

CROATIA

# VHPB BALKAN MEETING

*CURRENT SITUATION:  
EPIDEMIOLOGY, BURDEN OF  
DISEASE, SCREENING &  
PREVENTION, CASCADE OF  
CARE*



# CROATIA

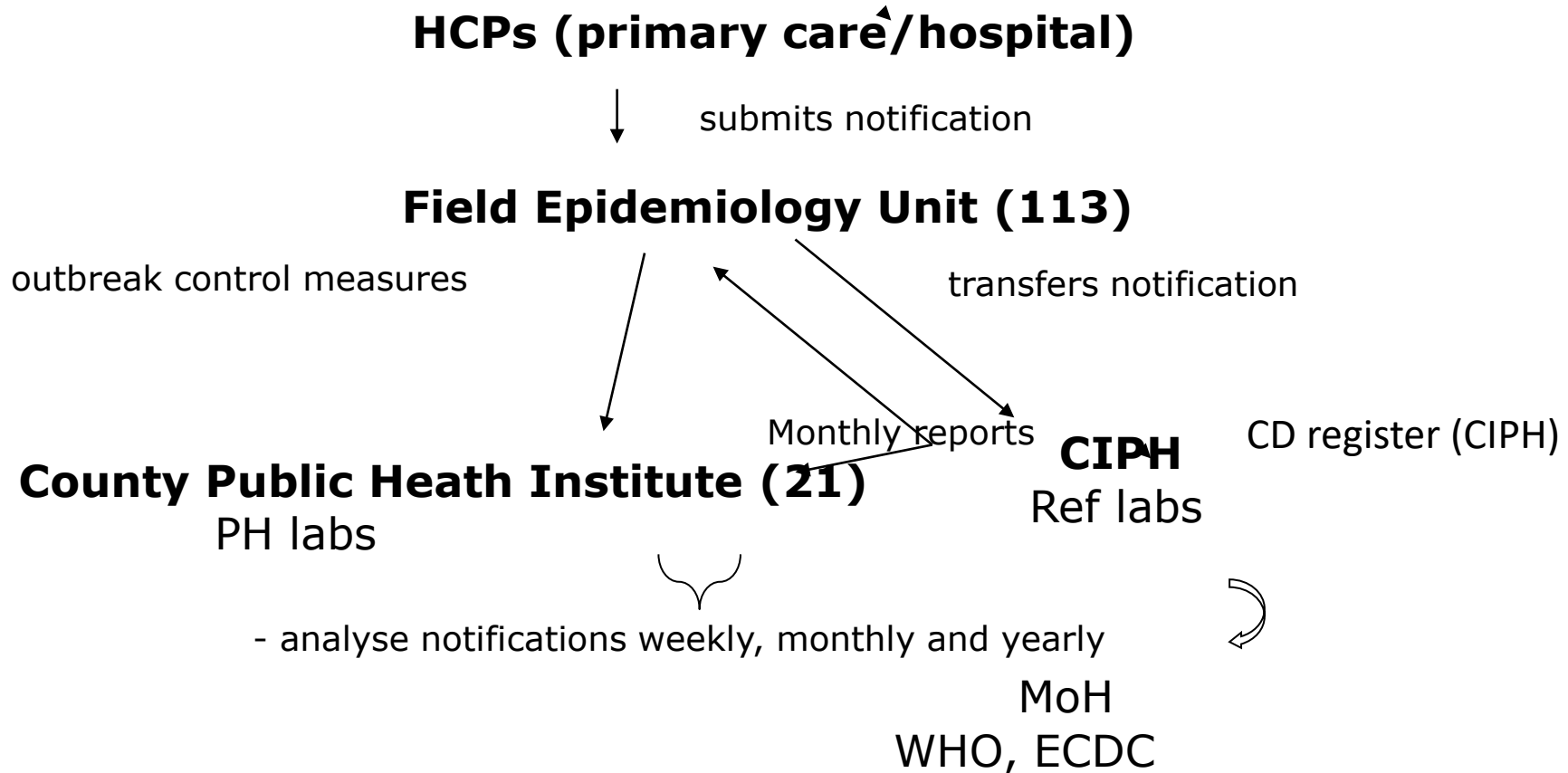
## SURVEILLANCE, PREVENTION AND EPIDEMIOLOGY SERVICE

- The surveillance of communicable diseases is under the authority of the CIPH, as well as competent county IPHs and FEUs
- Key elements of communicable diseases (CD) surveillance system:
  - General, universal
  - Paper-based, at national level computerised database (300-600 records daily, without COVID-19)
  - Integrated electronic system under development
  - Mandatory reporting - disease notification (101 diseases)
  - Enhanced surveillance for HIV, TB, malaria, legionellosis, measles-rubella-parotitis, meningococcal meningitis-sepsis, AFP, CJB, HBV&HCV
  - 2012 EU case definitions\*
  - Since July 1st 2013 – reports sent to TESSy/WHO-ECDC (HIV/AIDS since 2008)
  - All health care providers (HCPs) involved

\*Definitions of notifiable communicable diseases ensure compliance with EU countries  
[https://www.hzjz.hr/wp-content/uploads/2016/10/eu\\_definicije.pdf](https://www.hzjz.hr/wp-content/uploads/2016/10/eu_definicije.pdf)



# CD reporting/surveillance



individual notifications / unknown disease clusters / death clusters

# Key dates in hepatitis policy

- Epidemiological surveillance from:
  - **1976** - hepatitis B
  - **1992** - hepatitis C
- Mandatory testing of blood donations, organs, tissues from:
  - **1971** (Zagreb), 1972 (whole country) hepatitis B
  - **1993** hepatitis C
- Screening of pregnant women (HbsAg)
  - **1999**
- Vaccination
  - **1999** universal childhood vaccination against hepatitis B (in the sixth grade of elementary school)
  - **2007** universal vaccination for all newborns, 1th dose after delivery
- National strategy
  - 2009 Concensus conference on viral hepatitides - Croatian Parliament adopts the Resolution on fight against viral hepatitides
  - 2012 Round table "Development of a National Strategy on fight against viral hepatitis, National strategy and Action Plan for combating viral hepatitis in preparatory phase



# CROATIA EPIDEMIOLOGY

	HBsAg % (year)	Anti-HCV % (year)
General population	0,6-0,7 (2011)	0,9 (2011), 0,9 (2015)
Blood donors (first time)	0,052 (2021)	0,017 (2021)
Pregnant women	0,15 (2020) 0,12 (2021) ↓ (0,62-0,12)	0,5 (2009)
Risk Groups		
PWID	3,1 (2020, self-reported) 3,6 (2021, self-reported)	31 (2020) 29-65 (2015) 28,2 (2021, self-reported) Zagreb 29,1, Rijeka 31,5, Split -38,3 (2014/2015)
MSM		3 (2009)
Prisoners	19,9 (2009)	11 (2011) 8,3-44 (2015)
Risk sexual behaviour	11,3 (2010)	4,6 (2015)
Healthcare workers		unknown
	In risk-population (specify)	Prevalence (year)
Anti HAV	MSM	unknown
Anti HEV	Liver transplant patients Veterinarien, hunters	24.4 (2019) 15 (2022)

HCV PWID, RDS 2022 (preliminary results): Zagreb, Rijeka 37.2, Split 59.5)



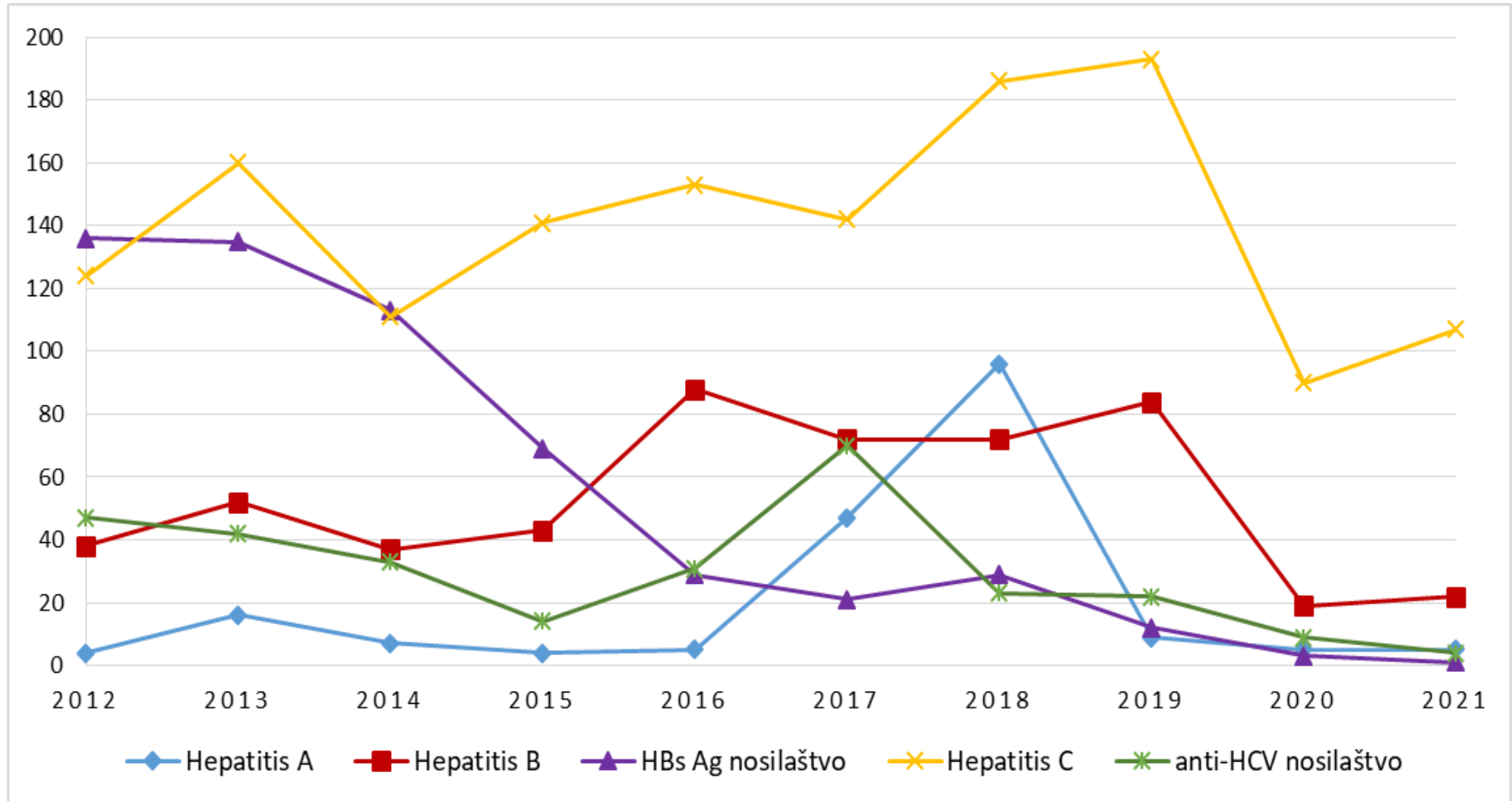
# Reports of hepatitis A, hepatitis B, HBsAg carrier, hepatitis C, anti-HCV carrier, in the period 2012 -2022 in Croatia

Godina	Hepatitis A	Hepatitis B	HBs Ag carriers	Hepatitis C	anti-HCV carriers
2012	4	38	136	124	47
2013	16	52	135	160	42
2014	7	37	113	111	33
2015	4	43	69	141	14
2016	5	88	29	153	31
2017	47	72	21	142	70
2018	96	72	29	186	23
2019	9	84	12	193	22
2020	5	19	3	90	9
2021	5	22	1	107	4
2022*	202	12	1	19	1



\*data for 2022 are not final

# Reports of hepatitis A, hepatitis B, HBsAg carrier, hepatitis C, anti-HCV carrier, 2012 -2021, Croatia



Newly diagnosed

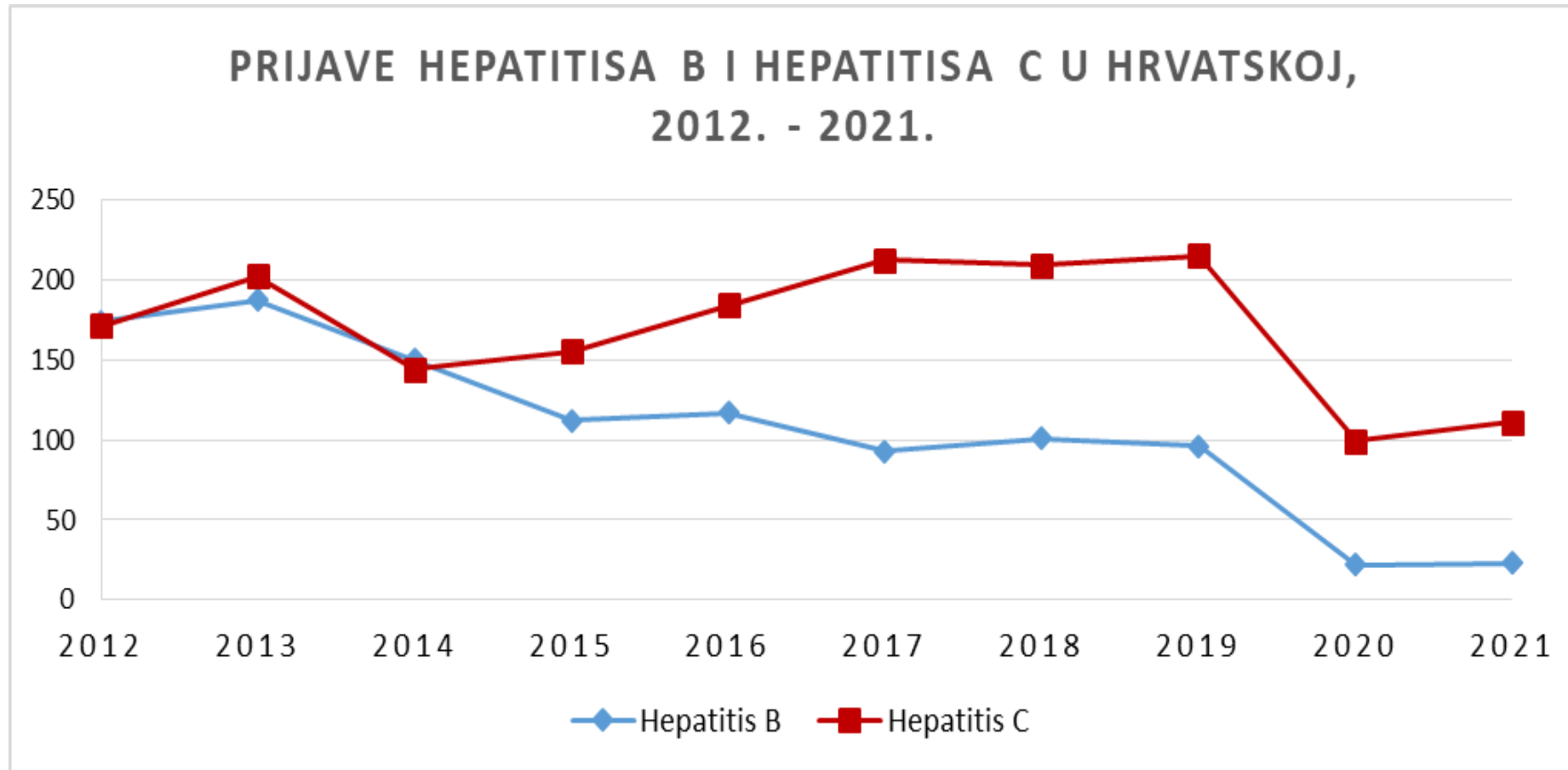
HBV: 95 of cases diagnosed annually between 2013- 2021

HCV: 170 of cases diagnosed annually between 2013 - 2021

Communicable disease register, CIPH



# Reports of **HBV (hepatitis B + HBsAg carrier)** and **HCV (hepatitis C + anti-HCV carrier)**, 2012 -2021, Croatia



Newly diagnosed

HBV: 95 of cases diagnosed annually between 2013- 2021

HCV: 170 of cases diagnosed annually between 2013 - 2021



# CROATIA

## VACCINATION PROGRAM

Hepatitis A	Y/N	population + Schedule	Since/period
Universal	no		
Risk group	yes	Epidemiological indication, recommended, outbreak control, MSM, on demand (travelers)	

Hepatitis B	Y/N	population + Schedule	Since/period
Universal Infants	yes	12 years of age* (stopped since 2021) Newborns, infants 3 months	1999/2000 2007
Catch-up	yes	On demand, persons with a higher risk for HBV (VCT users)	
Risk Group	yes	PLWH, MSM	

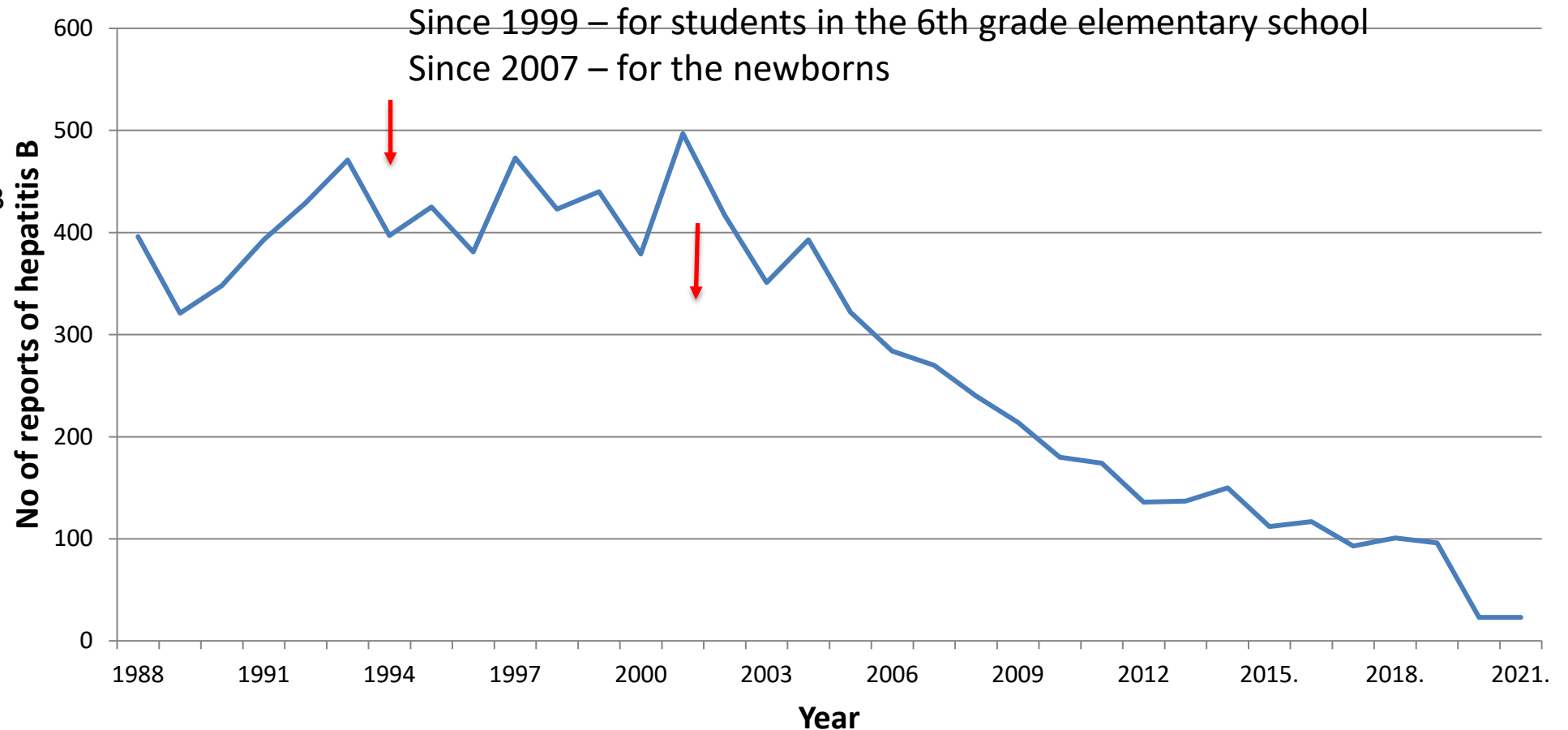
For risk groups: since 1992

\* From 2021, school-age vaccinations only as catch-up, because children vaccinated in infancy have reached school



# Hepatitis B + HBsAg carrier, 1988-2022, Croatia

Since vaccination was introduced into the mandatory vaccination program (1999) in Croatia, the incidence of hepatitis B has decreased by 85%, and the largest age-specific decrease in incidence was recorded in children and adolescents, followed by young adults.

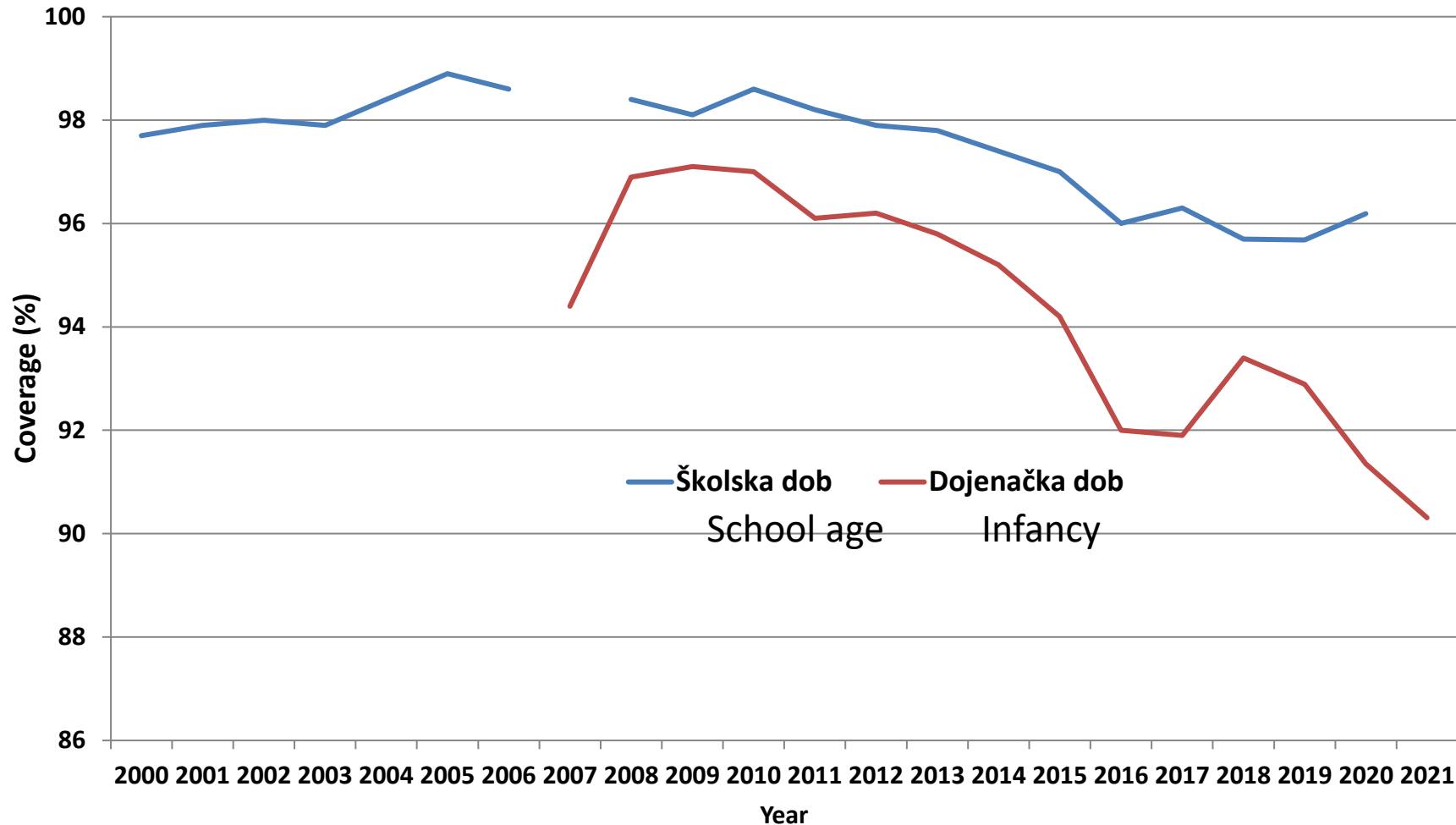


A significant reduction in incidence after introduction of vaccination against hepatitis B in the Vaccination Program

# Vaccination against hepatitis B in Croatia, 2000-2021

Since 1999 – for students in the 6th grade elementary school

Since 2007 – for the newborns



Vaccination coverage against hepatitis B in infants has been between 90% and 93% in recent years, and coverage in twelve-year-olds ranges from 95% to 96%.

From 2011 to 2017 we recorded a continuous decline in vaccination coverage, which stopped in 2018/2019. As a result of the COVID-19 pandemic – slight decline in vaccine coverage in the last two years.

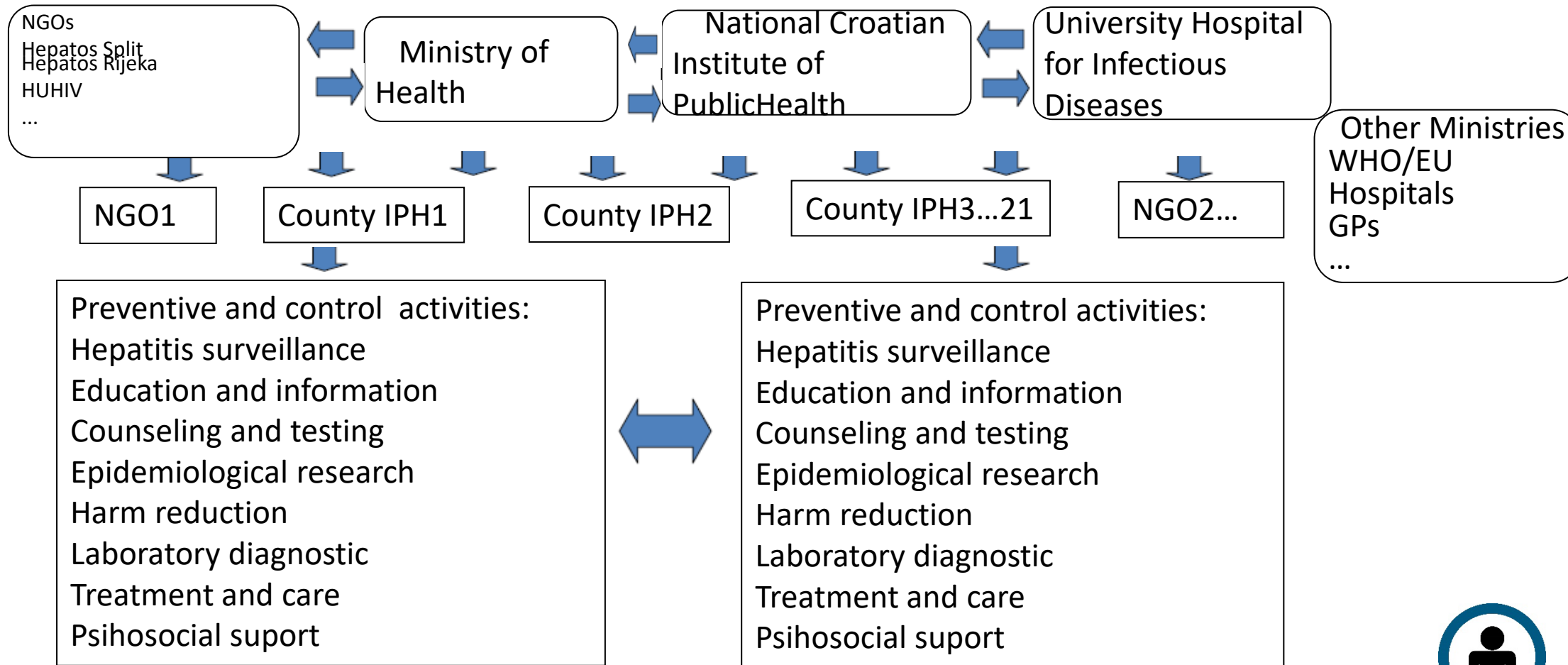


# CROATIA SCREENING

Recommended for following groups:	Hep B	Hep C
General population	no	no
Birth cohorts	no	no
Blood and organ donors	yes	yes
Pregnant women	yes	no
PWID	yes	yes
STI clinic patients	no	no
Haemodialysis patients	yes	yes
Health care workers	no	no
Men having sex with men	no	no
Prison population	no	no
Migrants	no	no
Others - medically assisted fertilization	yes	yes

# CROATIA

## PREVENTION ACTIVITIES ORGANIZATION AND MANAGEMENT



# CROATIA

## TREATMENT

National guidelines available	Y/N (year)
Hepatitis B	From 2005, newest 2021
Hepatitis C	From 2005, newest 2021
Other (specify)	

# CROATIA TREATMENT

Drugs available for HCV treatment*	Y/N
PegInterferon	No
Ribavirin	yes
Boceprevir	no
Telaprevir	no
Simeprevir	no
Sofosbuvir	no
Daclatasvir	no
Sofosbuvir/Ledipasvir	yes
Sofosbuvir/Velpatasvir	yes
Glecaprevir/Pibrentasvir	yes
Sofosbuvir/Velpatasvir/Voxilaprevir	yes
Other (specify)elbasvir/grazoprevir	

Drugs available for HBV treatment*	Y/N
Lamivudine	yes
Adefovir	no
Telbivudine	no
Entacavir	yes
TDF	yes
TAF	yes

## Number of patients treated (cumulative)

Hep B	500 treated in 2020
Hep C	8000

\*included on the national essential medicines list or subsidized by the government



# CROATIA

## HCV Cascade of care

