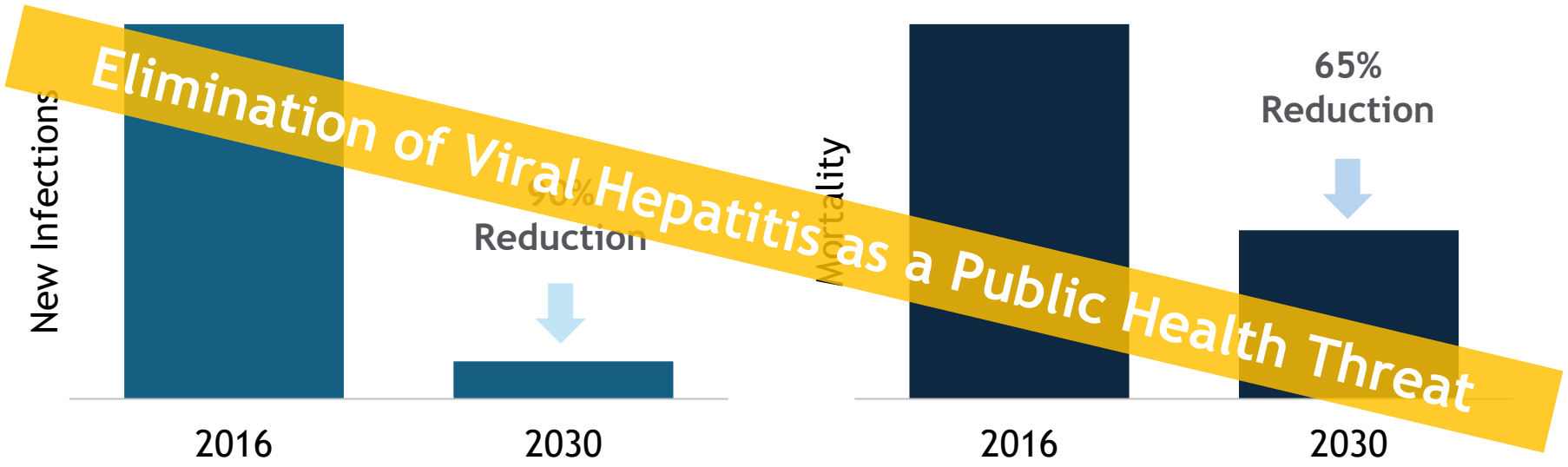
Screening di HCV: lo scenario italiano

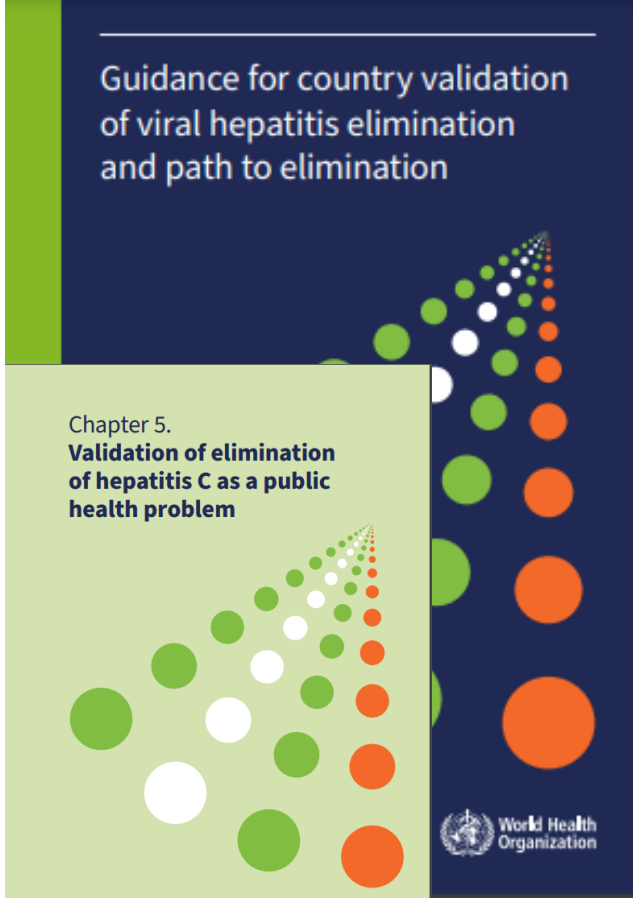
Loreta Kondili
Centro Nazionale per la Salute Globale

WHO HCV Elimination Targets



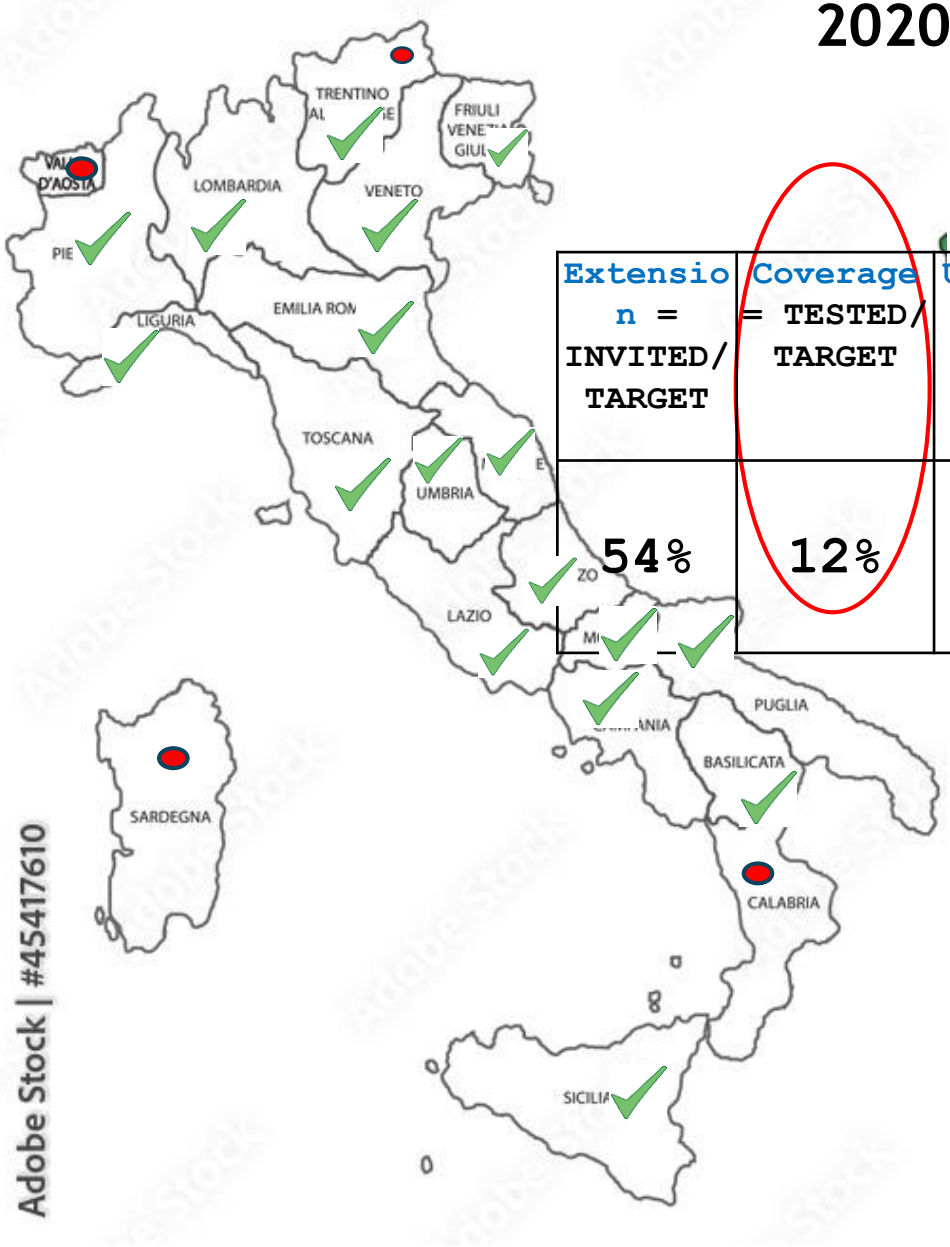
Elimination of Viral Hepatitis as a Public Health Threat

- Ambitious goals
- Requires National Action Plan ➔ good data to design policy



WHO: Draft WHO Global Hepatitis Strategy, 2016-2021; Slide Credit: clinicaloptions.com

General Population Birth cohort Screening
2020-June 2024



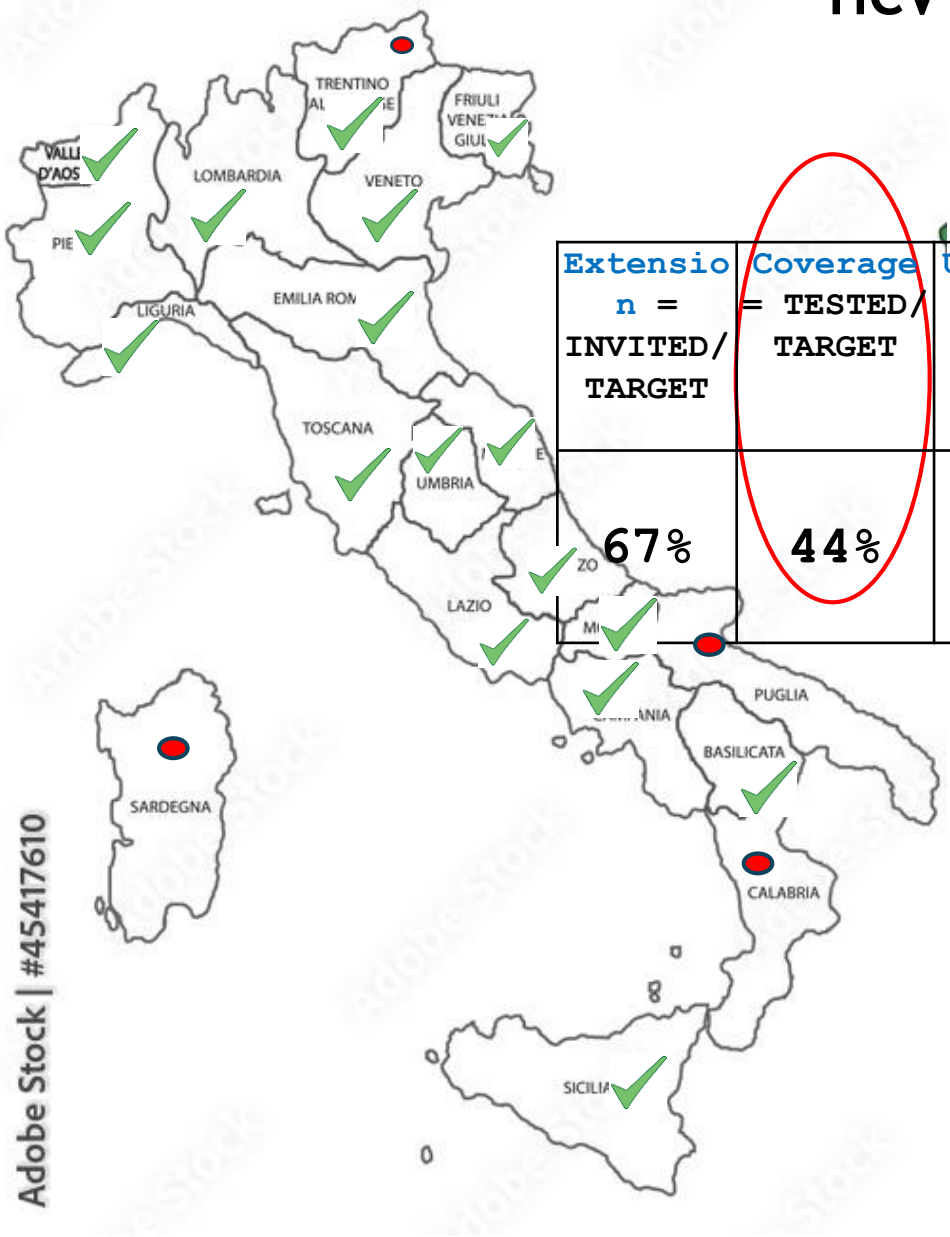
Extension = INVITED/ TARGET	Coverage = TESTED/ TARGET	Uptake = TESTED/ INVITED	Ab prevalence (%)	Uptake Confirmation test (%)	POSITIVITY Confirmation test (%)	Patients with Active infection linked to care (%)
54%	12%	23%	0,8%	73%	23%	64%

Number of screened people: 1.910.615
Active Infection 2.701 persons

Copertura dello screening per le tre popolazioni Target per ogni Regione

Regione/P.A.	Popolazione '69-89 (%)	Utenti SerD (%)	Detenuti in carcere (%)
Abruzzo	0.2	49.6	46.8
Basilicata	4.9	41.1	54.6
Calabria			
Campania	1.8	85.4	89.0
Emilia-Romagna	36.8	60	89.3
Friuli-Venezia Giulia	22.5	2.5	78.7
Lazio	5.8	27.7	74.1
Liguria	22.7	9.4	72.8
Lombardia	16.1	39.1	67.4
Marche	3.6	24.9*	43.2*
Molise	3.5	48.9*	73.0*
P.A. Bolzano	20.3	13.3	100
P.A. Trento	Pilota		
Piemonte	7.2	29.4	26.6
Puglia	9.5		
Sardegna			
Sicilia	1.8	15.1	15.0

HCV Screening in people in care in SerD
Year 2020-June 2024

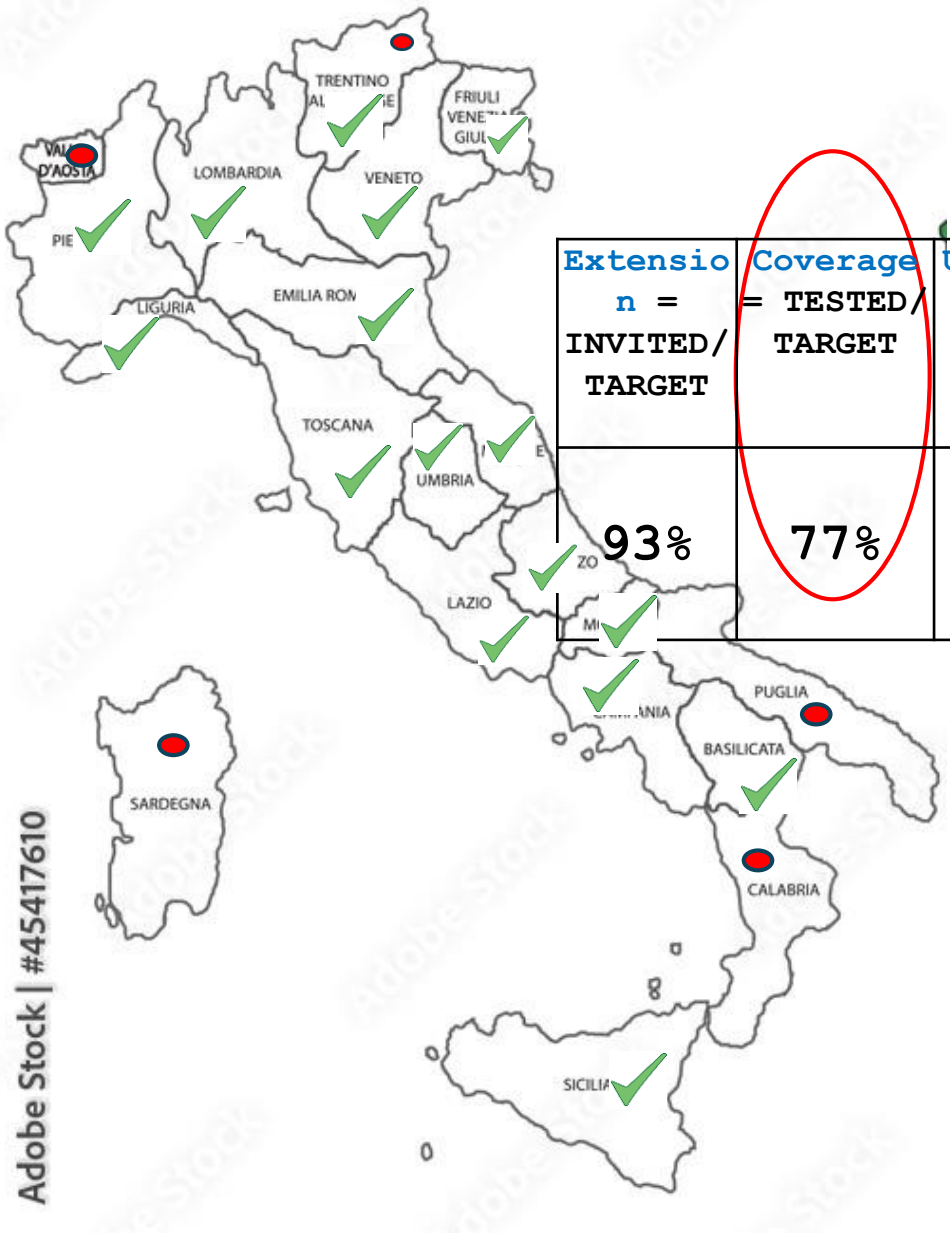


Extension = INVITED/ TARGET	Coverage = TESTED/ TARGET	Uptake = TESTED/ INVITED	Ab prevalence (%)	Uptake Confirmation test (%)	POSITIVITY Confirmation test (%)	Patients with Active infection linked to care (%)
67%	44%	65%	19%	93%	43%	52%

Number of screened people: 117.372

Active Infection 9.378persons

HCV Screening in people in Jail
Year 2020-June 2024



Extension = INVITED/ TARGET	Coverage = TESTED/ TARGET	Uptake = TESTED/ INVITED	Ab prevalence (%)	Uptake Confirmation test (%)	POSITIVITY Confirmation test (%)	Patients with Active infection linked to care (%)
93%	77%	83%	8.5%	84%	53%	67%

Number of screened people: 69.697

Active Infection 2.737persons

Totale dei soggetti screenati e dei casi di infezione attiva da HCV identificati per setting

Setting	N. soggetti screenati	N. di casi di infezione attiva identificati
Popolazione generale	1.910.615	2.701
Utenti SerD	117.372	9.378
Detenuti in carcere	69.697	2.737
Tot.	2.097.684	14.816

Tra gli utenti SerD, invitati (174.350) il 24% (41.891) risultava PWID (consumatore di droghe per via iniettiva).In totale sono stati riportati 474 reinfezioni tra gli utenti SERD

Tipologia di test di screening e di conferma utilizzati, per setting

Test	Popolazione '69-89	Utenti SerD	Detenuti in carcere
TEST DI SCREENING	%	%	%
Ab anti HCV su prelievo venoso	91,5	71,7	84,3
Ab anti HCV su sangue capillare	7,8	12,0	6,5
Ab anti HCV su saliva*	0,5	12,5	7,3
HCV RNA su prelievo venoso**	0,3	3,3	0,8
HCV RNA su sangue capillare	-	0,5	1,1
TEST DI CONFERMA	%	%	%
HCV RNA su prelievo venoso	57,0	93,7	72,4
HCV RNA reflex test	42,7	5,9	27,5
HCV Ag reflex test	-	0,1	0,1
HCV RNA su sangue capillare	0,3	0,3	0,1

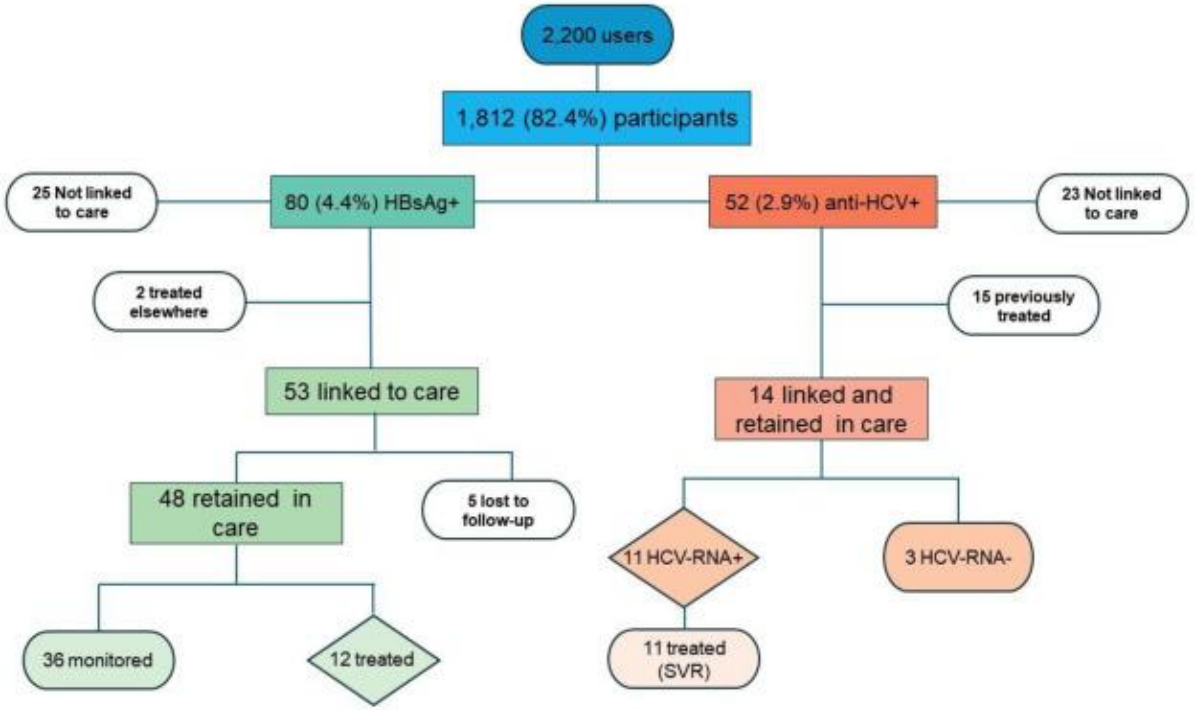
Popolazioni Chiave da Indirizzare Meglio

	UTTILIZATORI DI SOSTANZE	MIGRANTI	PERSONE IN CARCERE	OMOSSESSUALI	I SENZA TETTI, LAVORATRICI DI SESSO..
BARRIERE	*Lungo percorso di cura *La cura solo negli ospedali *Scarsa Infrastruttura medica nei setting non ospedalieri	*Stigma *Limitato accesso alle cure	*Scarsa infrastruttura medica e paramedica	*Informazione limitata*Stigma	* Non sono in conttato con nessun modello di cura
AZIONI	-Portare testing e cura vicino al paziente -Decentralizzare/ Integrare Servizzi -Migliorare l'informazione --Promuovere la	-Integrare lo Screening per tutte le malattie infettive (Tuberculosi, HIV, HBV, HCV)	-Sistematic HCV screening all'ingress in carcere -Programi che mirano il collegamento del carcerato con I centri di cura anche dopo complettamento della pena		- Approccio basato sui fattori di rischio per fare lo screening e il linkage to care accessibili

THE LANCET *Regional Health*
Europe

HBV and HCV testing outcomes among marginalized communities in Italy, 2019–2024: a prospective study

Monica Monti [a] · Teresita Caruso [a,b] · Alice Castellaccio [c] · Irene De Giorgi [a,b] · Gabriella Cavallini [b] · Maria Laura Manca [d] · Serena Lorini [a] · Silvia Marri [e] · Luisa Petraccia [f] · Francesco Madia [a] · Cristina Stasi [g,h] · Laura Carraresi [e] · Elisabetta Lorefice [i] · Sara Irene Bonelli [c] · Alessandro Nerli [j] · Mouheb M.A. Mudalal [a] · Lorenzo Martini [a] · Stefano Gitto [a] · Eleonora Carradori [a] · Adela Xheka [a] · Irene Bendini [a] · Samuele Lukolic' [k] · Lorenzo Latella [k] · Donatella Aquilini [j] · Pierluigi Blanc [c] · Anna Linda Zignego [a,l] · Laura Gragnani [b,l] ✉ Show less



Bridging the gap: advancing health equity and eliminating HBV and HCV among marginalized populations

Loreta A. Kondili [a,b] ✉ · Maria Giovanna Quaranta [a] · Massimo Andreoni [c]

	HBsAg+ %	Linked to care[b] %
General population[3]	0.5	[c]
Marginalized populatios[2]	4.4	66
	HCV-Ab+ %	**Linked to care[b] %**
General population[a]	0.8	64
Tuscany general population[a]	0.4	87
Marginalized populations[2]	2.9	37
Inmates[a]	8.5	67
Users of the addiction services[a]	20	52

[a]The most reliable data on anti-HCV prevalence and linkage to care come from Italy's free HCV screening program, implemented in 2021, with reports submitted by Italian Regions to the Istituto Superiore di Sanità by June 30, 2024, as mandated by the Ministry of Health Decree of July 19, 2021. [b]Percentage of individuals with active infection linked to care. [c]Not available data.

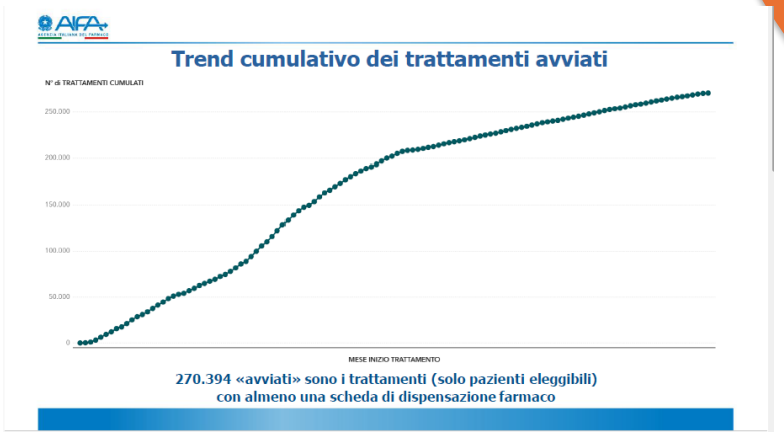
Table 1: **HBsAg and anti-HCV prevalence of different Italian populations compared with the data reported in the marginalized populations.**

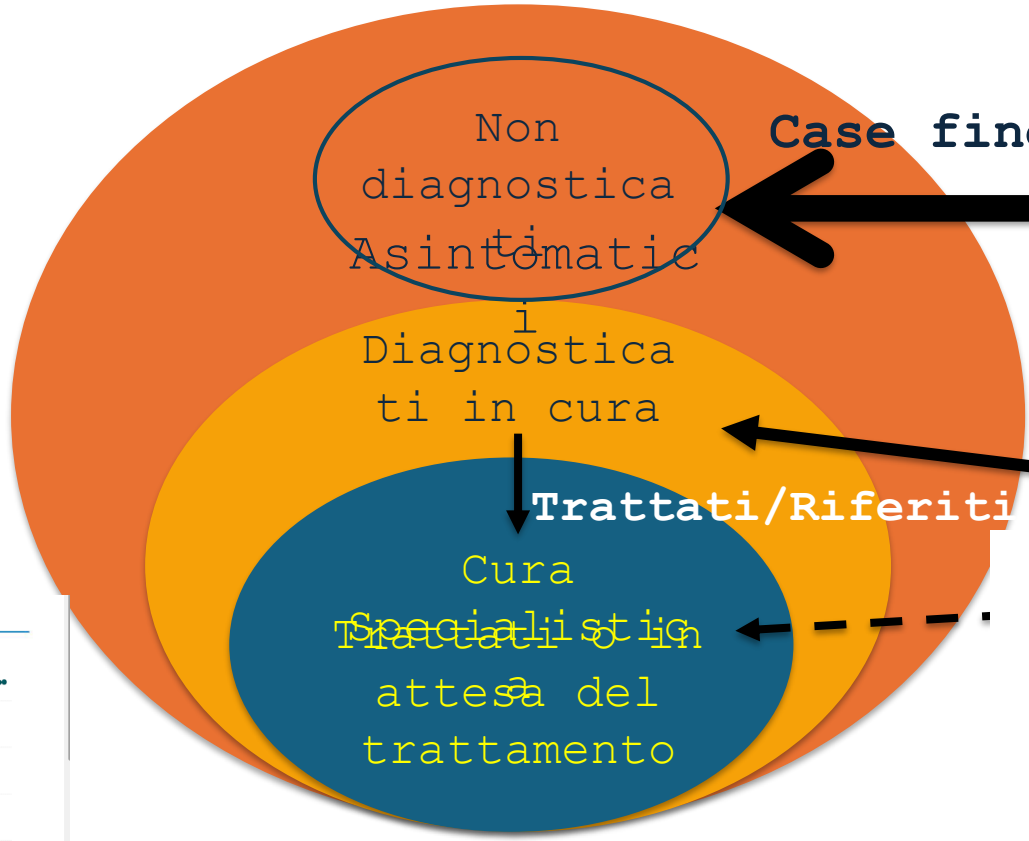
A nation should not be judged by how it treats its highest citizens, but its lowest ones.

Nelson Mandela

La popolazione degli infetti HCV

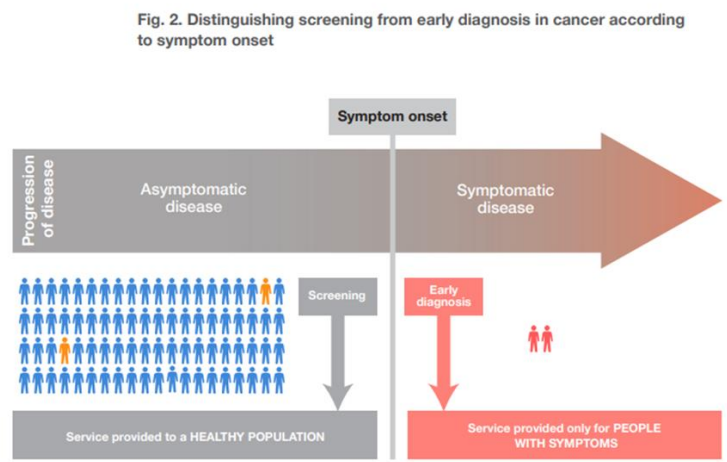
trattamenti continua a scendere di anno in





Case finding – Scoprire il sommers

Migliorare il linkage to



life

MDPI

Article

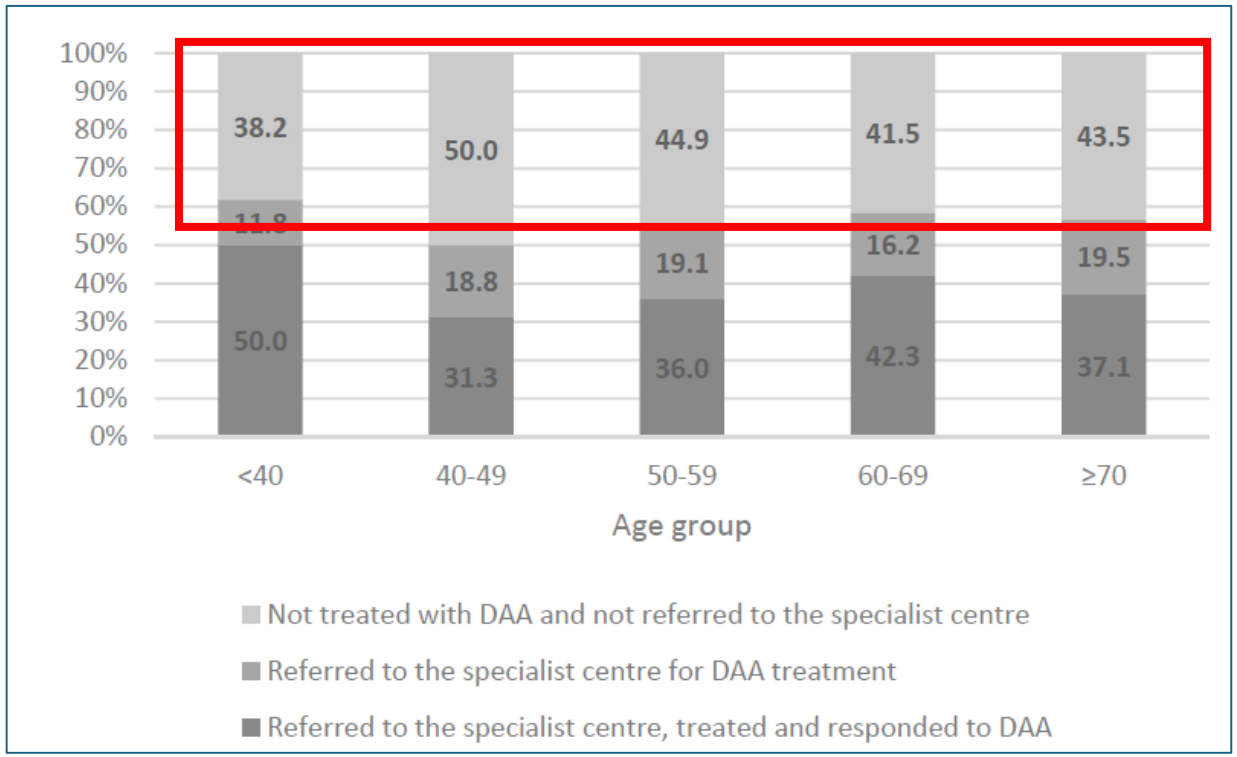
Screening, Linkage to Care and Treatment of Hepatitis C Infection in Primary Care Setting in the South of Italy

Anna Citarella [1,*,†], Simona Cammarota [1,†], Francesca F. Bernardi [2], Carmine Coppola [3], Maria D'Antò [4], Marianna Fogliasecca [1], Elio Giusto [5], Mario Masarone [6], Angelo Salomone Megna [7], Carmine Sellitto [8], Rosa Servodio [9], Massimo Smaldone [10], Laura Staiano [3], Ugo Trama [2], Valeria Conti [8,‡] and Marcello Persico [6,‡]

A retrospective cohort study of 44 general practitioners (GPs) who managed63,955 inhabitants in the Campania region.
Adults with already known HCV diagnosis or those with HCV high-risk profile at June 2019 were identified and reviewed by GPs to identify newly diagnosed of HCV and to assess the linkage to care

Table 1. Demographic and clinical characteristics of patients with hepatitis C virus (HCV) diagnosis.

	Overall (N = 698)%	Patients with Already Known HCV Diagnosis (N = 596)%	Patients with Newly Diagnosed HCV (N = 102)%	*p* Value
Age Groups				
<40	5.2	5.4	3.5	0.13
40–49	9.7	10.0	8.0	
50–59	13.7	12.4	21.8	
60–69	21.5	22.4	16.1	
≥70	49.9	49.8	50.6	
Gender				
Male	48.9	47.4	57.6	0.06
Female	51.1	52.6	42.4	
Comorbidities				
Diabetes	14.7	14.3	16.7	0.54
CKD	4.9	4.2	8.8	0.05
Obesity	4.3	3.7	7.8	0.06



Life 2020

OSPEDALE EVANGELICO BETANIA
FONDAZIONE EVANGELICA BETANIA

Elimination of Hepatitis C in Southern Italy: A Model of HCV Screening and Linkage to Care among Hospitalized Patients at Different Hospital Divisions

viruses

Valerio Rosato [1], Loreta A. Kondili [2], Riccardo Nevola [1], Pasquale Perillo [1], Davide Mastrocinque [1], Alessio Aghemo [3,4] and Ernesto Claar [1,*]

Table 2. Biochemical characteristics of patients with active infection admitted to liver unit and to other hospital divisions.

	Other Hospital Divisions	Liver Unit	*p*-Value
n	56	35	
Age (year)	72 (±14)	74 (±13)	0.379
male	24 (42.8)	21 (60)	0.184
ALT (U/L)	35 (±34)	153 (±595)	0.385
AST (U/L)	45 (±58)	119 (±300)	0.016
Increased transaminase values *	25 (44.6)	22 (62.8)	0.056
GGT (U/L)	76 (±128)	106 (±119)	0.092
Platelets (103/mL)	182 (±77)	151 (±77)	0.033
Bilirubin (mg/dL)	0.79 (±1.85)	2.29 (±4.47)	0.003
FIB-4 > 3.25	16 (28.5)	23 (65.7)	0.001

Note: Mean (±SD) for continuous variables and *n* (percentage) for categorical variables ALT: Alanine aminotransferase; AST: Aspartate aminotransferase; FIB-4: fibrosis-4 score; GGT: gamma glutamyl transpeptidase; * entailed as a value of AST and/or ALT > 35 U/L.

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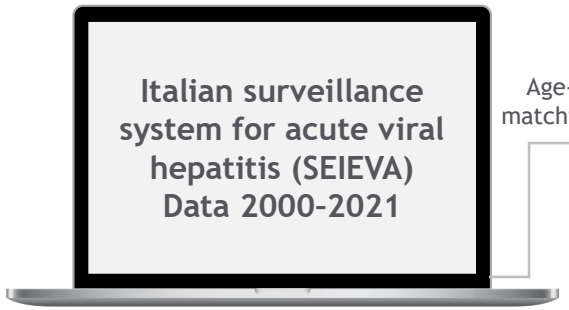
Risk of parenterally transmitted hepatitis following exposure to invasive procedures in Italy: SEIEVA surveillance 2000-2021



Age-matching

- **Acute HBV cases (N=8176)**
- Acute HAV controls (N=8176)

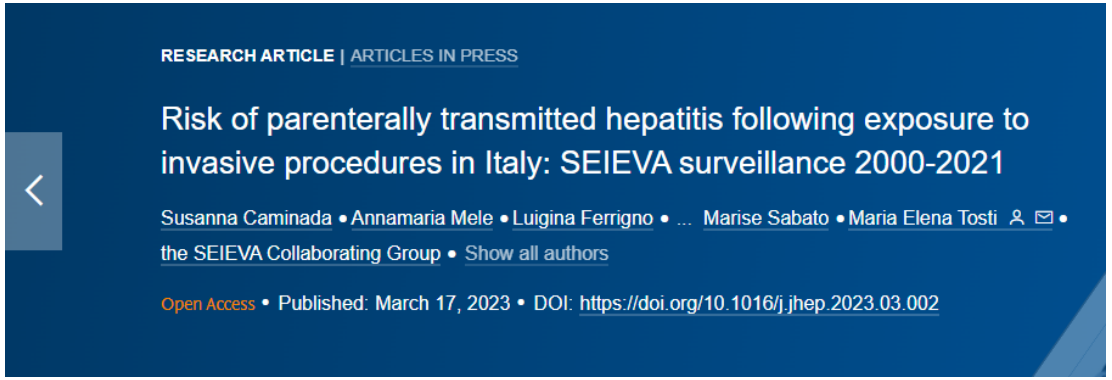
VS

- **Acute HCV cases (N=2179)**
- Acute HAV controls (N=2179)

VS

- Gynaecological surgery OR 5.19 (95% CI 1.12-24.05)
- Otolaryngological surgery OR 3.78 (95% CI 1.76-8.09)
- Cardiac/thoracic surgery OR 3.52 (95% CI 1.34-9.23)
- Biopsy/endoscopic procedures OR 1.48 (95% CI 1.16-1.90)
- Neurosurgery OR 11.88 (95% CI 2.40-58.85)
- Otolaryngological surgery OR 11.54 (95% CI 2.55-52.24)
- Vascular surgery OR 9.52 (95% CI 3.25-27.87)
- Ophthalmic surgery OR 8.32 (95% CI 2.24-30.92)
- Biopsy/endoscopic procedures OR 3.84 (95% CI 2.47-5.95)

Caminada S et al J Hepatol 2023



- Lo screening ospedaliero, una volta nella vita per le persone che non lo hanno mai testato, potrebbe diventare uno standard di cura costo-efficace.

J Hepatol. 2023 Nov;79(5):e187-e188. doi: 10.1016/j.jhep.2023.04.024. Epub 2023 Apr 28.

Hospital HCV elimination in addition to universal precautions could reduce incidence and infection burden in Italy

Loreta A Kondili [1], Maria Grazia Rumi [2], Antonio Craxi [3]

- Older individuals in Italy still maintain an active HCV infection burden.
- Introducing hospital screening and linkage to care of newly diagnosed patients and those with a known active infection in all hospital wards (not only those treating patients with liver disease) could constitute a suitable micro-elimination

E di fondamentale importanza la divulgazione del razionale dello screening a tutti I medici specialistici e medici delle cure primarie considerando anche il ruolo dell'epatite C in molte

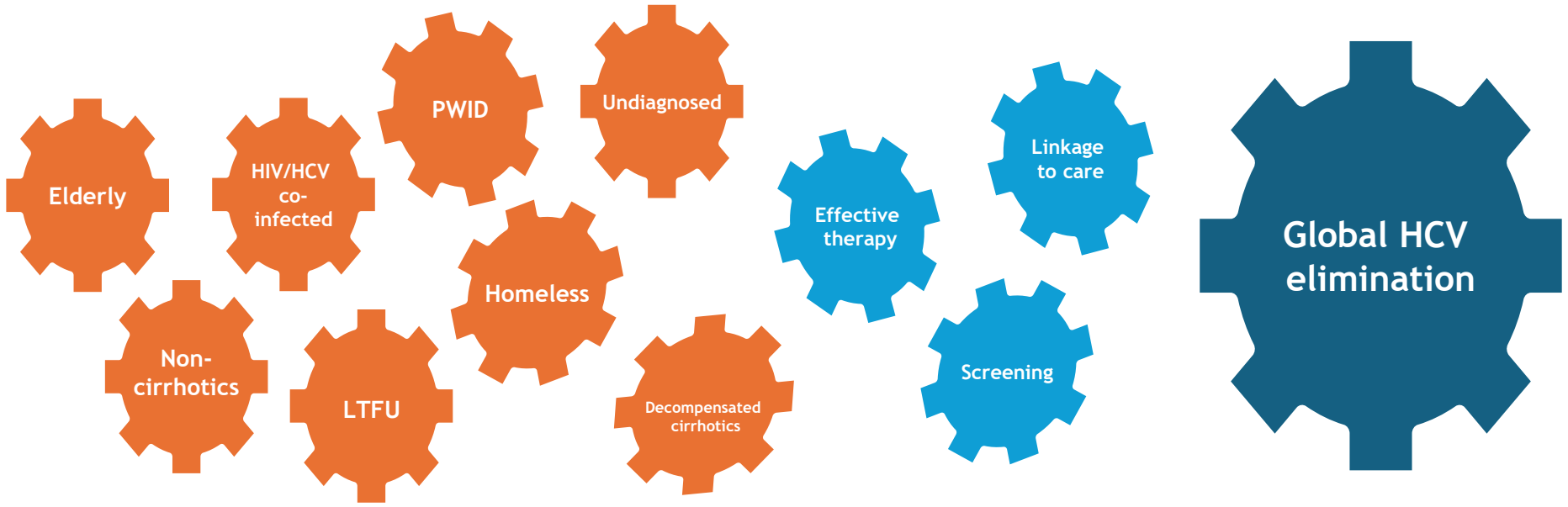
Screening strategy to advance HCV elimination in Italy: A cost-consequence analysis

	Diagnosed			Death due to HCV			HCC events			DC Events		
	No Screening	Incremental	Fast	No Screening	Incremental	Fast	No Screening	Incremental	Fast	No Screening	Incremental	Fast
Total	**49,594**	**82,883**	**99,889**	**41,763**	**26,219**	**13,994**	**19,290**	**12,946**	**6,654**	**15,229**	**9,666**	**4,133**
Vs No Screening		33,289	50,295		-15,544	-27,769		-6,344	-12,636		-5,562	-11,096
Fast - Incremental		***17,006***			***-12,225***			***-6,292***			***-5,533***	

Andrea Marcellusi[1]*, Francesco Saverio Mennini[1,2]*, Massimo Andreoni[3], Loreta A. Kondili[4], on behalf of PITER collaboration study group available in www.progettopiter.it Eur J Health Econ. 2024 Sep;25(7):1261-1273. doi: 10.1007/s10198-023-01652-0.

Elimination as a public health problem: achievement of a measurable global target in relation to a specific disease.

Think globally, act locally!



Continued actions are required to maintain and/or to advance the target

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