt pour la PrEP (pour prévenir l'infection VIH) s'est accompagné d'un désintérêt pour le safer sex (qui prévient toutes les IST)

**Il y a sept raisons
de s'inquiéter de
l'évolution actuelle
des IST**

**Ré-émergence des IST
classiques (sypphilis,
gonocoque): allure de
la courbe ??**

IST. Juillet 2023. OMS

- > un Million d'IST acquise chaque jour
- En 2020 (/2016), 374 M de pers avec : Tv (156 M)(+ 13 M), Ct (129 M)(- 2M), Ng (82 M)(+ 4M), syphilis (7 M)(+ 1,4M),
- 500 M de pers avec HSV génital
- 311.000 morts par cancer du col (HPV-)
- 1 M F. enceintes Syphilis (350.000 NN)
- Profondes répercussions sur la santé sexuelle et reproductive dans le monde.

UK: Gonorrhoea and syphilis at record levels in 2022

- N.gonorrhoeae diagnoses (82,592 in 2022),
 - + 50.3% vs 2021 (54,961)
 - + 16.1% vs 2019 (< COVID-19 pandemic)
 - Highest number since records began in 1918
- infectious syphilis diagnoses (8,692 in 2022),
 - + 15.2% vs 2021 (7,543)
 - + 8.1% vs 2019 (< COVID-19 pandemic)
 - Largest annual number since 1948
- In 2022, > 400 Dg STIs each day (15-29 yo)

**Ré-émergence
des IST classiques
(Syphilis, gono....)**

**avec des formes
cliniques graves et
des séquelles....**

Gonococccemia, France, 2009-2011, 21 cases

- Age : 30 yo (F: 20 y [18-62], M: 37 y [19-55])
- 9 F (42.9%) / **12 M (57.1%) incl 5 MSM (24%)**
- 7 with STD history, incl 1 HIV +
- Sex RS: 5 usual partner (24%), 11 CS (52%), 2 CSA
- Arthritis: 14 (66%) incl 2 oligoarthritis; tenosynovitis: 7 (33%); cutaneous: 4 (19%); systemic signs: 5 (23%), genital: 5 (23%); endocarditis, PID, prostatitis: 1 each
- Culture +: 20, incl 11 joint fluid (55%); PCR +: 1
- Resistance: penicilline (38%), fluoroquinolones (33%)
- Outcome: surgery (6); sequelae (4 = 20%)

Neurosyphilis in 96 pts, 2000-16

- 93% M, 49% HIV + (young, MSM, Syphilis history);
- 67 OS (69%), 15 NS (16%), 14 (14%) ONS
- **81 OS**: 43 posterior uveitis (57%) - bilateral in HIV + (62% vs 38%, $p=0.045$).
- **29 NS** : 21 cranial nerves (VIIIth in 16) (72%), 7 meningitis (24%); 11 paresthesia (38%)
- TT + in CSF : HIV + pts (88% vs 76%, $p=0.04$)
- M 6: 32% still had neurological or ocular impairment
- M 12: 18% sequellae



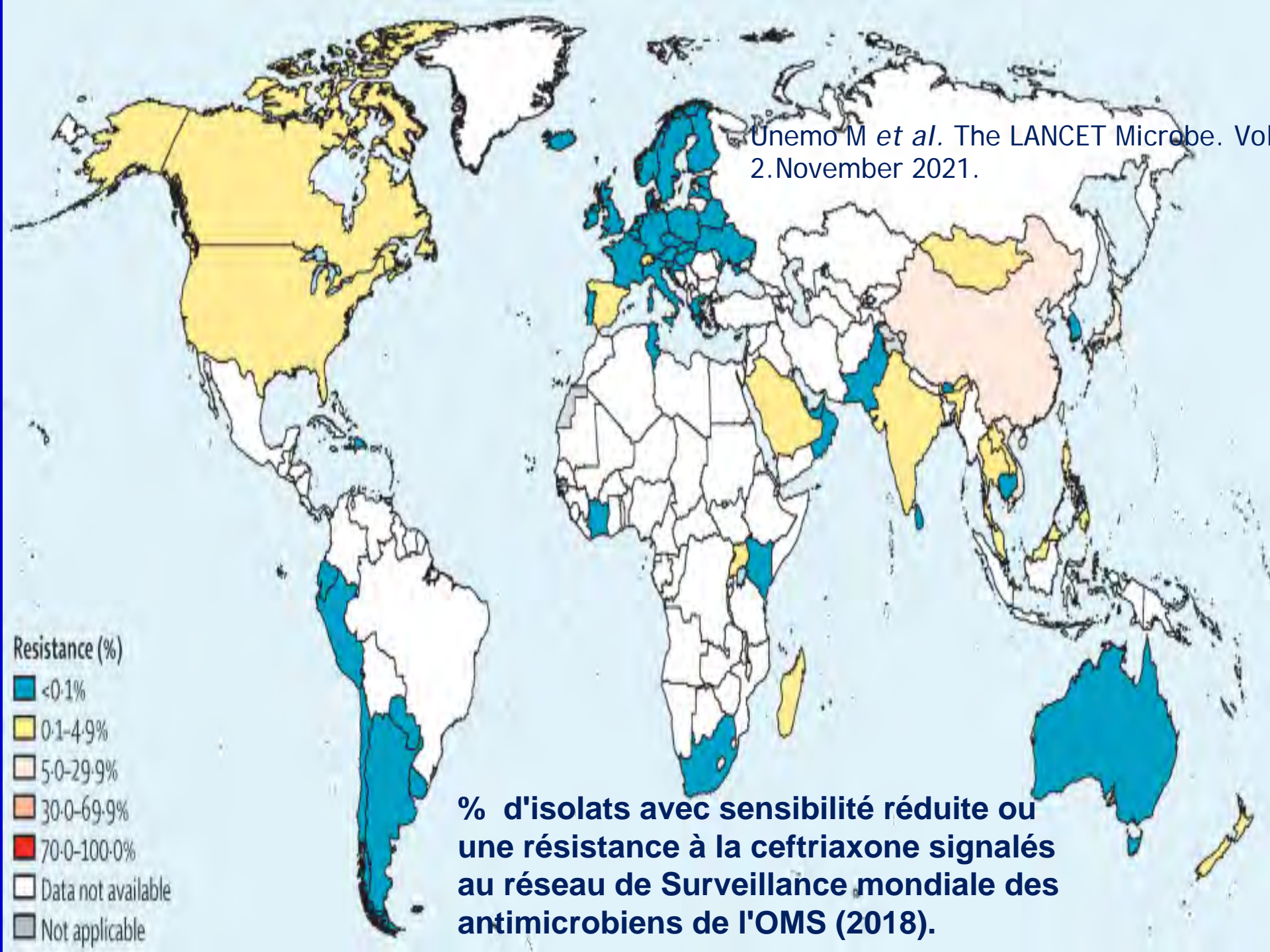
Eduard Munch (1863-1944)
The heritage (1897)



Rembrandt (1606-1669)
Portrait of G.de Lairese (1665)

**Résistance croissante
aux antibiotiques (vers
le gonocoque et le
M.genitalium XDR)**

Unemo M *et al.* The LANCET Microbe. Vol
2.November 2021.



% d'isolats avec sensibilité réduite ou une résistance à la ceftriaxone signalés au réseau de Surveillance mondiale des antimicrobiens de l'OMS (2018).

UK: 10 Ceftr-R N.gonorrhoeae incl 9 travelers (WGS)

- 12/2021- 6/2022 : 10 cases (vs 9 during < 6 years)
- 5 F, 5 M (all HS). Ceftriaxone-R (MIC = 0.5; 0.25-1)
- Tt with Ceftr 1 gr (10 pts) & azithromycin 2 g (2 pts).
- 1/10 Non-Trav F, from As UK-SP (ST1901),
- 9/10 trav: 8 to UK, 1 from UK. All “Asia Pacific (AP)”
 - 1M (UD), from a SP in “AP country” (ST16406), with UD & Oral culture + w/out oral sex: kissing may be a potential route of transmission to the oropharynx
 - 4M (UD), 4 F (As) from “same AP country” (ST8123)
 - AP ? : China, Vietnam (8 PS), Thailand, Cambodia (1M)

XDR *N.gonorrhoeae* in an Austrian traveler to Cambodia

- 4/2022, Austrian M (HS) gonorrhoea (UD) after sexual intercourse with a FSW in Cambodia.
- Ceftriaxone-R + high-level azithromycin-R
- Ceft (1 g) + azithro (1.5 g) « possibly failed ».
- 2nd strain in an Asian *N.gonorrhoeae* genomic sublineage including high-level azithromycin-resistant strains that developed ceftriaxone resistance by acquisition of mosaic penA-60.001

Ceftr-R *N.gonorrhoeae* in the SP of a French traveler to Vietnam

- 6/2022. F (Hs), France. Unprotected sex with regular SP (urethritis > travel to Vietnam).
- Ceftriaxone-R (MIC = 0,5). WGS identified MLST ST1901, NG-STAR CC-199, and the novel mosaic penA-237.001 which caused ceftr- R (98.7% identical to penA-60.001)
- Successfully treated with azithromycin 2 g

THE LANCET

Infectious Diseases

Volume 18, Issue 9, September 2018, Pages 951-952

Newsdesk

Mycoplasma genitalium: a potential new superbug

Mycoplasma genitalium :
Antibiotic
resistance



EDITORIALS

Mycoplasma genitalium: the next sexually transmitted superbug?

Antimicrobial resistance and treatment failures are the biggest challenges

Gwenda Hughes *visiting professor*¹, John Saunders *honorary senior lecturer*²

M.genitalium and AMR associated mutations in 5 LMIC

- 1425 MSM, 1398 women at-risk
- Prevalence Mg : 14.7% MSM (10% Malta, 20% Peru), 19.1% W (12% Guatemala, 16% Morocco, 22% South Africa)
- Prevalence of 23S rRNA and parC mutations: MSM (68% and 29% Malta, 65% and 5.6% in Peru), W (4.8% and 0% in Guatemala, 11.6% and 6.7% Morocco, 2.4% and 3.7% SA)

**La diversification du
répertoire sexuel /
cumul des risques
(oral, anal, sang...)**

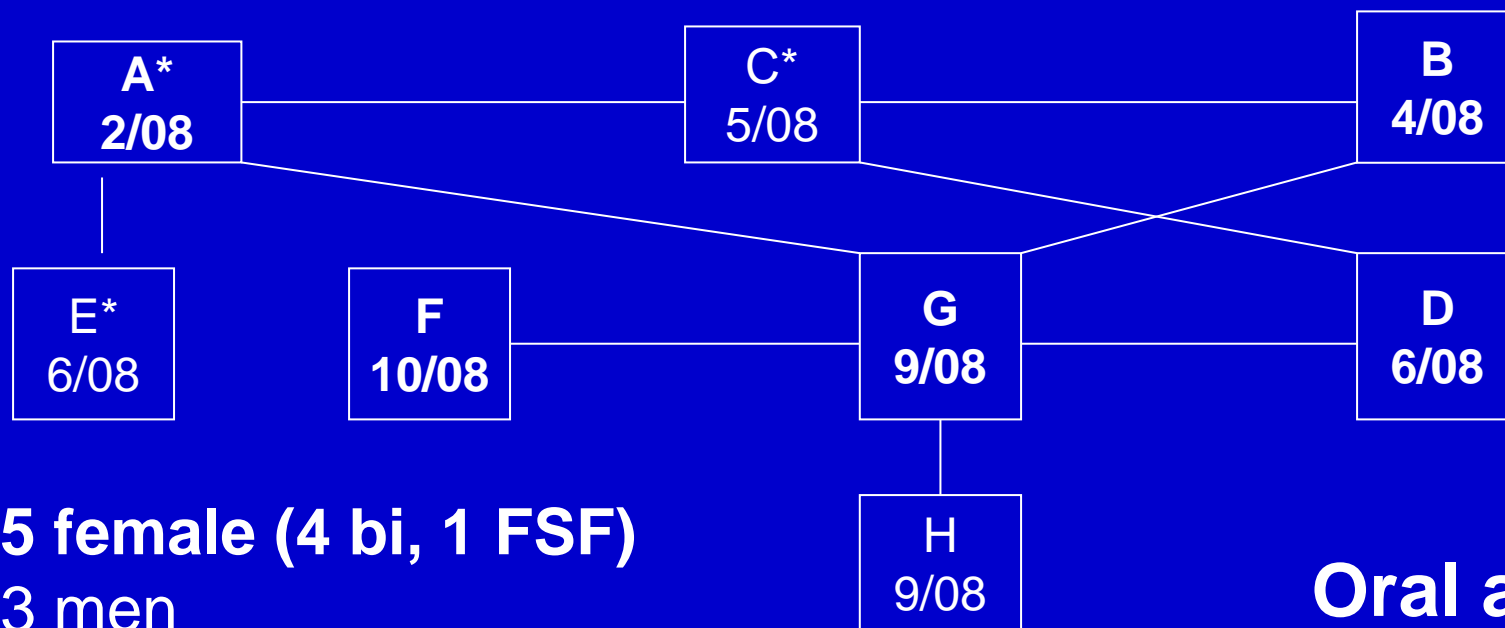
Sex Transm HCV in MSM w PrEP

- 15 cases in 14 MSM using PrEP; 2013 – 2018; NYC (79%) & SF; 66% drug use (incl IV methamph 5 pts). **Nb SP < 3 months was > 50 in 33%, between 10-50 in 47%**
- Time PrEP – HCV Dg = 12 mo (10 – 17)
- 87% asymptomatic (routine screening); 80% genotype 1a; 20% spontan clearance rate



**Routine : ALAT / 3 mo – HCV Ab / y
Immediate Tt of HCV infection**

Amebiasis : sexually linked cluster



5 female (4 bi, 1 FSF)

3 men

*** 3 liver abcess**

6 asymptomatic carriers (stool test +)

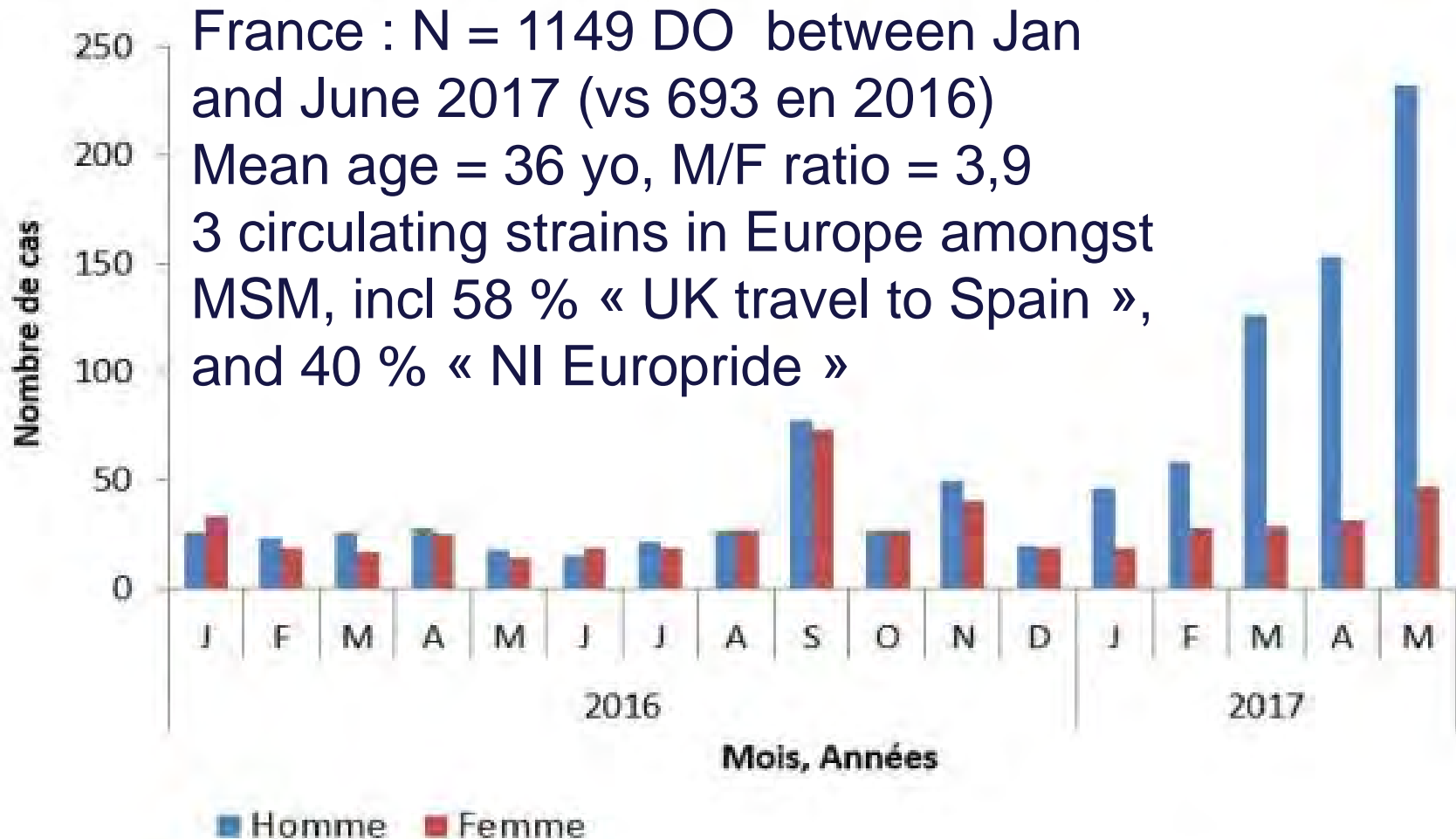
A, B et C : Italia (8-9/2007)

E : Irak/Africa (5/2008)

**Oral anal sex
was common
in A, D, F, G**

Hepatitis A outbreak among men who have sex with men (MSM) predominantly linked with the EuroPride, the Netherlands, July 2016 to February 2017

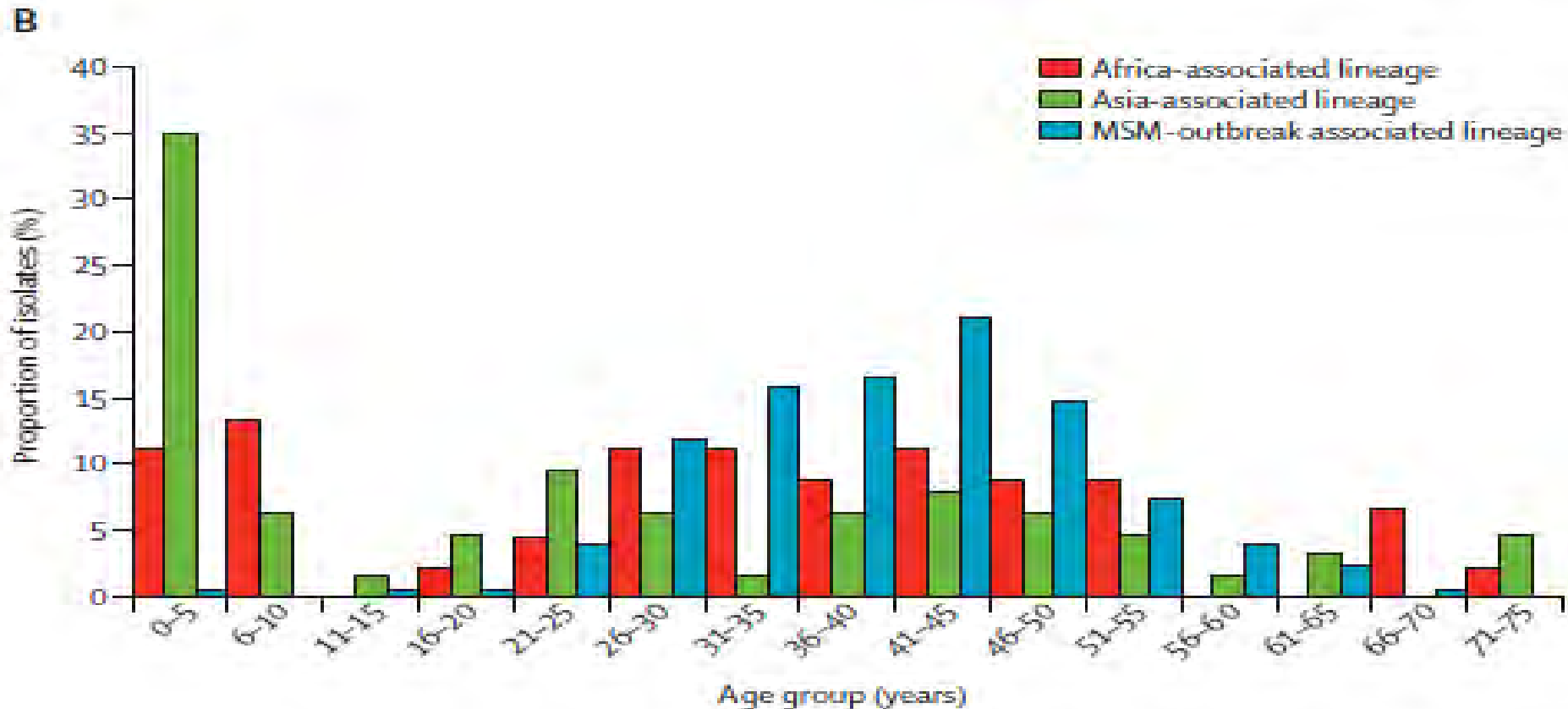
Nombre de cas d'hépatite A par sexe, France 2016-2017



MDR Shigella in MSM, 2016-2023

- > April 2023, > 300 shigellosis (MDR S.sonnei)
- 7 national & international clusters,
- Chains of transmission largely in gbMSM.
- USA (106), Spain (> 60), Belgium (26), Denmark (13), Germany (33), Ireland (50)...
- Most cases (2022–2023) - started in 2016
- Resistance 1st & 2nd line AB : 3rd Generation CSP, FQ, SMX, TMP + azithromycin-R in some strains
- Risk in gbMSM increases with the number of sexual contacts (Pride, international events).

Intercontinental dissemination azithromycine - R Shigellosis through sexual transmission



□ *S Flexneri 3a*, 2004-2013: N = 331 dont 275 zone faible risque dont 97 % MSM

□ *S Sonnei* 2015-2016. N = 103 dont 63 % MSM

Prevention of Shigella in SP-1

- **“practice safer sex and ensure good personal hygiene.*”**

*: gloves for fingering or fisting, dental dams during oral-anal sex, changing condoms between anal and oral sex, not share sex toys, ensure proper cleaning and disinfection after their use and between partners, wash hands, genital and anal areas before and after sexual contact.

Prevention of Shigella in SP-2

- If GI symptoms: refrain from sexual activity, extra attention to personal hygiene, seek healthcare to get tested for GI pathogens and other STIs (inform that the infection may have been acquired through sex), not handle or prepare food in catering establishments, avoid using public pools, spas...
- If shigellosis: avoid sexual activity (at least 7 days after symptoms have completely disappeared), avoid oral-anal sex for (4-6 weeks)

Découverte du mode ST de NTD

5

(Ebola, Zika, Monkey
pox) qui peuvent se
transmettre des mois
après guérison (Ebola)

Resurgence of Ebola in Guinea Linked to a Survivor with Virus in Semen for > 500 d

- 29th Dec 2015, end of EBOV transmission in Guinea.
- 29th Apr 2016: 3 prob & 7 confirmed cases (8 deaths)
- Viruses from cases 4 and 5 were genetically related to viruses from the 2014–2016 outbreak. The most closely related sequence in the database was from a Male in Guéckédou in November 2014 (he survived)
- The persisting virus was sexually transmitted in February 2016, about 470 days after onset of symptoms, and caused a new cluster of EVD in Guinea and Liberia.

Median of 5 months' persistence of Ebola virus in semen

- 26 Ebola survivors from Guinea; 130 semen tested for PCR – Semen inoculated to 8 SCID mice.
- Med FU: 197 d. after inclusion, 255 d. > Ebola onset
- Ebola virus detected in 19/26 convalescents (73%)
- Infectious Ebola virus isolated in 7/8 SCID mice
- Med duration of Ebola virus RNA presence = 158 d (IQR 73-181; max: 407 d) – mean clearance rate of Ebola virus RNA in semen = 0.58 log/months – 50% clear Ebola RNA at 115 d. and 90% at 294 d. (212-399)



Atlas of mpox lesions. A tool for clinical researchers

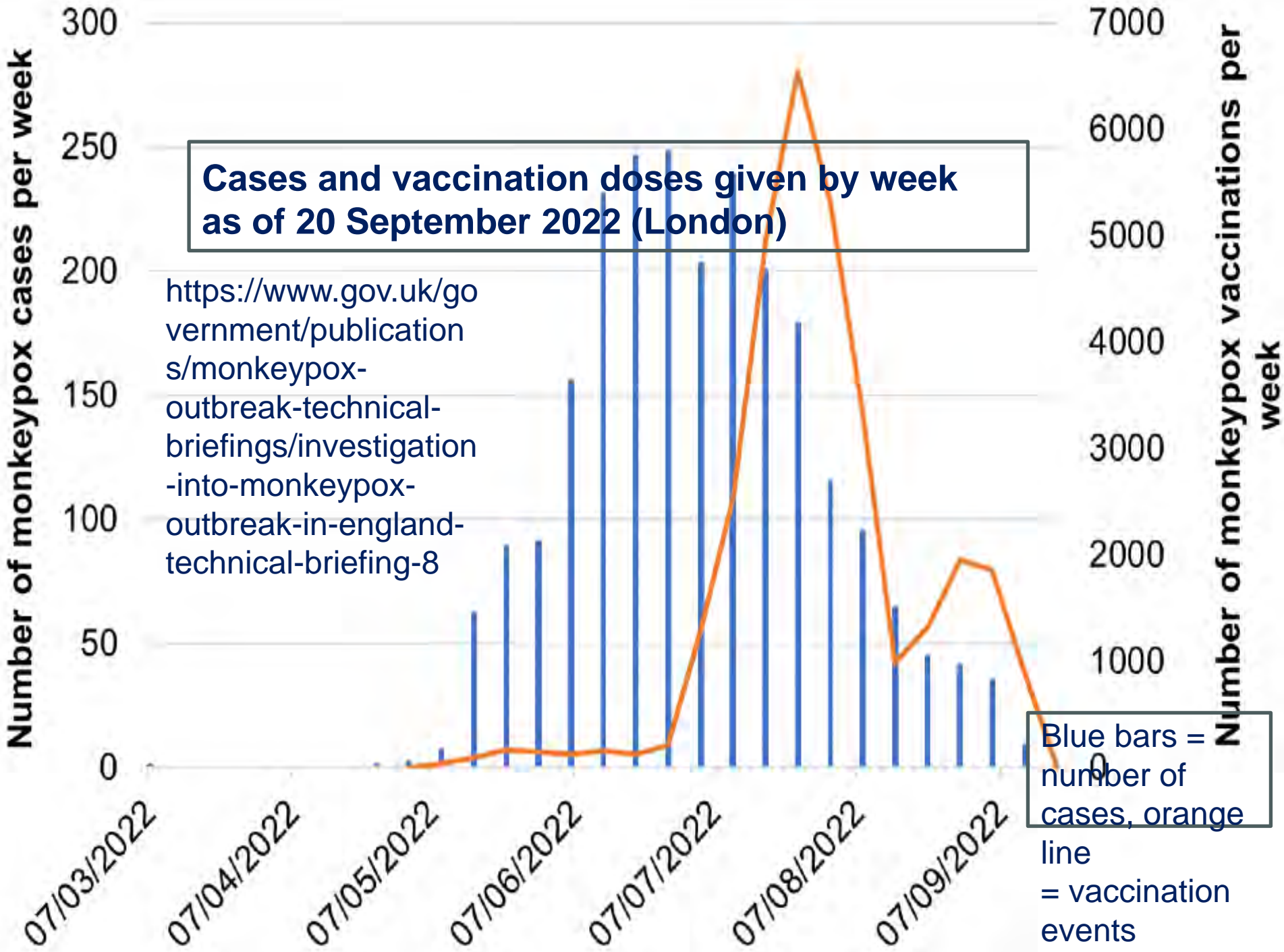
WHO. Version 1.0 - 28 April 2023 (WHO-MPX-Clinical-Lesions-2023.1-eng.pdf)

Monkey pox – 1st series

- 528 pts (527 M, 98% MSM). 43 sites. 4 continents. Share
- Median age: 38 yo. HIV + : 41% (**95% VL < 50 copies/ml**). STI (Tp, Ng, Ct): 29%. **History of Mpx Vaccine: 9%. PrEP use: 57%**
- PCR MKP +: anoG (97%), U (3%), Skin (90%)
- Fever : 62%, Fatigue : 41%, LA : 56%; Skin involv: 95% (< 10 lesions). Mucous inv: 41%
- F.localized : 10%. Hospitalisation rate : 13%.

Cases and vaccination doses given by week as of 20 September 2022 (London)

<https://www.gov.uk/government/publications/monkeypox-outbreak-technical-briefings/investigation-into-monkeypox-outbreak-in-england-technical-briefing-8>



Blue bars = number of cases, orange line = vaccination events

Strategies adopted by US MSM to prevent MKP transmission

- 824 responders, US MSM, August 2022
- 70% White, 50% < 45 years, 18% vaccinated against MPX, 44% taking PrEP
- Reduction of the number of SP (47%), one-time sex encounters (49%), sex with SP met on dating apps (49%), group sex (50%), attendances at sex venues or social events (41%)

Investigation into mpox outbreak in England: technical briefing 8 (Updated 23/9/2022)

- It is likely that multiple factors, including but not limited to vaccination, are contributing to the decline in transmission (moderate confidence).
- Reduction in some other sexually transmitted infections, as well as modelling, suggests behavioural modification may have been a factor (low confidence).

La fréquence des abus et violences sexuels

Scars and sexual violence in refugees/asylum seekers

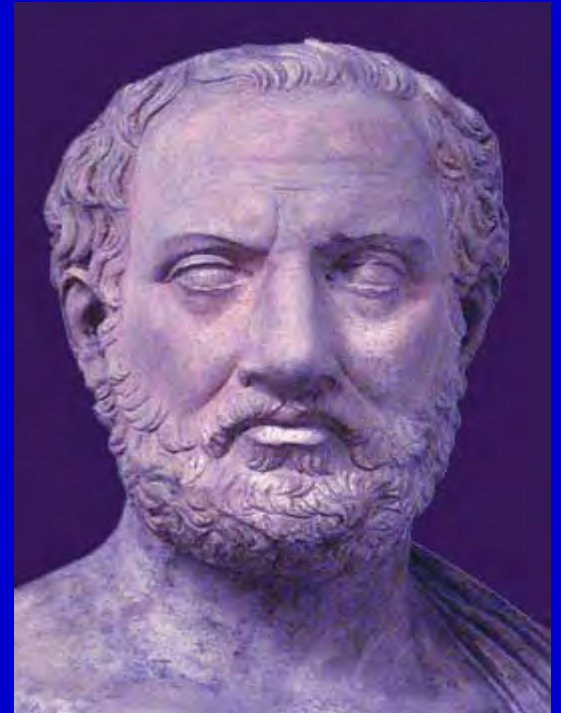
- 240 asylum seekers, 10/2016-9/2018
- M (89%), median age 29 years (IQR 26-34y), from North and West Africa.
- Cs 15 months after arrival in France.
- 94% presented with scars from beatings (84%), burns (32%), cuts/stab (15%).
- **Sexual violence was reported for 37% of women (10/27) and 4% of men (9/213).**

Un peu d'histoire pour finir

7

« L'histoire est un
perpétuel
recommencement »

Thucydide (460 avt JC
– 400 ou 395 avt JC)



« Un peuple qui
oublie son
histoire est
condamné à la
revivre »
(Winston
Churchill, 1874
– 1965)



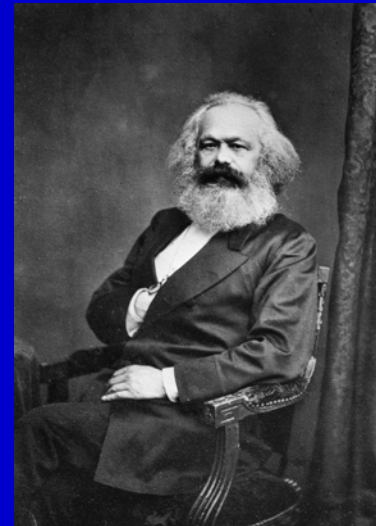
Dans le contexte actuel....

1. Retour des IST (Syphilis, gono....)
- 2.... et des formes graves avec séquelles
3. R.croissante AB (XDR Ng, Mg, Tp ?),
4. Mal Inf Emerg (Ebola, Zika, Mpox) ST
5. Pratiques sexuelles (diversification)
6. Violences sexuelles

.... ne pas croire en la répétition de l'histoire est dangereux

« Tous les grands événements et personnages de l'histoire du monde se produisent pour ainsi dire deux fois... la première fois comme une grande tragédie, la seconde fois comme une farce sordide... ».

Karl Marx (1818 – 1883)



Prevention STIs : safer sex

- Abstinence = A
- Be faithful = B
- Condom = C
- Vaccines: HPV, HBV, HAV, A/C/Y/W + B
- Delaying sexual activity (adolescents)
- Decreasing number of sex partners
- Screening,
- Treatment partners

Cabbages and condoms, Bangkok, Sukkumvit, 1980s



**NO GLOVE
NO LOVE !**

**Merci pour votre
attention**