

Overview of surveillance system and the epidemiology of hepatitis B and C in Romania

Dr. Odette Popovici,
National Institute of Public Health (NIPH) Romania,
National Centre for Communicable Diseases Surveillance and Control (NCCDSC)

VHPB-ACHIEVE Romania meeting
“Elimination of Viral Hepatitis in Romania:
lessons learnt and the way forward”

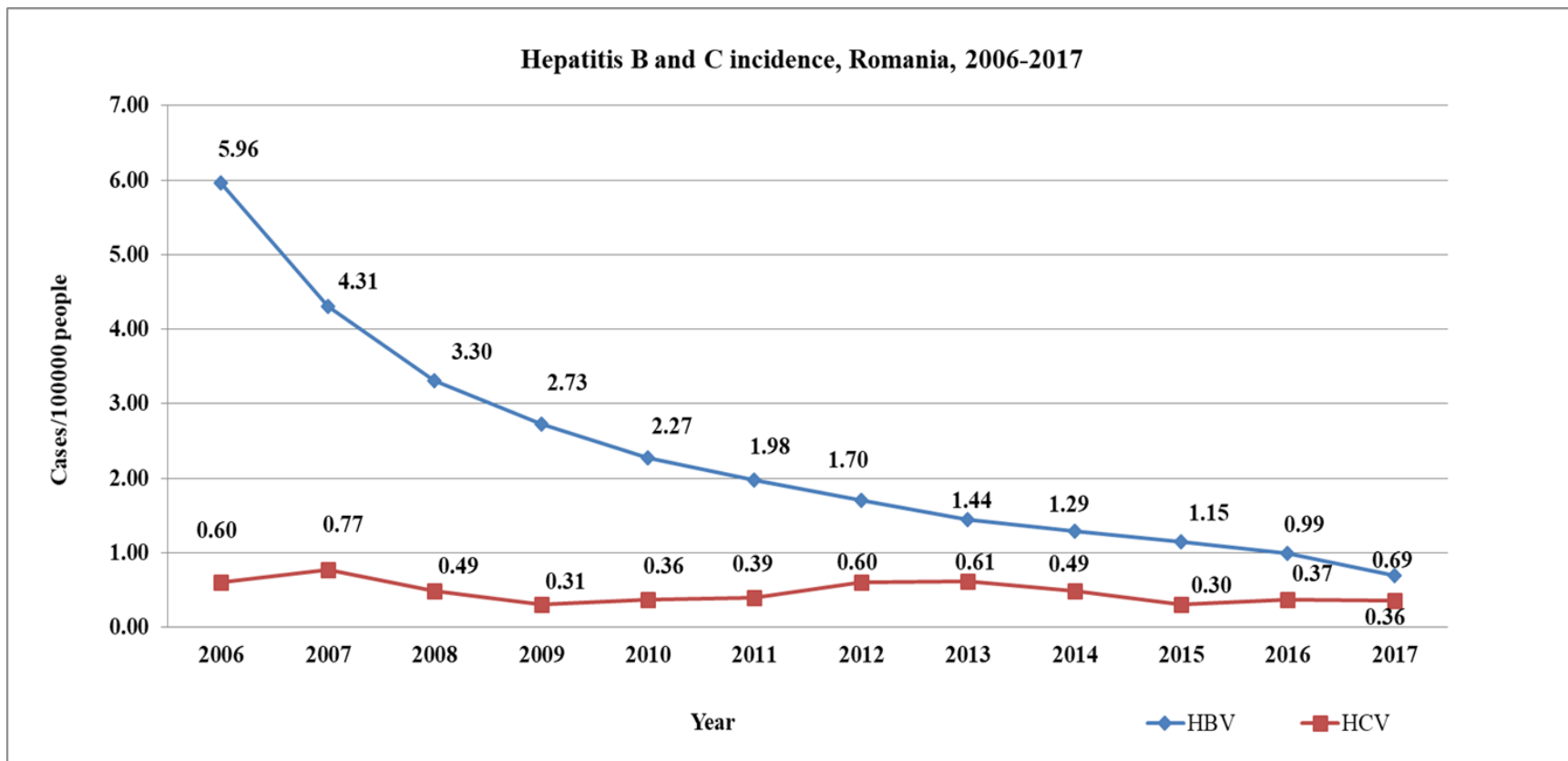
Bucuresti, Romania

17 May 2018

Legal basis for case notification and surveillance system

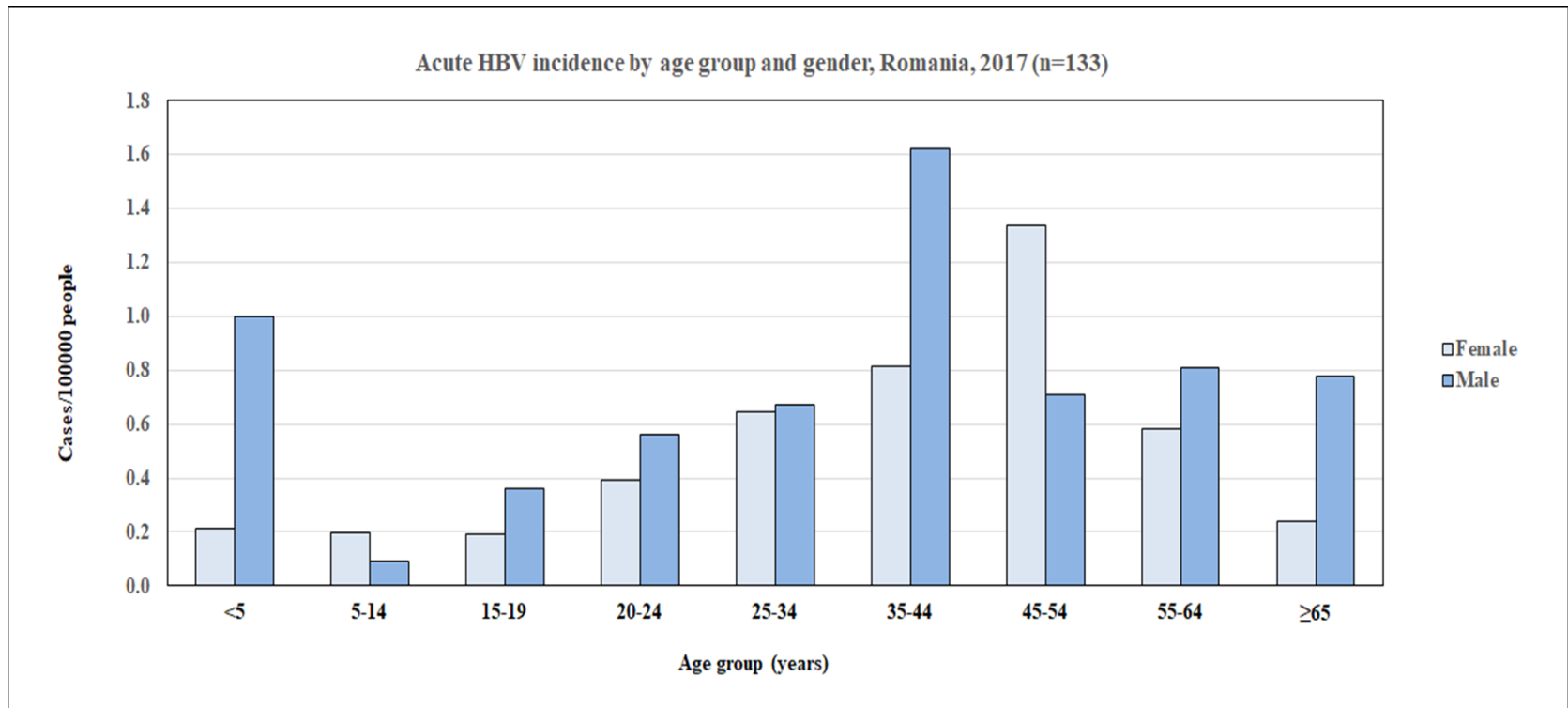
- Government Decision (GD) No. 589/2007 - only *acute* hepatitis B and C are notifiable to the county public health authorities → NIPH-RPHC → NIPH-NCCDSC
- *Draft* of a new GD - sent to MoH in 2015 - last update in March 2017
- The national surveillance system for hepatitis B and C - implemented in 2012
 - mainly hospital based
 - scarce data about chronic hepatitis B and C

Hepatitis B and C incidence trend



1.Acute hepatitis B

Age group and gender-specific incidence



- 6 cases <5 years old: 5 <1 and 1 = 4 years old
- From the 5 infants: 2 with 1 dose, 3 with zero doses
- The 4 years old child: zero doses

Probable route of transmission for acute hepatitis B

Crt. No.	Probable route of transmission (%)	
1	Heterosexual (no.of sexual partners ≥ 2) ^a	7.5
2	Nosocomial (surgery interventions / injections in a sanitary unit / dental interventions) ^b	24.1
	<i>Dental interventions (included in Crt.No.2)</i> ^b	9.8
	<i>Injections in hospital (included in Crt.No.2)</i> ^b	6.8
	<i>Surgery interventions (included in Crt.No.2)</i> ^b	0.0
	<i>Injections at family doctor (included in Crt.No.2)</i> ^b	2.3
	<i>Injections at a private medical cabinet (included in Crt.No.2)</i> ^b	0.0
3	Non-occupational injuries (barber / manicure / pedicure / tattoo / piercing) ^b	4.5
4	Household contact with chronic case/carrier ^b	3.0
5	Injecting drug use ^e	1.5
6	Mother-to-child transmission	0.8
7	Haemodialysis ^b	0.8
8	Transplant of organs and tissues ^b	0.0
9	Diagnosed with STI ^{a,c}	0.0
10	Injections at home ^b	0.0
11	Transfusions of blood/blood products ^b	0.0
12	MSM ^{b,f}	0.0
13	Incarcerated ^a	0.8
14	Occupational exposure (HCW) ^b	2.3
15	Sex worker ^a	0.8
16	UNK	54.9

a exclusion criteria: other risk factors; includes Crt.No.9

b exclusion criteria: ≥ 2 sexual partners (Crt.No.12 excepted) and/or other risk factors

c included in Crt.No. 1

d sexual/other household contact ; exclusion criteria: other risk factors

e no exclusion criteria

f including bisexual

Imported cases of acute hepatitis B

- 8 cases
- The probable route of transmission :
 - Heterosexual (2)
 - Sexual (1)
 - Non-occupational (1)
 - UNK (4)

Vaccination status of acute hepatitis B cases

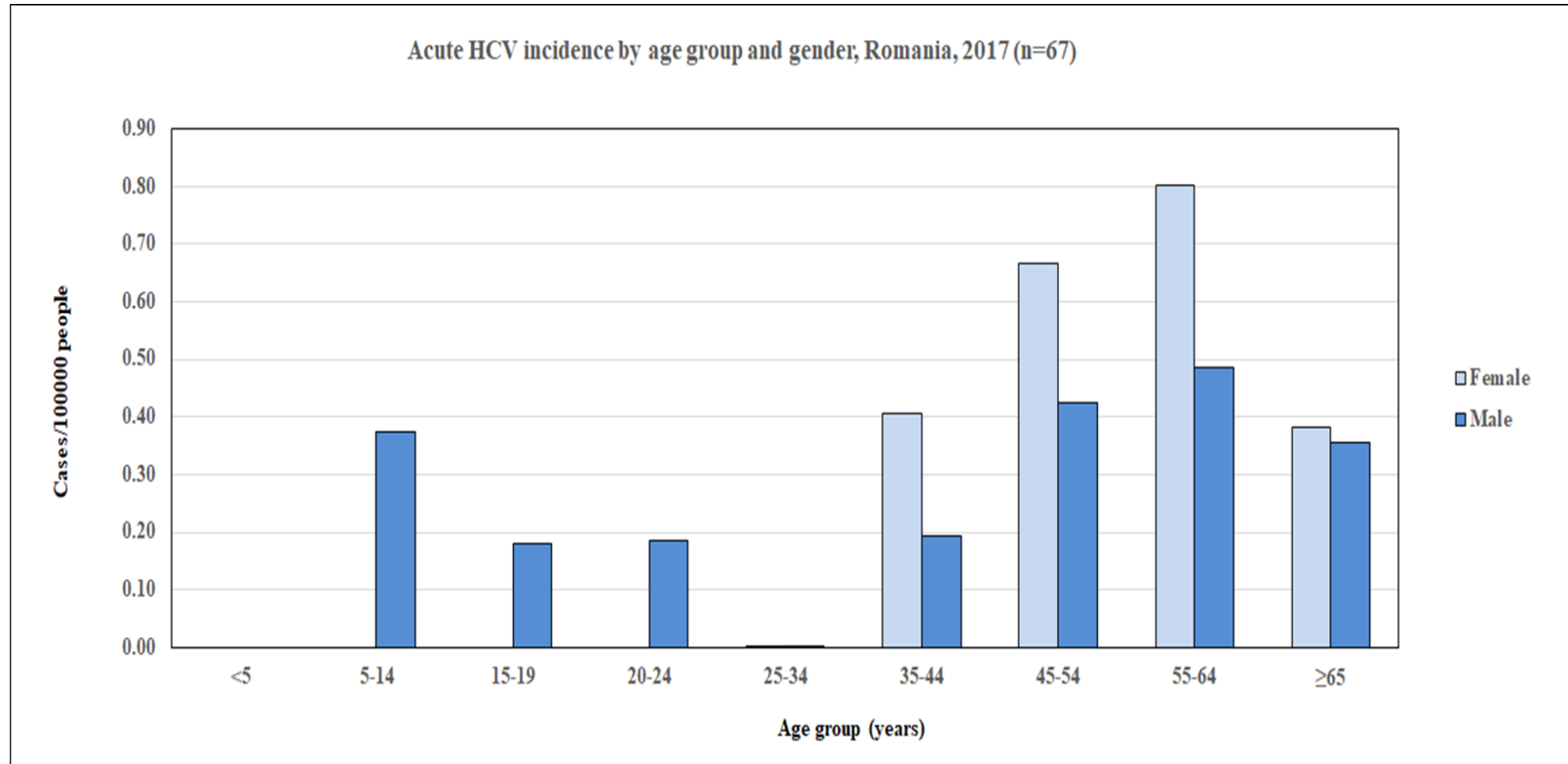
- 5 cases fully vaccinated with 3 doses (4%), but
- Just 1 according to the national vaccination schedule

Interventions for confirmed cases' contacts

- 157 family contacts and 37 sexual contacts identified
- 11 vaccinated (10 family and 1 sexual contact)

2.Acute hepatitis C

Age group and gender-specific incidence



Probable route of transmission for acute hepatitis C

Crt. No.	Probable route of transmission (%)	
1	Heterosexual (no.of sexual partners ≥ 2) ^a	0.0
2	Nosocomial (surgery interventions / injections in a sanitary unit / dental interventions) ^b	37.3
	<i>Dental interventions (included in Crt.No.2)</i> ^b	7.5
	<i>Injections in hospital (included in Crt.No.2)</i> ^b	16.4
	<i>Surgery interventions (included in Crt.No.2)</i> ^b	3.0
	<i>Injections at family doctor (included in Crt.No.2)</i> ^b	3.0
	<i>Injections at a private medical cabinet (included in Crt.No.2)</i> ^b	0.0
3	Non-occupational injuries (barber / manicure / pedicure / tattoo / piercing) ^b	3.0
4	Household contact with chronic case/carrier ^b	1.5
5	Injecting drug use ^e	3.0
6	Mother-to-child transmission	0.0
7	Haemodialysis ^b	1.5
8	Transplant of organs and tissues ^b	0.0
9	Diagnosed with STI ^{a,c}	0.0
10	Injections at home ^b	0.0
11	Transfusions of blood/blood products ^b	0.0
12	MSM ^{b,f}	1.5
13	Incarcerated ^a	0.0
14	Occupational exposure (HCW) ^b	3.0
15	Sex worker ^a	1.5
16	UNK	47.8

a exclusion criteria: other risk factors; includes Crt.No.9

b exclusion criteria: ≥ 2 sexual partners (Crt.No.12 excepted) and/or other risk factors

c included in Crt.No. 1

d sexual/other household contact ; exclusion criteria: other risk factors

e no exclusion criteria

f including bisexual

Imported cases of acute hepatitis C

- 3 cases
- The probable route of transmission :
 - Nosocomial (1)
 - Occupational (sex worker) (1)
 - Injecting drug use (1)

Comments regarding probable route of transmission for acute hepatitis B and C

- High frequency of probable nosocomial transmission
- The information should be interpreted with caution:
Possible **recall bias** – the patient reminds better a dental intervention or a hospitalization

OR

Prefers to **hide** other possible risk factors

3. Testing for hepatitis B and C

Initial blood donors

Type of test		TOTAL	Positivity rate (%)
HBsAg	No. of tested donors	156743	
	out of which positive	1863	1.2
Anti-HCV Ab	No. of tested donors	155832	
	out of which positive	1211	0.8

Laboratories

Type of test		TOTAL	Positivity rate (%)
HBsAg	No. of tested persons	402486	
	out of which positive	24932	6
Anti-HBs Ab	No. of tested persons	33411	
	out of which positive	13668	41
Anti-HBc IgM	No. of tested persons	4905	
	out of which positive	605	12
Total anti-HBc Ab	No. of tested persons	17330	
	out of which positive	6484	37
HBeAg	No. of tested persons	7828	
	out of which positive	516	7
Anti-HBe Ab	No. of tested persons	6678	
	out of which positive	4409	66
DNA-HBV	No. of tested persons	29115	
	out of which positive	11964	41
Ac anti-VHC	No. of tested persons	365094	
	out of which positive	17437	5
ARN-VHC (PCR)	No. of tested persons	21519	
	out of which positive	9992	46
Imunoblot HCV	No. of tested persons	1864	
	out of which positive	290	16

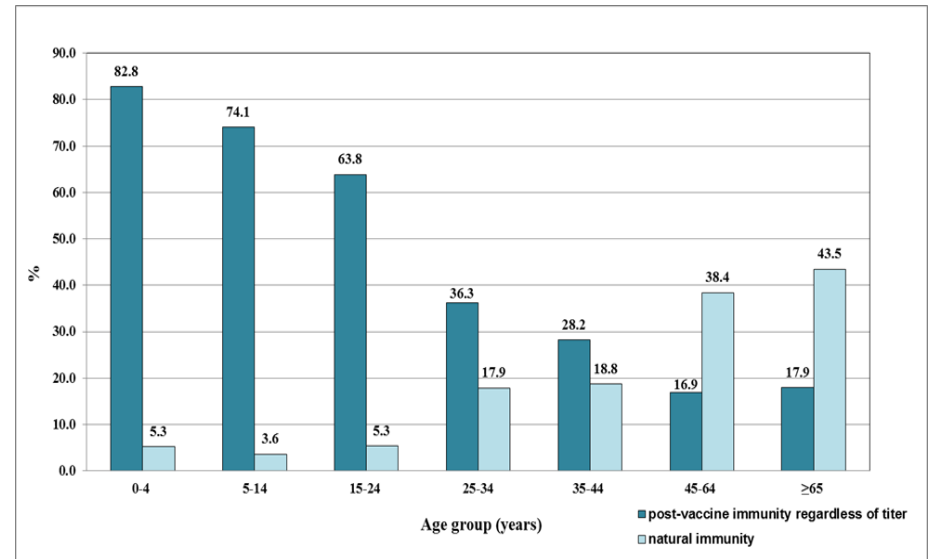
4.Seroprevalence studies (1)

2013

Hospitalized population

- **4.2%** HBsAg
- **5.6%** Anti-HCV Ab
- **28%** Total anti-HBc Ab

Post-vaccine immunity compared to natural immunity



4.Seroprevalence studies (2)

2016

Pregnant women

- 5.1% HBsAg overall prevalence → 7.4% HBeAg
- 3.8% HBsAg <20 years old* → 10% HBeAg
- 6.3% HBsAg ≥20 years old → 5.9% HBeAg
- The differences between age groups were not statistically significant

*cohort vaccinated at birth

Thank you for your attention!