

# Childhood Cancer Country Profile

## NORTH MACEDONIA

### 1 – Epidemiology

#### NUMBER OF CASES: 35

In 2022, an estimate number of 35 patients aged 0 to 19 years were diagnosed with cancer: 29 girls and 46 boys.



 13,800 new cases (6,241  – 7,559 .

**Warning:** These are estimates provided by the European Cancer Information system. There are no data available on the incidence of each paediatric malignancy. <https://ecis.jrc.ec.europa.eu>, accessed on 19/March/2024 © European Union, 2024.

They may not match with data from population-based registration at the country level.

#### 5 - YEAR OVERALL SURVIVAL

##### Disclaimer:

The OCEAN Project uses EURO CARE-6<sup>1</sup> population-based study data for 5-year overall survival rates; however, North Macedonia was not analyzed in this study, thus survival data for Bosnia and Herzegovina is unavailable.

EURO CARE-6 pool survival estimate = 83.1%.

(1) Botta, L., Gatta, G., Capocaccia, R., Stiller, C., Cañete, A., Dal Maso, L., & EURO CARE Working Group. (2022). Long-term survival and cure fraction estimates for childhood cancer in Europe (EURO CARE-6): Results from a population-based study. *The Lancet Oncology*. [https://doi.org/10.1016/S1470-2045\(22\)00637-4](https://doi.org/10.1016/S1470-2045(22)00637-4)

## 2 – Organisation of Care

This section focuses on the organization of care in North Macedonia. The country has one institution treating children and young people with Cancer. These institutions were categorized as "other centers", this includes paediatric university hospitals, paediatric general hospitals, university hospitals with paediatric units, or general hospitals with paediatric units that also provide treatment for children with other diseases. This institution is not considered a Cancer Center<sup>2</sup>.

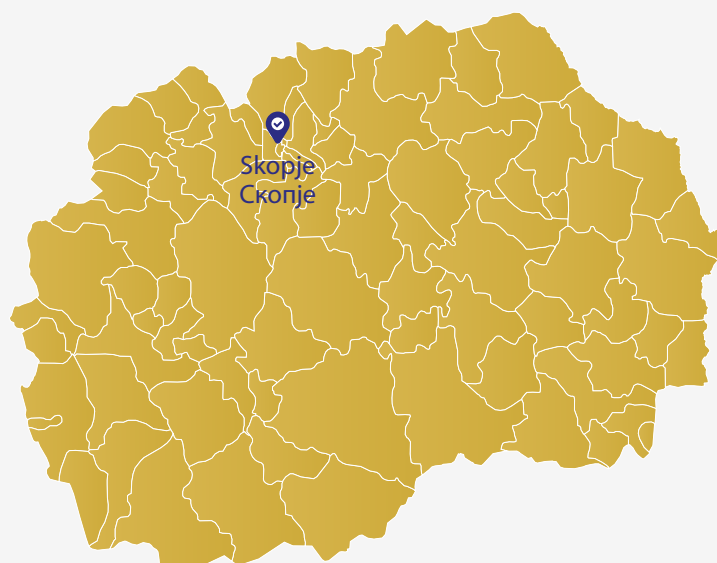
### TREATMENTS:

	Chemotherapy Inpatient	✓
	Chemotherapy Outpatient	✓
	Surgery Solid Tumours	✓
	Surgery Central Nervous System	✓
	Autologous SCT <sup>3</sup>	✗
	Allogeneic SCT <sup>3</sup>	✗
	Photon Radiation Therapy	✓
	Proton Radiation Therapy	✗
	Brachytherapy	✗
	New Treatment (Phase I/II Trials)	✗
	Any Clinical Trials	✓
	Survivorship Care Clinic	✗
	Palliative Care	✓

✓ Available in the country for children and young people with cancer

✗ Not available in the country for children and young people with cancer

⊖ Missing information



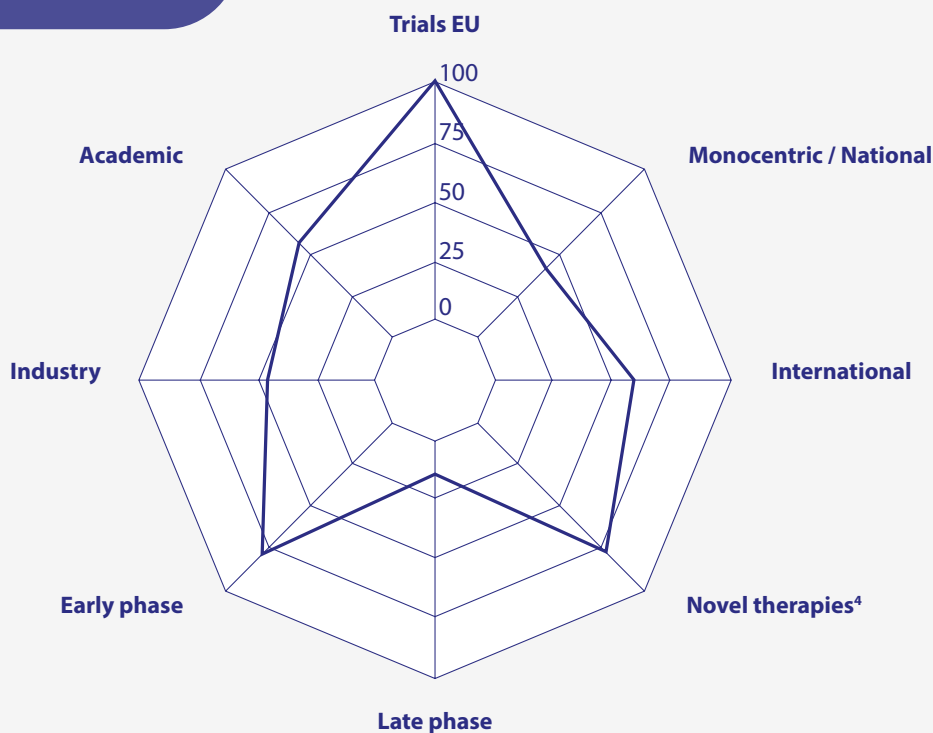
7 out of 13 infrastructural aspects and treatment modalities in the scope of the OCEAN project are available within the country.

(2) Cancer centres were defined as hospitals treating cancer patients only; this can be for children only or both adults and children.

(3) Stem Cell Transplant

# 3 – Research

## CLINICAL RESEARCH PROFILE:



North Macedonia  
(n=0)

All Europe  
(n=436)

### North Macedonia

From 2010 to 2022, 436 clinical trials enrolled children and young people in Europe:  
**None of those trials were conducted in North Macedonia**

Characteristics	North Macedonia		Europe	
› Number of available trials	0		436	
LOCATION TYPE				
› Monocentric / National	-	-	181	42%
› International	-	-	255	58%
› Use of novel therapies	-	-	332	76%
PHASE <sup>5</sup>				
› Early phase	-	-	334	77%
› Late phase	-	-	68	16%
SPONSOR				
› Academic	-	-	239	55%
› Industry	-	-	197	45%

(4) targeted, immune-, or cell therapies.

(5) The percentages of trials by phase do not sum up 100, as phase 4 and "other type" of trials such as feasibility trials are not included.

## Disclaimer

**The content of this document has undergone validation by the North Macedonian Country Operating Team (COT).**

The following information was obtained within the framework of the OCEAN project, which sought to describe the organization of Care and Research for children and adolescents across Europe. It does not provide information on the access or quality of care for children and adolescents with cancer at a particular care center.

The OCEAN project does not include details on whether a center is certified or accredited.

Members of the Project Steering Committee were from the SIOPE and CCI-Europe boards.

This work was performed as part of the Coordination and Support Action (CSA) "4.UNCAN.eu."



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them

## Short Methodology

**The OCEAN project studied 38 European countries, including all 27 EU member states plus 11 countries that are part of the SIOPE and/or CCI-E networks.**

The epidemiological data were collected from the European Cancer Information System site <https://ecis.jrc.ec.europa.eu>, accessed on 19/march/2024 © European Union, 2024. These data are estimates and not crude population based data. They may differ from the population-based data available at the country level. There is a need for a comprehensive and accurate population based registration of cancer incidence and mortality in children and young people across Europe using ICCC.

For the organization of care, a cross-sectional questionnaire-based survey was conducted. Country Operating Teams (COT) were formed, including a senior paediatric oncologist, Chair of the National Paediatric Hemato Oncology Society, a Young SIOPE member (representing an early career paediatric oncologist), and a patient or parent advocate from CCI-Europe. The survey consists of 29 questions across six thematic sections. The survey covered topics such as organizational and national care levels, care delivery, active treatment, care for adolescents and young adults (AYA) with cancer, follow-up care, and patient representatives/parents.

For the organization of research, the ClinicalTrials.gov database was searched to identify all European cancer clinical interventional studies that allowed inclusion of paediatric patients and adolescents (<18 years) and that started between 2010 and 2022. Only European trials (with open sites at ≥1 European countries) were included.

A quality review was performed by three investigators. The selected trials were subsequently reviewed by the SIOPE's European Clinical Trial Groups (ECTGs), which were asked to remove and/or propose additional trials if any were missing.

All European results are published (details and link when available)

- References of the papers when available



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