Place of addiction-informed comprehensive treatment in HIV care
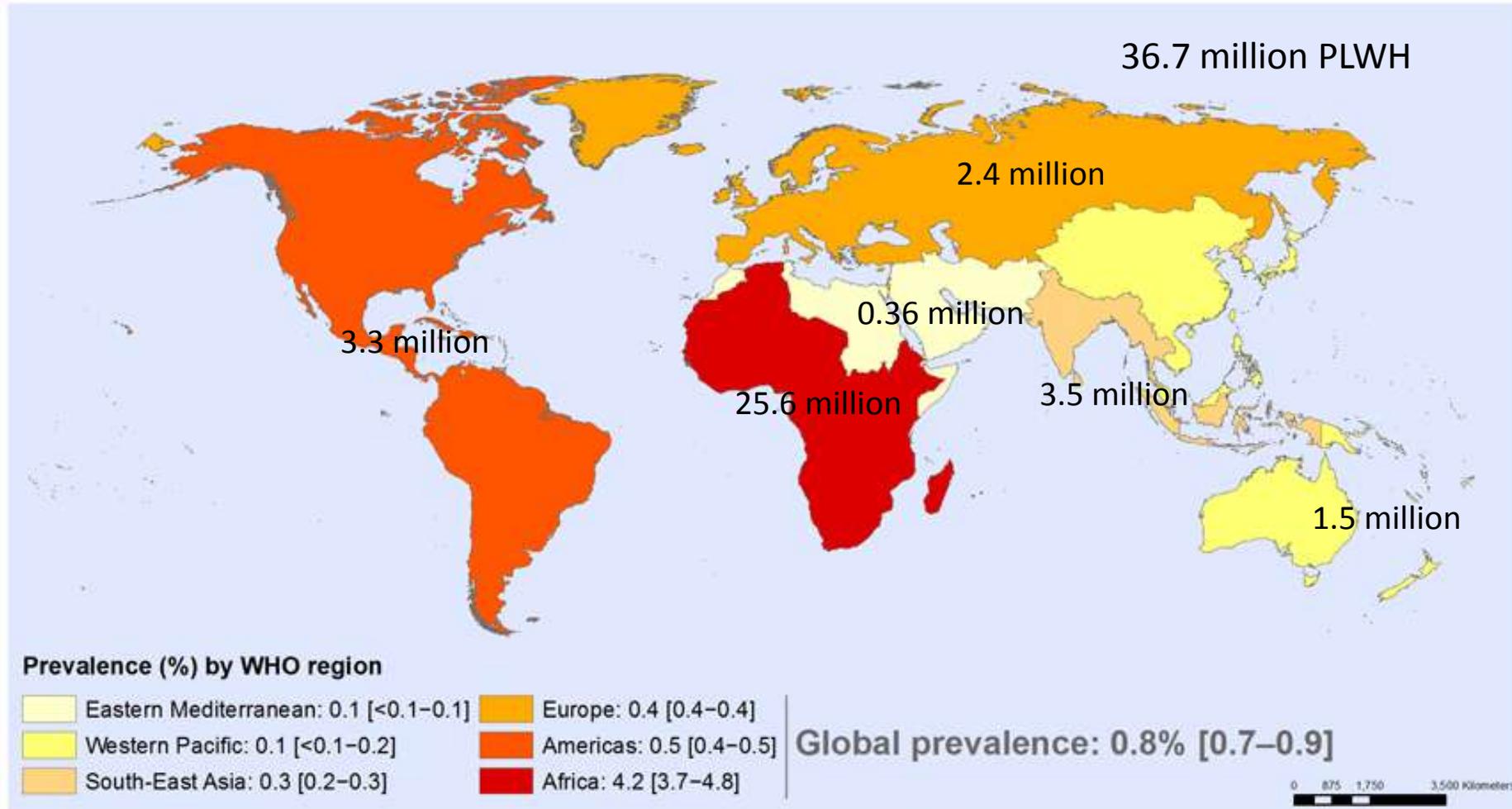
Cecile Denis, PhD

Center for Studies of Addiction, University of Pennsylvania, Philadelphia, USA

University of Bordeaux, Bordeaux, France

Disclosures

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- Project funded by NIDA grant R01-DA033671 (O'Brien, PI)

Prevalence of HIV among adults aged 15 to 49, 2016
By WHO region

36.7 million PLWH

2.4 million

0.36 million

3.3 million

25.6 million

3.5 million

1.5 million

Prevalence (%) by WHO region

Eastern Mediterranean: 0.1 [<0.1–0.1]	Europe: 0.4 [0.4–0.4]
Western Pacific: 0.1 [<0.1–0.2]	Americas: 0.5 [0.4–0.5]
South-East Asia: 0.3 [0.2–0.3]	Africa: 4.2 [3.7–4.8]

Global prevalence: 0.8% [0.7–0.9]

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Information Evidence and Research (IER)
World Health Organization

World Health Organization

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Comprehensive HIV care

- Universal access to comprehensive health services is needed to reduce substantially HIV-related morbidity and mortality worldwide
- These services must effectively address six needs
  - Voluntary and confidential counseling and testing for HIV infection
  - Prevention of HIV transmission, including sexual, parenteral, and mother to child transmission
  - Prophylaxis against opportunistic infections
  - Diagnosis and treatment of HIV-related conditions including opportunistic infections and neoplasms
  - Antiretroviral treatment
  - Palliative care

WHO Guidelines, revised 2016

2020 target: 90 – 90 – 90

THE TREATMENT TARGET

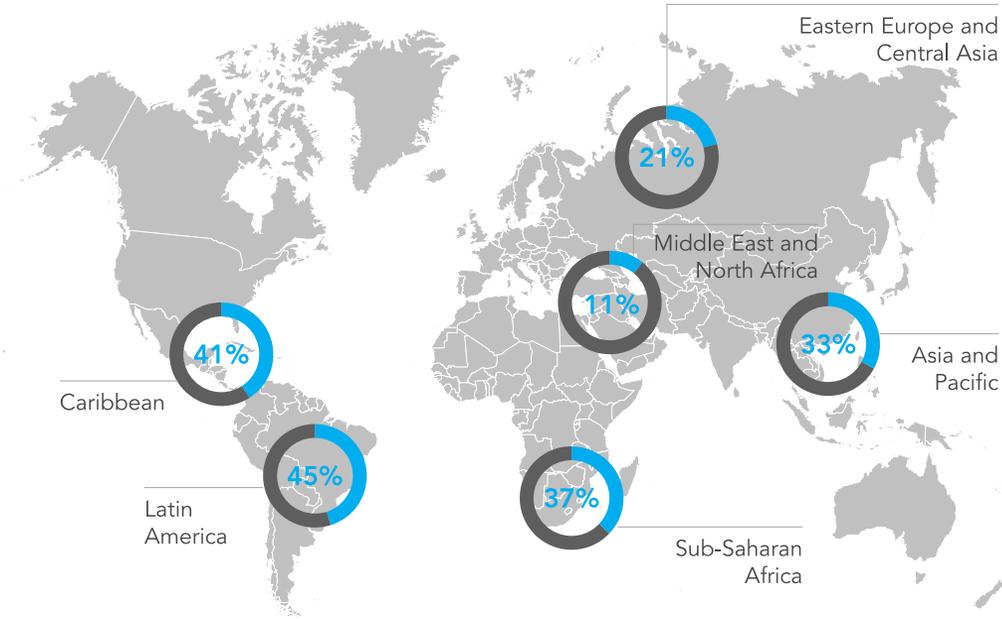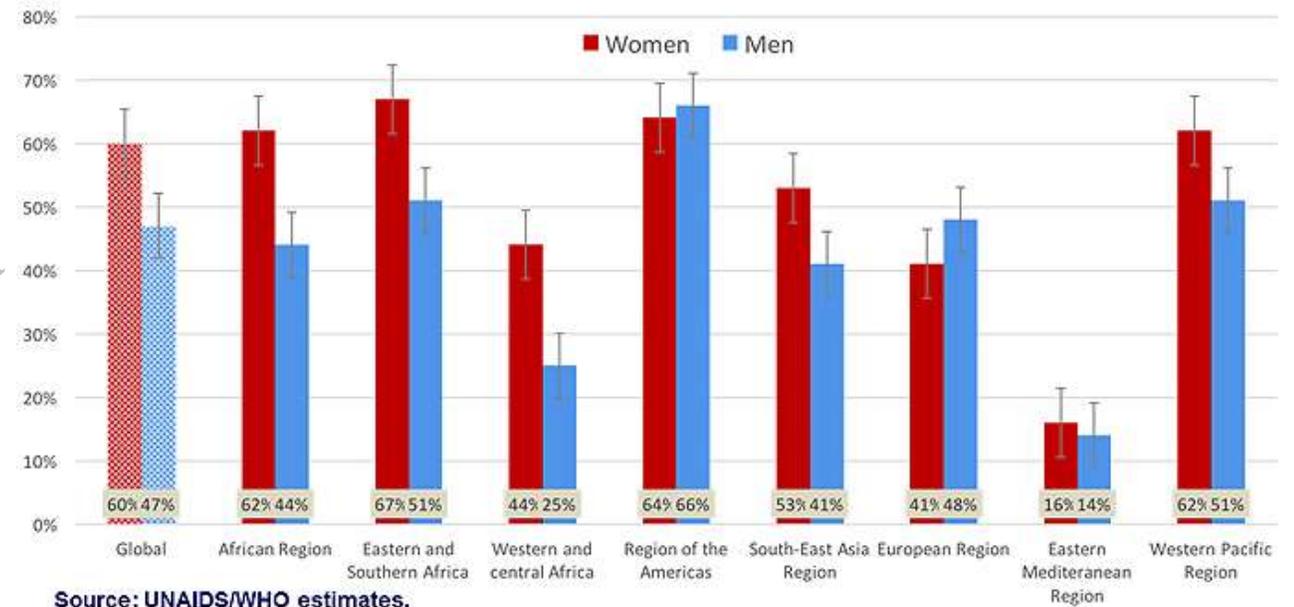|		
90%	**90%**	**90%**
diagnosed	on treatment	virally suppressed

UNAIDS, 2015

If achieved
- 73% of PLWH will exhibit suppressed viral load in 2020
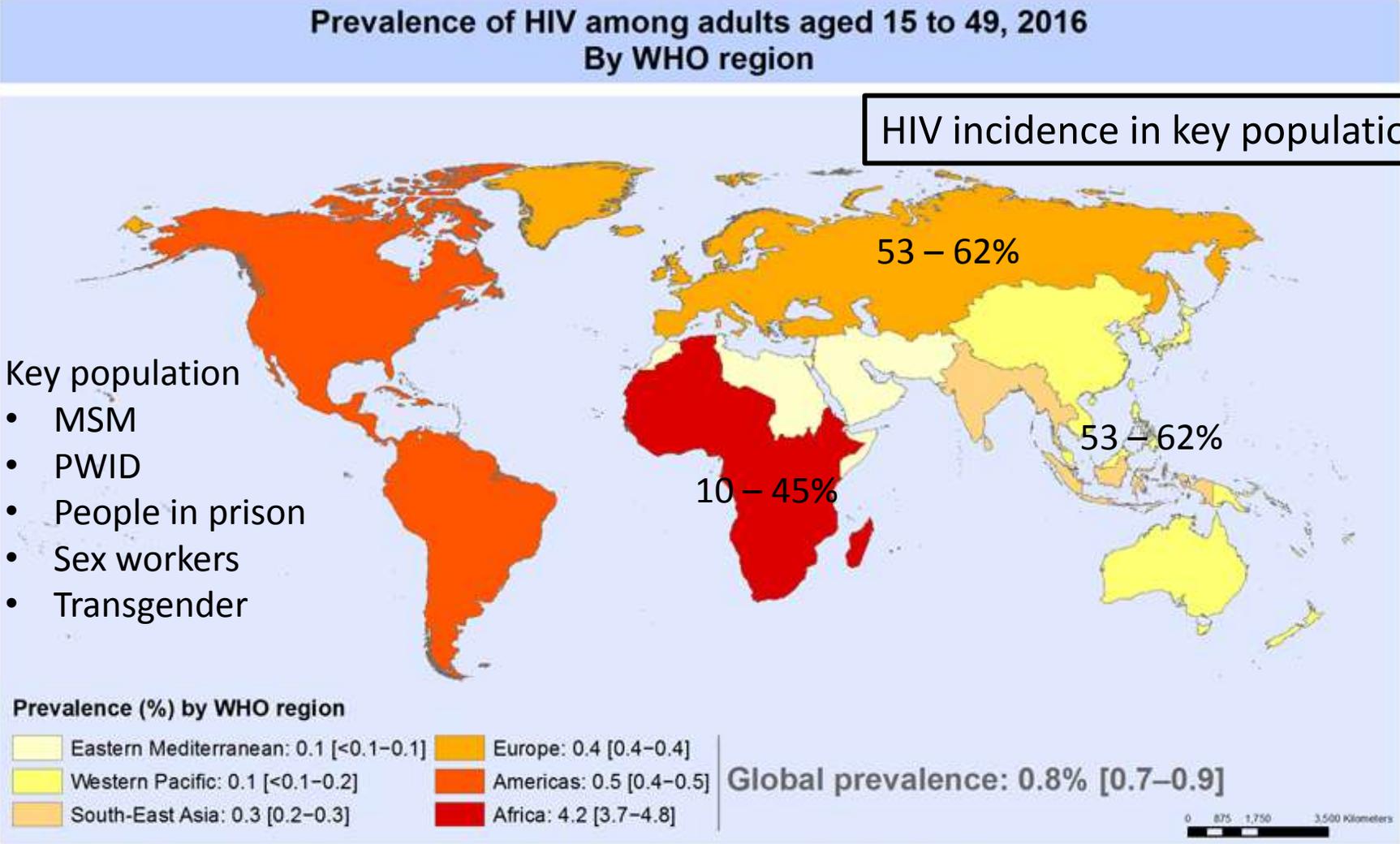- End of AIDS epidemics by 2030

ART coverage

Total ART coverage

Gap

Eastern Europe and Central Asia — 21%

Middle East and North Africa — 11%

Caribbean — 41%

Latin America — 45%

Sub-Saharan Africa — 37%

Asia and Pacific — 33%

Dec. 2016: 19.5 million on ART
53.1% of PWLH

Women   Men

Region	Women	Men
Global	60%	47%
African Region	62%	44%
Eastern and Southern Africa	67%	51%
Western and central Africa	44%	25%
Region of the Americas	64%	66%
South-East Asia Region	53%	41%
European Region	41%	48%
Eastern Mediteranean Region	16%	14%
Western Pacific Region	62%	51%

Source: UNAIDS/WHO estimates.

UNAIDS/ WHO 2017

HIV care continuum

Levi et al., IAS, Vancouver, 2015

New HIV infections mostly occur among people from key population

Prevalence of HIV among adults aged 15 to 49, 2016
By WHO region

HIV incidence in key population increases

53 – 62%

53 – 62%

10 – 45%

Key population
- MSM
- PWID
- People in prison
- Sex workers
- Transgender

Prevalence (%) by WHO region

	Prevalence
Eastern Mediterranean	0.1 [<0.1–0.1]
Western Pacific	0.1 [<0.1–0.2]
South-East Asia	0.3 [0.2–0.3]
Europe	0.4 [0.4–0.4]
Americas	0.5 [0.4–0.5]
Africa	4.2 [3.7–4.8]

Global prevalence: 0.8% [0.7–0.9]

0   875   1,750   3,500 Kilometers

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HIV prevalence among PWID

Global HIV prevalence among people who inject drugs

12 MILLION PEOPLE INJECT DRUGS

1.6 MILLION ARE LIVING WITH HIV

Source: World Drug Report 2016

KEY:
- Number of people in the population who inject drugs
- HIV prevalence among people who inject drugs

Region	Number	HIV+
ASIA	4,670,000	12.5% HIV+
EASTERN AND SE. EUROPE	2,860,000	22.9% HIV+
NORTH AMERICA	2,080,000	9.1% HIV+
WESTERN AND CENTRAL EUROPE	700,000	11.2% HIV+
LATIN AMERICA AND CARIBBEAN	670,000	6.1% HIV+
AFRICA	630,000	13.6% HIV+
OCEANIA	90,000	1.3% HIV+
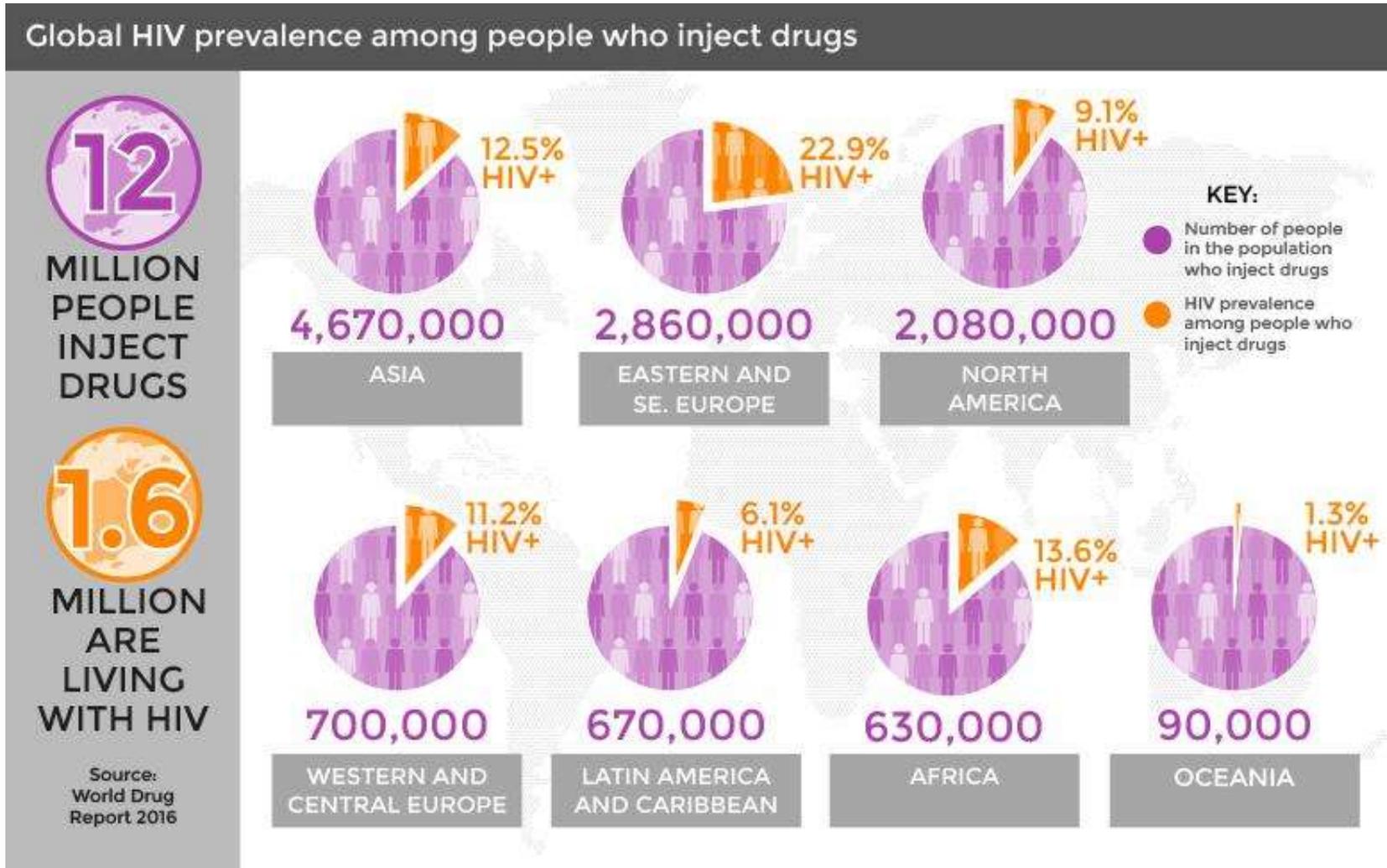
World Drug Report, 2016

Key population and HIV care

- Individuals from key population were identified as
  - HIV transmission risk behavior
  - Low ART adherence
  - HIV progression
  - Detectable viral load
  - Poorer perceived QoL

Dawson-Rose et al, 2017

Influence ART adherence / HIV clinic attendance

- Stigma of HIV-status disclosure

- Social support as a safety net during negative life circumstances

- Unaddressed trauma and substance use leading to interruption of care

- Trusting patient/provider relationship motivating HIV clinic attendance

- Basic unmet needs competing with the perceived value of HIV care

Levinson et al, 2017

WHO recommendations for key population

- HIV prevention
  - Condoms, PrEP, PEP, VMMC

- Harm reduction
  - NEP, opiate addiction Tx, evidence-based intervention for OH and other drugs, opioid overdose

- HIV Testing and counseling
  - Community-based and clinic-based

- HIV Tx and care
  - Same care than non-key population

- Prevention and management of co-infections and comorbidities
  - Prevention, screening and Tx for TB, HBV, HCV, routine mental health disorders and co-counseling HIV and depression

- Sexual and reproductive health
  - Similar care than non-key population

- Critical enablers
  - Reviews of law, policies and practices, antidiscrimination policies, access to health services, enhance community empowerment, address violence

HIV prevention, diagnosis, treatment and care for key population – 2016 update, WHO

Methadone maintenance therapy promotes initiation of antiretroviral therapy among injection drug users

Sasha Uhlmann[1,2], M.-J. Milloy[1], Thomas Kerr[1,2], Ruth Zhang[1], Silvia Guillemi[1], David Marsh[3], Robert S. Hogg[1,4], Julio S. G. Montaner[1,2] & Evan Wood[1,2]

British Columbia Centre for Excellence in HIV/AIDS, St Paul's Hospital, Vancouver, Canada,[1] Department of Medicine, University of British Columbia, Vancouver, Canada,[2] Vancouver Coastal Health, Vancouver, Canada[3] and Faculty of Health Sciences, Simon Fraser University, Burnaby, Canada[4]

Commentary

Social and structural determinants of HAART access and adherence among injection drug users

Andrea Krüsi[a], Evan Wood[a,b], Julio Montaner[a,b], Thomas Kerr[a,b,*]

[a] British Columbia Centre for Excellence in HIV/AIDS, St. Paul's Hospital, Vancouver, Canada
[b] Department of Medicine, Faculty of Medicine, University of British Columbia, Vancouver, Canada

Review

Adherence to HIV treatment among IDUs and the role of opioid substitution treatment (OST)

Bruno Spire[a], Gregory M. Lucas[b], M. Patrizia Carrieri[a,*]

[a] INSERM-U379/ORSPACA, Marseilles, France
[b] Johns Hopkins University, Baltimore, USA

Antiretroviral adherence and HIV treatment outcomes among HIV/HCV co-infected injection drug users: The role of methadone maintenance therapy

Anita Palepu[a,b,*], Mark W. Tyndall[b,c], Ruth Joy[c], Thomas Kerr[b,c], Evan Wood[b,c], Natasha Press[b,c], Robert S. Hogg[c,d], Julio S.G. Montaner[b,c]

[a] Centre for Health Evaluation and Outcome Sciences, St. Paul's Hospital, University of British Columbia, BC, Canada
[b] Department of Medicine, St. Paul's Hospital, University of British Columbia, BC, Canada
[c] British Columbia Centre for Excellence in HIV/AIDS, St. Paul's Hospital, University of British Columbia, BC, Canada
[d] Department of Health Care and Epidemiology, University of British Columbia, BC, Canada

Frame for an effective treatment

Seek, Test, Treat, Retain

- Addiction clinic

- HIV clinic
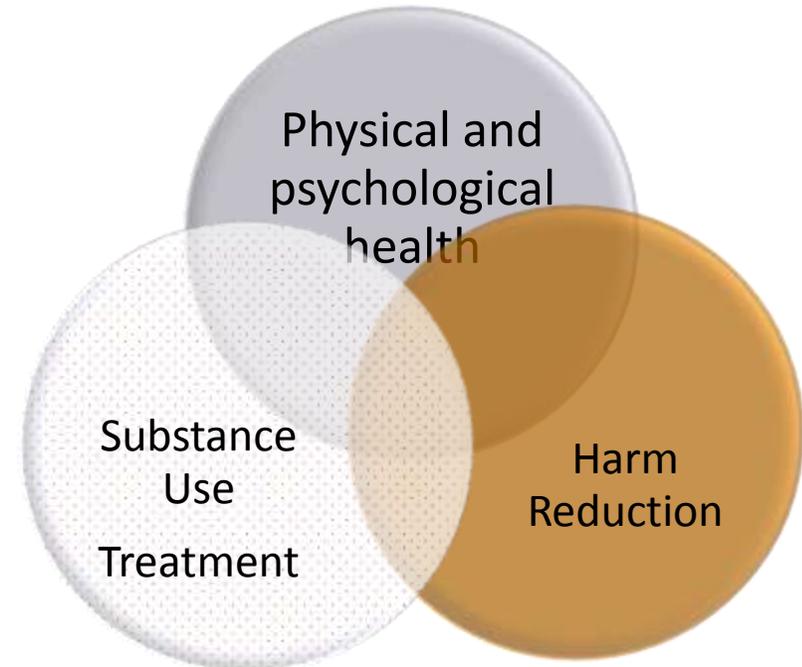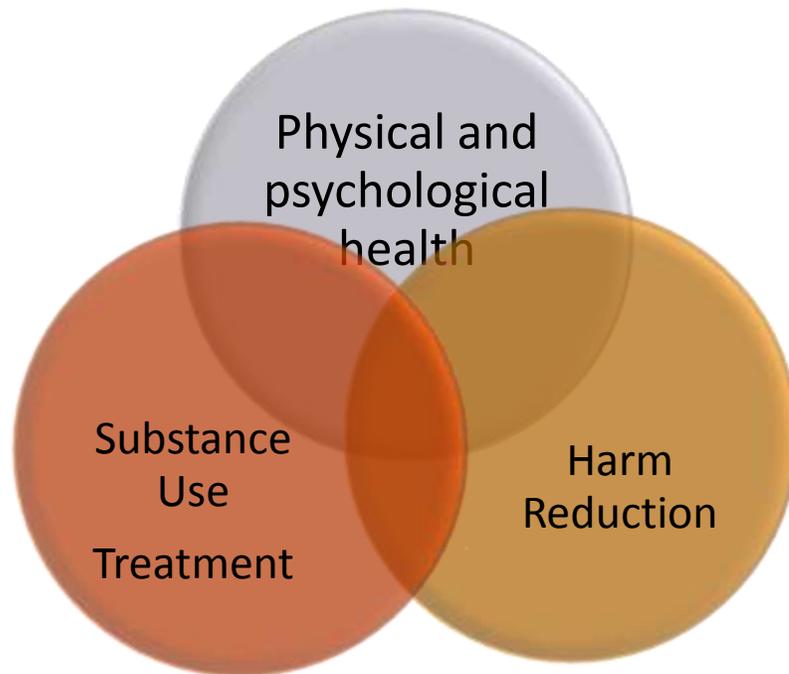
Go Vap Integrated Treatment Clinic

- Integrated Treatment provided
    - A pharmacological opiate maintenance treatment with methadone (MET) or buprenorphine/naloxone (BUP/NX)
    - Introduction of BUP/NX (Suboxone®) in January 2015
    - First time in Vietnam
    - Counseling: 12 weekly sessions and 10 monthly sessions thereafter
    - HIV screening and HIV treatment if needed
    - HCV screening

- Structured and manual-based standardized counseling sessions
    - Rooted in cognitive behavioral therapy
    - Sessions assess the need for intervention in six areas of functioning: 1) Adherence to SUD, HIV, TB; 2) continued drug use and related drug and sex risk; 3) cravings for drug use; 4) psychological status (depression, anxiety, symptoms of psychiatric disorder); 5) confidence in and satisfaction with SUD treatment; and, 6) strategies for the next month
    - Data recorded and available for review with the participant as a clinical tool to show progress and promote self-monitoring.

Sample

	All (n=448)	HIV-negative (n=295)	HIV-positive (n=153)	Test, p
Age Mean (SD)	32.6 (5.9)	31.8 (6.4)	34.0 (4.4)	t=4.40, p<0.0001
Gender – Males n (%)	433 (96.9)	284 (96.6)	149 (97.4)	c^2=0.21, p=0.65
Education – High school or higher -- n (%)	168 (37.6)	110 (37.4)	58 (37.9)	c^2=4.43, p=0.35
Living condition With parents/ family n (%)	368 (82.3)	240 (81.6)	128 (83.7)	c^2=5.78, p=0.22
Currently have a job -- n (%)	235 (52.6)	161 (54.8)	74 (48.4)	c^2=1.65, p=0.23
Opiate Use				
Age of onset – y.o. Mean (SD)	19.8 (4.5)	20.2 (4.7)	19.1 (4.2)	t=2.45, p=0.007
No. years of use Mean (SD)	7.8 (6.2)	7.0 (4.8)	9.4 (8.1)	t=3.36, p<0.0001
No. days of use past 30 days Mean (SD)	29.8 (1.4)	29.8 (1.4)	29.8 (1.5)	t=0.03, p=0.98
No. previous drug treatment Mean (SD)	5.4 (4.7)	5.0 (4.3)	6.2 (5.2)	t=2.30, p=0.02
Other substance use –n (%) of users past 30 days				
Alcohol	81 (18.1)	56 (19.0)	23 (15.0)	c^2=1.08, p=0.36
Amphet./ Methamphetamines	35 (7.8)	26 (8.9)	9 (5.9)	c^2=1.20, p=0.27
Benzodiazepines	20 (4.5)	12 (4.1)	8 (5.2)	c^2=0.32, p=0.63
Tobacco	442 (98.7)	290 (98.6)	151 (98.7)	c^2=0.09, p=0.75
Serology				
Hepatitis C – positive n (%)	323 (72.1)	182 (61.6)	141 (92.2)	c^2=46.8, p<0.0001
Psychological status				
Depressive symptoms (PHQ-9) – yes n (%)	173 (38.6)	111 (37.6)	61 (39.9)	c^2=0.21, p=0.68

HIV care (1)

Prevalence HIV-pos. = 34.2% (n=153)
New diagnosis: 6.5% (n=10)

Percentage of individuals on ART

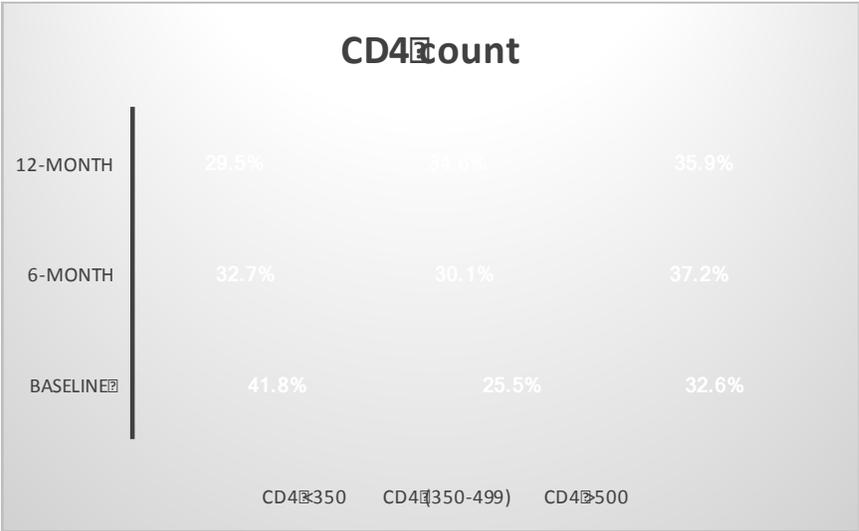81.7   88.8   96.1

| BASELINE | 6-MONTH | 12-MONTH |
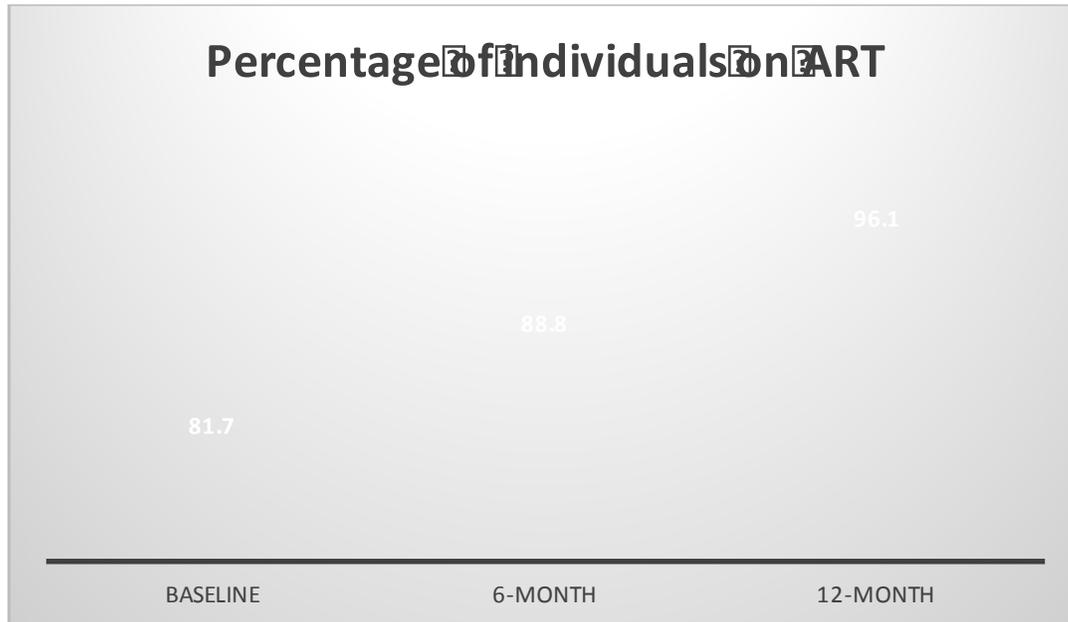
- High ART observance

  Percentage of individuals who reported taken ART 90% or more of the time
  - 6 months: 82.1%
  - 12 months: 98.3%

HIV care (2)

Percentage of individuals with suppressed viral load

90.0

71.3

53.7

BASELINE   6-MONTH   12-MONTH
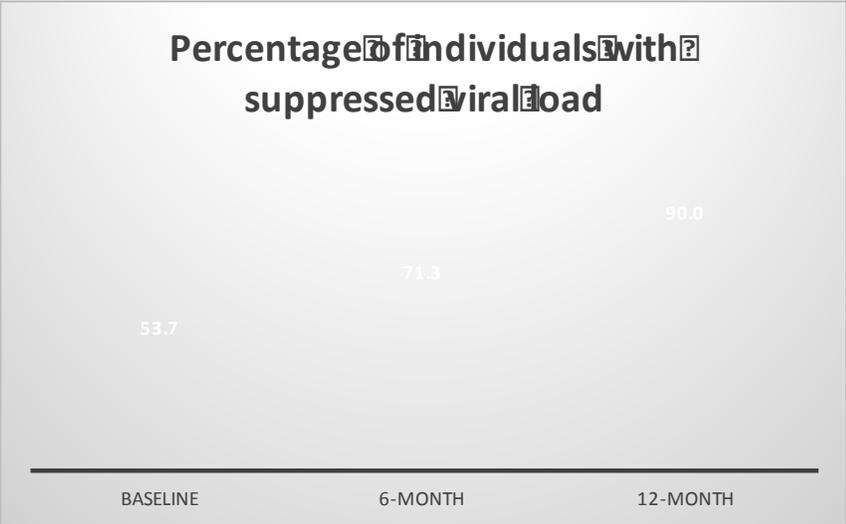
Viral load suppression linked to

- A better observance of ART (Pearson=7.18, p=0.007)
- The decrease of heroin use over 12 months (F(12,32)= 2.20, p=0.03)

CD4 count

	CD4 <350	CD4 (350-499)	CD4 >500
12-MONTH	29.5%		35.9%
6-MONTH	32.7%	30.1%	37.2%
BASELINE	41.8%	25.5%	32.6%

Addiction-related outcomes

- Retention in treatment at 12-month: 75.4%

- Significant decrease of heroin
over the 12-month $F_{(12,240)}= 42.15$, $p<0.0001$

- Difference between HIV-status
Time * HIV status $F_{(12,240)} = 4.52$, $p< 0.0001$
    - HIV-pos. were still using more often heroin at month 2, 3, 4 than HIV-negative individuals
    - No difference between HIV-pos. and HIV-neg. after 5 months of treatment

- Other substances
    - No change, no difference according to HIV status
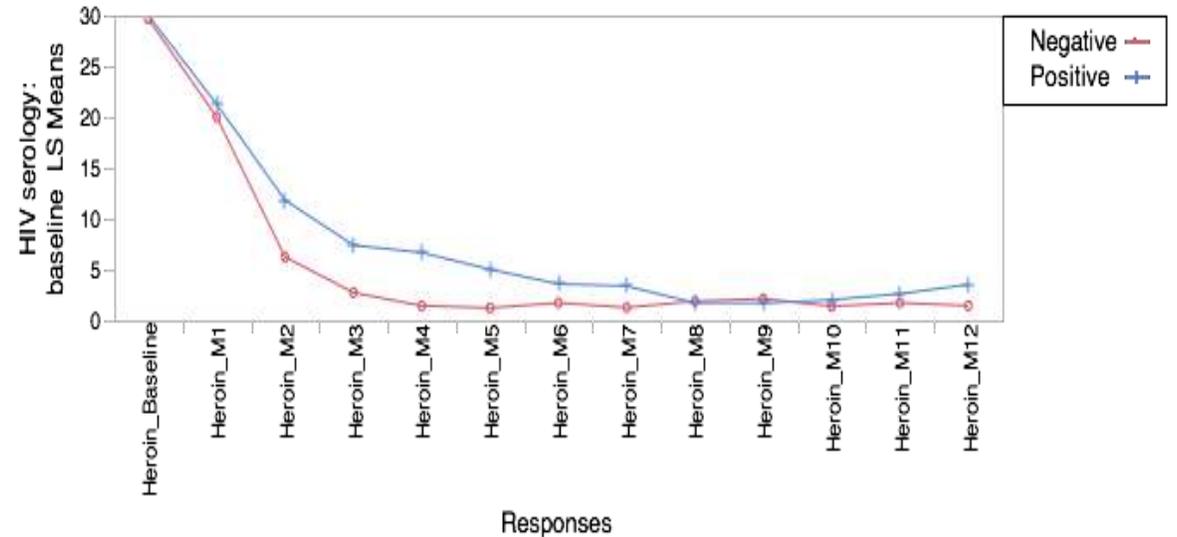
Conclusion

- **Integrated treatment strategy showed significant positive impact on**
  - HIV detection
  - Initiation and adherence to HIV care
  - Drug use
- **Consistent with former studies**
  - USA: buprenorphine (Lucas et al, 2010, BHIVES group, 2010, Lesko et al., 2017)
- **Psychosocial support**
  - Counseling with addiction-informed and infectious disease-informed component
- **Integration of opiate maintenance treatment and HIV care in the same setting**
  - Not significantly increase the cost of the addiction treatment
  - Decrease cost for HIV-positive participants by preventing them from having to travel to different locations
- **Most of the studies in opiate use disorder individuals**
  - Similar findings with other substance, e.g, alcohol (Paolillo et al, 2017)
  - Similar strategies to enhance adherence to PreP?

Acknowledgments

- USA
    - Charles O'Brien, MD, PhD
    - David Metzger, PhD
    - Center for Studies of Addiction

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    - Addiction lab CNRS SANPSY USR 3413 team
    - Jean-Pierre Daulouede, Bizia Bayonne
    - Bizia Bayonne team
    - Expertise France team, Paris

- Vietnam
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    - Provincial AIDS Committee, Ho Chi Minh, Vietnam