



# ETAGE Working Group on Hepatitis B and progress of countries of the WHO European Region towards validation of hepatitis B control targets

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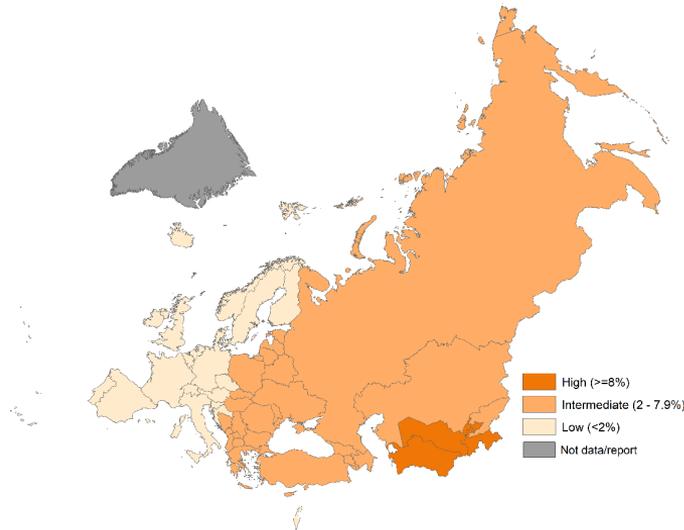
*Robert Koch Institute, WHO CC for viral hepatitis and HIV*



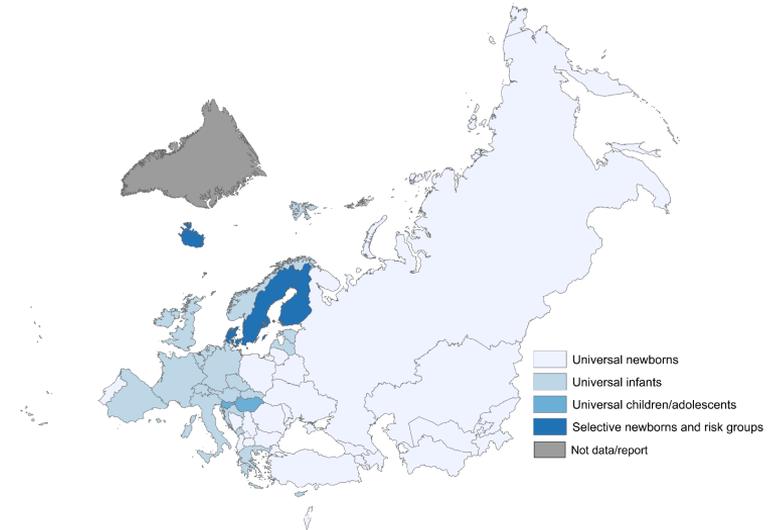


# WHO European Region

## Endemicity of hepatitis B before introduction of vaccination



## Hepatitis B vaccination policy, 2022



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.  
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Source: WHO Database  
Updated on: 22 Oct 2019  
Map Production: Vaccine-preventable Diseases and Immunization (VPI),  
Division of Health Emergencies and Communicable Diseases (DEC),  
World Health Organization Regional Office for Europe.



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Source: WHO Database  
Updated on: 26 July 2021  
Map Production: Vaccine-Preventable Diseases and Immunization (VPI),  
Division of Country Health Programmes (CHP),  
World Health Organization Regional Office for Europe.



Source: Polaris Observatory Collaboration, *Lancet*, 2018; Goldstein ST et al., *Int J Epidemiology*, 2005; data from neighboring countries (for AND, MON, SMR)

Source: WHO/UNICEF JRF 2021



## Regional hepatitis B control targets

- 95% coverage with three doses of vaccine
- 90% coverage with interventions to prevent perinatal transmission
- $\leq 0.5\%$  HBsAg prevalence in cohorts born after introduction of universal vaccination



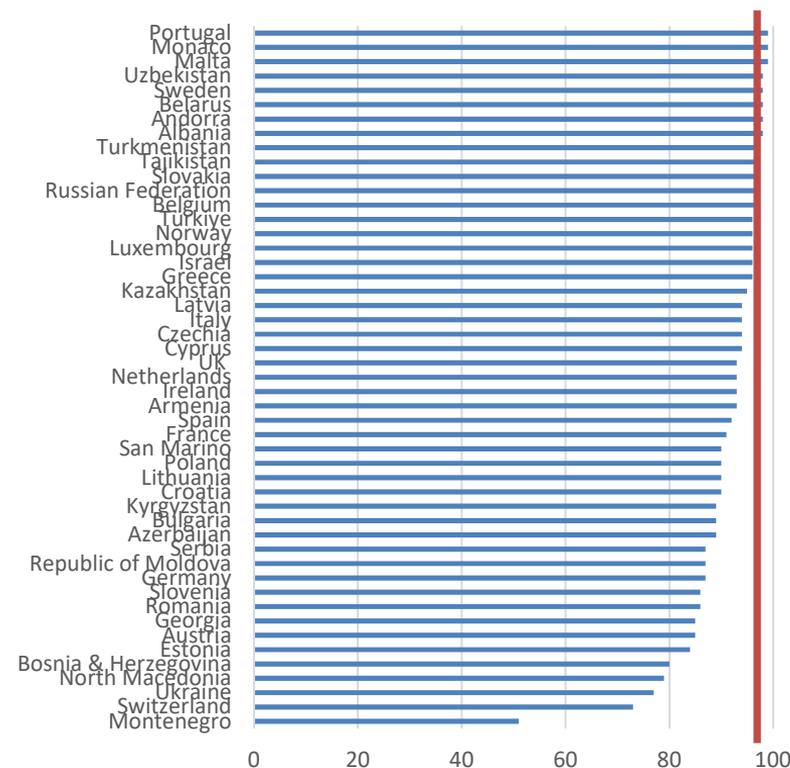


# Progress in reaching regional hepatitis B control targets



## Reaching 95% hepB3 coverage, WHO European Region, 2021

Status	Number of countries
Reached	19
Not reached	30
No universal vaccination of infants	4
<b>Total</b>	<b>53</b>

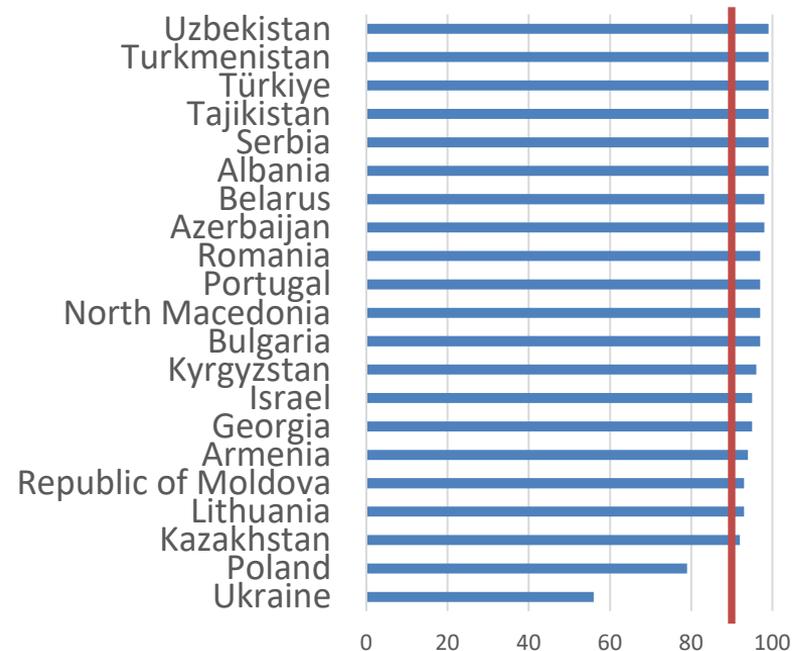


Source: *Hepatitis B vaccination coverage (who.int)*



## Reaching 90% hepB BD dose coverage, countries with universal newborn vaccination, 2021

Status	Number of countries
Reached	19
Not reached	2
No data	2
Total	23





# Reaching coverage with prenatal screening and selective vaccination of newborns, countries that do not implement universal newborn vaccination, 2021

## 90% coverage with prenatal screening for hepB

Status	Number of countries
Reached	<b>13</b>
Not reached	<b>2</b>
No data	<b>13</b>
No universal screening	2
Total	30

## 90% coverage with timely hepB birth dose in children at risk

Status	Number of countries
Reached	<b>9</b>
Not reached	<b>1</b>
No data	<b>19</b>
Total	30

Source: ECDC Evidence Brief, 2022; countries validation reports, 2020; WHO EURO survey, 2018-19



## Serosurveys to demonstrate $\leq 0.5\%$ HBsAg prevalence in cohorts born after introduction of hepB vaccination

Country	Age group, years	Prevalence, % (95% CI)	Year
Belarus	6-13	<0.1% (upper bound $\leq 0.5$ )	2022
Georgia	5-17	<0.1% (upper bound $\leq 0.5$ )	2021
Kyrgyzstan	10-11	<0.5% (upper bound $\leq 0.5$ )	2022
Moldova	6-7	<0.5% (upper bound $\leq 0.5$ )	2020
Spain	2-80	0 cases in children aged 2-19 years; 0.22 (0.1-0.3) in persons aged 20-80 years	2017-2018
Tajikistan	1-24	0.4 (0.1-1.3) in children born after coverage reached 80%	2010
Turkmenistan	10-13	<0.5% (upper bound $\leq 0.5$ )	2022
Uzbekistan	6-9	<0.5% (upper bound $\leq 0.5$ )	2022

Source: countries validation reports, 2020-2022



# Validation of reaching hepatitis B control targets

The European Technical Advisory Group of Experts (ETAGE)

convened by the World Health Organization  
Regional Office for Europe has validated that



Italy

has reached regional targets for control of hepatitis B through immunization

This achievement greatly contributes to the goal of eliminating viral hepatitis as a public health threat throughout the European Region.

2 August 2021

On behalf of the European Technical Advisory Group of Experts

Professor Adam Finn  
Chair

Validation Report to Document the Achievement of the Regional Target for  
the WHO European Region

Country: \_\_\_\_\_ Contact Name: \_\_\_\_\_ Email Address: \_\_\_\_\_  
Telephone No: \_\_\_\_\_ Date: \_\_\_\_\_

**Section I. Background on country and hepatitis B vaccination policy**

- Percent of births in health facilities: \_\_\_\_\_%
- Percent of births attended by a skilled practitioner: \_\_\_\_\_%
- Do you provide universal hepatitis B vaccination?  Yes  No
  - If yes - go to question 4
  - If no - go to question 8
- What type of universal hepatitis B vaccination?
  - Universal newborn vaccination (all newborns receive birth dose of hepatitis B and additional doses)
  - Universal vaccination of children < 1 year of age (all children < 1 year of age receive vaccine; birth dose administered only to newborns who are at high risk of infection)  
Please specify newborns at high risk: \_\_\_\_\_
  - Universal children/teenagers vaccination (universal hepatitis B vaccination of children/teenagers; birth dose administered only to newborns who are at high risk of infection)  
Please specify newborns at high risk: \_\_\_\_\_
- Universal hepatitis B vaccination schedule history:
 

Schedules	Year	Age 1 <sup>st</sup> dose	Age 2 <sup>nd</sup> dose	Age 3 <sup>rd</sup> dose	A
Universal hepatitis B vaccination first introduced					4
Revision 1					
Revision 2					
- Specify recommended timing of hepatitis B birth dose in national policy documents (for dose to all newborns and countries that administer hepatitis B birth dose only to newborns at high risk of infection):  <24 hours  1-7 days  not defined
- Catch-up hepatitis B vaccination:  Yes  No  
If yes, indicate years and age groups that received catch-up vaccination (extend if needed):  
Year(s): \_\_\_\_\_ Age(s): \_\_\_\_\_  
Year(s): \_\_\_\_\_ Age(s): \_\_\_\_\_
- Hepatitis B vaccination provided to health care workers?  Yes  No
- Hepatitis B vaccination provided to high-risk groups (e.g. PWID, SW, etc.)  Yes  No  
a. If yes, specify which risk groups, and, if possible, service delivery model: \_\_\_\_\_



## European Technical Advisory Group

- Provides independent review and expert technical input to the Vaccine-preventable Diseases and Immunization programme of WHO/Europe to facilitate and accelerate eradication, elimination and control of vaccine-preventable diseases:
  - Advises WHO on operational aspects of strengthening hepatitis B control
  - Validates reaching control targets by countries and at regional level (Working Group on Hepatitis B)



## Validation process

- Initiated by country request
- Working Group:
  - reviews documents submitted by country
  - makes conclusions on reaching control targets
  - provides recommendations on strengthening / sustaining hepatitis B control
- ETAGE approves Working Group's conclusions and recommendations
- WHO Regional Office for Europe sends Validation Certificate and appreciation letter to Ministry of Health



Validation of reaching regional targets for control of hepatitis B through immunization in the WHO European Region



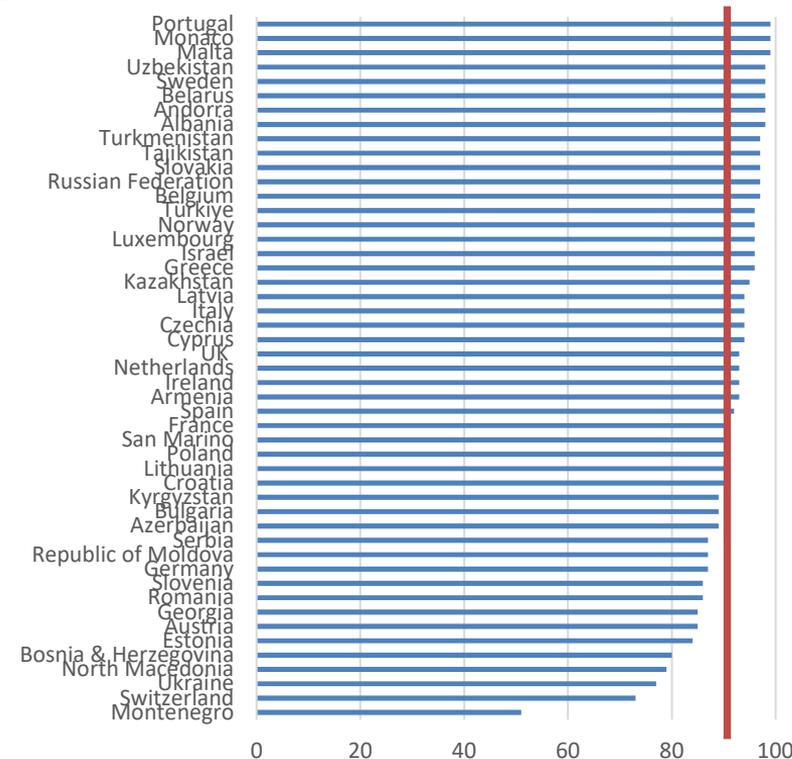
## Validation criteria

Areas of assessment	Criteria (all must be met)	Data source
Routine hepatitis B immunization	<b>≥90% coverage</b> among infants with ≥3 doses of hepatitis B vaccine	Routine reporting of coverage (last three years)
Prevention of mother-to-child transmission of HBV	<b>≥90% coverage</b> with timely HepB-BD <b>OR</b> perinatal HepB screening and PEP of children born to infected mothers	Routine reporting of coverage (last three years)
HBsAg seroprevalence	<b>≤0.5%</b> in cohorts eligible for vaccination <b>OR</b> data on screening of pregnant women for hepB (countries with low and very low hepB endemicity)	Serosurveys



## Validation criterion: 90% hepB3 coverage, WHO European Region, 2021

Status	Number of countries
Reached	<b>33</b>
Not reached	<b>16</b>
No universal vaccination of infants	4
<b>Total</b>	<b>53</b>



Source: [Hepatitis B vaccination coverage \(who.int\)](https://www.who.int)



## Validation criterion: HBsAg prevalence in pregnant women in countries that do not implement universal newborn vaccination

Country	HBsAg prevalence range, %	Years
Croatia	0.1-0.2	2015-2018
Italy (regional level)	0.2-0.4	2009-2015
Netherlands	0.3	2012-2016
UK	0.1-0.2	2015-2019

*Source: countries validation reports, 2018-2022*



# Current status of validation of hepatitis B control targets

## Validated: 9

- Belarus
- Georgia
- Italy
- Kyrgyzstan
- Republic of Moldova
- Netherlands
- Turkmenistan
- United Kingdom
- Uzbekistan

## Provisionally validated: 1

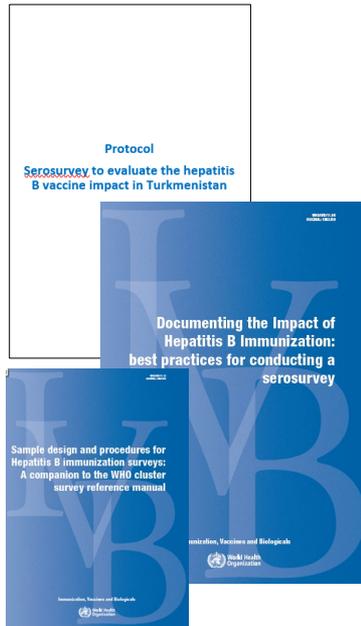
## Not initiated: 43





# Materials to plan and conduct a serosurveys

## Protocols including study documentation examples



## Sampling tool (MS Excel) and training materials

### Instructions

#### Steps:

1. Enter the previously calculated sample size per district and the agreed cluster size in the frame below.
2. Complete the table by entering the number of 5th grade children in 2020.
3. The average size and the proportions of the age cohorts will be calculated automatically.
4. The number of children and clusters needed for the survey will be calculated automatically.

Data needed: demographic data

Sampling stage: preparation

Area covered: all districts

Sample size per urbanisation level:	1200
Cluster size:	40

Urbanisation level	Region	number of 5th grade children in 2020		Proportion of 5th grade children in 2020		Needed for survey	
		Per stratum	Total	Per stratum	Number of children	Number of clusters	
Metropolitan	Balkan	3091		10%	131	4	
	Dasoguz	3444		11%	147	4	
	Lebap	2944	30324	13%	168	5	
	Mary	3672		12%	156	4	
Urban	Ashgabat	6173		53%	688	18	
	Ahal	6863		24%	307	8	
	Balkan	3478		12%	165	4	
	Dasoguz	5015	28930	17%	224	6	
	Lebap	8531		25%	360	10	
	Mary	5023		17%	224	6	
Rural	Ahal	12027		16%	200	6	
	Balkan	3564		5%	59	2	
	Dasoguz	21629	77503	28%	360	10	
	Lebap	17120		22%	285	8	
	Mary	23163		30%	386	10	

## EpiData Entry Mask examples and training materials

### Раздел В (передать национальному координатору)

#### Общая информация:

ИН          

Наличие формы 063/У и 026/У

Если Да: Дата извлечения данных (дд.мм.гггг)

ФИО специалиста, проводящего анкетирование

#### Демографические данные:

Пол

Дата рождения (дд.мм.гггг)

Возраст (полных лет)

Страна рождения

Если другая: Дата переезда в Туркменистан (дд.мм.гггг)

#### Полный статус против вирусного гепатита В:





## WHO EURO support to countries

- Advocacy for strengthening hepatitis B control and reaching regional targets
- Guidance and support in improving immunization coverage
- Guidance on hepatitis B serosurvey methodology and support in conducting studies
- Support in sharing experiences between countries

## US CDC and RKI support to WHO and countries in WHO European Region

- Technical (and financial) support in planning and conduction of serosurveys



## Take home messages

- Progress achieved in implementation of hepatitis B vaccination and prevention of perinatal transmission of hepatitis B virus
- Data availability limits validation of potentially already reached targets
- Additional efforts are needed to reach hepatitis B control targets and validate their achievement:
  - Increasing hepB3 coverage
  - Improving monitoring of coverage with interventions to prevent perinatal transmission of hepatitis B
  - Conducting serosurveys to evaluate the impact of hepatitis B vaccination in countries with high and intermediate endemicity of hepatitis B before vaccination
- Guidance, technical and (financial) support available



**Thank you!**