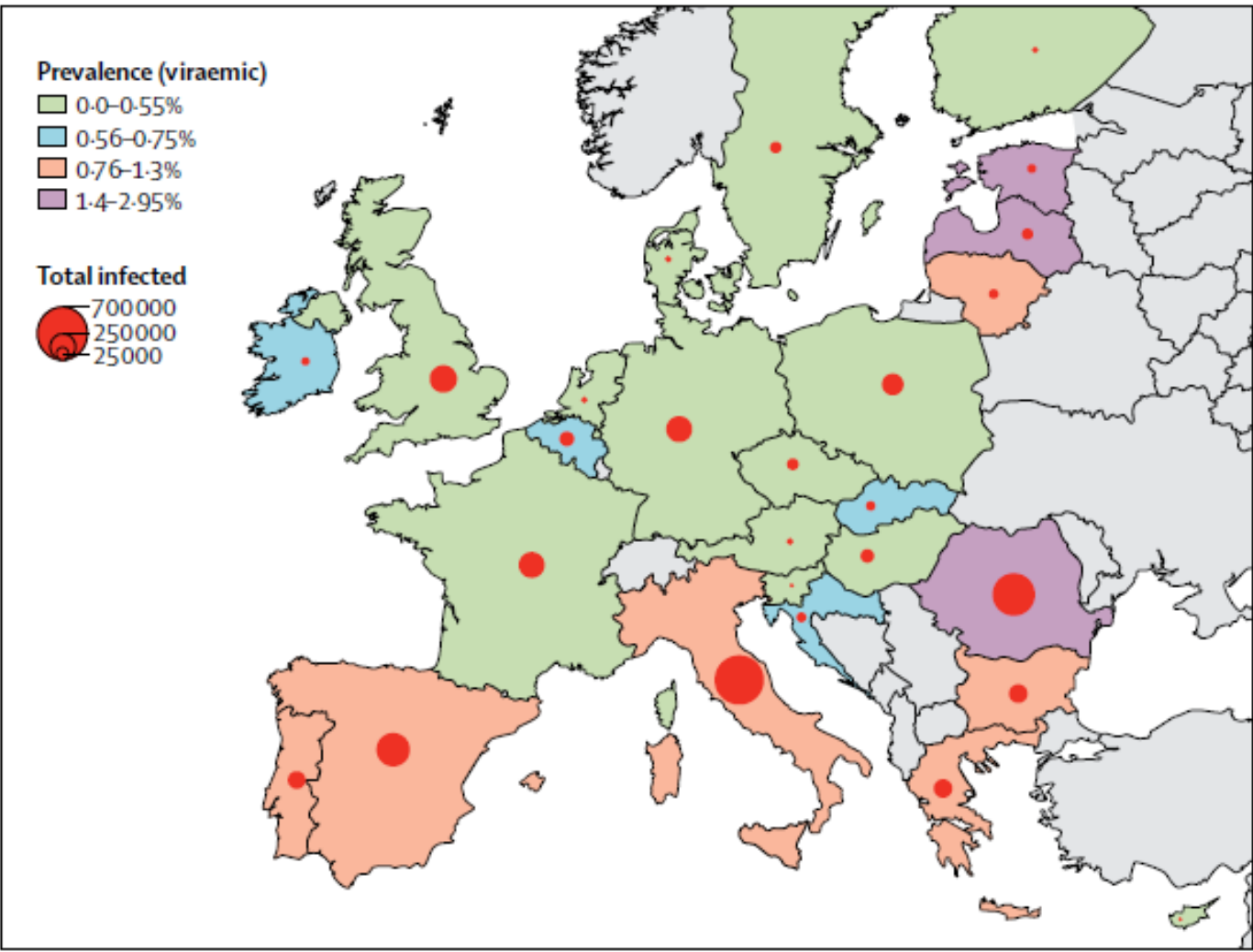


Hepatitis C virus prevalence and level of intervention required to achieve the WHO targets for elimination in the European Union by 2030: a modelling study



The European Union HCV Collaborators*



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Figure 1: Hepatitis C virus viraemic prevalence and total infected in the European Union

	2015 viraemic infections	2015 viraemic prevalence (%)	2015 total diagnosed* †	2015 newly diagnosed* ‡	2015 treated†	2015 cured†	2015 new Infections
Austria	21 100 (6000–30 300)	0.25% (0.07–0.35)	7 000 (33.2%)	600 (8.6%)	2000 (9.5%)	1810 (8.6%)	590 (120–890)
Belgium	64 300 (23 000–75 700)	0.57% (0.21–0.67)	28 300 (44.0%)	2300 (8.1%)	1300 (2.0%)	1280 (2.0%)	540 (70–700)
Bulgaria	92 200 (48 400–117 000)	1.29% (0.69–1.65)	17 760 (19.3%)	1200 (6.8%)	720 (0.8%)	440 (0.5%)	1460 (905–1814)
Croatia	26 100 (16 600–28 300)	0.60% (0.39–0.67)	6350 (24.3%)	150 (2.4%)	150 (0.6%)	90 (0.3%)	191 (158–220)
Cyprus	6200 (4400–7400)	0.53% (0.38–0.62)	620 (10.0%)	60 (9.7%)	46 (0.7%)	29 (0.5%)	52 (44–65)
Czech Republic	42 900 (21 900–48 500)	0.40% (0.21–0.46)	13 300 (31.0%)	800 (6.0%)	880 (2.0%)	480 (1.1%)	1200 (470–1400)
Denmark	19 500 (14 300–19 700)	0.34% (0.25–0.35)	12 300 (63.1%)	700 (5.7%)	630 (3.2%)	540 (2.8%)	350 (270–350)
Estonia	18 100 (11 700–19 900)	1.42% (0.92–1.56)	9100 (50.3%)	190 (2.1%)	450 (2.5%)	410 (2.3%)	210 (160–250)
Finland	22 600 (16 200–26 200)	0.40% (0.29–0.46)	17 500 (77.4%)	930 (5.3%)	300 (1.3%)	220 (1.0%)	650 (500–800)
France	190 000 (92 600–222 000)	0.29% (0.14–0.34)	140 800 (74.1%)	9000 (6.4%)	19 400 (10.2%)	17 500 (9.2%)	5500 (3600–5880)
Germany	204 800 (90 100–313 400)	0.25% (0.11–0.39)	117 300 (57.3%)	5000 (4.3%)	23 200 (11.3%)	20 870 (10.2%)	5600 (3660–9170)
Greece	130 800 (82 100–169 400)	1.14% (0.71–1.47)	37 600 (28.7%)	4000 (10.6%)	2100 (1.6%)	1610 (1.2%)	3400 (1920–4790)
Hungary	52 300 (28 600–55 500)	0.53% (0.29–0.56)	25 100 (48.0%)	2100 (8.4%)	1200 (2.3%)	660 (1.3%)	2200 (1710–2730)
Ireland	29 500 (20 100–42 500)	0.62% (0.42–0.89)	11 900 (40.3%)	820 (6.9%)	840 (2.9%)	800 (2.7%)	650 (430–1030)
Italy	699 900 (452 400–927 000)	1.11% (0.74–1.59)	294 800 (42.1%)	30 400 (10.3%)	30 700 (4.4%)	27 660 (4.0%)	5874 (4948–8528)
Latvia	43 200 (28 000–49 900)	2.21% (1.43–2.55)	19 400 (44.9%)	1300 (6.7%)	910 (2.1%)	560 (1.3%)	2000 (1340–2550)
Lithuania	32 700 (19 800–38 700)	1.09% (0.66–1.30)	4100 (12.5%)	500 (12.2%)	930 (2.8%)	830 (2.5%)	1100 (670–1430)
Luxembourg	5200 (3300–5800)	0.92% (0.57–1.01)	2800 (53.8%)	100 (3.6%)	189 (3.6%)	140 (2.7%)	150 (95–225)
Malta	1200 (1000–1900)	0.29% (0.24–0.44)	1100 (91.7%)	20 (1.8%)	12 (1.0%)	4 (0.3%)	26 (25–40)
Netherlands	16 400 (5200–25 500)	0.11% (0.03–0.15)	9800 (59.8%)	650 (6.6%)	2000 (12.2%)	1800 (11.0%)	590 (230–950)
Poland	184 100 (136 100–224 300)	0.48% (0.35–0.58)	33 000 (17.9%)	4000 (12.1%)	4000 (2.2%)	2980 (1.6%)	4900 (3380–6380)
Portugal	89 200 (73 900–120 100)	0.83% (0.69–1.12)	30 700 (34.4%)	1300 (4.2%)	5300 (6.0%)	4830 (5.4%)	570 (510–850)
Romania	546 700 (397 000–566 000)	2.54% (1.85–2.63)	87 900 (16.1%)	7500 (8.5%)	3400 (0.6%)	2700 (0.5%)	11 000 (9730–12 180)
Slovakia	32 900 (19 800–37 400)	0.60% (0.36–0.68)	3100 (9.4%)	270 (8.7%)	350 (1.1%)	190 (0.6%)	730 (430–950)
Slovenia	6300 (4400–7200)	0.30% (0.21–0.35)	3300 (52.4%)	170 (5.2%)	150 (2.4%)	140 (2.2%)	130 (110–150)
Spain	387 900 (201 500–619 800)	0.84% (0.44–1.34)	131 700 (34.0%)	5500 (4.2%)	38 000 (9.8%)	35 790 (9.2%)	2600 (1366–3556)
Sweden	37 700 (27 900–43 400)	0.39% (0.29–0.45)	31 900 (84.6%)	1500 (4.7%)	2300 (6.1%)	2070 (5.5%)	1600 (1330–1870)
UK	187 700 (91 100–210 700)	0.29% (0.14–0.33)	72 300 (38.5%)	7700 (10.7%)	9000 (4.8%)	6800 (3.6%)	5200 (3030–5620)
EU	3 238 000 (2 106 000–3 795 000)	0.64% (0.41–0.74)	1 180 000 (36.7%)	88 800 (7.5%)	150 000 (4.6%)	133 000 (4.1%)	57 900 (43 900–67 300)

Data are n (95% uncertainty interval), % (95% uncertainty interval), or n (%). *Viraemic diagnosed cases only. †Total viraemic infections is the denominator. ‡Total diagnosed cases is the denominator. EU–European Union.

Table 1: Viraemic hepatitis C virus epidemiology for EU countries in 2015

Smallpox



- **No animal reservoir**
- **Lifelong immunity**
- **Subclinical cases rare**
 - **Infectivity does not precede overt symptoms**
- **One Variola serotype**
 - **Effective vaccine**
- **Major commitment by governments**

HCV



YES • No animal reservoir

NO • Lifelong immunity

NO • Subclinical cases rare

NO • Infectivity does not precede overt symptoms

NO • One HCV serotype

NO • Effective vaccine

YES • Major commitment by governments

YES • Effective Therapy

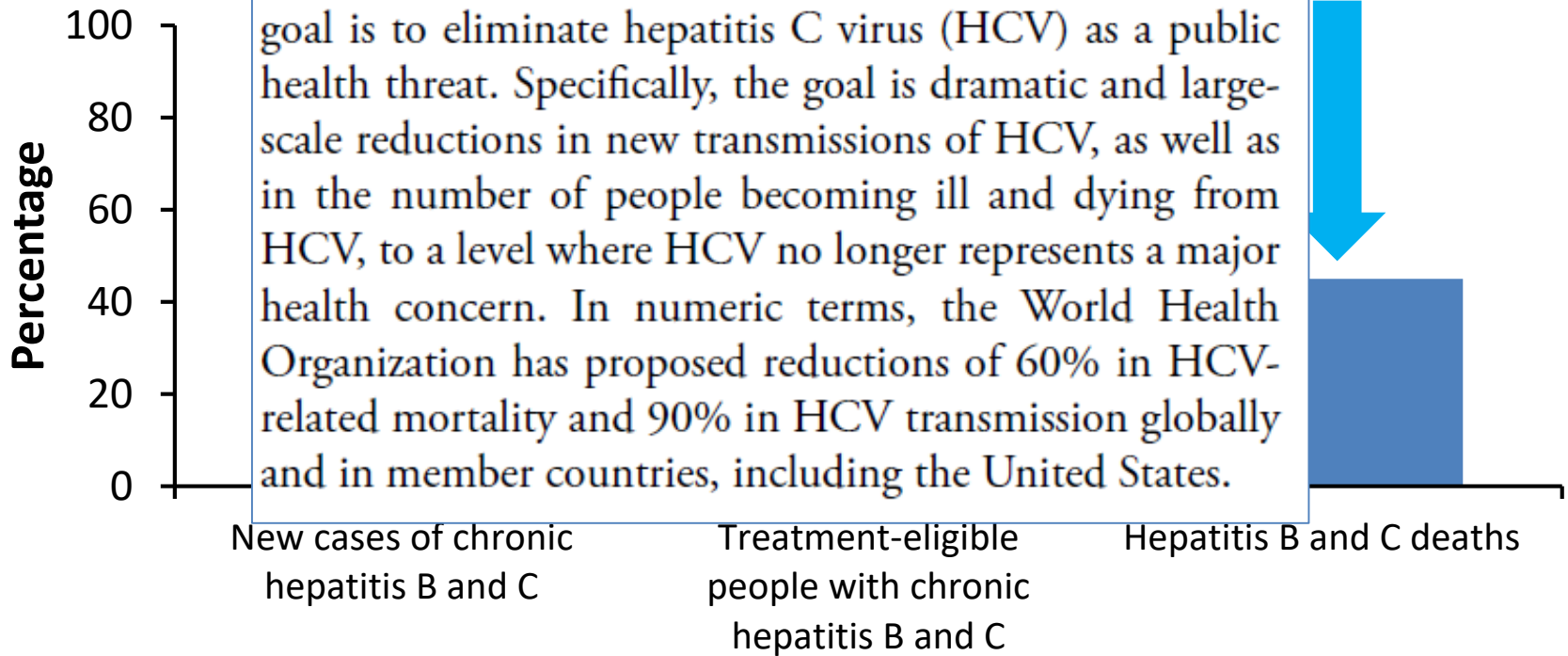
The global targets set by WHO to control viral hepatitis by 2030 are ambitious



G&H How do we define the elimination of hepatitis C virus?

JW According to the World Health Organization, the goal is to eliminate hepatitis C virus (HCV) as a public health threat. Specifically, the goal is dramatic and large-scale reductions in new transmissions of HCV, as well as in the number of people becoming ill and dying from HCV, to a level where HCV no longer represents a major health concern. In numeric terms, the World Health Organization has proposed reductions of 60% in HCV-related mortality and 90% in HCV transmission globally and in member countries, including the United States.

Reduction in
Hepatitis B and C deaths



HCV Elimination Requires an Ideal HCV Regimen

Efficacy: >90% SVR12 in all patient segments

Safety/tolerability: No significant safety findings, few Aes, few DDIs

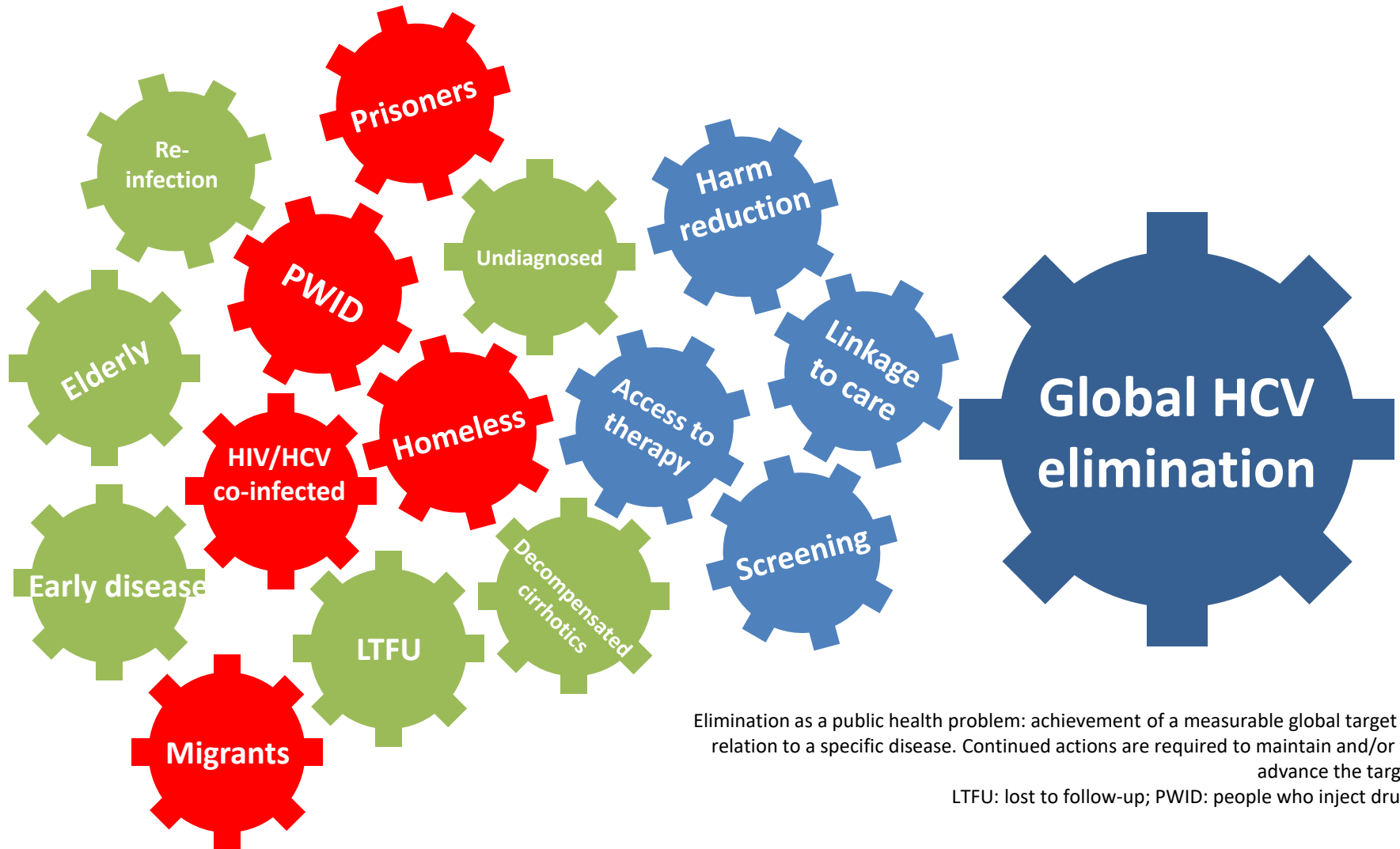
Convenience: Once daily dosing, few pills, few restrictions

Duration: 12 wks - 8-6 weeks (↑compliance/adherence)

Simplicity: One-size-fits-all (↑access, ↓errors, ↓cost)

Affordability: Lower cost for payers

Global HCV elimination as a therapeutic goal can seem daunting...



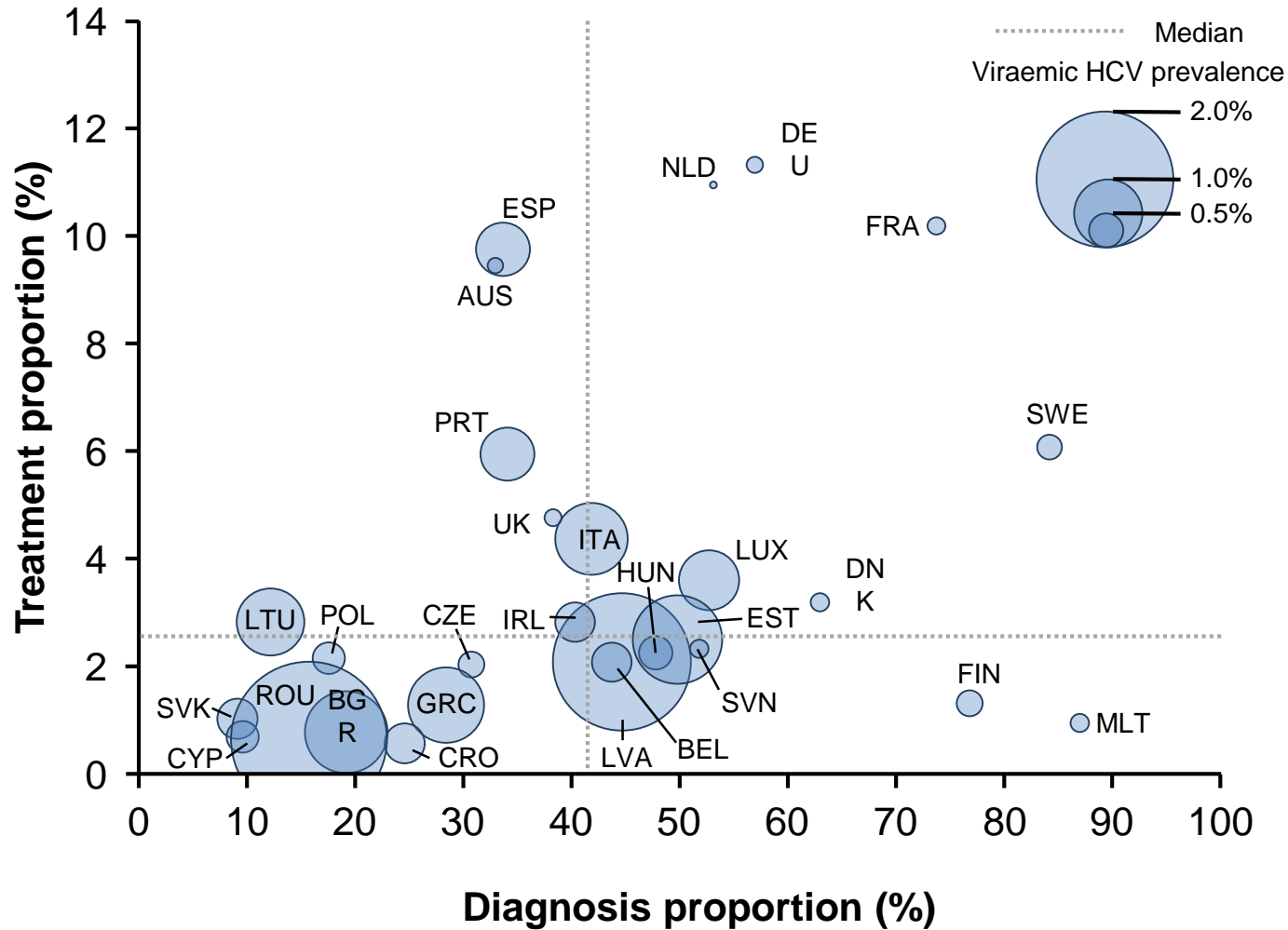
Elimination as a public health problem: achievement of a measurable global target in relation to a specific disease. Continued actions are required to maintain and/or to advance the target

LTFU: lost to follow-up; PWID: people who inject drugs

Main barriers to HCV elimination

1. No HCV action plan/action plan not implement/funded
2. Suboptimal/lack of screening programmes
3. Poor linkage into specialist care
4. No universal access to direct-acting antiviral agents
5. General lack of HCV awareness
6. Physicians don't have time to treat all patients
7. Poor collaboration between public health and hospitals
8. Reaching hard-to-reach patient populations

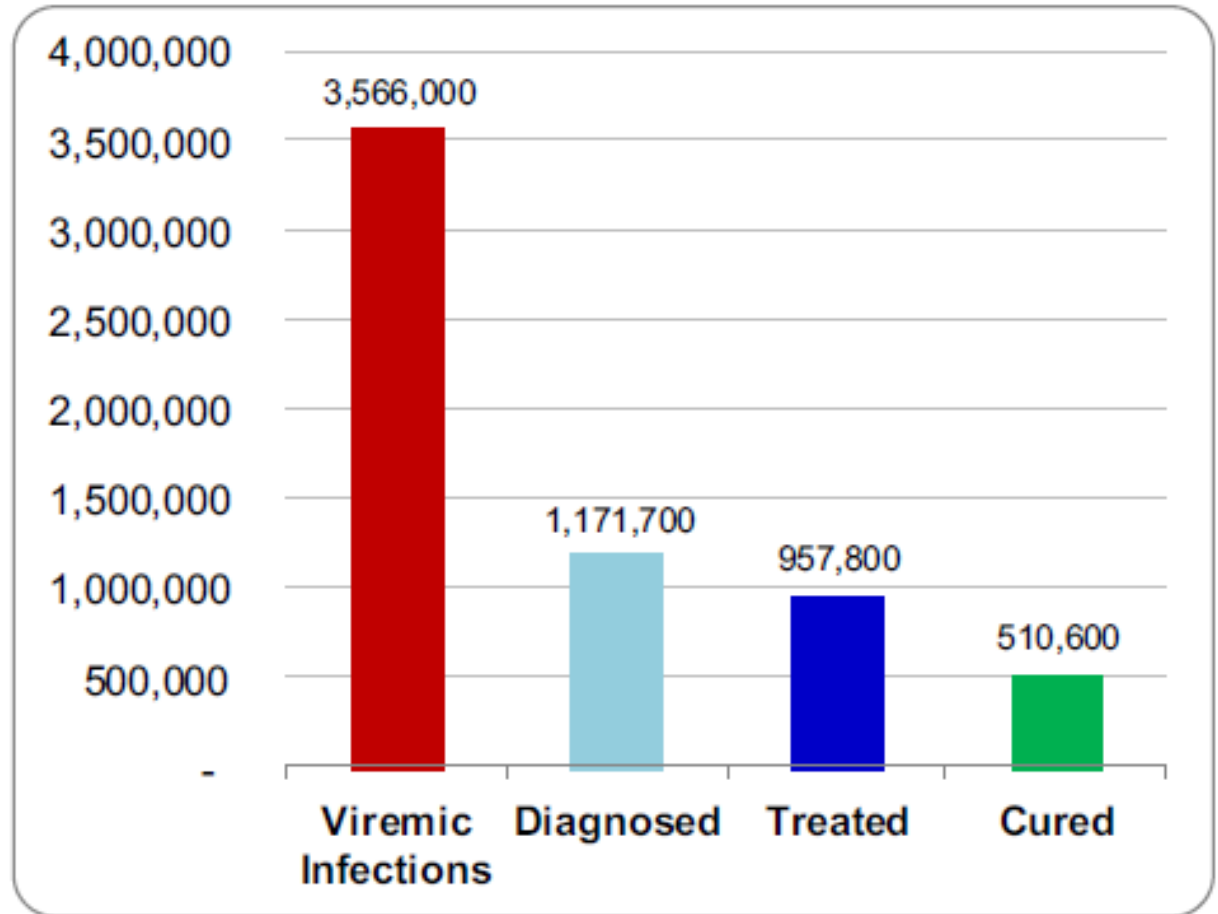
Patients with HCV viraemia in Europe (2015)



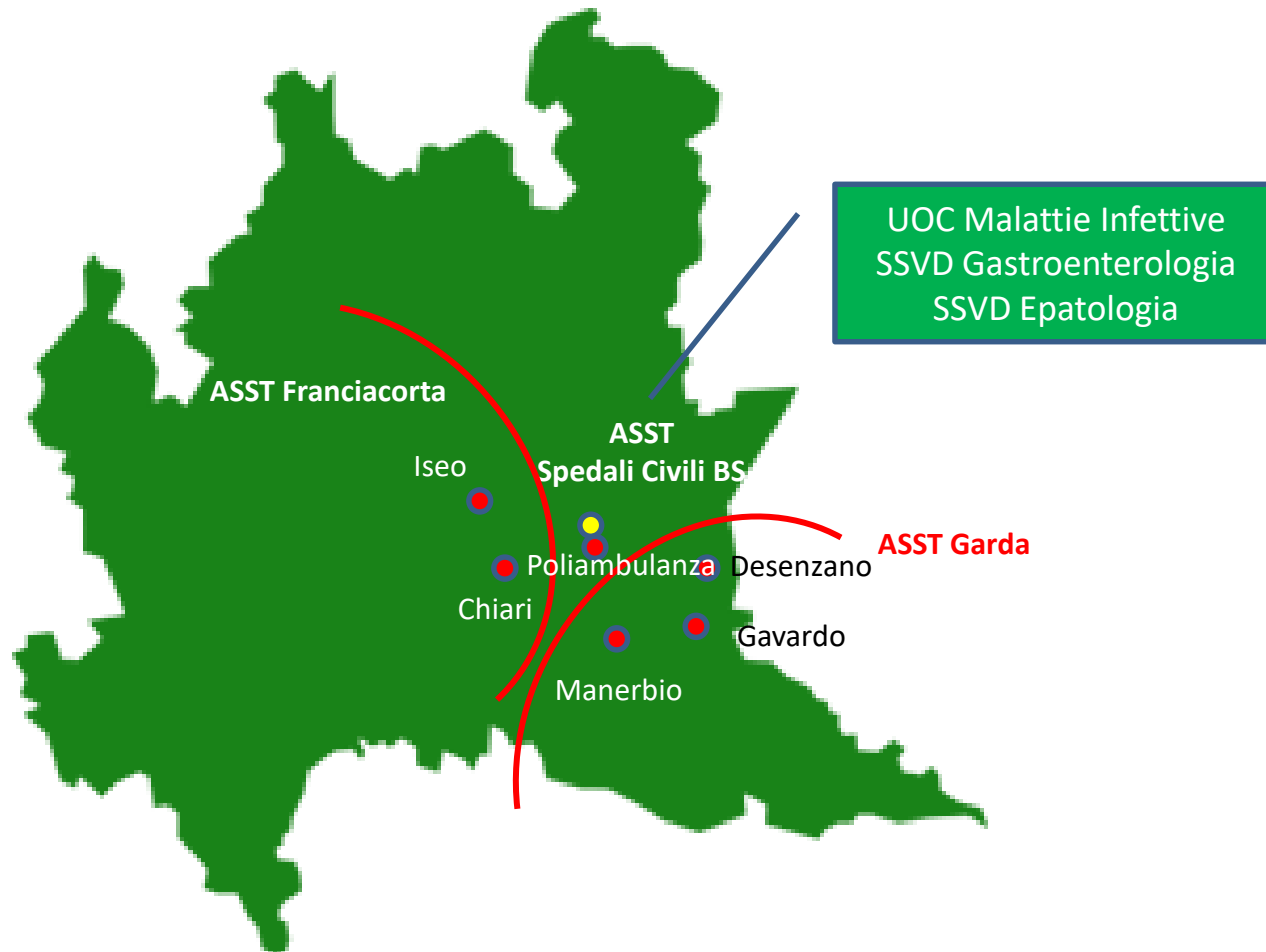
Hepatitis C: The beginning of the end—key elements for successful European and national strategies to eliminate HCV in Europe

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Year 2015



The Brescia HCV network



Micro-elimination of HCV

Achieving elimination goals in targeted population groups or geographical areas

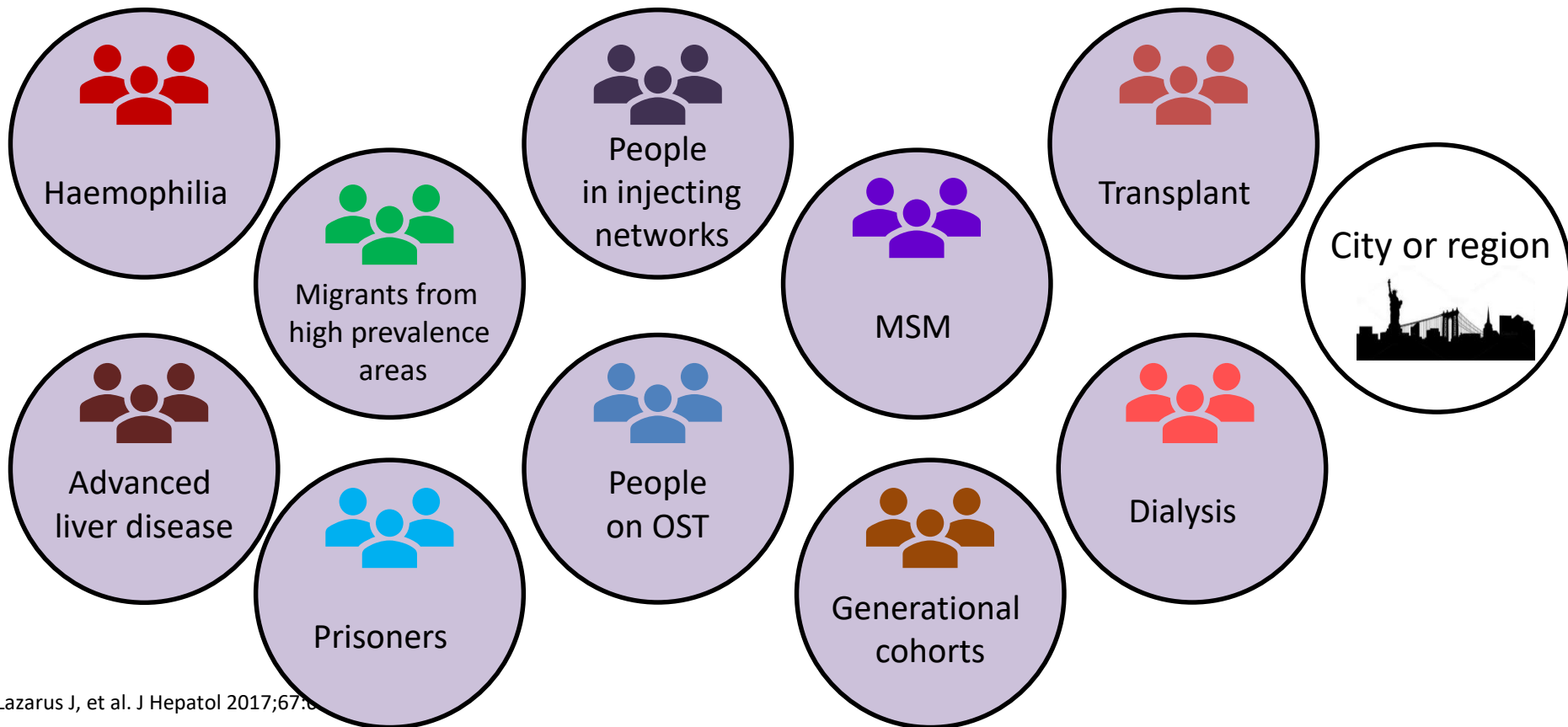
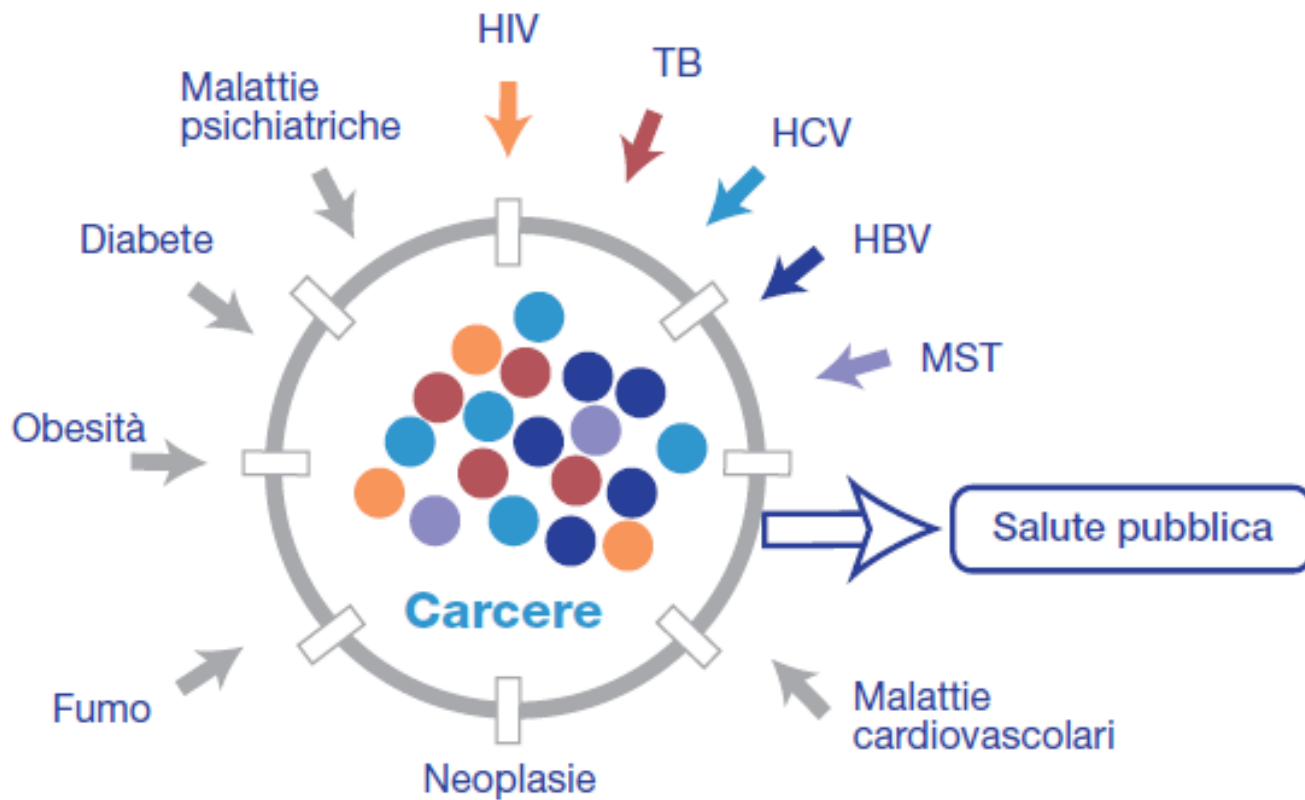
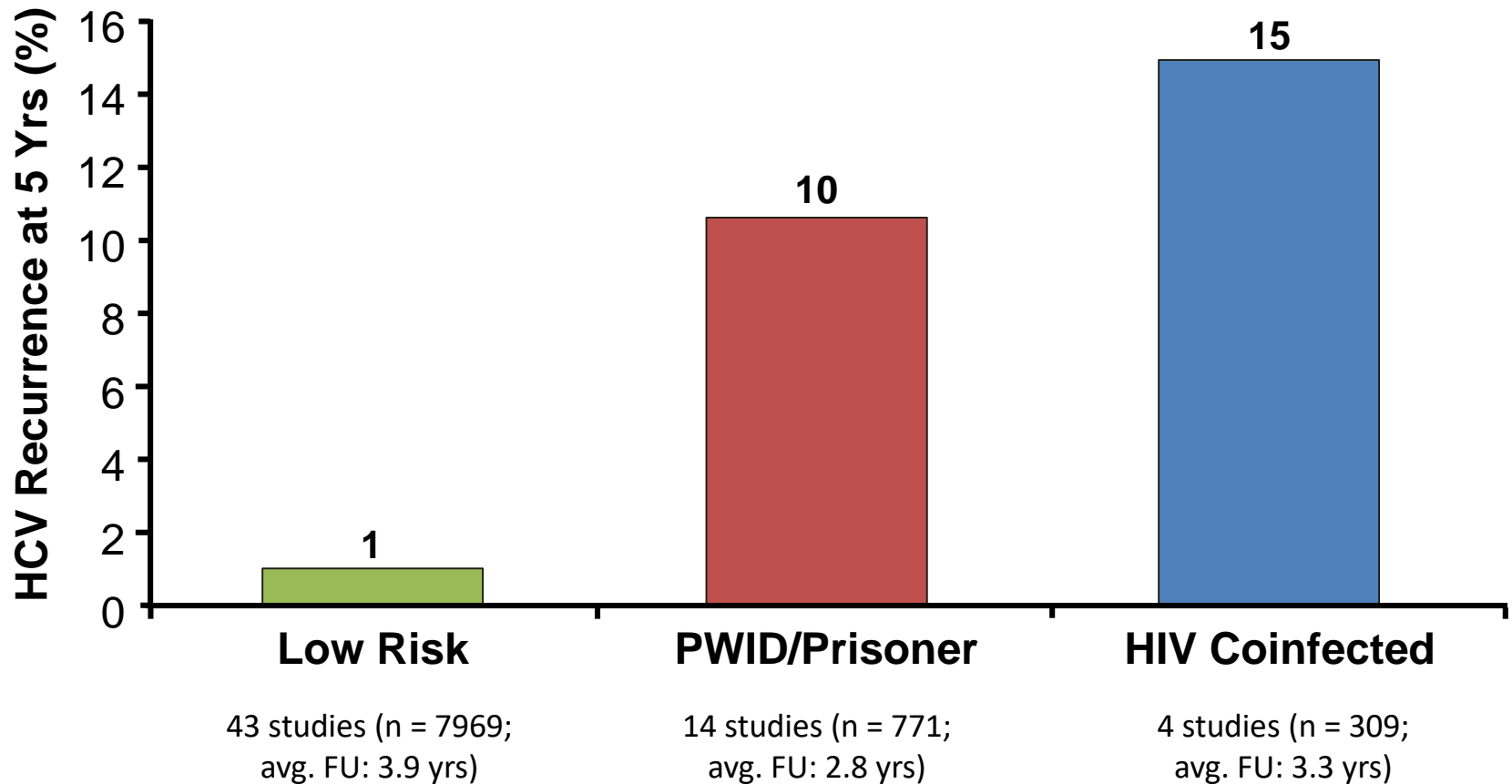


Figura 1 Carcere concentratore di patologia



HCV Reinfection Over 5 Yrs by Study Population



Main barriers to HCV elimination

1. No HCV action plan/action plan not implement/funded
2. Suboptimal/lack of screening programmes
3. Poor linkage into specialist care
4. No universal access to direct-acting antiviral agents
5. General lack of HCV awareness
6. Physicians don't have time to treat all patients
7. Poor collaboration between public health and hospitals
8. Reaching hard-to-reach patient populations

WE, THE MAYORS, COMMIT TO:

1. End the AIDS epidemic in cities by 2030

We commit to achieve the 90-90-90 HIV treatment targets by 2020, which will rapidly reduce new HIV infections and AIDS-related deaths—including from tuberculosis—and put us on the Fast-Track to ending AIDS by 2030. We commit to provide sustained access to testing, treatment, and prevention services. We will end stigma and discrimination.

2. Put people at the centre of everything we do

We will focus, especially on people who are vulnerable and marginalized. We will respect human rights and leave no one behind. We will act locally and in partnership with our communities to galvanize global support for healthy and resilient societies and for sustainable development.

3. Address the causes of risk, vulnerability and transmission

We will use all means including municipal ordinances and other tools to address factors that make people vulnerable to HIV, and other diseases. We will work closely with communities, service providers, law enforcement and other partners, and with marginalized and vulnerable populations including slum dwellers, displaced people, young women, sex workers, people who use drugs, migrants, men who have sex with men and transgender people to build and foster tolerance.

4. Use our AIDS response for positive social transformation

Our leadership will leverage innovative social transformation to build societies that are equitable, inclusive, responsive, resilient and sustainable. We will integrate health and social programmes to improve the delivery of services including HIV, tuberculosis and other diseases. We will use advances in science, technology and communication to drive this agenda.

5. Build and accelerate an appropriate response to local needs

We will develop and promote services that are innovative, safe, accessible, equitable and free of stigma and discrimination. We will encourage and foster community leadership and engagement to build demand and to deliver services responsive to local needs.

6. Mobilize resources for integrated public health and development

Investing in the AIDS response together, with a strong commitment to public health, is a sound investment in the future of our cities that fosters productivity, shared prosperity and well-being. We will adapt our city plans and resources for a Fast-Track response. We will develop innovative funding and mobilize additional resources and strategies to end the AIDS epidemic by 2030.

7. Unite as leaders

We commit to develop an action plan and join with a network of cities to make this Declaration a reality. Working in broad consultation with everyone concerned, we will regularly measure our results and adjust our responses to be faster, smarter and more effective. We will support other cities and share our experiences, knowledge and data about what works and what can be improved. We will report annually on our progress.



FAST-TRACK CITIES

Anne HIDALGO
Mayor of Paris

Michel SIDIBÉ
UNAIDS

Joan CLOS
UN-Habitat

José M. ZUNIGA
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