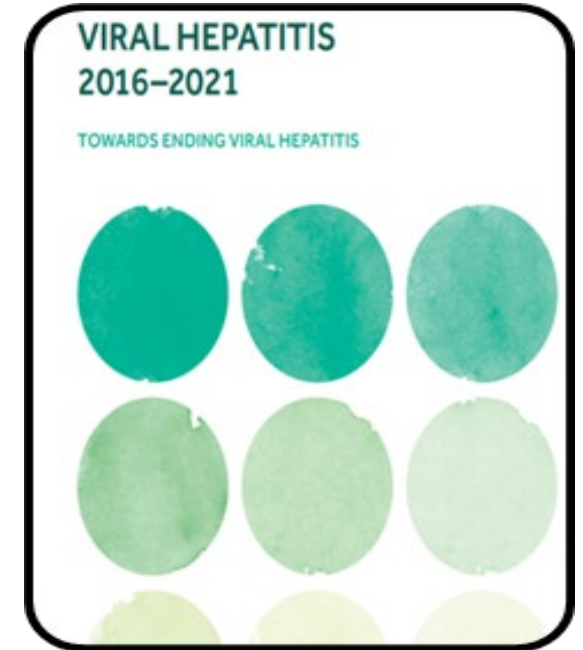
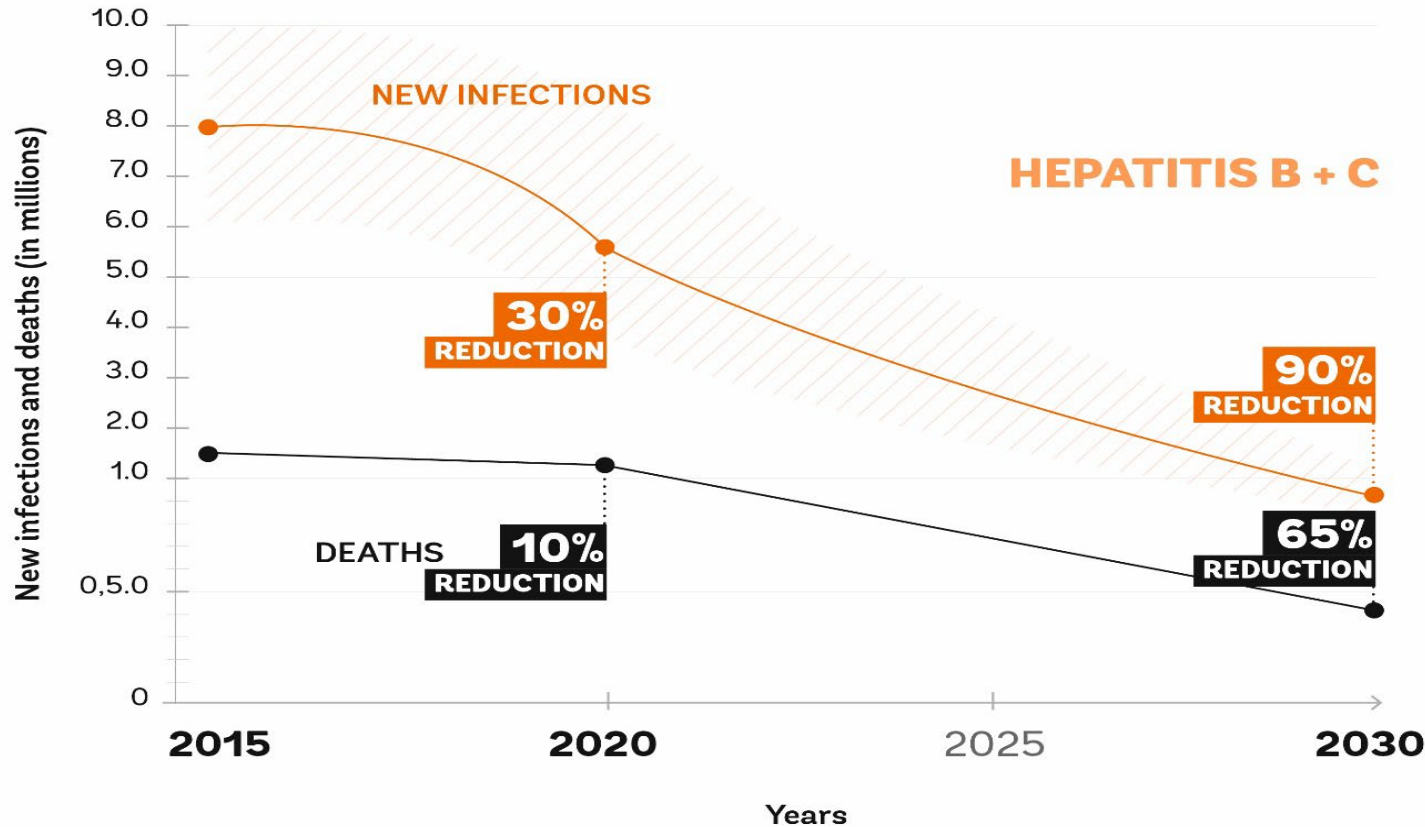


Feasibility of achieving the WHO 2030 target for HCV infections in Poland

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WHO's goal is to eliminate viral hepatitis as a major public health problem by 2030



**6-10 million infections (in 2015)
to 900,000 infections (by 2030)**

**1.34 million deaths (in 2015) to
under 500,000 deaths (by 2030)**

What do we need to achieve the goal set by WHO?

- **HCV-specific knowledge**
- **awareness of the infection**
- **testing for HCV**
- **access to antiviral therapy**

Global Elimination of HCV—Why Is Poland Still So Far from the Goal?

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PMID: 37896844 PMID: [PMC10612042](#) DOI: [10.3390/v15102067](#)

Abstract

Introduction: Eradication of HCV in the global population remains one of the greatest challenges faced by the WHO. An insufficient level of knowledge and the lack of a national screening test strategy are obstacles to HCV eradication.

Aim: This work aimed to summarize surveys assessing risk factors and awareness of the respondents regarding the prevention and course of HCV infection. The summary also includes the most important European and global attempts at eliminating HCV.

Materials and methods: A cross-sectional, population-based study was conducted in the Mazowieckie district in Poland using anonymous surveys and conducted on people who willingly reported for a test.

Design

A cross-sectional, population-based study was conducted in the Mazowieckie district, the most populated region of Poland. The project was carried out in 2018-2019 in large and small cities and villages in the Mazovian province.

Setting

The questionnaire was the basic research tool and assessed the risk factors and knowledge levels of the surveyed persons regarding the prevention and course of HCV infection. After completing the questionnaire, a rapid cassette test for anti-HCV was performed.

The survey was conducted on people who volunteered for the test, adult men and women, regardless of education level.

Surveys were conducted in hospitals, clinics, city halls, schools and universities, workplaces, cultural centers, military bases, fire stations and police stations, as well as at mass cultural events, concerts and sporting events.

Study population, n=7397

Risk factors assessment

R_15 Have you ever undergone a medical procedure that included the breaking of tissue continuity?

R_19 Have you ever been hospitalized?

R_16 Have you ever undergone cosmetic procedures which included sharp implements, and aesthetic medicine procedures such as piercings, tattoos, etc.?

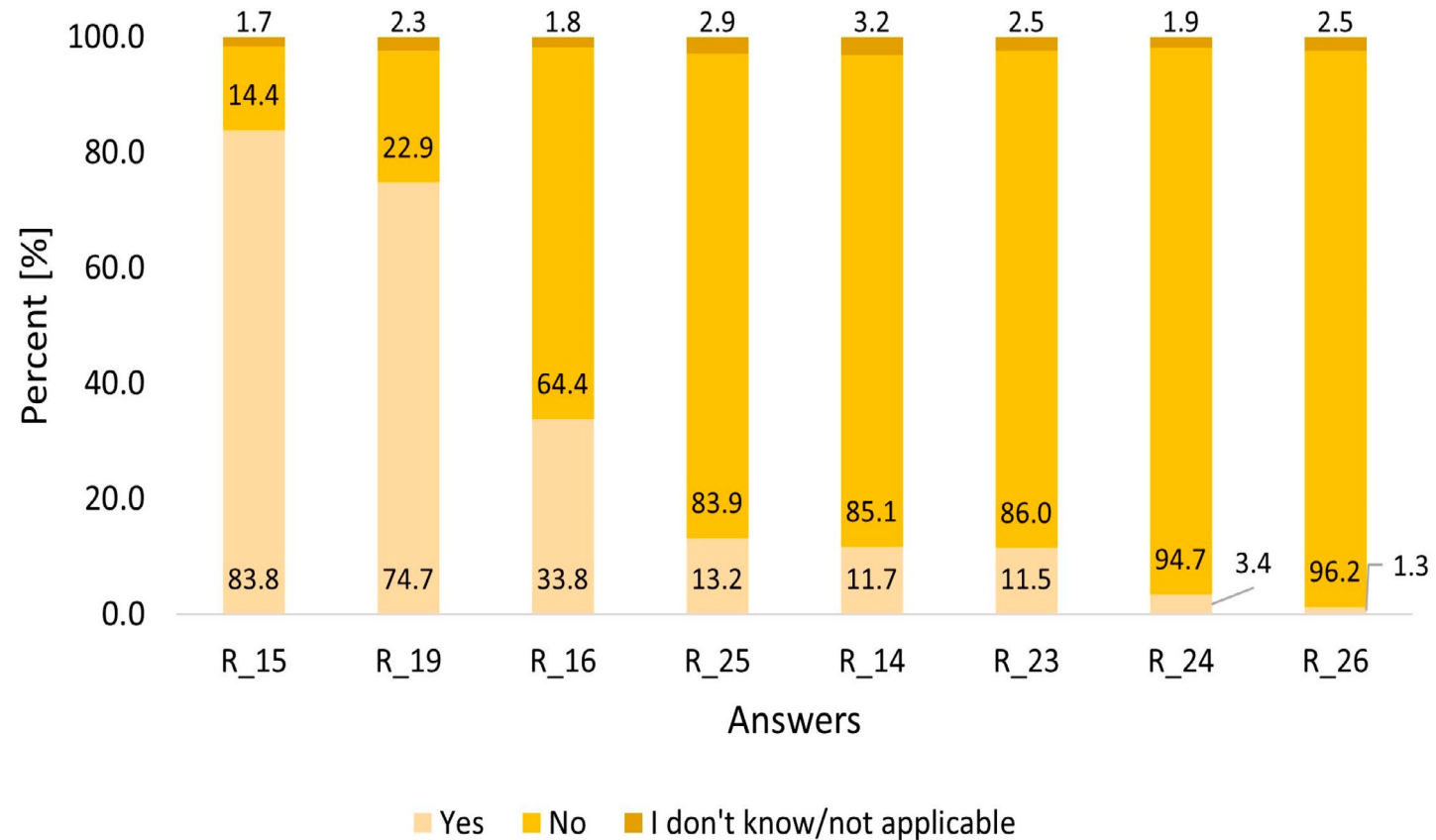
R_25 Have you ever had a random sexual encounter with no protection?

R_14 Have you ever had a blood or blood product transfusion?

R_23 Have you ever shared personal cosmetic-hygenic utensils with other persons (e.g., shaving razors or other sharp cosmetic utensils)?

R_24 Have you ever injected or inhaled drugs?

R_26 Have you been diagnosed with HIV?



HCV knowledge assessment

K_4 Alcohol consumption by HCV-infected persons can speed up the process of liver damage.

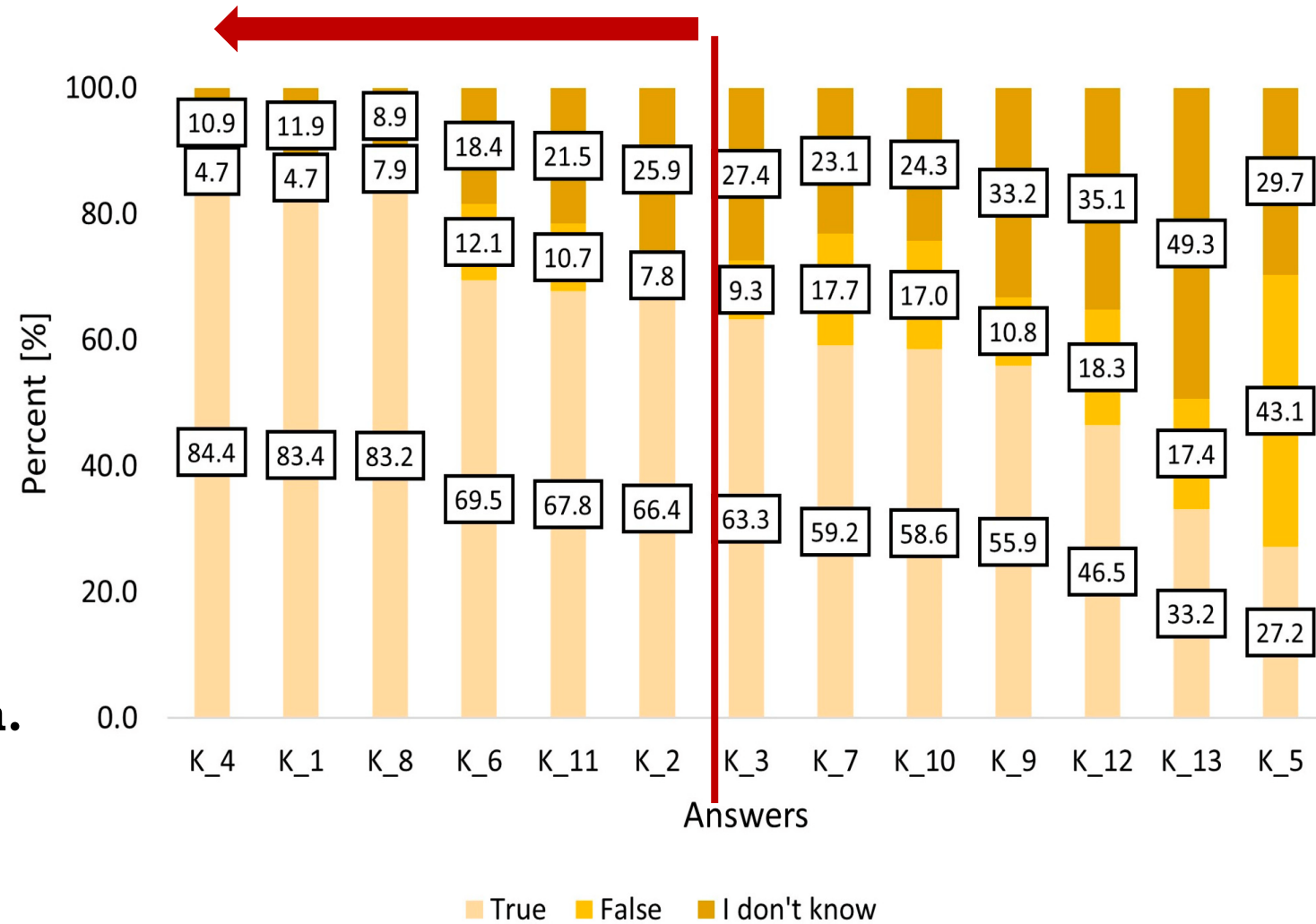
K_1 Chronic HCV can lead to serious complications such as liver cirrhosis and HCC.

K_8 Using new, never-before-used needles, syringes, and other items decreases the risk of HCV infection.

K_6 Persons with HCV can safely share their toothbrushes and shaving razors with other persons.

K_11 HCV can be transmitted through coughing, sneezing, handshakes, and hugging.

K_2 Due to the asymptomatic course of HCV infection or non-typical symptoms only 1 in 5 persons is aware of infection



HCV knowledge assessment

K_3 Symptoms and results of chronic HCV can affect not only the liver but also other organs such as the heart, kidneys, skin, brain, and pancreas.

K_7 HCV can be transmitted during sexual encounters.

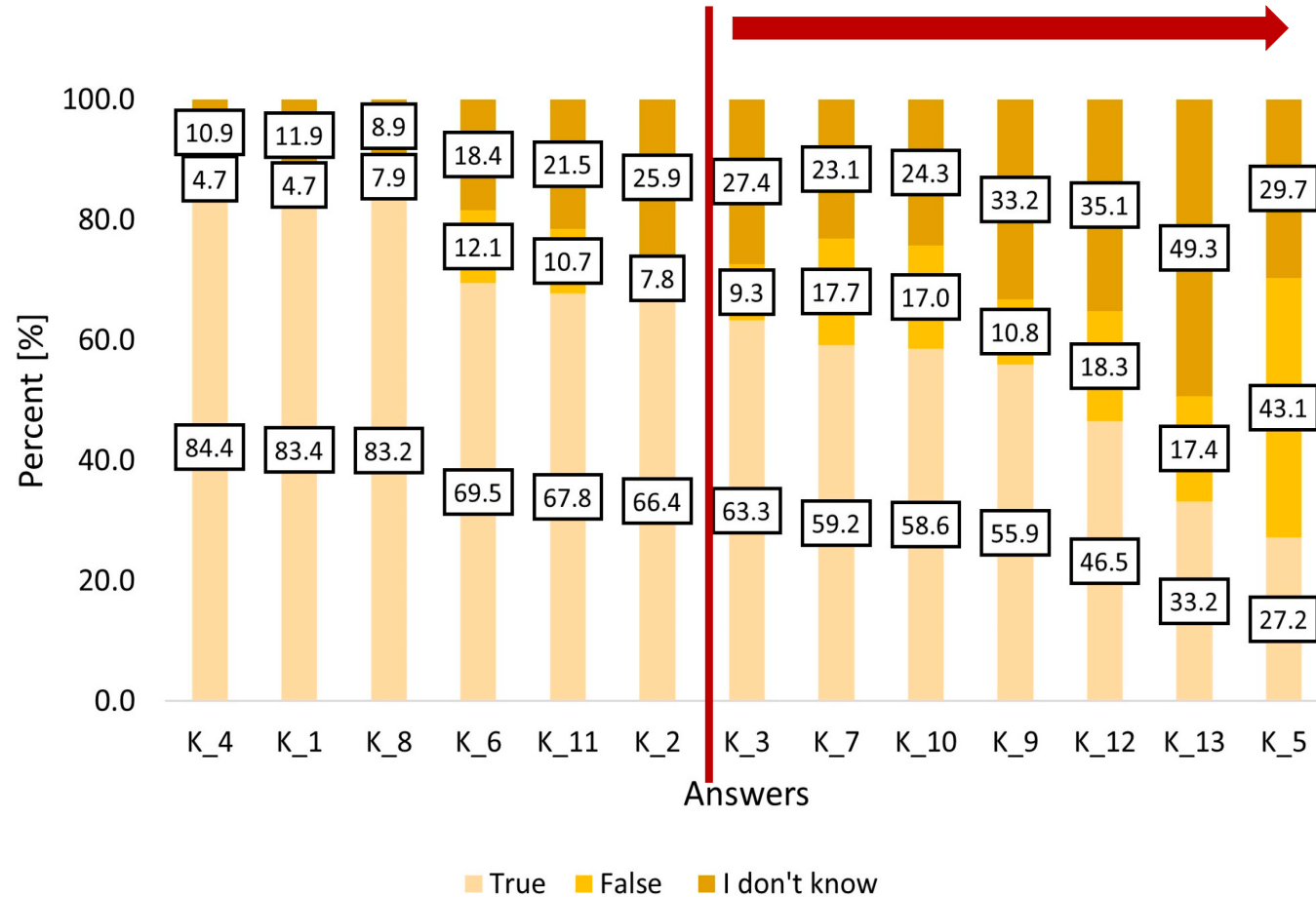
K_10 HCV can be transmitted through the use of common kitchen utensils.

K_9 Children of mothers with HCV can be infected during labor.

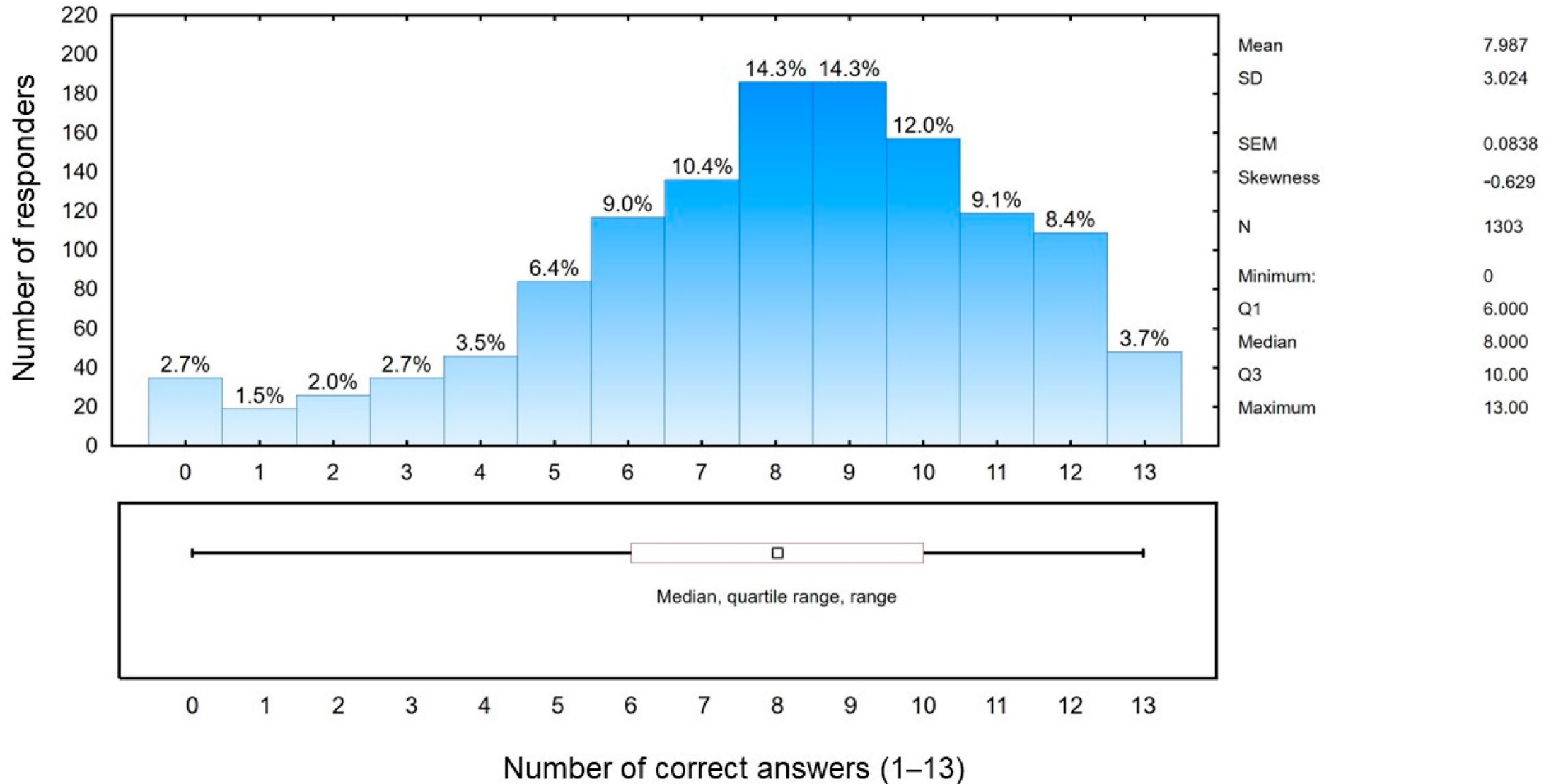
K_12 Effective HCV antiviral treatment can lead to eradication of the virus in nearly 100% of patients.

K_13 Persons with a history of successful HCV antiviral treatment and virus eradication cannot become reinfected with the virus.

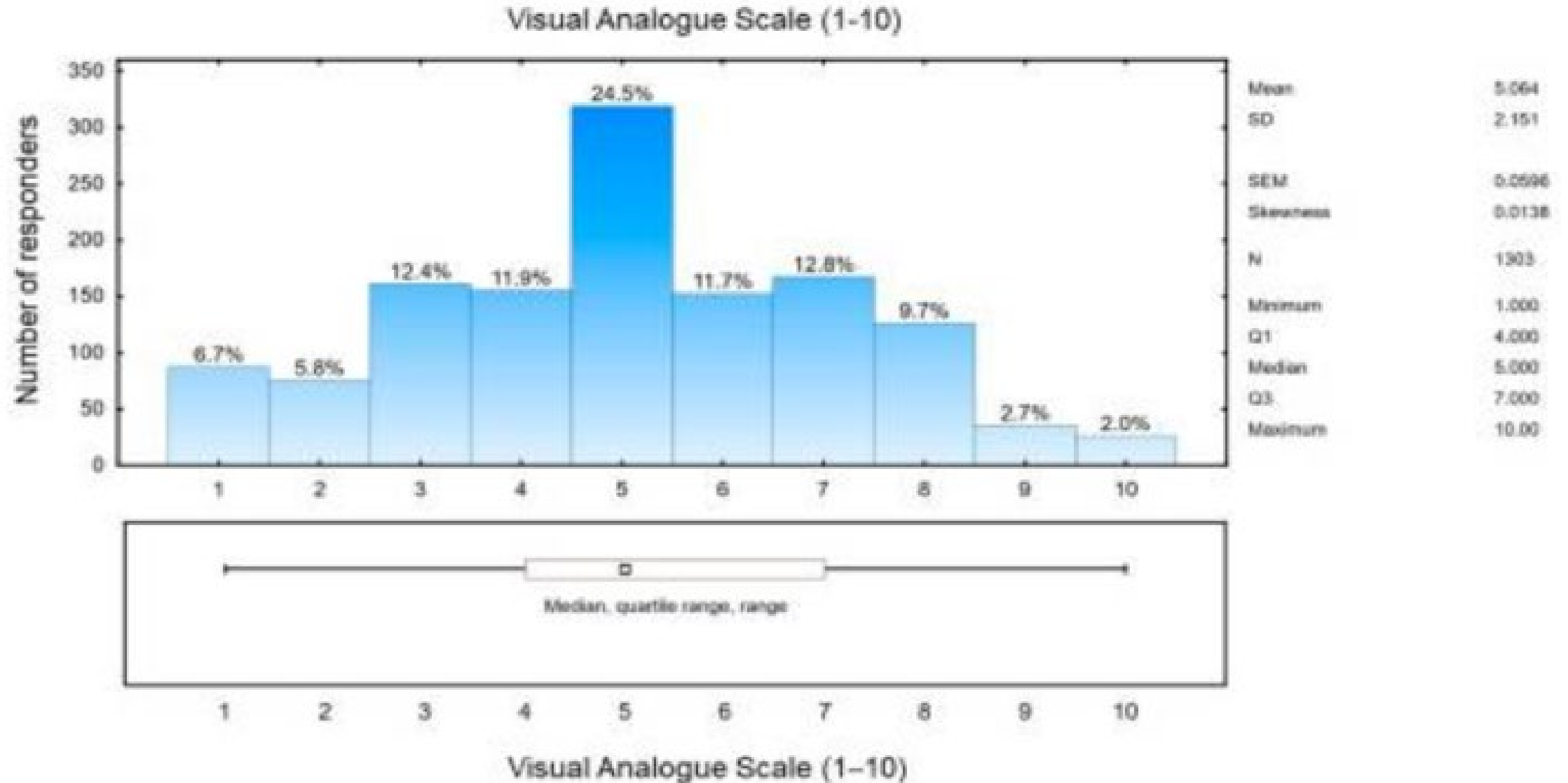
K_5 HCV vaccination can be used to prevent new infections with the virus.



Summarized point results obtained by respondents reflecting their knowledge of HCV infection



Self-assessment of the respondents' knowledge of HCV



A multivariate regression model evaluating the effect of selected predictors on knowledge of HCV infection

	Level	b	β	95% CI		t	p-Value
				Lower Limit	Upper Limit		
Intercept		4.925				15.247	<0.001
Total number NMF		0.512	0.189	0.141	0.237	7.720	<0.001
Total number Mf		-0.038	-0.010	-0.055	0.035	-0.424	0.672
Earlier blood tests	no (ref.)						
	yes	0.500	0.136	0.063	0.209	3.667	<0.001
	I don't know	-0.371	-0.078	-0.147	-0.009	-2.227	0.026
Gender	Female (ref.)						
	male	-0.129	-0.043	-0.087	0.002	-1.895	0.058
Age		-0.027	-0.111	-0.156	-0.067	-4.917	<0.001
Place of residence	village (ref.)						
	cities with up to 50,000 inhabitants	0.386	0.090	0.028	0.153	2.844	0.005
	cities with 51,000–200,000 inhabitants	-0.076	-0.016	-0.083	0.051	-0.468	0.640
	cities above 200,000 inhabitants	0.071	0.020	-0.042	0.082	0.627	0.531
Education	P/V (ref.)						
	HSG	-0.056	-0.012	-0.055	0.032	-0.518	0.604
	UL	0.464	0.107	0.060	0.154	4.488	<0.001
Self-assessment of knowledge		0.586	0.417	0.370	0.464	17.387	<0.001

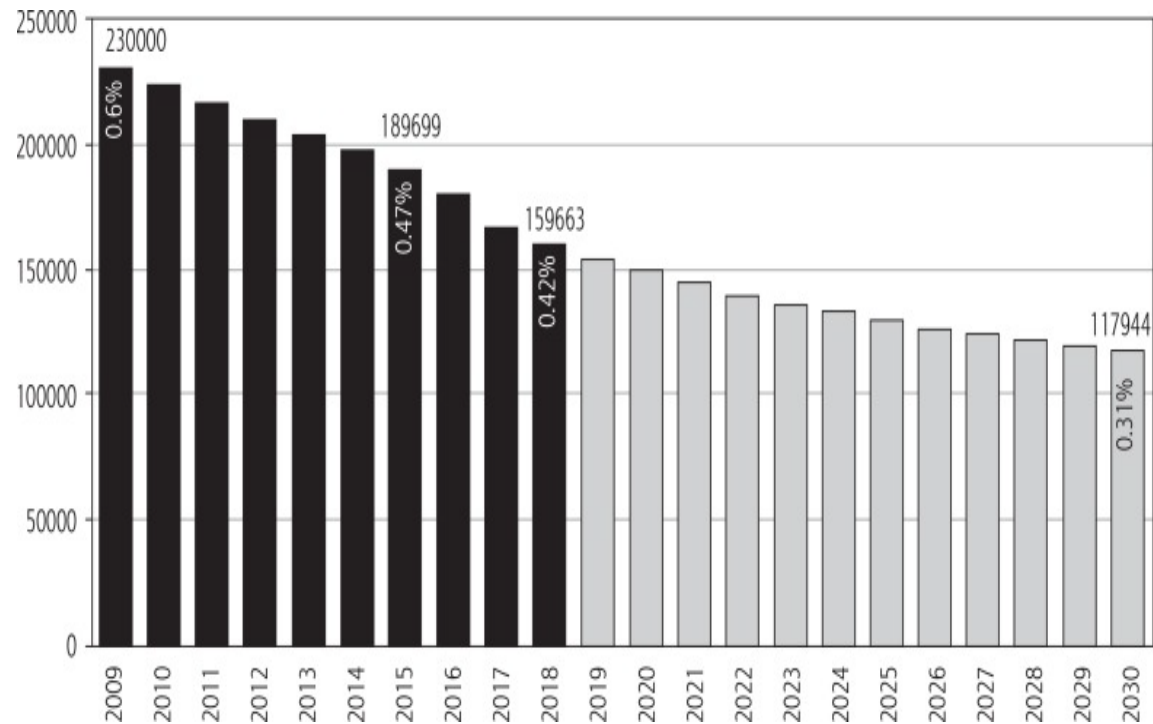
b—unstandardized regression coefficient, **β**—standardized regression coefficient, **CI**—confidence interval, **ref.**—reference level, **NMf**—non-modifiable factors, **Mf**—modifiable factors, **P/V**—primary/vocational, **HSG**—high school graduate, **UL**—university level.

Conclusions

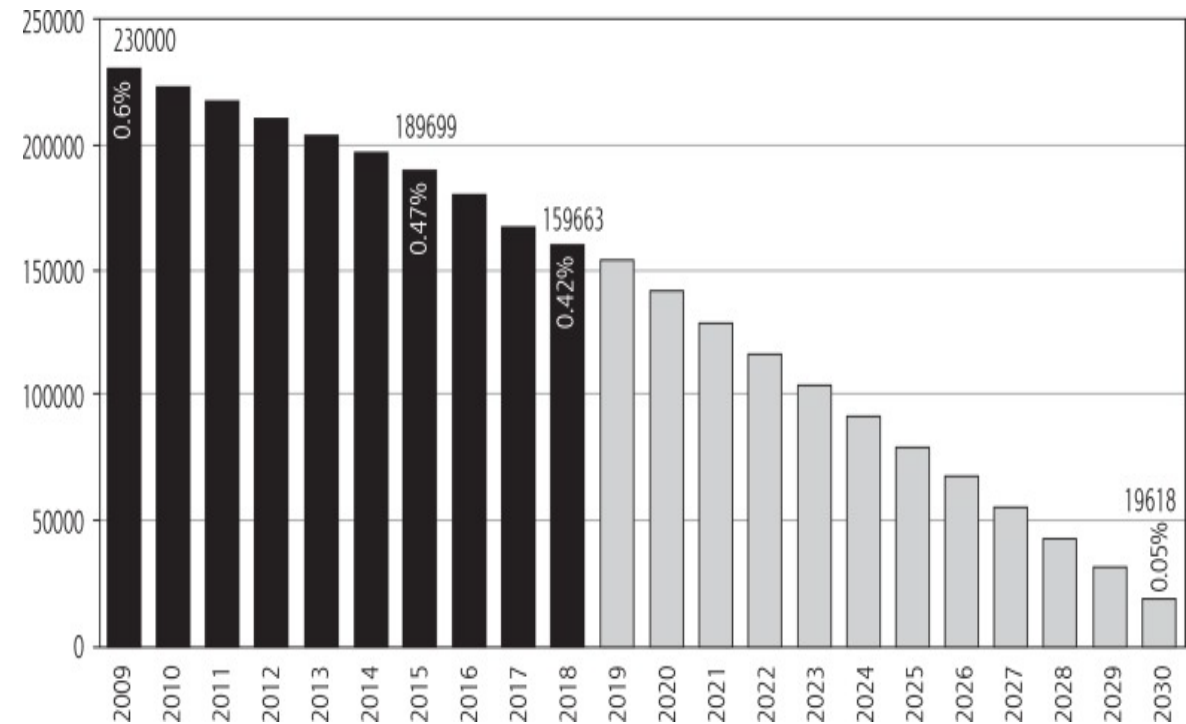
The study documented insufficient knowledge about HCV, which affects the likelihood of detection of infections, rapid diagnosis and treatment, making it impossible to achieve the goal set by WHO. To this end, it would be necessary to increase the number of people tested and increase the number of patients treated annually by 4-5 times.

Perspectives of HCV elimination in Poland - 2019

without screening program



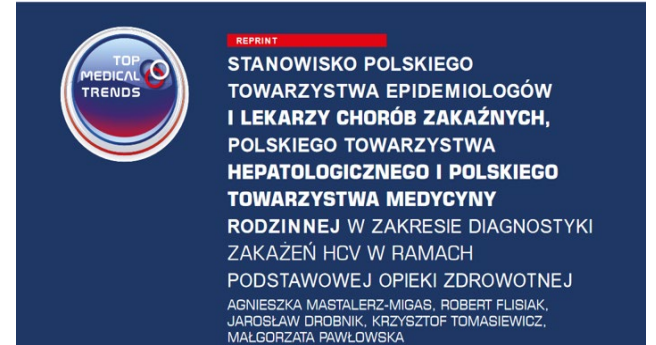
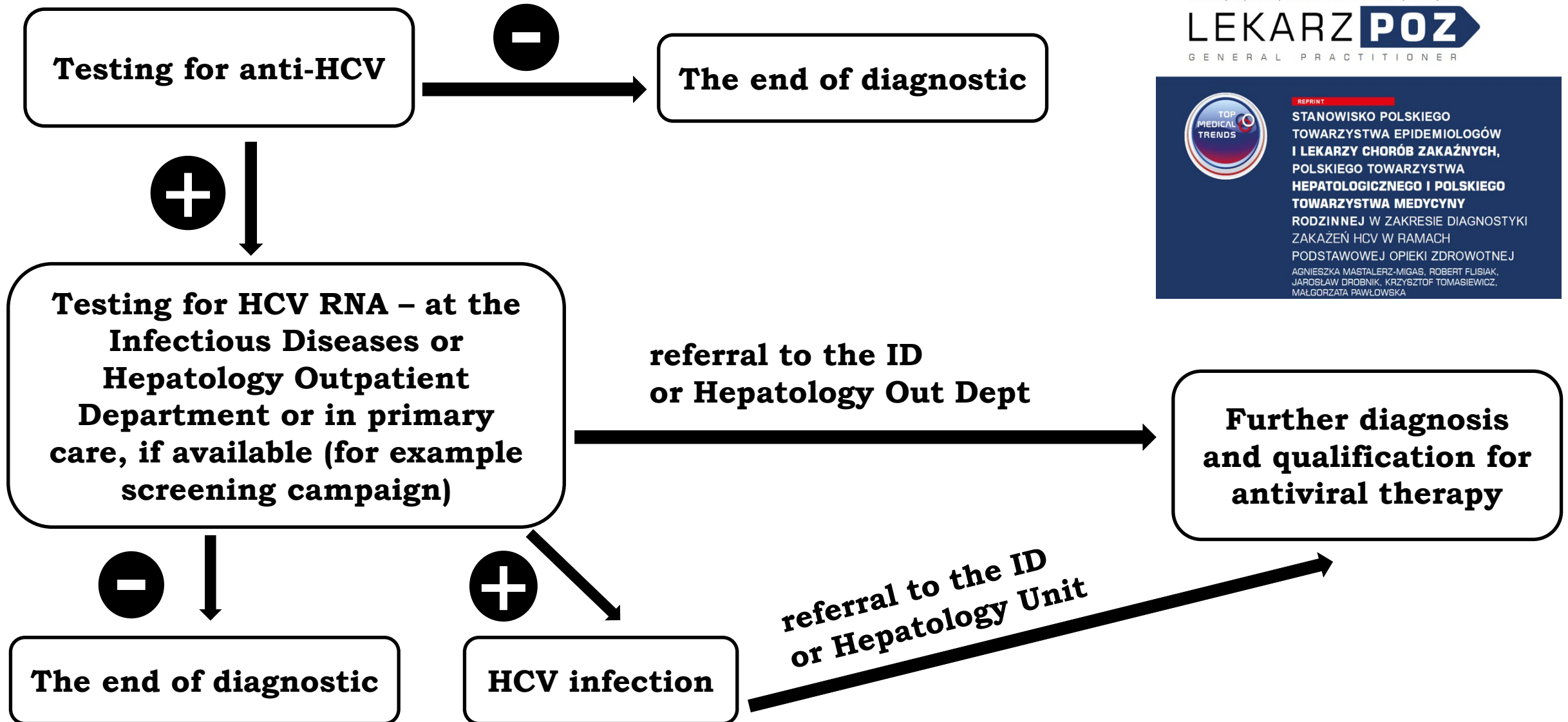
with screening program starting from 2020



WHO target is achievable under the following conditions:

- **treatment of 12,000 patients annually**
- **screening of 3,000,000 annually**

Proposed algorithm for testing in primary care facilities



**ZARZĄDZENIE NR 79/2022/DSOZ
PREZESA NARODOWEGO FUNDUSZU ZDROWIA**

z dnia 29 czerwca 2022 r.

w sprawie warunków zawarcia i realizacji umów o udzielanie świadczeń opieki zdrowotnej w rodzaju podstawowa opieka zdrowotna

Na podstawie art. 102 ust. 5 pkt 21 i 25 oraz art. 159 ust. 2 ustawy z dnia 27 sierpnia 2004 r. o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych (Dz. U. z 2021 r. poz. 1285, z późn. zm.¹⁾) zarządza się, co następuje:

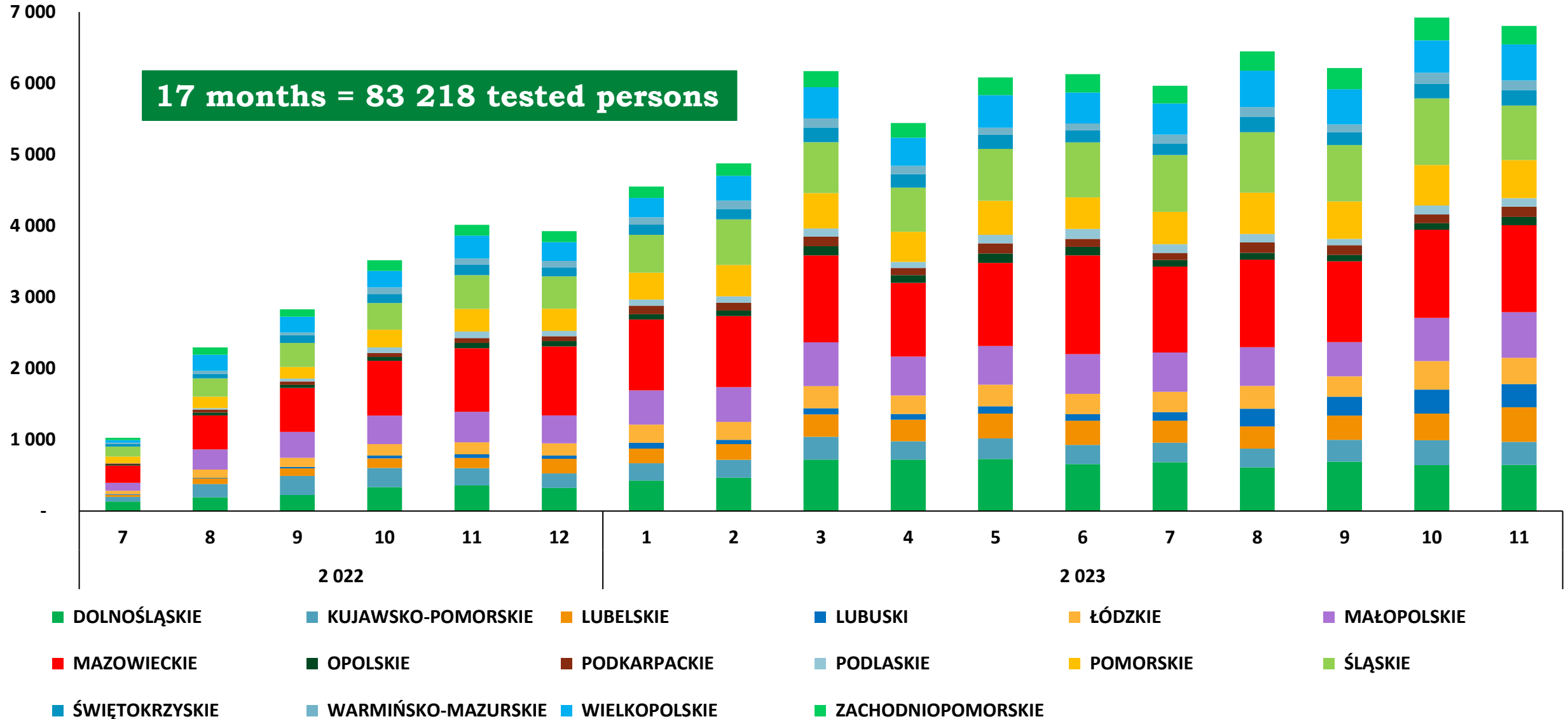
**Rozdział 1.
Postanowienia ogólne**

§ 1. Zarządzenie określa przedmiot oraz szczegółowe warunki zawarcia i realizacji umów o udzielanie świadczeń opieki zdrowotnej w rodzaju podstawowa opieka zdrowotna.

§ 2. 1. Użyte w zarządzeniu określenia oznaczają:

- 1) **aplikacja obsługująca postępowanie** – aplikację udostępnianą przez Narodowy Fundusz Zdrowia w celu przygotowania formularza wniosku, o którym mowa w pkt 29;
- 2) **budżet powierzony** – wyodrębnione środki finansowe, o których mowa w art. 159 ust. 2b pkt 1 ustawy z dnia 27 sierpnia 2004 r. o świadczeniach opieki zdrowotnej finansowanych ze środków publicznych, zwanej dalej "ustawą";
- 3) **dostęp/zapewnienie realizacji** – zapewnienie wykonywania świadczeń w innym miejscu lub lokalizacji niż ta, w której realizowane są świadczenia;
- 4) **Fundusz** – Narodowy Fundusz Zdrowia;

Implementation of anti-HCV testing under the entrusted budget in primary care facilities, July 2022 to November 2023



Hepatitis C diagnosed in Poland

	2019	2020	2021	2022	2023	09.2024
Acute hepatitis C	16	2	4	9	13	12
Chronic hepatitis C	3219	945	1232	2492	3269	2540

DAA antiviral treatment in Poland

- **available since mid 2015**
- **unlimited access regardless of the fibrosis stage, age and history of previous therapy**

Polish Reimbursed Therapeutic Programme

2015

Ombitasvir + Paritaprevir/r
+/- Dasabuvir +/- Ribavirin

Sofosbuvir + Ribavirin

Sofosbuvir +
PegIFN/Ribavirin

Daclatasvir + Asunaprevir

Sofosbuvir + Ledipasvir +/-
Ribavirin

Simeprevir +
PegIFN/Ribavirin

2017

Grazoprevir + Elbasvir



2018

Sofosbuvir/Velpatasvir +/-
Ribavirin

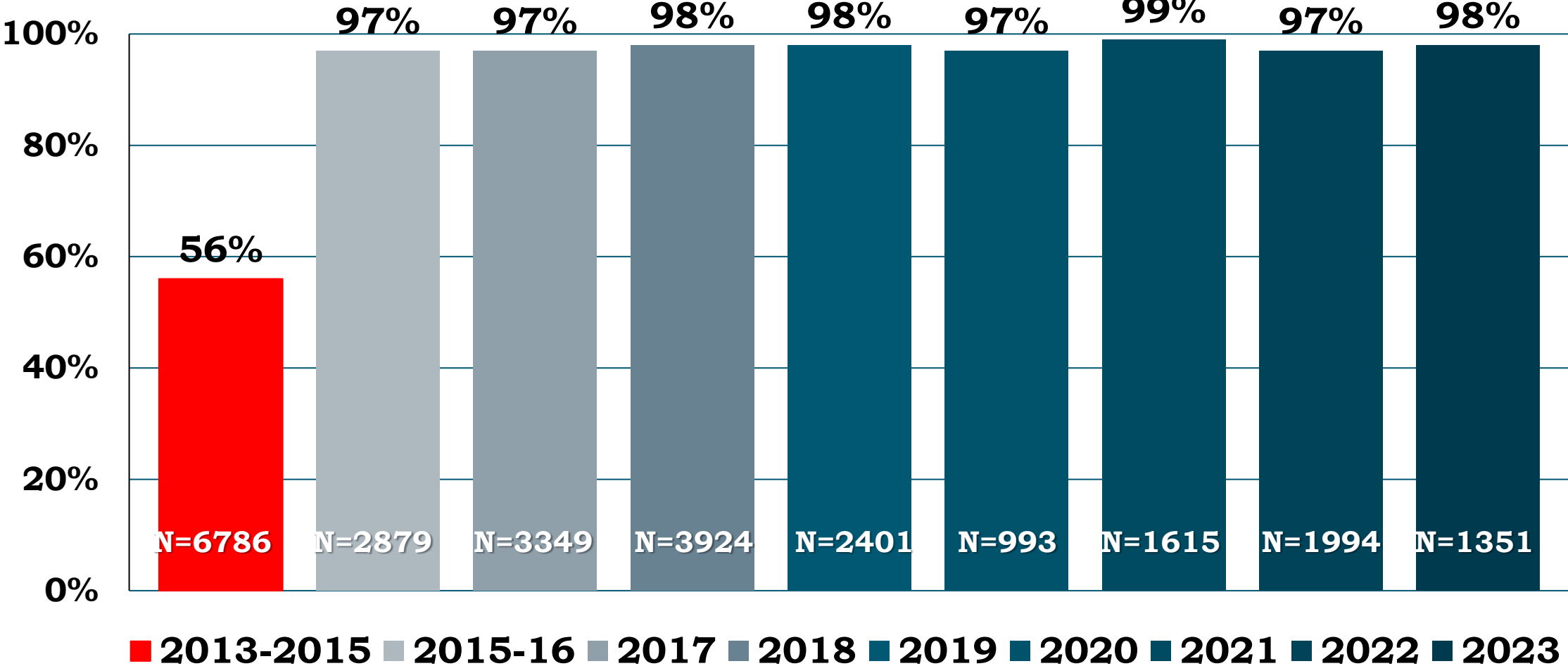
Glecaprevir/Pibrentasvir

2021

Sofosbuvir/Velpatasvir/Voxilaprevir

Availability in Poland

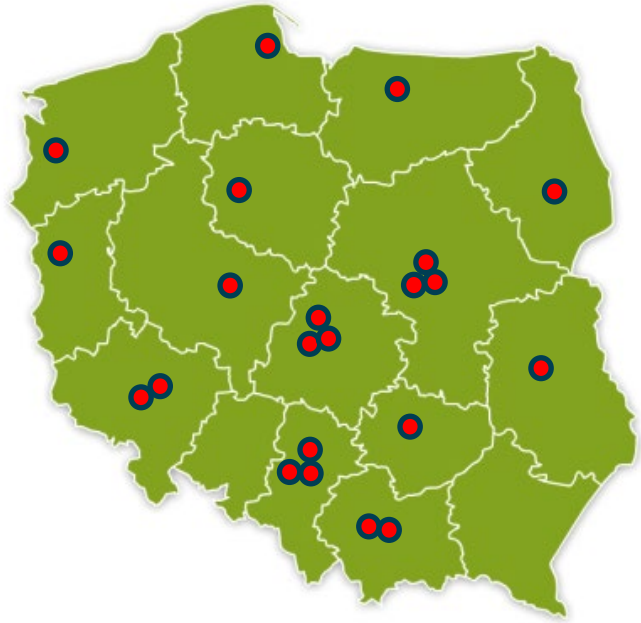
Effectiveness of therapy for HCV infection in **the interferon era** and DAA era EpiTer-2 in Poland



Flisiak R i wsp. Clin Exp HEPATOL 2016; 4: 138–143.
EpiTer-2 database

EpiTer-2 2015-2023
n=19,020 IFN-free regimens

Adults
n=18,968



Patients without SVR assessment
n=615

Patients with SVR assessment
n=18,354

Deaths
n=106

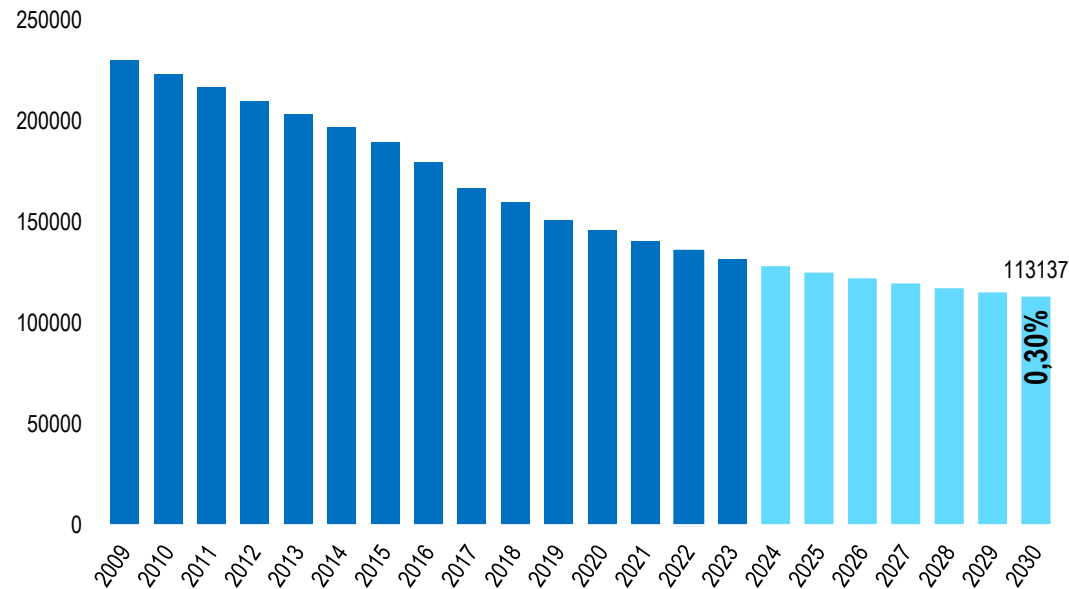
Lost to follow-up
n=509 (2.7%)

SVR achieved
n=17,904 (97.5%)

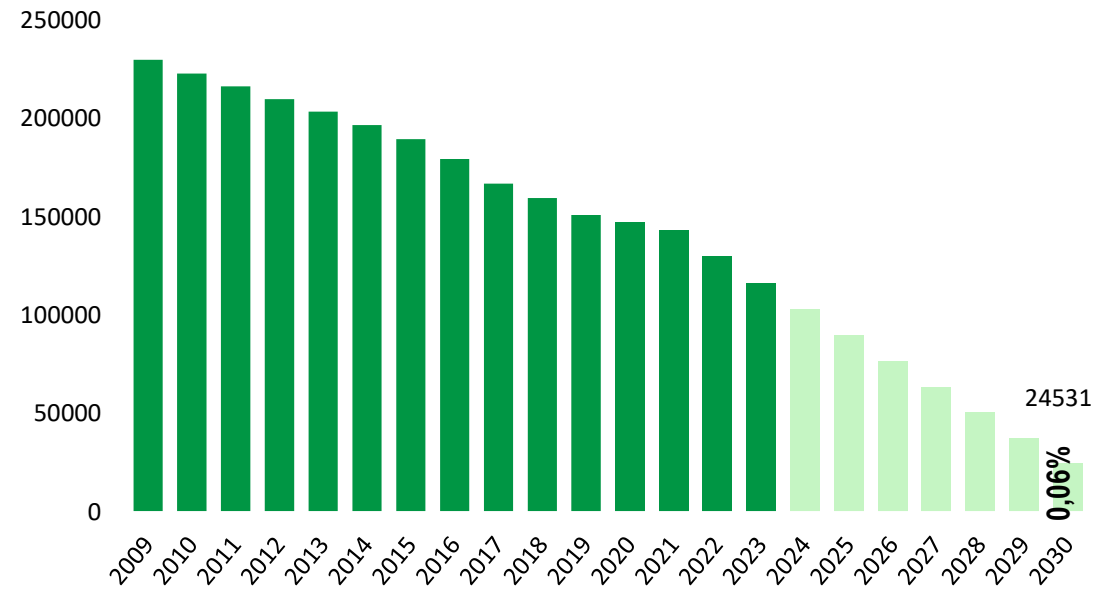
Independent predictors for LTFU: male gender, GT3, HIV-coinfection, alcohol addiction, depression, psychiatric disorders, treatment-naive, treatment discontinuation

Perspectives of HCV elimination in Poland - 2023

without screening programme



with screening programme starting from 2024



WHO target is achievable under the following conditions:

- **treatment of 15,000 patients annually**
- **screening of 3,700,000 annually**
- **400 tests in every GP facility annually = 1-2 tests daily**

HCV elimination perspective among European "high income countries"



Summary

- **Poland has no realistic chance to meet the WHO target for HCV elimination despite the unlimited access to DAA therapy.**
- **The main barrier to elimination is lack of awareness of the infection among patients resulting from the lack of universal testing for HCV.**
- **An additional factor hindering the achievement of elimination is the insufficient level of knowledge about HCV among patients and health care professionals.**