

# Hepatitis B: surveillance and epidemiological situation in the Russian Federation

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VHPB country meeting  
Prevention and control of Viral  
Hepatitis in the Russian  
Federation: lessons learnt and  
the way forward

# Hepatitis B Elimination Program(2017-2030)



## Concept

- Get indicators of hepatitis B elimination by 2030 year.

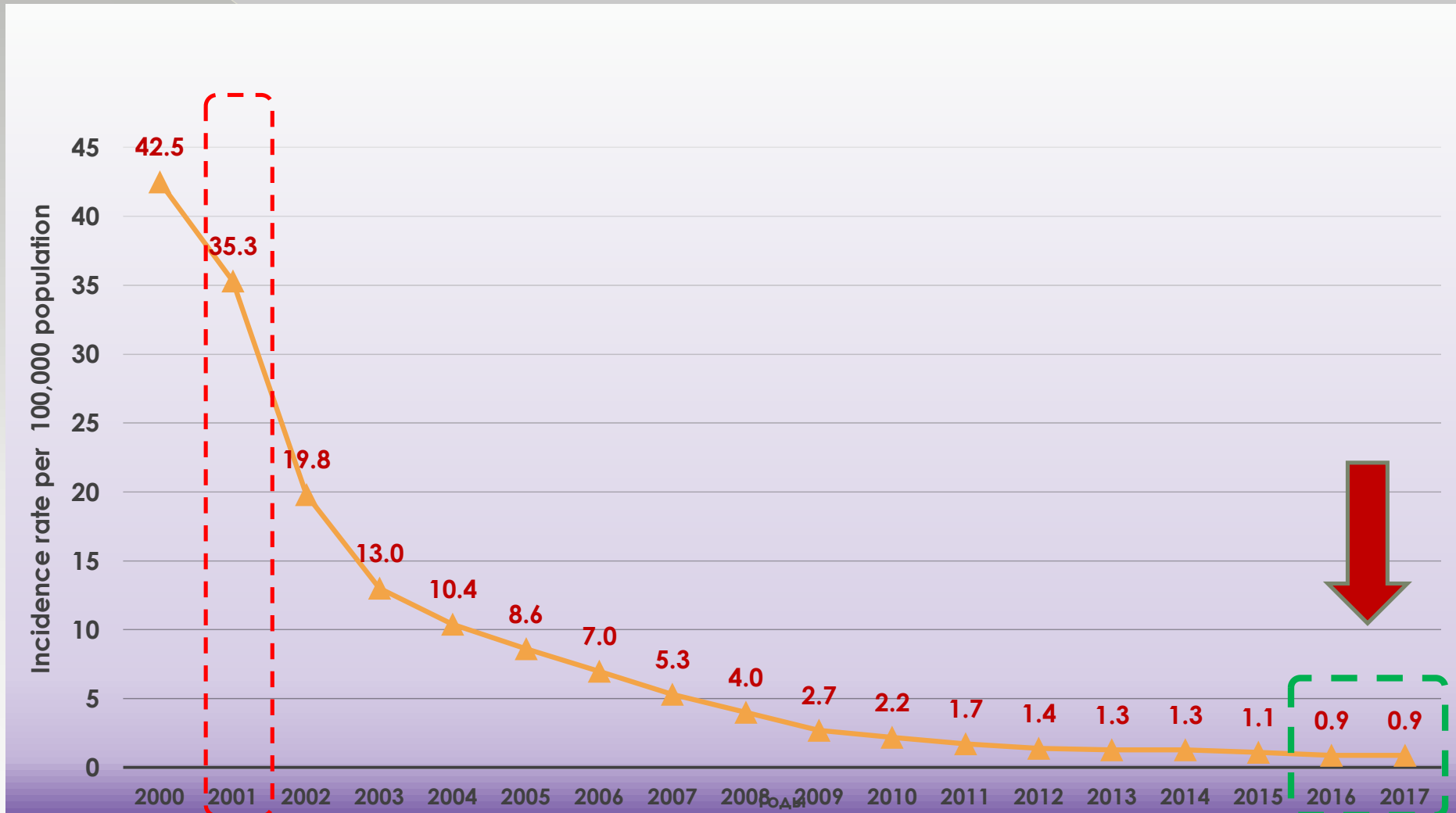
## Opportunity

- Diagnostics
- Preventive therapy
- Vaccination

## Potential

- Availability of new vaccines
- Availability of new diagnostic tests
- Therapy coverage

# Retrospective epidemiological analysis of the incidence rate of acute hepatitis B in Russia



*Viral hepatitis in the Russian Federation (analytical review, issue 10), 2016; Saint-Petersburg Pasteur Institute, 2018*

# Incidence rate of acute hepatitis B in different regions of Russia

2001



2017



Elimination rate achieved in 76.5% of regions

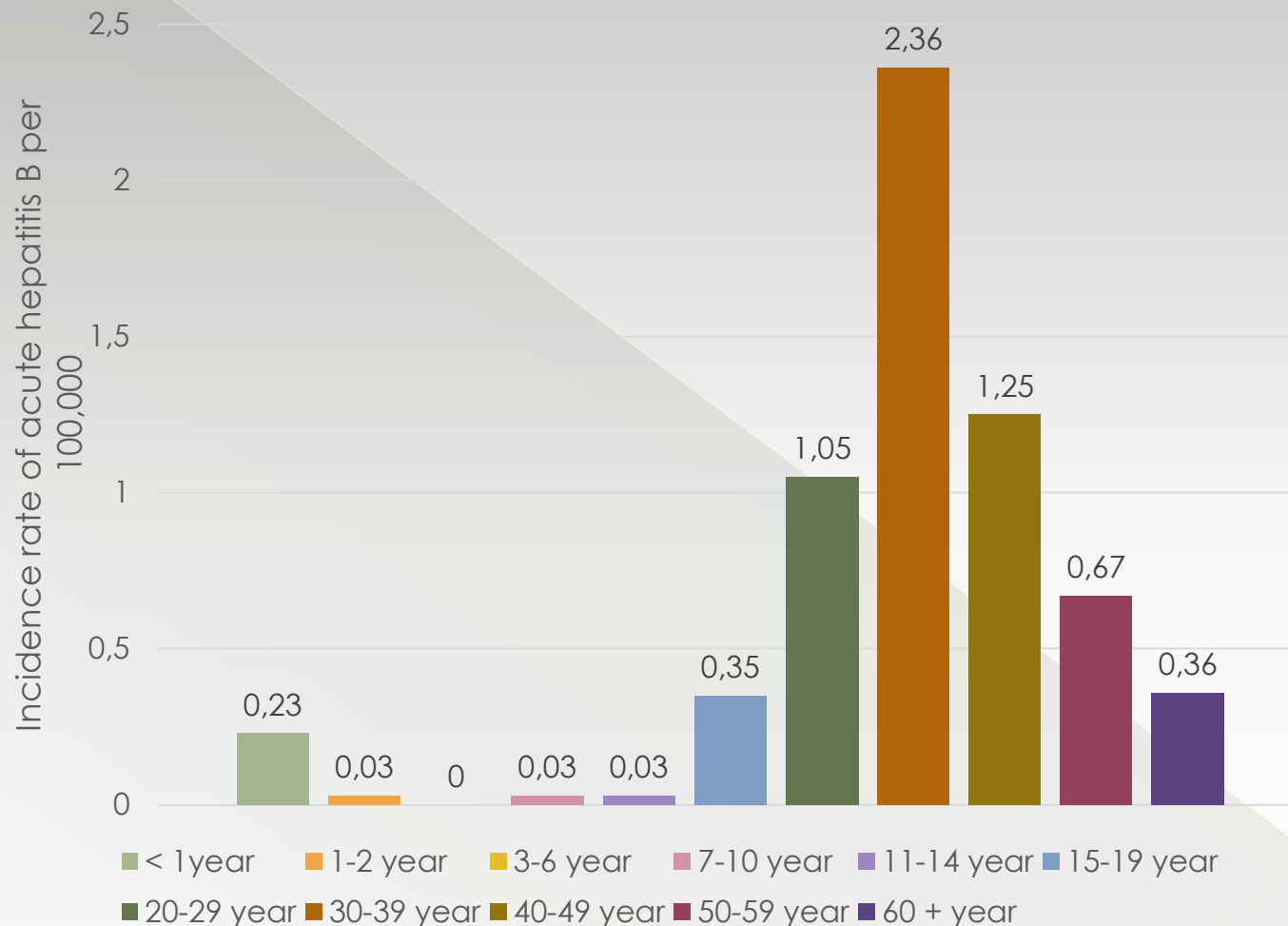
*Viral hepatitis in the Russian Federation (analytical review, issue 10), 2016  
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# Regions of Russia with the highest incidence rate of acute hepatitis B

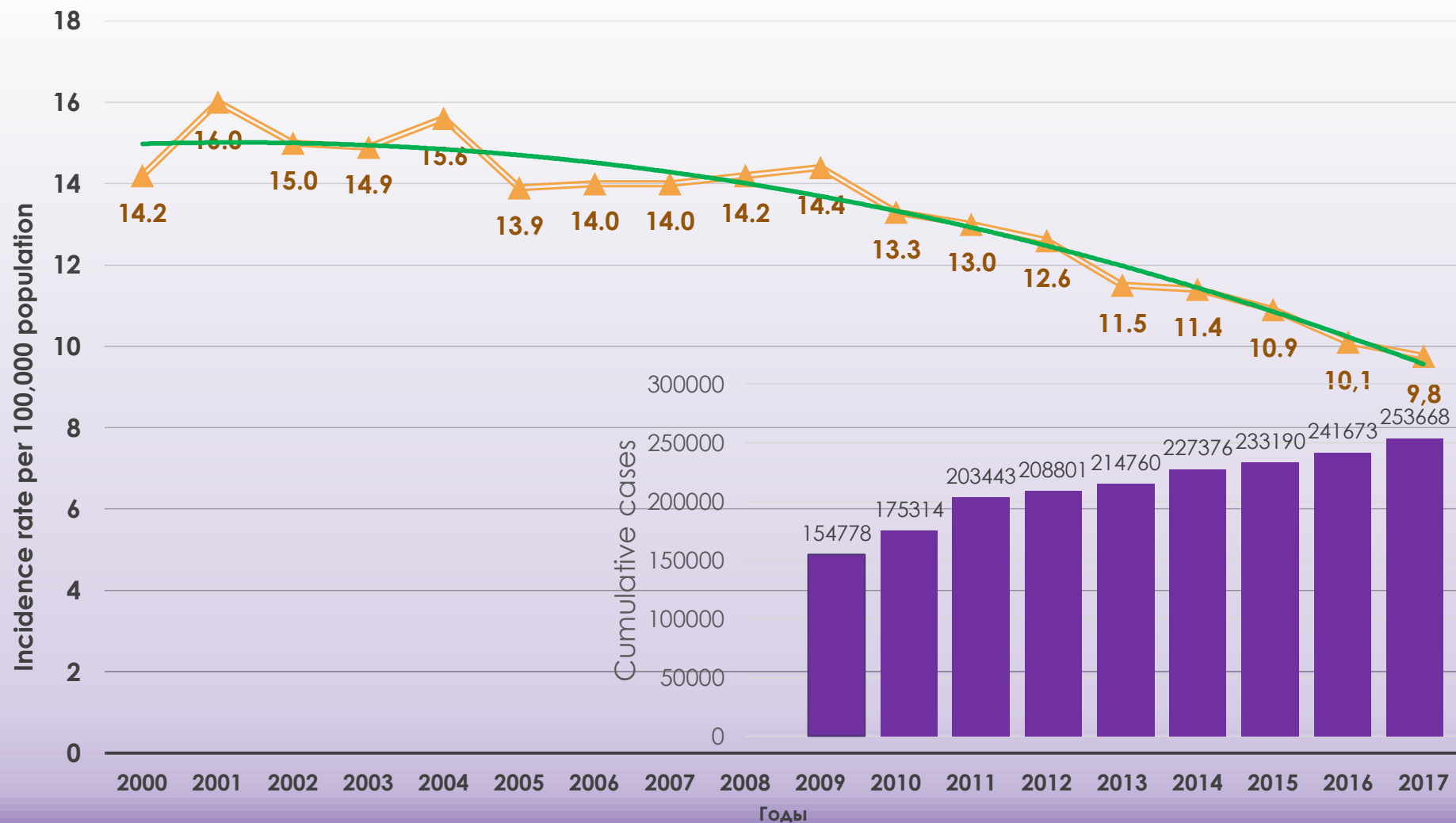
#	Region of RF	Incidence rate per 100,000 population	Increase/Decrease rate in 2012-2017, %
	<b>Russian Federation</b>	<b>0.86</b>	<b>-39.44%</b>
1	Sevastopol	3.79	-1.8 fold*
2	Republic of Crimea	3.04	-1.8 fold*
3	Vladimir region	2.80	3.32%
4	Rostov region	2.08	52.94%
5	Chukotsky Autonomous District	2.00	1.52%
6	Saratov region	1.85	1.1%
7	Tyumen region	1.77	-
8	Moscow	1.72	-1.6 fold
9	Kurgan region	1.40	-25.53%
10	Voronezh region	1.37	-11.04
11	Kaliningrad region	1.32	-3.6 fold
Data for the Republic of Crimea and the city of Sevastopol since 2014 and 2015, respectively.			

*From the State report "On the state of sanitary and epidemiological welfare of the population in the Russian Federation in 2017"*

# Incidence rate of acute hepatitis B in different age groups (Russia, 2017)



# Retrospective epidemiological analysis of the incidence rate of chronic hepatitis B in Russia

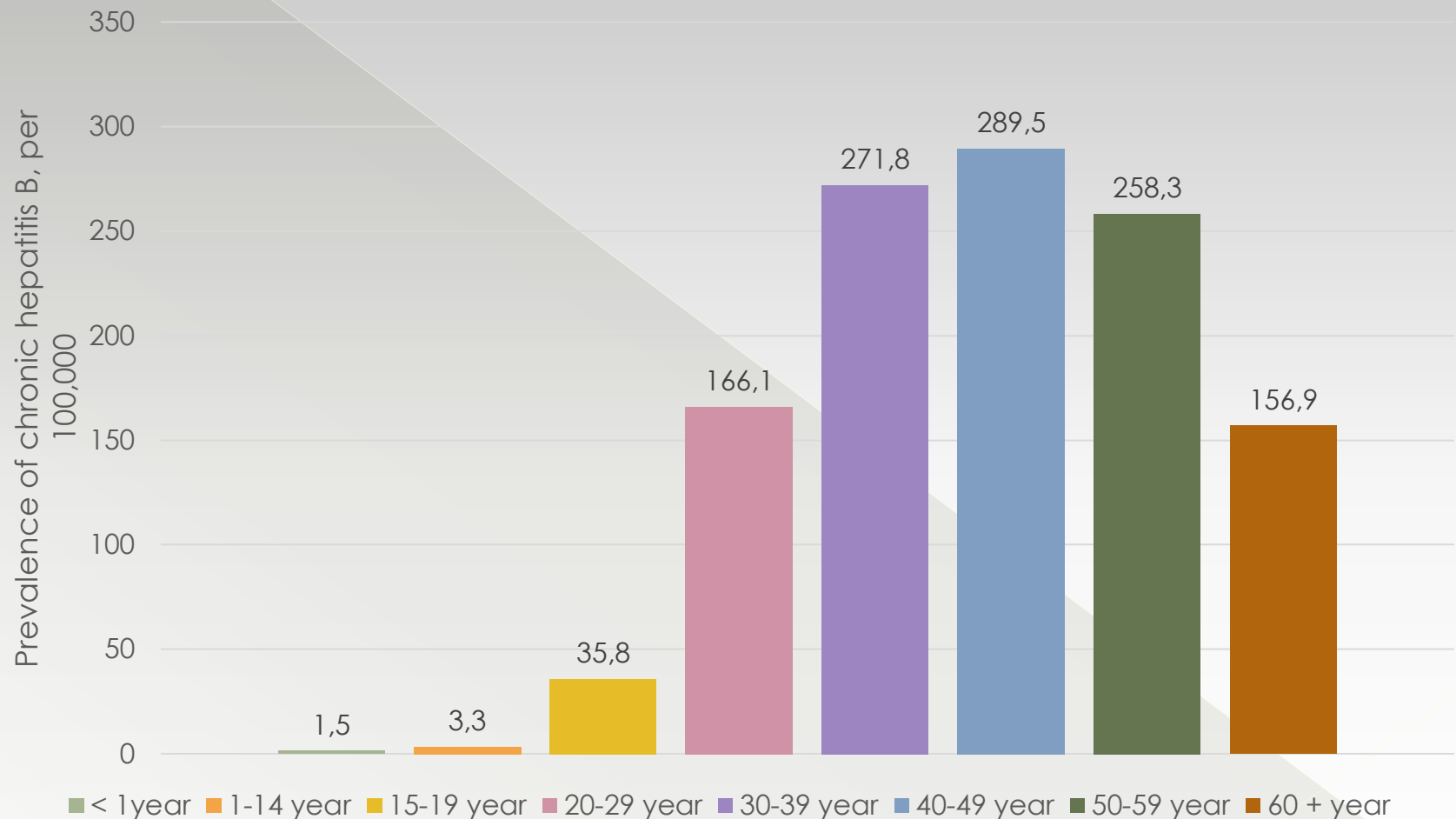


# Russian regions with the highest incidence rate of chronic hepatitis B

#	Region of RF	Incidence rate per 100,000 population	Increase/Decrease rate in 2012-2017, %
	<b>Russian Federation</b>	<b>9.94</b>	<b>−29.7</b>
1	Tyva Republic	61.72	−39.9
2	St. Petersburg	46.35	−42.6
3	Republic of Sakha (Yakutia)	35.84	−48
4	Kamchatka	21.29	−327.42
5	Sakhalin	20.72	<b>51</b>
6	Yamalo-Nenets Autonomous District	19.93	−103.7
7	Novosibirsk region	16.87	−33.9
8	Republic of Altai	16.76	−45.88
9	Republic of Kalmykia	16.73	−33.47
10	Khanty-Mansiysk Autonomous District	15.97	−8.58



# Prevalence rate of chronic hepatitis B in different age groups (Russia, 2017)





## State Report

# "On the state of sanitary and epidemiological welfare of the population in the Russian Federation in 2017"

The main measure of hepatitis B prevention continues to be the immunization of the population within the national calendar of preventive vaccinations.

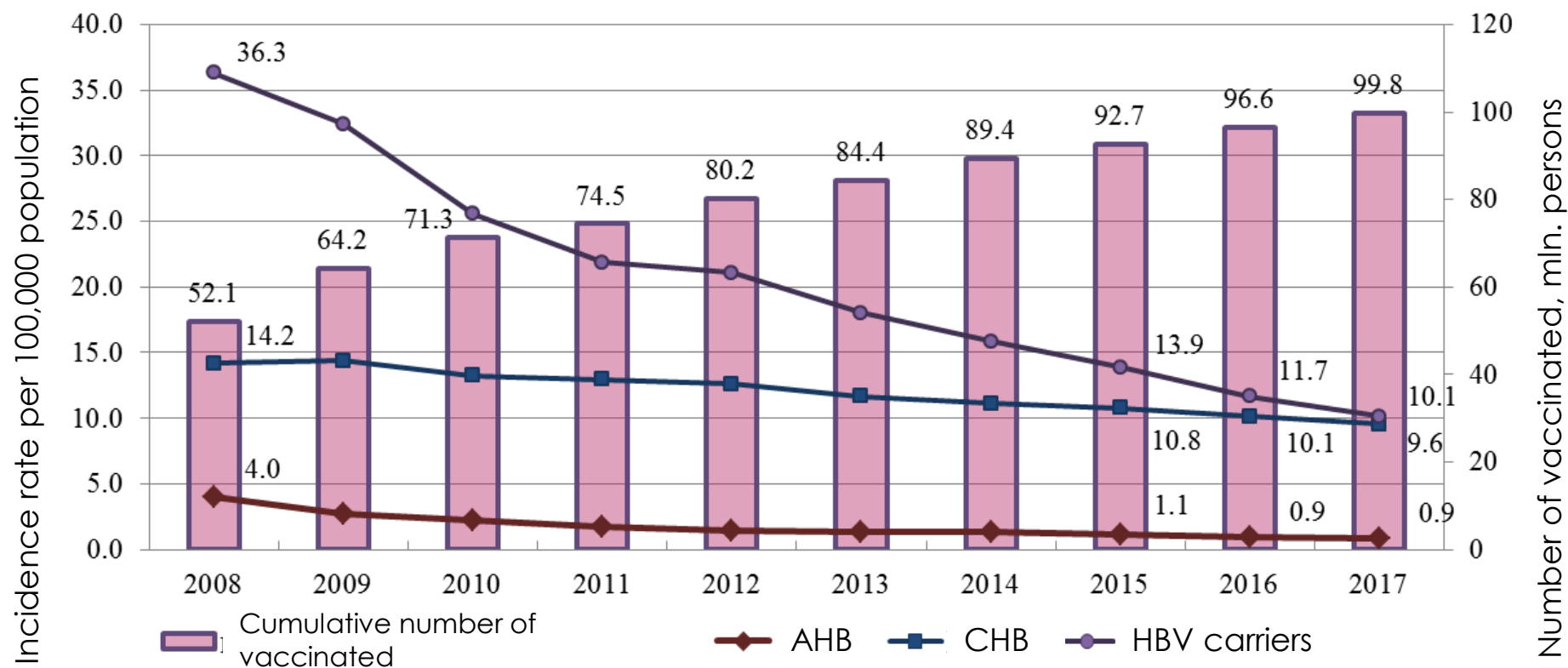
In 2017 about 3.27 mln persons in the Russian Federation were vaccinated against hepatitis B, including 1.77 mln children (in 2016, 3.9 mln persons were vaccinated).

The total number of persons vaccinated in the country since the beginning of the immunization program is about 100 mln.

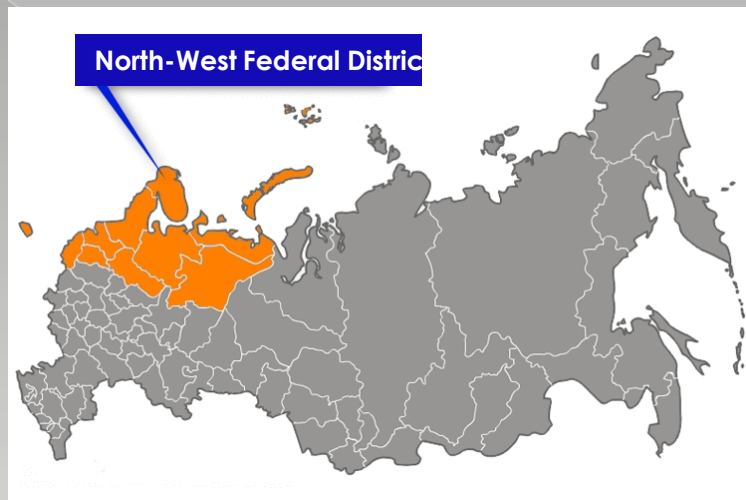
The timely coverage of vaccination against hepatitis B in newborns within the first 12 hours of their lives in 2017 was 97.15% (in 2016 - 96.9%); this rate has been kept at the level of 96.61-97.28% for the last 6 years.

In 2012-2017 the immunization coverage of the adult population increased from 88.53% to 95.31% among persons aged 18-35 years, and from 59.95% to 83.56% among persons aged 36-59 years.

The dynamics of the incidence rate of acute hepatitis B, chronic hepatitis B and the carrier state of hepatitis B virus, per 100,000 population, and the cumulative number of vaccinated against hepatitis B, million people



From State report "On the state of sanitary and epidemiological welfare of the population in the Russian Federation in 2017"



**A.B. Zhebrun**  
**1942-2015**



**S.L. Mukomolov**  
**1958-2015**

### **Step I: 2013 – 2015**

**Goal:** Drop of the incidence rate of acute hepatitis B to  $< 1,0$  per 100,000 population at 80% territories of North-West Federal District (**achieved**)

### **Step II: 2016 – 2018**

**Goal:** Achievement of the level of acute hepatitis B incidence  $< 1,0$  per 100,000 population in all territories of the Northwestern federal district due to the increase of the vaccination coverage rates and improvement of the epidemiological surveillance for chronic hepatitis B.

### **Step III: 2019 – 2022**

**Goal:** Reduction of the incidence rate of acute hepatitis B to 0 in most parts of the North-West Federal District, certification of territories for the elimination of acute hepatitis B.

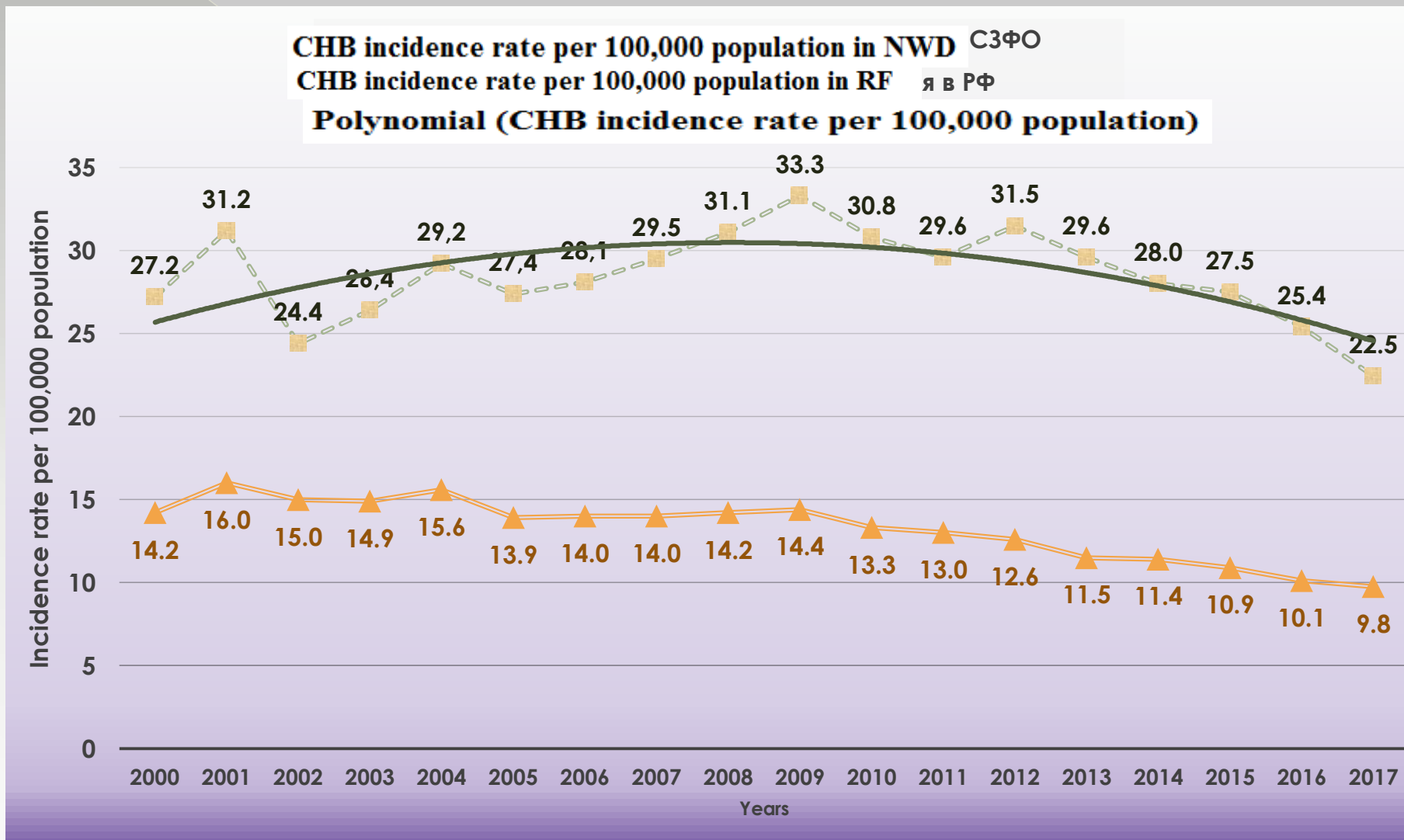
# Vaccination against Hepatitis B in Russia and in the North-West Federal District in 2016

Territory	12 month (timely),%	18 – 35 years, %	36 – 59 years, %
<b>Russian Federation</b>	<b>96.9</b>	<b>94.4</b>	<b>79.99</b>
<b>N.-W. Federal District</b>	<b>97.3</b>	<b>96.1</b>	<b>78.6</b>
Republic of Karelia	96.5	97.6	58.7
Komi Republic	96.8	95.6	75.7
Arkhangelsk region	96.0	93.2	60.0
NAO	88.7	90.0	80.3
Vologda region	96.98	96.7	87.5
Kaliningrad region	97.5	98.5	94.5
Leningrad region	97.3	95.5	75.8
Murmansk region	97.5	94.2	78.4
Novgorod region	97.4	89.5	69.8
Pskov region	96.6	98.6	76.7
St. Petersburg	97.9	97.5	86.0

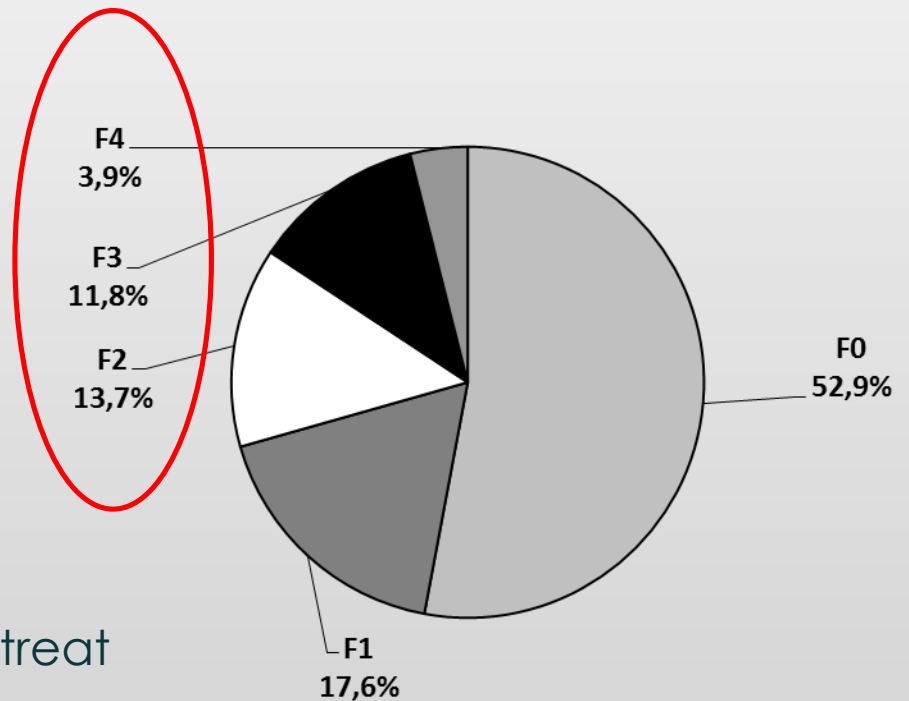
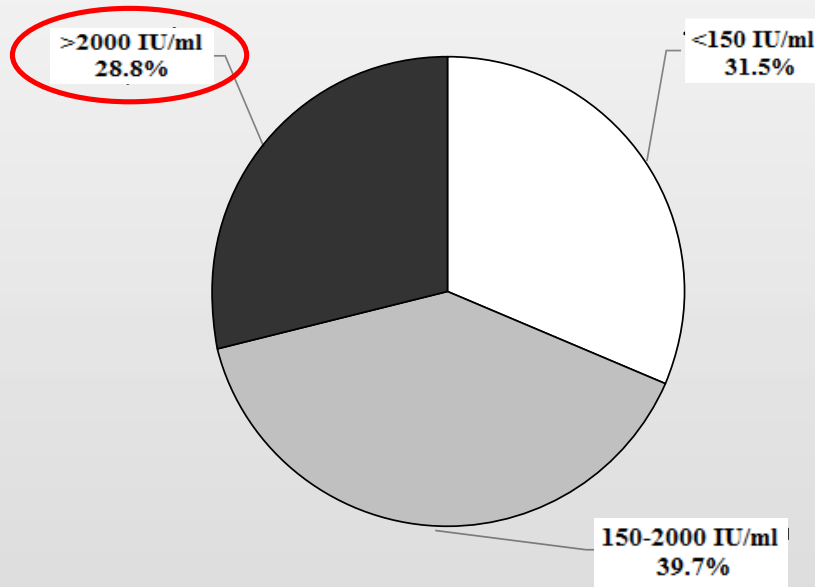
# Incidence rate of acute hepatitis B in the North-West Federal District in 2013-2017

Territory	2013		2014		2015		2016		2017	
	Cases	‰	Cases	‰	Cases	‰	Cases	‰	Cases	‰
Arkhangelsk region	3	0.26	0	0.00	4	0.35	6	0.53	2	0.18
Vologda region	9	0.75	9	0.75	4	0.34	5	0.42	10	0.84
Leningrad region	28	1.61	8	0.46	6	0.34	1	0.06	0	0.00
Pskov region	1	0.15	7	1.06	4	0.61	0	0.00	1	0.16
Republic of Karelia	3	0.47	4	0.63	4	0.63	4	0.63	1	0.16
Murmansk region	3	0.38	4	0.52	2	0.26	1	0.06	2	0.29
Novgorod region	5	0.80	3	0.48	3	0.48	3	0.49	4	0.65
NAO	1	2.35	0	0.00	0	0.00	1	2.29	0	0.00
St. Petersburg	91	1.82	89	1.75	43	0.83	42	0.81	37	0.71
Kaliningrad region	25	2.63	24	2.50	14	1.45	8	0.82	13	1.32
Komi Republic	8	0.90	11	1.26	12	1.38	8	0.83	5	0.59
N.-W. Federal District	177	1.29	159	1.16	96	0.69	81	0.58	75	0.51

# Retrospective epidemiological analysis of the incidence rate of chronic hepatitis B in Russia and North-West Federal District



# HBeAg-negative chronic hepatitis B – need for medical treatment

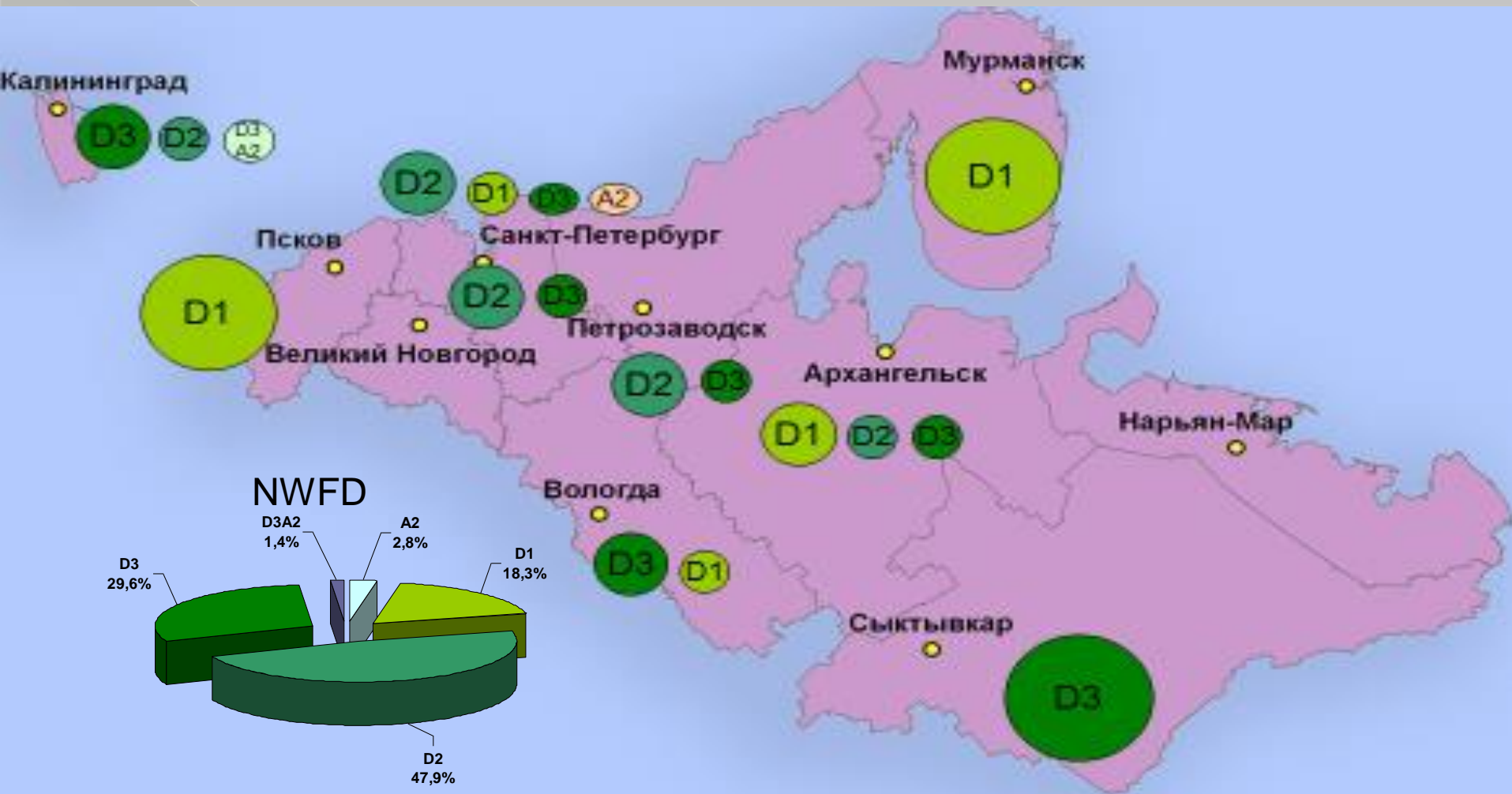


- Prevailing therapy type
- Rapidly progressive and difficult to treat
- 22-50% patients require antiviral therapy

Need for medical treatment – 14400 people



# HBV subgenotypes in the North-West Federal District



# Conclusion

1. Expansion of the vaccination coverage of the adult population
2. Defining of causes of high percentage of seronegative persons after vaccination
3. Introduction of III generation vaccines
4. Use of modern laboratory methods for hepatitis B diagnostics, including highly sensitive test systems, in medical organizations
5. Making modern antiviral therapy more easily available and extensive in its coverage

# Thank you for your attention!

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