Europe and Central Asia:

Evaluation of Immunization Programming at System Level

2018-2023

Country Evaluation Report

for Bosnia and Herzegovina

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Acronyms

BD – Brčko District

BiH – Bosnia and Herzegovina

CCE – Cold Chain Equipment

CMoH – Cantonal Ministry of Health

CO – Country Office

CPHI – Cantonal Public Health Institute

CSO – Civil Society Organization

DHOS – Department for Health and Other Services (Brčko District)

DTP – Diphtheria, Pertussis, and Tetanus

ECA – Europe and Central Asia

ERG – Evaluation Reference Group

EU – European Union

EVM – Effective Vaccine Management

FBiH – Federation of Bosnia and Herzegovina

HPV – Human Papillomavirus

IPC – Interpersonal Communication

IZIS – Health Integration Information System

KEQ – Key Evaluation Question

KIIs – Key Informant Interviews

MCV – Measles-containing Vaccine

MMR – Measles, Mumps, and Rubella

MoH FBiH – Federal Ministry of Health, Federation of Bosnia and Herzegovina

MoHSW RS - Ministry of Health and Social Welfare of the Republika Srpska

M&E – Monitoring and Evaluation

NIP – National Immunization Program

OECD/DAC – Development Assistance Committee of the Organisation for Economic Cooperation and Development

PHI – Public Health Institute

PHC – Primary Healthcare

PQS – Performance Quality and Safety

RS – Republika Srpska

SBC – Social and Behavioural Change

SOPs – Standard Operating Procedures

ToC – Theory of Change

ToR – Terms of Reference

UMIC – Upper-Middle Income Country

UNICEF – United Nations Children's Fund

USAID – United States Agency for International Development

VLMIS – Vaccine Logistics Management Information System

WHO – World Health Organization

WUENIC – WHO/UNICEF Estimates of National Immunization Coverage

Executive Summary

Introduction

1. In September 2023, the Europe and Central Asia Regional Office (ECARO) of the United Nations Children's Fund (UNICEF) launched an evaluation of immunization programming in the region at system level. The decision to undertake this evaluation marked a recognition of the critical importance and central role of immunization in the attainment of Sustainable Development Goal (SDG) 3 "to ensure healthy lives and promote well-being at all ages" (and the accompanying SDG Target 3.b which includes providing access to vaccines).

2. The regional evaluation includes a set of five country evaluations of UNICEF immunization programming in Bosnia and Herzegovina, Kyrgyzstan, Kosovo, Moldova, and Tajikistan.[1] This report presents the results of the evaluation conducted in Bosnia and Herzegovina (BiH). Its purpose is to provide an independent and rigorous assessment of UNICEF's results to date in contributing to immunization systems in BiH in their efforts to maximize immunization coverage (including strengthening the protection of children from vaccine-preventable diseases (VPDs)). The regional and country evaluations pursue the following four specific objectives:

- To assess the impact of immunization programming, looking at both supply and demand, and to understand what worked and what did not in the covered period in terms of improving immunization coverage;
- To determine the effectiveness, impact, coherence, relevance, sustainability and efficiency of immunization programming with a system's lens;
- To examine the contribution of UNICEF's work to national and sub-national progress (outcomes and impact) in immunization coverage, especially for hard-to-reach individuals/communities; and
- To draw lessons and provide recommendations to further support national governments in their efforts to strengthen immunization programming within healthcare systems.

Scope of the Evaluation

3. The evaluation addresses both the effectiveness of the immunization systems in BiH and UNICEF's contribution to reinforcing those systems to ensure they are well organized and financed to reach out to every child with life-saving vaccines. It covers the period from 2018 to 2023 and thus includes UNICEF's provision of support to the response to the COVID-19 pandemic. The evaluation covers the operation of immunization programmes and activities in the Federation of Bosnia and Herzegovina (FBiH) and its cantons, Republika Srpska (RS) and Brčko District (BD), as well as local points of delivery for vaccine services.

Intended Evaluation Audience and Evaluation Management and Governance

4. The primary stakeholders and users of the evaluation are UNICEF BiH and health authorities in BiH, especially those engaged in all aspects of immunization programming including needs forecasting,

[1] References to Kosovo in this document shall be understood in the context of Security Council Resolution 1244 (1999).

procurement and storage, primary healthcare (PHC) service delivery, disease surveillance and response, and health promotion. The evaluation was jointly managed by the Evaluation Unit of the ECARO of UNICEF and the UNICEF Country Office (CO) in BiH. Throughout, the process relied on the guidance, support, and advice of the Evaluation Reference Group (ERG), memberships of which comprises representatives of the UNICEF CO and ministries of health or other health authorities of the FBiH, RS, and BD.

Evaluation Criteria and Key Evaluation Questions

5. The evaluation assessed immunization programming in BiH using six evaluation criteria developed by the Development Assistance Committee of the Organisation for Economic Cooperation and Development (OECD/DAC) and adopted and refined by the United Nations Evaluation Group (UNEG). In line with these criteria, the evaluation addressed 12 key evaluation questions (KEQs), as described in full in Section 1.0 of the report.

6. With respect to the aforementioned six criteria, under ***Relevance***, the evaluation examined the adaptability and responsiveness of UNICEF's support of the immunization systems in BiH as well as the suitability and effectiveness of its institutional role in encouraging immunization. Meanwhile, addressing ***Coherence*** involved assessing the alignment of UNICEF's support with strategies, policies, and programmes on immunization as well as the extent to which UNICEF-supported initiatives have been integrated into the immunization systems of FBiH, RS, and BD. In relation to the *Effectiveness* criterion, the focus was on UNICEF BiH's capacity to support the immunization systems in BiH and the effectiveness of that support in terms of strengthening the healthcare systems and reaching underserved populations to improve equity.

7. To assess the *Sustainability* criterion, the evaluation examined both the institutional and financial sustainability of the immunization systems in BiH and the role of UNICEF's support in strengthening both. Under the *Efficiency* criterion, the evaluation assessed the effect of UNICEF's support on the systems' capacity to identify and address bottlenecks and inefficiencies that may limit immunization coverage. Finally, the evaluation used the *Impact* criterion, assessing trends in immunization over time, their likely impact on reducing VPD prevalence, and the contribution made thereto by UNICEF.

Approach and Methodology

8. This evaluation applied a theory-based approach utilizing a theory of change (ToC) for UNICEF's support of immunization, developed as a regional model but used (in consultation with the COs) to define the KEQs. Contribution analysis (CA) was the main analytical model applied during the evaluation. Meanwhile, data collection and analysis followed a mixed-method approach at the country level, combining document and quantitative data reviews with key informant interviews (KIIs) and observational site visits to a sample of offices, warehouses, distribution centres, and immunization service delivery sites. Data collection was undertaken from April to June 2024, followed by an internal team data consolidation workshop in Istanbul (involving all five country teams) and further analysis during July and August 2024.

Conclusions

9. The evaluation resulted in 20 detailed evaluation findings, responding to all of the KEQs and sub-questions. Those findings are directly reflected in, and support, the evaluation conclusions presented here. The numbers of the findings forming the basis of each evaluation conclusion are presented in brackets at the end of each one. Unless a conclusion specifically refers to one or more of the three jurisdictions (BiH, RS, and BD) by name, it refers to a persistent pattern of findings across all three jurisdictions.

10. **Conclusion 1:** UNICEF has played an important role in identifying and addressing systemic gaps in BiH's immunization systems. Through assessments of cold chain infrastructure, effective vaccine management (EVM), digitization of immunization records, and pinpointing the social and behavioral drivers affecting vaccine uptake, UNICEF's support has been used to guide health authorities toward evidence-based solutions. This support has contributed to improvements in vaccine delivery, the introduction of digital immunization records, and the enhancement of healthcare workers' capacity to engage with communities, albeit challenges remain in fully institutionalizing these advances. **[Findings 1, 3, 7, 9].**

11. **Conclusion 2:** UNICEF's investments in upgrading cold chain infrastructure and systems and procedures regarding vaccine management and its support for the digitalization of immunization reporting data have contributed to strengthening the resilience of the healthcare systems in BiH. The introduction of web-based tools for vaccine management and digital records in the RS and plans for similar systems in FBiH and BD have the potential to improve vaccine tracking (including patient tracking, cold chain equipment (CCE) monitoring, remote temperature monitoring, and stock monitoring and management), reduce wastage, and enhance service delivery. However, the sustainability of these improvements in all three jurisdictions is contingent on continued health authority investment and coordination, particularly in maintaining CCE post-warranty and improving the quality, level of disaggregation, and timeliness of vaccine coverage reporting data. In addition, evaluation service managers in all three jurisdictions need to build their capacities in the use of improved data for evidence-based decision making if the potential of digitalizing vaccine records is to be realized. **[Findings 5, 13, 15, 19, 20].**

12. **Conclusion 3:** UNICEF's role in supporting and enhancing immunization programming in BiH has been highly regarded. Indeed, its ability to foster effective collaboration between and among health authorities, civil society organizations (CSOs), and international partners such as the EU[2], USAID[3], and the WHO[4] has been pivotal. By coordinating efforts during the COVID-19 pandemic and leading key initiatives like the rehabilitation of cold chain infrastructure and the promotion of electronic health records, UNICEF has contributed to minimizing duplication of efforts and maximized the impact of available resources. However, the overstretched capacity of the UNICEF CO's health and social and behavioural change (SBC) teams underscores the need for sustained support to avoid burnout and ensure long-term effectiveness. **[Findings 4, 6, 8, 16].**

13. **Conclusion 4:** Vaccine hesitancy, fueled by misinformation, remains a significant barrier to improving immunization coverage in BiH, particularly for MMR and COVID-19 vaccines. While UNICEF-

[2] The European Union.
[3] The United States Agency for International Development.
[4] The World Health Organization.

supported activities have made progress in addressing such hesitancy through media campaigns, community outreach, and the training of healthcare workers, these efforts need to be scaled-up to counteract entrenched misinformation, particularly in marginalized communities such as the Roma populations. In particular, there is a gap when it comes to utilizing data from social listening and other SBC-based research in community engagement programmes and strategies. Furthermore, healthcare workers require ongoing support to enhance their communication skills and effectively address parental concerns about vaccine safety. **[Findings 11, 12, 14, 18].**

14. **Conclusion 5:** UNICEF has effectively mobilized CSOs to promote vaccine awareness, especially among vulnerable groups. Initiatives such as SMS reminders, community events, and partnerships with Roma organizations have improved vaccine uptake in underserved areas. However, inequities in access to immunization services persist, particularly in remote and border regions where healthcare infrastructure is weaker and populations are more mobile. Addressing these inequities requires continued efforts to integrate community-level interventions with immunization strategies and programmes in each jurisdiction. **[Findings 2, 10, 12].**

15. **Conclusion 6:** UNICEF's support in terms of training healthcare workers in interpersonal communication has equipped frontline staff with the skills to better engage with parents and caregivers. However, the integration of these skills into formal medical education and ongoing professional development remains limited. To ensure long-term sustainability, there is a need to institutionalize training on vaccine promotion and communication within medical curricula, and for continuous professional education programmes for healthcare workers. **[Findings 2, 12, 14].**

16. **Conclusion 7:** UNICEF's collaboration with health authorities has led to improvements in BiH's immunization systems, particularly in cold chain management and EVM assessments. However, persistent challenges remain in implementing SBC strategies and addressing systemic healthcare issues, including gaps in stock management, real-time temperature monitoring, and preventive maintenance of CCE, especially in BD. To achieve comprehensive immunization goals, further efforts are needed to strengthen multisectoral collaboration and improve supply chain performance across the country. **[Findings 17, 18].**

17. **Conclusion 8:** While UNICEF's support has been critical in advancing immunization efforts in BiH, the long-term sustainability of these improvements hinges on sustained government investment and commitment. This includes maintaining cold chain infrastructure, expanding digital immunization systems, and ensuring the continuous training of healthcare workers. Without ongoing government support, the progress achieved may be at risk, particularly in underserved and marginalized communities. **[Findings 13, 14].**

Recommendations

18. The evaluation findings and conclusions have been used to develop the following recommendations, for each of which a supporting rationale and an assigned level of priority are given.

19. **Recommendation 1:** The UNICEF CO, in collaboration with health authorities in each jurisdiction, should strengthen SBC strategies to address social and behavioral drivers affecting uptake, build knowledge among caregivers and healthcare workers, and address vaccine hesitancy to improve immunization uptake. This should include, but not be limited to, advocacy and technical support on the

use of SBC and Behavioural Insights (BI) research results in informing efforts to combat missinformation and address vaccine hesitancy, including among hard-to-reach populations.

20. *Rationale:* Despite previous efforts, barriers impeding vaccine uptake, including vaccine hesitancy, remain key challenges in BiH. Enhancing SBC strategies will be essential to build knowledge and understanding, combat misinformation, and improve the public's trust in vaccines. This could include more targeted community outreach programmes and strengthening the interpersonal communication skills of healthcare workers. **Based on Conclusions:** 4, 7. **Priority:** High.

21. **Recommendation 2:** The UNICEF CO should continue supporting health authorities in developing and expanding the digitalization of immunization systems across BiH while also improving the timeliness, quality, and adequate disaggregation of administrative data reporting. This should entail improving reporting on coverage for marginalized groups including the Roma population and training of immunization systems managers on the use of timely and accurate vaccine coverage data (disaggregated to facility level) in evidence-based decision making.

Rationale: The implementation of electronic immunization systems has proven advantageous"in improving vaccine management and monitoring coverage in RS, but these systems must be fully expanded and operationalized in the FBiH and BD. Real-time tracking and data integration are crucial to addressing gaps in vaccine coverage. **Based on Conclusions:** 2, 8. **Priority:** High.

22. **Recommendation 3:** The UNICEF CO should advocate for increasing investment in the cold chain infrastructure, focusing on sustainability and preventive maintenance on behalf of local authorities.

23. *Rationale:* UNICEF's support has improved cold chain systems, but challenges in real-time temperature monitoring and preventive maintenance remain. Further investment is necessary to ensure the sustainability of these systems, particularly after the warranty periods for equipment expire. **Based on Conclusions:** 1, 7, 8. **Priority:** Medium.

24. **Recommendation 4:** The UNICEF CO should build on its existing partnerships with health authorities in the country, the WHO, and USAID to strengthen multi-sectoral collaboration, particularly with CSOs, and improve outreach and immunization efforts for vulnerable populations (based on improved immunization coverage data) to increase equitable access and address the problem of zero-dose and under-immunized children.

25. *Rationale:* According to the available data reported by UNICEF's partners in the field, marginalized groups, including Roma communities, continue to have low vaccination coverage. To address this, strengthening partnerships with CSOs and other community stakeholders could enhance outreach efforts and improve access to immunization services in underserved areas. **Based on Conclusions:** 3, 4, 5. **Priority:** High.

26. **Recommendation 5:** The UNICEF CO should work with health and educational authorities to integrate the training of healthcare workers (healthcare personnel involved in immunization as well as undergraduate and postgraduate university students) regarding both technical knowledge of immunization (virology, immunology, and vaccinology) as well as its benefits (and contra-indications) and the required interpersonal communication (IPC) into national medical and nursing curricula. The

aim of doing so would be to ensure that immunization theory and practice is embedded into pre-service and in-service education and training rather than provided as a series of one-off efforts.

27. *Rationale:* While UNICEF has trained over 600 healthcare workers in IPC skills, this training needs to be institutionalized within curricula to ensure its sustainability and effectiveness. Continuous education is essential in improving the health workforce's ability to address vaccine hesitancy and promote immunization. **Based on Conclusions:** 4, 6, 8. **Priority:** Medium.

28. **Recommendation 6:** The UNICEF CO should advocate for increased domestic funding and ownership of immunization programmes in all three jurisdictions to reduce reliance on external donors. This includes securing funding for cold chain maintenance, community outreach, healthcare worker training, and the introduction of new vaccines.

29. *Rationale:* To ensure long-term sustainability, the governments of FBiH, RS, and BD must increase their financial investment in immunization programmes, and reduce dependence on external support. **Based on Conclusions:** 2, 8. **Priority:** Medium.

30. **Recommendation 7**: The UNICEF CO, in collaboration with the ECARO, should develop a medium-term strategy ensuring sufficient technical capacity in immunization (including SBC as well as monitoring and evaluation, with a specific focus on data requirements for the monitoring of results in immunization and EVM) at the CO level with necessary tools and support provided by the ECARO.

31. *Rationale:* The evaluation has demonstrated that the small and somewhat overstretched CO team supporting immunization in BiH has been able to provide quality technical support and advocacy to counterparts among health authorities and civil society while accessing and adapting tools provided by the ECARO. However, there is no indication that the need for such assistance will diminish in the medium term and UNICEF thus requires a plan to sustain relevant capacity in a period when donor resources and investments may diminish. **Based on Conclusions:** 3, 4, 5, 7. **Priority:** High.

Table 1: Summary Table of Evaluation Recommendations

Recommendation	Based on Conclusions	Lead Role	Collaborative Role	Priority
1. The UNICEF CO, in collaboration with health authorities in each jurisdiction, should strengthen SBC strategies to address social and behavioural drivers affecting uptake, build knowledge among caregivers and health workers, counter misinformation, and address vaccine hesitancy to boost immunization.	4, 7	UNICEF CO	Health Authorities	High
2. The UNICEF CO should continue to support health authorities in each jurisdiction in developing and expanding the digitalization of immunization systems across BiH while improving the quality, accuracy, and disaggregation of immunization coverage data.	2, 8	UNICEF CO	UNICEF ECARO	High
3. The UNICEF CO should advocate for an increase in investment in cold chain infrastructure, focusing on	1, 7, 8	UNICEF CO	Health Authorities	Medium

	sustainability and preventive maintenance on behalf of local authorities.				
4.	The UNICEF CO should build on its existing partnerships with national health authorities, the WHO, and USAID to strengthen multi-sectoral collaboration, particularly with CSOs, and improve outreach and immunization efforts for vulnerable populations (based on improved coverage data) to increase equitable access and address the problem of zero-dose and under-immunized children.	3, 4, 5	UNICEF CO	WHO	High
5.	The UNICEF CO should work with health and educational authorities to integrate the training of healthcare system personnel (including graduates and undergraduate students) regarding both technical knowledge of immunization and its benefits (and contra-indications) as well as the required IPC into medical and nursing curricula.	4, 6, 8	UNICEF CO	Health Authorities	Medium
6.	The UNICEF CO should advocate for increased government funding and ownership of immunization programmes to reduce the reliance on external donors. This includes funding for cold chain maintenance, community outreach, health worker education and training, and the introduction of new vaccines.	2, 8	UNICEF	Health Authorities	Medium
7.	UNICEF CO, in collaboration with the UNICEF ECARO, should develop a medium-term strategy ensuring sufficient technical capacity in immunization (including SBC and immunization data monitoring and reporting) at the CO level with necessary tools and support provided by the ECARO.	3, 4, 5, 7	UNICEF CO	UNICEF ECARO	High

Source: Evaluation Dataset, UNICEF, 2024.

1.0 Introduction

1.1 Background: Regional Evaluation and the Role of the Bosnia and Herzegovina Evaluation

32. The UNICEF ECARO launched an evaluation of the support provided by UNICEF to immunization programmes in the region in September 2023. The decision to undertake the evaluation marked a recognition of the central role of immunization in the achievement of SDG 3 "to ensure healthy lives and promote well-being for all at all ages."[5] Furthermore, equitable access to immunization is highlighted in SDG Target 3.b which includes a requirement to "provide access to affordable essential medicines and vaccines."[6]

33. The regional evaluation's core methodology comprises a set of five country evaluations undertaken from March to July 2024. The five countries (BiH, Kosovo, Kyrgyzstan, Moldova, and Tajikistan) were chosen to provide an illustrative sample of both country contexts and UNICEF support. This report presents the results of the evaluation of UNICEF's support for immunization programming in BiH.

34. The twofold purpose of the BiH evaluation is:

- To provide a consistent and well-structured analysis of UNICEF's support for immunization, which can serve as one of the pillars of the regional synthesis report; and
- To provide an independent evaluation of UNICEF's support for immunization in BiH, along with conclusions and recommendations serving the needs of stakeholders including the UNICEF CO, national health authorities, and key partners.

35. The evaluation was co-managed by the UNICEF ECARO (Geneva and Istanbul) and the UNICEF Country Office with the participation of, and consultation with, health authorities in each of the three jurisdictions in BiH. It was supported by an EVG comprising key stakeholders.

1.2 Purpose and Objectives

36. *Purpose:* The evaluation **is intended to provide a rigorous assessment of UNICEF's results to date in contributing to the healthcare systems in BiH in its efforts to maximize immunization coverage**. This provides an objective assessment of the strengths and weaknesses in approaches as well as insights into how to address possible system- and programme-level bottlenecks.

37. *Objectives:* The objectives of the evaluation, which are applicable at both regional and country level, are:

1. To assess the impact of immunization programming in the healthcare systems, looking at both supply and demand, and understand what worked and what did not in the covered period in terms of improving immunization coverage, especially for hard-to-reach individuals/communities, as well as how and why;

[5] Accessed at: https://www.un.org/sustainabledevelopment/health/
[6] WHO (2017), Monitoring the Health-related Sustainable Development Goals (SDGs).

2. To determine the effectiveness, impact, coherence, relevance, sustainability and efficiency of immunization programming with a system's lens;

3. To examine the actual and potential contribution of UNICEF's work to national and sub-national progress (outcomes and impact) in immunization coverage, especially hard-to-reach individuals/communities; and

4. To draw lessons and provide recommendations for the refinement and potential scaling-up of good practices to further support national governments in their efforts to strengthen immunization programming within the healthcare system.

1.3 Scope of the Evaluation

38. *Thematic*: The evaluation addresses both the effectiveness *of* the national immunization systems in BiH and UNICEF's contribution to reinforcing those systems to ensure that they are well organized and financed to reach out to every child with life-saving vaccines**.** *Temporal:* The evaluation focuses on the period of 2018 to 2023. *Geographical:* The evaluation covers the operation of immunization programmes and activities in BiH at the country, entity, and district levels, including the points of delivery for vaccine services.

1.4 Object of the Evaluation and Stakeholders

39. The *object* of the evaluation is UNICEF's support for immunization programming as it operates within the immunization and PHC systems. The *primary stakeholders and users* of the evaluation are UNICEF BiH and the health authorities in each jurisdiction, especially those engaged in immunization programming, PHC service delivery, disease surveillance and response, and health promotion. Meanwhile, the *secondary stakeholders* include development partners supporting immunization programming as well as implementing partners directly supported by UNICEF. The evaluation recommendations are directed to UNICEF BiH and health authorities in each jurisdiction as appropriate. With regard to UNICEF's support for immunization, the object of the evaluation includes, but is not limited to, all UNICEF BiH programme expenditures in support of immunization, as detailed in Table 6 in Section 4.1.

1.5 Structure of the Report

40. The report is structured as follows:

- Section 1.0 consists of this introduction;
- Section 2.0 presents an overview of the evaluation approach and methodology, and the work undertaken to collect and analyze data along with a discussion of its limitations and remedial action taken;
- Section 3.0 provides a brief overview of the context for immunization programming in BiH during the evaluation period;
- Section 4.0 encompasses a profile of UNICEF's support;

- Section 5.0 presents the evaluation findings organized in relation to the evaluation criteria and the KEQs;
- Section 6.0 lists the evaluation conclusions derived from the evaluation findings;
- Section 7.0 builds on these conclusions to present a brief outline of the lessons learned; and
- Section 8.0 comprises the evaluation recommendations.

2.0 Methodology and Data Collection

2.1 Evaluation Criteria and Key Evaluation Questions

41. The evaluation applied the evaluation criteria developed by the OECD/DAC as endorsed by the UNEG. These criteria are relevance, coherence, effectiveness, sustainability, efficiency, and impact. The KEQs, which are presented in Table 2 below, encompass all of the evaluation criteria[7].

Table 2: Key Evaluation Questions

Evaluation Criteria and Key Evaluation Questions
Relevance
KEQ 1. To what extent and in what ways has UNICEF responded to address immunization rates at country level? To what extent has it adapted to respond to changes and trends, including by addressing behavioural and social drivers of vaccine uptake at system, community and individual levels?
KEQ 2. To what extent has UNICEF assumed an institutional role in supporting immunization which is commensurate with its mandate, capacities and comparative advantages, especially in relation to key partners? To what extent does the UNICEF operational and strategic role at country level reflect its institutional strengths and comparative advantage in immunization support in relation to key partners?
Coherence
KEQ 3. Where key partners have significant influence on the strengthening of immunization systems, has UNICEF support been aligned and/or complementary with actions by stakeholders to improve vaccination coverage in the ECA region?
KEQ 4. Where UNICEF has supported efforts to identify and address barriers and to increase demand for immunization (including adjustments to policies, programs, services, workforce capacity and accountability) has this resulted in programs and actions embedded into health systems and integrated into national immunization programmes, budgets and policies?
Effectiveness
KEQ 5. To what extent do UNICEF RO and CO staff have the capacity, tools and incentives to effectively support national actions to address social and behavioral drivers of vaccine uptake as an integral element of support to system strengthening for immunization within PHC?
KEQ 6. To what extent has UNICEF contributed to strengthening national systems capacity to improve vaccine uptake?
KEQ 7. To what extent have health care systems been able to identify, understand and address factors affecting their ability to reach the most vulnerable and address issues of inequity in immunization programming?
KEQ 8. What drivers or groups of drivers influence the change in immunization coverage, positively or negatively at policy, system, services, community and individual levels?

[7] Accessed at: https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm\

Evaluation Criteria and Key Evaluation Questions
Sustainability
KEQ 9. To what extent has UNICEF support to immunization at country level contributed to sustainable system strengthening including capacity to address factors affecting vaccine uptake/demand?
Efficiency
KEQ 10. How efficient are health system's immunization policies and programmes to identify and address current and potential bottlenecks or inefficiencies?
Impact
KEQ 11. To what extent have national health system's policies and programs (including for demand generation) aiming to improve vaccination rates over the past 5 years had an impact on overall vaccination coverage (including in under-vaccinated populations), vaccine-preventable disease incidence, perceptions and immunization-related behaviors of key stakeholders, such as healthcare providers, and caregivers?
KEQ 12. To what extent has UNICEF been able to influence key stakeholders to take actions that can reasonably be expected to result in changes of vaccination rates and what have been the most impactful UNICEF supported investments aimed at increasing immunization coverage – including those fully or mostly financed by national governments?

Source: Evaluation ToR, UNICEF, 2023.

2.2 Approach and Methodology

42. The evaluation used a data collection, analysis, and reporting framework common across all five countries (BIH, Kosovo, Kyrgyzstan, Moldova, and Tajikistan) but allows for a flexible and specific inquiry, thereby enhancing utility for key stakeholders at country level.

43. The evaluation applied a theory-based approach beginning with the development of an overall (regional) ToC, which is provided in Annex 2. The regional ToC was then used to identify key evaluation assumptions and to articulate the KEQs, presented in Table 1. It is important to note that the KEQs identified in Table 1 were developed as a direct response to the key assumptions driving the ToC at both regional and country levels – with suitable modifications according to the country context. As a result, the findings and conclusions reported in Sections 5.0 (Evaluation Findings) and 6.0 (Evaluation Conclusions) provide the evaluation's test of the critical assumptions driving the ToC for UNICEF's support of the immunization systems in BiH.

44. The predominant analytical model for the evaluation is CA, which required gathering available documentary and quantitative evidence on the results of UNICEF's support for the immunization system and supplementing that with primary and secondary evidence as needed. A more complete description of how the analytical model for the regional and country evaluations was developed (including selecting the sample of country evaluations) is provided in the evaluation inception report and in the regional evaluation report.[8] A more complete description of the methodology applied for the BiH evaluation is provided in Annex 3.

45. In addition, the data collection instruments and evaluation matrix are available in the inception report of the evaluation for which a link is provided in Annex 3, which also contains the evaluation

[8] UNICEF, Inception Report: Europe and Central Asia: Evaluation of UNICEF Immunization Programming at the System Level (2018 to 2023). UNICEF, March 2024.

evidence database for this report. The database in question provides the results of data collection efforts organized by KEQ.

2.3 Data Collection Methods and Results

46. A preliminary profiling of quantitative data and a review of documents uploaded by the UNICEF CO was carried out by the central evaluation team during the inception phase of the evaluation (September 2023 to March 2024). Data collection in BiH was conducted by the national evaluator from the beginning of April until the end of June 2024.

Document Review

47. The evaluation entailed the conducting of a desk review of key strategic, policy, programme, and project documents and a review of secondary sources of information and analysis, including documents published by UNICEF, government, and other donors, as well as immunization and healthcare system technical documents. All such references are listed in Annex 4.

Key Informant Interviews

48. Building from a stakeholder map developed in consultation with UNICEF BiH, the list of stakeholders to be interviewed was agreed between the evaluation team and the UNICEF CO prior to an in-country mission by the overall evaluation team leader in April 2024. Moreover, semi-structured interviews were conducted based on a set of guides tailored to each category of key stakeholders.

49. The BiH evaluation team engaged with the UNICEF ECARO, the UNICEF CO, government authorities, public institutions, civil society partners, and other development agencies to ensure that the evaluation responded to the needs and priorities of key stakeholders. Semi-structured interviews were an important means of engaging with national partners[9].

Table 3: Distribution of Key Informant Interviews

Category	Number of interviewees
UNICEF BiH Country Office	5
Government (ministries/public health institutes)	13
Development agencies/donors	3
Implementing partners	4
Academia	1
CSOs	7
Beneficiaries/doctors/medical assistants	15
Warehouses	1
Total	**49**

Source: Evaluation Dataset,: UNICEF, 2024.

50. In total, 49 individuals were interviewed by the s (29 female and 20 male). Questions for each interview were tailored to fit the position and knowledge of the interviewee. The list of key informants is provided in Annex 5.

[9] UNICEF ECARO, Evaluation of Immunization Programming at System Level (2018-2023): Annex 5 data collection instruments.

Site Visits

51. Sixteen site visits were conducted to sites in Sarajevo, Banja Luka, Doboj, Tuzla, Bijeljina, Kalesija, Goražde, Mostar, and BD to observe immunization processes, assess infrastructure, and engage with health workers. These included the Public Health Institute (PHI) of RS in Banja Luka, the PHI of FBiH in Sarajevo and Mostar, as well as cantonal PHIs (CPHIs) in Sarajevo, Tuzla, and Goražde, and various PHC centres. The visits provided valuable insights into the operational aspects of the immunization programme, including vaccine storage, community outreach, and record-keeping practices. The list of sites visited is outlined in Annex 6.

Quantitative Data Analysis

52. Quantitative data analysis was an important component of this evaluation, enabling the assessment of trends and the identification of gaps, while also providing an overall picture of progress made towards achieving immunization results. The analysis focused on the following several key indicators: vaccination coverage rates; geographical disparities in coverage; quantitative tracking of disease outbreaks; and the impact of the COVID-19 pandemic on immunization. The selected data reviewed are presented in more detail in Annex 7.

Triangulation

53. To ensure the reliability and validity of the findings, data from multiple sources were triangulated. This approach involved cross-referencing information obtained from document reviews, interviews, site visits, and quantitative data analysis to identify consistencies and discrepancies. Triangulation helped to build a comprehensive understanding of the immunization programme's performance and outcomes.

2.4 Limitations

54. The evaluation team encountered certain constraints during data collection and undertook mitigation strategies to overcome them. In doing so, the national evaluator was able to call on the assistance of the UNICEF CO, as required.

Table 4: Limitations and Constraints of the Evaluation

Limitations and Constraints	Mitigation Strategies
Data collection occurred during measles outbreaks in Sarajevo, Tuzla, Goražde, and Bijeljina, where healthcare professionals focused on screening unvaccinated children and managing outbreak responses.	The evaluation team adapted by focusing on available healthcare personnel and collecting insights on how the outbreak affected routine immunization processes.
Preventive measures were not fully visible during outbreaks, hindering a comprehensive view of regular immunization practices.	The evaluation noted examples of coordination at the cantonal and municipal levels, particularly in Sarajevo, where public spaces were organized for vaccination during outbreaks.
Site visits were conducted at a sample of healthcare centres based on prior notifications, potentially limiting the reflection of everyday practices across the entire PHC system.	Despite this constraint, a diverse range of healthcare centres were selected, and the insights gathered were triangulated with available secondary data and KIIs.
The evaluation methodology did not allow for formal interviews with parents or other community	Informal conversations were held with parents in waiting rooms to gather limited community insights, and these

members, meaning a limited community perspective in data collection.	were supplemented by professional interviews and observations.
In larger cities, such as Sarajevo and Banja Luka, the evaluation only covered a few specific locations.	Although not all sites were visited, in the geographical distribution the representation of vulnerable populations was ensured, providing a reasonable sample for evaluation purposes.
Data collection during the pre-defined timeframe may not reflect changes in immunization practices after the COVID-19 pandemic.	Discussions with healthcare professionals covered both pre- and post-COVID-19 periods, allowing for reflection on changes and improvements in the immunization programme over time.

Source: Evaluation Dataset: UNICEF, 2024.

55. While these limitations were noted, the evaluation team was able to gather the necessary data to validate findings and draw comprehensive conclusions about the immunization programme in BiH.

3.0 Immunization Services in BiH: The National Context

3.1 Organizational Structure for Planning and Management of Immunization

56. The immunization systems in BiH operate within the framework established by the Constitution. The country consists of two entities—**RS** and **FBiH**—as well as **BD**, an independent administrative unit. FBiH consists of ten cantons. The responsibility for healthcare, including immunization, falls under the jurisdiction of the two formal entities and BD. As a result, BiH is unique among the five evaluated countries as it has three distinct healthcare systems and institutions administering the immunization system and services for the respective jurisdiction[10]. Table 5 presents a list of the institutions and a guide to terminology used in the report.

Table 5: Healthcare Institutions Responsible for Immunization Services

Jurisdiction	Institution	Acronym
FBiH	Federal Ministry of Health of FBiH	FMoH
FBiH	Public Health Institute	PHI
FBiH	Primary Healthcare Services	PHC
FBiH	Cantonal Ministries of Health	CMoHs
FBiH	Cantonal Public Health Institutes	CPHIs
Republika Srpska	Ministry of Health and Social Welfare	MoHSW
Republika Srpska	Public Health Institute	PHI
Republika Srpska	Primary Healthcare Services (“Dom zdravlja”)	PHC
Brčko District	Department for Health and Other Services	DHOS
Brčko District	Public Healthcare Centre Brčko	PHC

Source: Evaluation Dataset, UNICEF (2024).

57. In **FBiH**, the Federal Ministry of Health (MoH), through its federal PHI and CPHIs, manages immunization services. The Law on Healthcare and the Law on Protection of the Population from Infectious Diseases regulate immunization, with specific rules ensuring mandatory vaccinations for children[11]. Each canton is responsible for planning and reporting on immunization, and these activities are supervised by the given PHI at the entity level. In addition, the relevant PHI monitors the incidence

[10] This description of the immunization systems in FBiH, BD, and RS is based on interviews with staff of UNICEF BiH and health authorities in each of the three jurisdictions supported by the review of documents listed in Annex.
[11] FBiH, Law on the Protection of the Population from Infectious Diseases (2005), and Order on Implementation of Mandatory Immunization in FBiH (2023).

of VPDs and ensures that immunization meets the standards set by legislation. Vaccines are procured in accordance with a three-year plan, with government funding. The immunization calendar includes vaccines for ten major diseases, and since 2022 the human papillomavirus (HPV) vaccine has been made available for girls aged 13-14, first in Sarajevo in November 2022 before being extended to other cantons in 2023[12].

58. In **RS**, immunization is organized as a public health measure in accordance with the Law on Healthcare and the Law on the Protection of Population from Infectious Diseases. The Ministry of Health and Social Welfare (MoHSW), along with the PHI of RS, hold the key roles in managing and coordinating the immunization programme[13]. The PHI of RS coordinates the planning and management of immunization services, which are delivered through PHIs, including PHC centres, and hospitals, and are government-financed. The given PHI monitors VPDs, ensures vaccine procurement and distribution, and oversees adherence to the immunization schedule, which covers vaccines for tuberculosis, hepatitis B, diphtheria, tetanus, polio, and other diseases. As of 2023, the HPV vaccine has also been added to the immunization calendar for boys and girls aged 11 to 14[14].

59. **BD** operates its own immunization system under the supervision of the Department for Health and Other Services (DHOS) within the local government. Meanwhile, the Law on Healthcare and the Law on Protection of the Population from Infectious Diseases provide the legal framework for mandatory immunization programmes and the regulations governing immunization services[15]. Vaccines are stored centrally in BD facilities and are distributed according to the needs of the Public Healthcare Centre Brčko. Moreover, vaccines are procured in collaboration with RS and are administered through PHC institutions.

3.2 From Procurement to Delivery

60. The vaccine procurement and delivery systems in BiH are managed separately by **RS**, **BD,** and **FBiH**. Each entity follows their own procedures for planning, procurement, storage, distribution, and administration of vaccines.

61. In **RS**, the PHI of RS is responsible for coordinating vaccine planning, procurement, monitoring, and reporting, all of which operates on a three-year planning cycle. Key informants noted that the procurement of vaccines is fully funded by the RS government. Each year, PHC centres ("Dom zdravlja") develop immunization plans based on the number of live births and the population's vaccination needs, which are then submitted to the PHI. These plans are formulated by the hygienic-epidemiology departments of PHC services ("Dom zdravlja"), in collaboration with pediatricians, family medicine departments, and vaccination centres.

62. Once the procurement plan is finalized and vaccines are procured, the vaccines are stored in central and five regional warehouses, which are managed by the PHI and its five regional units. The PHI is responsible for ensuring that these warehouses are equipped with the necessary cold chain infrastructure to maintain vaccine potency. The vaccine stock status is regularly monitored, and urgent redistributions of vaccines are facilitated to areas where vaccination services are in a greater demand.

[12] National Institute for Health, Update on HPV Vaccination Policies and Practices in 17 Eastern European and Central Asian Countries and Territories, 2023.
[13] Republika Srpska, Law on Protection of the Population from Infectious Diseases (2020).
[14] NIH, 2023.
[15] Brčko District, Law on Protection of the Population from Infectious Diseases of the Brčko District of Bosnia and Herzegovina, 2020, and Law on Health Protection in the Brčko District of Bosnia and Herzegovina – revised text, 2023.

63. Key components of RS's vaccine procurement system include:

- Vaccine stock management: A central warehouses track stock levels as well as vaccine expiration dates, and ensures that vaccines are stored at optimal temperatures.
- Product and supplier information: Information on vaccine suppliers, prices, packaging, and delivery schedules is managed centrally.
- Financial oversight: The system monitors funding commitments, payment schedules, and vaccine delivery costs to ensure efficient budget management.
- Logistics and distribution: Vaccines are distributed from central and regional warehouses to healthcare institutions based on population needs, ensuring access to immunization services in both urban and rural areas.

64. In **BD**, vaccine procurement is coordinated by the DHOS of the BD government, in collaboration with the PHI of RS. Vaccines are stored in a central warehouse, which also relies on cold chain systems to maintain vaccine potency. The procurement process in BD's healthcare system is organized with the goal of ensuring that vaccines are made available for both urban and rural populations.

65. Key components of the BD system include:

- Coordination with RS: BD coordinates its vaccine needs with RS to ensure efficient procurement and distribution.
- Central warehouse management: Vaccines are stored in the BD central warehouse, and distribution is handled according to local population needs, with careful attention paid to maintaining cold chain systems.

66. In **FBiH**, the PHI oversees and conducts vaccine procurement, which also operates on a three-year planning cycle. The budget for vaccine procurement is secured by the FBiH government, and the Department of Epidemiology is responsible for preparing the procurement plan. This plan is informed by reports from healthcare institutions, tracking vaccine distribution, usage, wastage, and the number of people vaccinated.

67. Vaccines are stored in central warehouses managed by the PHI of the FBIH, as well as in CPHIs. Distribution to healthcare facilities is managed through a logistics system designed to ensure that vaccines are delivered to cantonal healthcare institutions while maintaining the cold chain. The procurement process entails the use of detailed data from the annual reports on vaccine distribution and coverage, as well as birth and death statistics from the Federation's Statistical Institute, to predict future vaccine needs. Key elements of the system include:

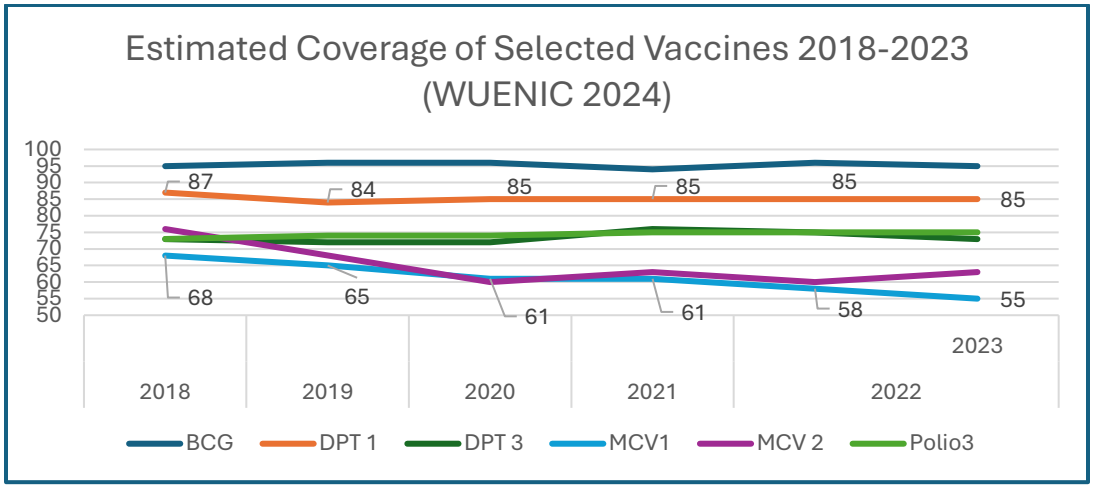
- Annual vaccination coverage data: These data inform the planning and distribution of vaccines, ensuring that sufficient doses are procured for the population.
- Cold chain management: Vaccines are stored and transported in temperature-controlled environments to ensure their efficacy. CPHIs play a key role in monitoring and maintaining cold chain systems.
- Centralized vaccine storage: The Federation's central warehouses in Mostar and cantonal centres are critical to the proper storage and distribution of vaccines to healthcare providers.

68. Across all three systems, vaccination services are delivered at the PHC level through vaccination centres located in PHIs. At birth, hepatitis B and BCG vaccines are administered in hospitals, while other routine vaccinations are provided in PHC centres and family medicine practices.

3.3 Immunization Coverage History (2018-2023)

69. BiH experienced a notable decrease in the estimated national coverage rate for DPT 3 and MCV 1 and 2 vaccines in the year of 2020 when the COVID-19 pandemic broke out. Previously, the DPT 1 coverage rate was low in 2018 when compared to the average for the ECA region (87 percent vs. a regional average of 97 percent)[16]. Unfortunately, the estimated national coverage rate for the MCV 1 vaccine recovered only slightly in 2021 before declining in 2022 and 2023. The low levels of MCV 1 and 2 coverage indicate that a high risk of outbreaks of measles persists. In addition, the rigidity in the level of DPT 1 coverage since 2021 suggests that there has been little progress in reducing the number of zero-dose children. Indeed, this is confirmed in the latest WEUNIC data indicating that the number of zero-dose children in BiH was the same in 2023 as it was in 2021 (4,000)[17].

Figure 1: Vaccine Coverage Estimates for Selected Antigens (2018-2023) (percent)



Source: WUENIC Revision, July 2024.

70. Figure 1 illustrates the country-wide trends regarding coverage of selected vaccines in BiH during the period under evaluation. While BCG and DPT1 and DPT3 vaccine levels of coverage were fairly stable during this period, MCV1 and MCV2 vaccines saw a considerable decline in estimated coverage. This drop predates the COVID-19 pandemic and continued for MCV1 into 2023.

Republika Srpska

71. From 2018 to 2023, RS experienced fluctuations in immunization coverage rates[18]. Vaccination against tuberculosis and hepatitis B maintained consistently high estimated coverage rates, with more

[16] WUENIC Revision, WHO/UNICEF, July 2024.
[17] For operational purposes, Gavi defines "zero-dose" as those who lack the first dose of diphtheria-tetanus-pertussis containing vaccine (DTP1). Accessed at: https://www.gavi.org/our-alliance/strategy/phase-5-2021-2025/equity-goal/zero-dose-children-missed-communities.
[18] PHI of RS. Health Status of the Population of Republika Srpska, 2018-2022. Available from: https://phi.rs.ba/index.php?view=publikacije&id=publikacije.

than 90 percent of infants receiving these vaccines in their first year of life. However, coverage rates for other vaccines, including the MMR vaccine, were less stable. In 2021, MMR coverage for the first dose was 71.2 percent, representing a drop of 16.2 percent compared to pre-pandemic levels. However, coverage for the second dose in the same year was higher, at 80.3 percent. The pentavalent vaccine, which protects against diphtheria, tetanus, pertussis, polio, and Haemophilus influenzae type b, also saw variations in coverage. The first dose achieved 94.2 percent coverage, albeit revaccination rates (administered at 18 months) dropped to 72.4 percent.

72. Key challenges during this period included vaccine hesitancy and occasional supply chain disruptions, particularly during the COVID-19 pandemic. However, it is important to note that key informants reported that there were no supply issues for routine vaccines during the COVID-19 pandemic. Rather, they indicated that non-supply factors influenced coverage rates including the reluctance of parents to attend healthcare facilities due to a fear of infection, and problems in maintaining a full immunization workforce due to worker infections and fear of catching COVID-19. During and after the pandemic, the PHI of RS worked to improve outreach and education efforts with respect to routine immunization, but the lingering effects of misinformation around vaccination posed a persistent obstacle.

Federation of Bosnia and Herzegovina

73. In FBiH, immunization coverage rates followed a similar pattern in this period, with notable declines during the COVID-19 pandemic, reportedly for similar reasons to those encountered in RS[19]. In the pre-pandemic period, coverage for tuberculosis vaccines remained high, averaging around 95 percent. However, the pandemic disrupted routine vaccination services, leading to declines in coverage for key vaccines. Coverage for the hepatitis B vaccine, which was 80 percent before the pandemic, dropped to 70 percent during and after the pandemic. The combination vaccine that includes diphtheria, tetanus, and pertussis (DTaP) and polio also saw a decrease. Coverage for this vaccine dropped from 80.2 percent in 2019 to 66.5 percent in 2021, reflecting significant disruptions in vaccine delivery and outreach efforts. The decline was most pronounced in 2020, when the pandemic caused widespread closures of healthcare facilities and limited public access to immunization services.

74. The MMR vaccine, crucial in preventing outbreaks of measles, rubella, and mumps, experienced a steep decline in coverage during the pandemic. In 2021, the first dose of the MMR vaccine reached only 55.1 percent of the target population, marking a drop of more than 20 percent compared to the pre-pandemic level of 76 percent.

75. The incidence of VPDs in FBiH varied during the evaluation period. In 2019, FBiH experienced an outbreak of measles with an overall incidence rate of 60.8/100,000, and the highest levels were experienced in the cantons of Sarajevo at 211.9/100,000 and Central Bosnia at 118/100,000. In 2021, the incidence of VPDs in FBiH declined significantly with the highest rates in Zenica-Doboj Canton (1.7/100,000) and Central Bosnia Canton (1.6/100,000).

[19] PHI of FBiH. Health Status of the Population and Healthcare in FBiH, 2018-2022. Available from: https://www.zzjzfbih.ba/zdravstvena-stanja-stanovnistva/.

Brčko District

76. BD felt a similar impact in terms of immunization coverage, with an overall decline in vaccine uptake during the pandemic period[20]. The incidence of infectious diseases increased, with COVID-19 accounting for two-thirds of the reported cases between 2018 and 2022. In addition, outbreaks of varicella (chickenpox) contributed to 5-10 percent of all infectious diseases during this period, with the highest number of such cases recorded in 2023.

77. Vaccination coverage for infants in their first year of life remained at around 90 percent, but coverage for subsequent doses of key vaccines, including the MMR and DTP3 vaccines, declined. The BD government reported that this reduction mirrored trends seen in the rest of BiH, as the pandemic caused widespread disruptions in routine healthcare services.

78. Efforts to restore coverage in the post-pandemic period have focused on improving vaccine availability, reinforcing cold chain systems, and increasing public awareness about the importance of immunization. BD, like other parts of the country, continues to face challenges related to vaccine hesitancy and misinformation, particularly in underserved communities.

3.4. Challenges and Issues (2018-2023)

79. Key informants interviewed during the evaluation indicated that the main challenges for the immunization systems in BiH included maintaining the cold chain infrastructure, ensuring equitable access to vaccines, and addressing vaccine hesitancy[21]. The COVID-19 pandemic disrupted routine immunization services, and healthcare resources were redirected towards managing the pandemic, leading to declines in vaccination coverage. Vaccine hesitancy, fueled by misinformation and mistrust in the healthcare system, emerged as a significant barrier to achieving high coverage rates, particularly among marginalized groups. Declines in coverage rates for some vaccines such as MCV1 and 2 have also contributed to the challenge of a “lost generation” requiring accelerated “catch-up” programs to address the high numbers of zero-dose and under-vaccinated children and adolescents.

80. Furthermore, key informants noted that, in some areas, kindergartens and schools did not regularly check vaccine cards for children and there had been a general lack of monitoring and enforcing the legal requirement of parents/caregivers to secure vaccination for their children.

81. Another critical challenge noted during interviews was the limited availability and reliability of immunization data[22]. The lack of robust, high-quality, disaggregated, real-time data has reportedly hampered managers’ ability to monitor vaccination coverage accurately. It has also prevented systems from identifying gaps and responding promptly to outbreaks. These identified data gaps have also affected the planning and implementation of targeted immunization campaigns and interventions as well as monitoring and reporting on vaccination-related SDG targets including Target 3.b concerning universal access to vaccines.

82. Efforts to strengthen the immunization systems have included introducing standard operating procedures (SOPs) for EVM and increasing public awareness. Key informants indicated that UNICEF had

[20] BD government. DHOS in BD. Report on Communicable Diseases from 2018 to 2022.
[21] KIIs with UNICEF CO staff and health authorities in all three jurisdictions.
[22] KIIs with UNICEF CO and PHI staff.

played a key role in supporting these efforts, providing technical assistance and helping to distribute educational materials to parents. They also noted that, looking ahead, addressing vaccine hesitancy and improving healthcare worker communication with the public will be crucial to restoring and maintaining high immunization coverage rates[23].

4.0 UNICEF Support

4.1 UNICEF Expenditures on Immunization

83. Between 2018 and 2023, UNICEF's expenditures on immunization interventions in BiH saw notable fluctuations, with significant increases in the later years. The expenditures targeted various aspects of the immunization programme, including cold chain infrastructure, healthcare professionals' training, and support for community engagement.

Table 6: Annual Expenditures on Immunization Interventions (in USD)

Expenditure Intervention Code	2018	2019	2020	2021	2022	2023
Immunization Action Plans Implementation	741	186	454	30,789	89,652	43
Healthcare Professionals Training	86,091	65,315	44,250			
Raising Awareness on Immunization	16,287	60,057	48,269			
Roma and Marginalized (R/M) Children's Immunization		45,722	88,126			
COVID-19 Immunization			2,028			
Cold Chain Assessments				128,003	318,502	221,134
Support for Risk Communications				285,329	637,405	369,278
Support for Immunization Services				361,087	440,860	189,922
Trainings - Immunization					10,720	31
Action Plans and Procurement						671,211
Skills Building						22,608
Risk Communication, Community Engagement						552,922
Effective Vaccine Management improvement, Digitalization						120,551
Standards for Children						42,641
Totals	**165,934**	**232,979**	**249,578**	**805,207**	**1,650,027**	**3,631,275**

Source: Where no data were reported, expenditures were not coded under a given expenditure code in that year (UNICEF BiH, 2024).

[23] KIIs with UNICEF CO staff and health authorities in all three jurisdictions.

84. A major area of focus during the covered period was raising awareness about immunization, starting with an investment of $16,287 in 2018 and $60,057 in 2019. From 2021 to 2023, support for risk communications saw a significant increase, with a total of $1,292,012 allocated thereto. These funds were used to address COVID-19 vaccination awareness, with no more than 10 percent spent on the promotion of routine immunization.

85. Immunization programmes specifically targeting Roma and marginalized children received a boost in 2019 and 2020, with $45,722 and $88,126 allocated thereto, respectively. However, no subsequent expenditures were recorded under the same category. In 2023, a new expenditure code for community engagement was introduced, with $552,922 allocated thereto to further support outreach efforts among marginalized populations.

86. Significant investment was also made in cold chain assessments, starting with $128,003 in 2020 (primarily to assess readiness for the COVID-19 vaccination campaign, albeit with routine immunization needs also in mind). This amount increased to $318,502 in 2021 and $221,134 in 2022, respectively. These investments were intended to contribute to maintaining the potency of vaccines throughout the distribution process, ensuring that they remained viable when delivered to healthcare facilities. In addition, efforts to improve skills and digitalize vaccine management processes became a priority later in the reporting period, with $120,551 allocated in 2023 for the digitalization of immunization data.

87. Overall, annual expenditures on immunization interventions in BiH rose significantly, from $165,934 in 2018 to $3,631,275 in 2023. While the majority of these funds were used for the COVID-19 response, the increase also reflects UNICEF's heightened focus on strengthening the country's immunization systems, particularly in response to the COVID-19 pandemic and ongoing efforts to modernize infrastructure and improve vaccine delivery.

4.2 Evolution of UNICEF Support (2018-2023)

88. From 2018 to 2023, UNICEF supported BiH's three healthcare systems, including through the supply of CCE, vehicles, and vaccine procurement for healthcare facilities. UNICEF also facilitated community engagement initiatives focused on promoting immunization, increasing vaccine uptake, and building trust and knowledge within the healthcare system. Examples of these efforts are outlined below.

89. In 2018, UNICEF CO, in collaboration with the ministries of health and PHIs, developed the Multi-Year Action Plan on Immunization for 2018-2022. This plan was informed by vital data on the status of the country's immunization systems, serving as a roadmap for future needs and trends[24]. UNICEF also worked with healthcare institutions and local CSOs to create evidence-based informational materials for parents about vaccines[25].

90. In 2019, guidelines for training healthcare workers in IPC, in line with international recommendations, were developed by the Johns Hopkins Center for Communication Programs, the

[24] UNICEF *Multi-Year Action Plan on Immunization for 2018-2022* (2018).
[25] UNICEF *Country Office Annual Report* (2018).

UNICEF ECARO, and UNICEF CO staff in BiH and Serbia[26]. In addition, UNICEF supported the Roma community through the local CSO "Romalen" Kakanj under the "Immunization for Every Child" project, aimed at promoting immunization within Roma populations[27]. UNICEF also conducted a root cause analysis and developed an improvement plan for immunization system performance across several municipalities in BiH.

91. In 2020, UNICEF conducted a comprehensive cold chain assessment of the country's immunization programmes, identifying gaps and areas for improvement therein. In response to the COVID-19 pandemic and within the COVAX mechanism, UNICEF BiH was identified as a procurement coordinator for COVID-19 vaccines, with 332,640 doses imported[28]. Similarly, within "EU4Health: Contribution to the availability and access to vaccines against COVID-19 in Bosnia and Herzegovina," UNICEF was identified as a procurement coordinator for equipment, medical devices, and materials and consumables through its Supply Division[29]. UNICEF also provided technical support to government authorities, ensuring effective communication of COVID-19 prevention messages.

92. In 2021, UNICEF supported the CSO "Interreligious Council in BiH" in educating communities on COVID-19 immunization, mental health, and health protection, reaching 4,953 direct participants and 253 religious leaders across 15 local communities[30]. UNICEF also worked with Roma CSOs to raise awareness about the importance of immunization during the COVID-19 pandemic and to improve confidence in vaccination within the Roma population. In addition, UNICEF's risk communication campaigns on COVID-19 immunization reached over 3.7 million people[31]. In partnership with academic institutions and PHIs, UNICEF supported trainings for over 600 healthcare professionals in IPC skills. [32]

93. In 2022, UNICEF continued to strengthen the healthcare system by refurbishing CCE across the three immunization systems in BiH, contributing to overall healthcare system resilience. UNICEF facilitated the import of 332,640 doses of vaccines through the COVAX mechanism and procured over EUR 1.5 million worth of equipment and vaccine-related materials with the support of the EU4Health project[33]. Public information campaigns led by UNICEF reached over 1.6 million people, with 518 members of religious communities supporting CSOs' efforts. In addition, UNICEF conducted assessments of vaccine management systems and electronic immunization records in all three immunization systems in BiH.

[26] Johns Hopkins University/UNCIEF ECA, Facilitator Guide: Interpersonal Communication for Immunization Training for Frontline Workers (2019).
[27] Roma support centre "Romalen" Kakanj - Increase Awareness of Importance of Vaccination with a Special Focus on Roma Communities – Immunization for Every Child – PHASE II, 2022.
[28] COVAX is a global initiative co-led by Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI), and the WHO, aimed at ensuring equitable access to COVID-19 vaccines for all countries, regardless of income levels. It is a key component of the Access to COVID-19 Tools (ACT).
[29] EU4Health is the EU's largest health programme in monetary terms (with a budget of EUR 5.3 billion).
[30] World Vision International BiH - Ensuring COVID-19 Response Within Religious Communities in Bosnia and Herzegovina, Interreligious Council in BiH (progress report) (2021).

[31] UNICEF Country Office Annual Report (2021).
[32] UNICEF, How the "Build Back Better" Approach to Upgrade Bosnia and Herzegovina's Cold Chain System Led to Multiple Improvements in the Immunization Programmes in the Country (2023).

[33] UNICEF Country Office Annual Report (2022).

94. In 2023, UNICEF and its partners, through a range of different social media channels, communicated messages on immunization and connecting parents with healthcare workers[34]. UNICEF also invested in media and health literacy programmes for young adults, conducting campaigns, camps, and public events aimed at raising awareness among young parents about the importance of immunization. Furthermore, UNICEF contributed to a survey of social and behavioural drivers influencing vaccine uptake, working in cooperation with CSOs and public health specialists[35]. UNICEF BiH also implemented a project on the development of SOPs for managing the immunization process, along with training sessions aimed at improving vaccine administration practices. Under the project, working groups were established in FBiH, RS, and BD to develop the SOPs. Health authorities in each jurisdiction were supported through training sessions and coordination with Infohouse Foundation[36] (serving as the implementing partner)[37].

4.3 Partnerships and Engagement with Other Support Providers (EU/USAID/WHO/CSOs)

95. Between 2018 and 2023, UNICEF BiH worked to foster partnerships with key international organizations and CSOs supporting immunization systems. Key informants indicated that these partnerships were essential in supporting the functioning of the immunization systems across FBiH, RS, and BD, particularly when facing the challenges posed by the COVID-19 pandemic[38].

96. UNICEF's collaboration with the Delegation of the EU and USAID was instrumental in securing vaccines, medical devices, and critical CCE[39]. From 2020 to 2023, these partnerships enabled the purchase and distribution of essential vaccines, aligning with the immunization plans developed for the country's three healthcare systems. This support helped to maintain the supply chain infrastructure, ensuring that vaccines reached remote communities.

97. Reports of UNICEF CO and interviews with health authorities highlighted the importance of UNICEF's support in sustaining immunization efforts, particularly during the pandemic. In cooperation with the WHO, UNICEF worked to increase immunization coverage in communities with low vaccination rates[40]. This partnership focused on catch-up activities, where healthcare professionals at the primary care level actively recalled parents who had missed vaccination appointments for their children. This effort was key to reducing gaps in immunization coverage, especially in the aftermath of COVID-19 disruptions.

98. UNICEF also provided technical assistance to immunization programmes, working closely with CSOs to promote social and behavioural changes that enhanced vaccine uptake. From 2021 to 2023, these initiatives aimed to raise awareness about the importance of immunization, combat vaccine hesitancy, and empower local communities to participate in immunization campaigns. Reports and

[34] UNICEF, Vakcine.ba: Immunization information public support website for identification and management of the targeted population, Society for the Promotion of Natural Sciences "Science and the World" (2022-2023).
[35] Infohouse Foundation for UNICEF BiH - An Insight into the Knowledge, Attitudes, and Practices of Parents and the Wider Social Community Regarding Regular Immunization in Bosnia and Herzegovina (2023).

[36] Infohouse Foundation is based in BiH with a mandate to "work on projects and activities that promote human rights and their implementation at all levels of the state and society." In 2023, it executed projects with support from UNICEF, USAID, GiZ, and the EU among others. Infohouse Foundation, 2023 Annual Report (2024).
[37] Infohouse Foundation, 2023 Annual Report, Sarajevo (2024).
[38] KIIs with UNICEF CO staff and staff of health authorities in all three jurisdictions.
[39] KIIs with UNICEF CO staff.
[40] KIIs with UNICEF CO staff and WHO staff, UNICEF Country Office Annual Reports for 2018 to 2023.

interviews as well as observations during site visits underlined the importance of these partnerships in strengthening the immunization systems[41].

99. In addition, as already noted, in the pre-COVID period, UNICEF ECARO collaborated with Johns Hopkins University to deliver IPC training to healthcare workers. This training established a strong foundation for future immunization efforts, helping to equip healthcare professionals with the skills needed to effectively communicate the benefits of vaccination to parents and caregivers[42].

5.0 Evaluation Findings

5.1 Relevance of UNICEF Support to Immunization Systems

5.1.1. UNICEF Response to Changes and Trends (Including Social and Behavioural Drivers Affecting Uptake)

KEQ 1. To what extent and in what ways has UNICEF responded to address immunization rates at country level? To what extent has it adapted to respond to changes and trends, including by addressing behavioural and social drivers of vaccine uptake at system, community and individual levels?

Finding 1: UNICEF-supported assessments in CCE, vaccine management, and social and behavioural drivers affecting vaccine uptake identified critical gaps in the immunization systems across BiH. These efforts led to UNICEF supporting targeted upgrades in cold chain infrastructure, targeted strategies to address vaccine hesitancy, and the development of uniform immunization guidelines for healthcare institutions.

Finding 2: UNICEF developed and tailored tools to address factors affecting vaccine demand in BiH. For example, it adapted a global IPC package and delivering targeted training to strengthen healthcare professionals' ability to engage with parents and caregivers. In addition, UNICEF supported community outreach and social media campaigns promoting vaccine benefits, thereby improving communication with the goal of increasing vaccine uptake, particularly among vulnerable groups like Roma children.

Finding 3: UNICEF's support in strategic planning and cold chain strengthening focused on addressing identified gaps in immunization systems across BiH. Collaborating with ministries, UNICEF developed the Multi-Year Action Plan on Immunization for 2018-2022 that, despite not being formally endorsed, provided a comprehensive roadmap for addressing critical challenges like vaccine procurement limitations and low immunization acceptance.

[41] KIIs with UNICEF CO staff and the staff of health authorities in all three jurisdictions and healthcare workers during site visits.
[42] UNICEF ECARO, Johns Hopkins Center for Communication Programs, Interpersonal Communication for Immunization Training for Frontline Workers, Facilitator Guide, UNICEF (2019).

Supporting Assessments of Immunization Programming

100. KIIs with health authorities in RS, FBiH, and BD confirmed that UNICEF provided crucial assessments for the PHIs of RS and FBiH, and the DHOS of the BD government[43].

101. One of the most important assessments conducted by UNICEF was the cold chain equipment (CCE) assessment[44]. This included an analysis of the cold chain inventory, a gap analysis of cold storage, and a rehabilitation plan for the cold chain with equipment requirements, a timeline, a budget, and an implementation plan for supply chain strengthening.

102. In RS, the CCE assessment revealed that most equipment was over 10 years old, with an average age of 12.8 years, and that only 17 percent of the equipment met the Performance, Quality, and Safety (PQS) standards of the WHO. In addition, 74 percent of cold boxes in healthcare facilities were found to be unsuitable for vaccine transport, and the remote temperature monitoring system at the central storage was deemed obsolete. The rehabilitation plan detailed in the CCE assessment focused on procuring new equipment to ensure sufficient capacity for COVID-19 vaccination and strengthening the immunization cold chain for childhood vaccine storage at both the central and regional levels of the PHI of RS.

103. In the FBiH, the CCE assessment showed that nearly two-thirds of the equipment was over 10 years old, with an average age of 13.3 years, and that only 28 percent met WHO PQS standards. The remote temperature monitoring system at the central storage was also found to be obsolete. The resulting rehabilitation plan included replacing refrigerators and freezers that were more than 10 years old, cold rooms that were more than 20 years old, and equipment falling short of WHO PQS standards[45].

104. For BD, the main findings indicated that the equipment was insufficient for the adequate functioning of the cold chain, highlighting the need for a comprehensive cold chain inventory for vaccine storage within the district. [46]

105. UNICEF also supported assessments aimed at improving access to and the quality of vaccination programmes. This included EVM assessments completed in 2022[47] as well as assessment reports on recommendations on how to develop electronic immunization records systems, which key informants indicated had the potential to drive significant advancements in the health sector[48]. According to that assessment, health authorities need to provide uniform guidelines for all healthcare institutions and professionals working on immunization. UNICEF also facilitated the creation of digital solutions for storing, processing, and managing vaccination data, encompassing planning, identifying unvaccinated individuals, and ensuring the availability of necessary vaccines and supplies[49].

[43] KIIs with health authorities in all three jurisdictions.

[44] UNICEF, *Vaccine Cold Chain Assessment and Rehabilitation, Republika Srpska* (2021).
[45] UNICEF, Vaccine Cold Chain Assessment and Rehabilitation - Bosnia and Herzegovina, Federation of Bosnia and Herzegovina (2021).
[46] UNICEF, Vaccine Cold Chain Assessment and Rehabilitation - Bosnia and Herzegovina, Brčko District (2021).
[47] UNICEF, Effective Vaccine Management (EVM) - Brčko District Assessment Report (2022); Effective Vaccine Management (EVM) Federation of Bosnia & Herzegovina Assessment Report (2022).
[48] UNICEF, Report on the Digitalization of Immunization Records in Bosnia and Herzegovina. Separate Reports for Republika Srpska, Brčko District, and Federation of Bosnia and Herzegovina (2022).
[49] UNICEF Country Office Annual Report (2022).

106. Furthermore, a series of root cause analyses (2020) contributed to a better understanding of issues related to vaccine hesitancy, resistance, and refusal[50]. Interviews with UNICEF CO staff and health authorities indicated that targeted measures to address these challenges had been actively considered. KIIs also revealed that vaccine hesitancy and general skepticism about vaccine safety and immunization benefits were growing among both medical workers and parents[51]. Key informants across all different categories (UNICEF CO, WHO, and health authorities) pointed to a pressing need for the continuous education of healthcare workers across all healthcare facilities in the country to build a capable workforce that could effectively address vaccine uptake at the system level[52]. They further noted that this type of training is essential to efforts designed to improve equity and increase uptake among vulnerable groups including Roma children.

107. UNICEF BiH also continued to commission and fund research on social and cultural drivers affecting vaccine uptake throughout the period under evaluation. In 2023, for example, UNICEF commissioned Infohouse Foundation to conduct a BI study of attitudes to immunization[53]. This effort was carried out within a wider regional project utilizing a methodology developed by the UNICEF ECARO and implemented by UNICEF BiH and the implementing partner.

Development of Programmes to Respond to Identified Gaps in Immunization Coverage

108. As already noted, the root cause analyses identified the urgent need for continuous education of healthcare workers across all facilities to build a capable workforce that could effectively address vaccine uptake at the system level. In response, the UNICEF ECARO, with support from the BiH and Serbia COs and expertise from Johns Hopkins University, adapted a global package on IPC on immunization to the local context. During the resulting training, a total of 313 healthcare professionals improved their IPC skills through 14 workshops (seven in FBiH and seven in RS) organized in collaboration with the relevant ministry of health and PHI and funded by USAID.[54] In addition, UNICEF BiH staff noted that trainings organized during the COVID-19 response reached over 600 healthcare professionals.

109. Key informants indicated that the technical support provided by UNICEF on IPC had contributed to healthcare workers becoming more attuned to patients' needs. Observations and site visits showed that healthcare professionals were actively informing beneficiaries about key aspects of immunization, using health-promoting materials, video content, and face-to-face communication with parents[55]. In larger cities, such as Tuzla and Banja Luka, vaccination centres had reportedly adjusted their hours to accommodate working parents by offering afternoon sessions.

110. KIIs confirmed that UNICEF organized and supported IPC training for all pediatricians, family medicine physicians, epidemiologists, and nurses in PHC centres across RS, FBiH, and BD during 2019

[50] UNICEF, Root Cause Analysis and Improvement Plan of Immunization Services in Sarajevo Canton (2020). Root Cause Analysis and Improvement Plans of Immunization Services for West Herzegovina Canton and Bijeljina (2020).
[51] KIIs with UNICEF CO staff, WHO staff, and healthcare workers interviewed during site visits.
[52] KIIs with UNICEF CO staff.
[53] Infohouse Foundation - An Insight into the Knowledge, Attitudes, and Practices of Parents and the Wider Community Regarding Regular Immunization in Bosnia and Herzegovina, UNICEF (2023).
[54] UNICEF Country Office Annual Report 2019 (2020).
[55] KIIs with staff of healthcare centres during site visits.

and 2021[56]. Pediatricians working in vaccination centres at the PHC level confirmed that UNICEF's support was crucial, as the IPC training equipped healthcare professionals with the skills needed to better engage with parents and caregivers. In Tuzla, for example, nurses reported that they regularly called parents to remind them about upcoming vaccinations, while in other cases, UNICEF's implementing partner Infohouse Foundation coordinated with parents through a mobile application to ensure timely vaccinations.

111. During 2022 and 2023, UNICEF also worked with implementing partners such as the Association for the Promotion of Natural Sciences "Science and the World" to promote the benefits of vaccination through social media, connecting parents with healthcare professionals for direct question-and-answer sessions. Platforms like www.vakcine.ba, and the Lege Artis Facebook and Instagram pages, with support from UNICEF, served as key channels for daily vaccination promotion and public communication based on professional expertise. In 2023, UNICEF also supported the Association of Medical Faculty Students in Banja Luka in promoting vaccination through social events and educational programmes for young parents and health sciences students[57].

112. A pertinent example of UNICEF's provision of support to community engagement can be found in the "Health Promotion and Disease Prevention in Roma Communities" programme implemented by the Roma support centre "Romalen Kakanj"[58]. From April to October 2023, the programme reported engaging with and providing information to 401 Roma families on the importance of immunization (and a total of 920 families since the programme's inception)[59]. While the primary focus was on prevention of COVID-19 through immunization, the final programme report noted that mediators and nurses engaged in the programme also provided information on regular vaccines and their importance[60].

113. Similarly, UNICEF engaged World Vision International BiH in late 2021 to undertake the 18-month "Ensuring COVID-19 Response within Religious Communities in Bosnia and Herzegovina" programme[61]. It worked with interreligious councils in 15 municipalities in BiH representing four religious communities (Islamic, Orthodox, Catholic, and Jewish) to conduct research on and raise awareness of COVID-19 prevention and immunization[62].

114. KIIs with UNICEF CO staff highlighted UNICEF's support for CSO activities in local communities, which improved awareness about the importance of vaccination during and after the COVID-19 pandemic.

[56] KIIs with physicians in healthcare centres in RS, FBiH, and BD.
[57] References in this paragraph are from Interim and Final Narrative Progress Reports submitted by the following implementing partners: "Romalen" Kakanj (Roma support centre) (2023); World Vision International BiH (2021); Foundation for Development of Media (2023); and the Committee for International Cooperation of Medical Students in the Republika Srpska (SAMSIC) (2023).
[58] Roma support centre "Romalen" Kakanj - Health Promotion and Disease Prevention in Roma Communities, Final Progress Report (December 2023).
[59] Ibid.
[60] Ibid.
[61] World Vision International BiH - Ensuring COVID-19 Response Within Religious Communities in Bosnia and Herzegovina: Standard Quarterly Progress Report (January 2023).
[62] Ibid.

Strategic Planning

115. UNICEF BiH was active in supporting the development of strategies and priorities in immunization throughout the period under evaluation. In 2017, the UNICEF CO, in collaboration with the Ministry of Civil Affairs of BiH, the MoH FBiH, the MoHSW RS, and the DHOS of the BD government, developed the Multi-Year Action Plan on Immunization for 2018-2022[63]. While this plan was not formally endorsed by the respective governments in BiH, it did lay out a strategic immunization roadmap. The plan details the elements of immunization programmes within the healthcare systems of RS, FBiH, and BD. It identified critical gaps in the immunization process and addressed the challenges facing immunization programmes in BiH, which had seen decreasing trends in preceding years. These challenges noted in the plan included vaccine procurement limitations, shortages, low acceptance of immunization, negative promotion of vaccination, a lack of incentives for healthcare workers, and the use of false contra-indications.

Cold Chain Strengthening

116. As noted earlier, from 2018 onwards, UNICEF supported the upgrading of the cold chain systems for vaccine storage in BiH, with the goal of ensuring that vaccines entering the country would be properly stored. In addition, UNICEF assisted the authorities in establishing a centralized temperature monitoring system to ensure the appropriate conditions for vaccine storage. To facilitate the implementation of recommendations from the EVM assessments published in 2022, UNICEF BiH contributed to the development of vaccine management SOPs[64]. These SOPs were intended to allow health authorities to accurately forecast vaccine needs, maintain required stock levels, and reduce wastage from 2023 onward.

117. UNICEF also donated two cold rooms for the main PHI vaccine storage facilities in RS, FBiH, and BD. These donations included aggregators, air conditioners, and web-based temperature monitoring systems. For CPHIs in FBiH, UNICEF distributed three cold rooms and approximately 200 freezers and refrigerators, along with 100 fridge temperature monitoring devices, cold boxes, and 200 air conditioners. An additional 100 refrigerators will be distributed in cooperation with the EU4Health project, with UNICEF acting as the designated procurement coordinator[65].

> *"We changed our old refrigerators which are not intended for vaccines only, and sometimes we were afraid of power outages because they were more than 10 years old and could be damaged."*
>
> Pediatrician: Brčko District

118. UNICEF also donated two special vehicles for vaccine distribution in FBiH and two vehicles for RS[66]. In the regional units of the PHI of RS (Doboj, Zvornik, and East Sarajevo), UNICEF distributed three cold rooms, approximately 100 freezers and refrigerators, 200 temperature monitoring devices, and over 100 air conditioners for all PHC centres. To the DHOS of the BD government, UNICEF donated one cold room with a remote temperature monitoring system, an aggregator, and air conditioners. For all PHC centres, UNICEF provided freezers, refrigerators, cold boxes, and air conditioners as needed and in

[63] UNICEF et al. Multi-Year Action Plan on Immunization 2018-2022 (2017).
[64] UNICEF, Leading the Development of Standard Operation Procedures as Part of Effective Vaccine Management (EVM) Activities in FBiH, RS, and BD (2023).
[65] EU4Health: Contribution to the Availability and Access to Vaccines Against COVID-19 in Bosnia and Herzegovina for 2021-2024 (2024).
[66] UNICEF Country Office Annual Reports (2021-2023).

accordance with the plans of healthcare institutions. Interviewed pediatricians found the freezers and refrigerators donated by UNICEF to be extremely useful.

5.1.2. UNICEF's Institutional Role

KEQ 2. To what extent has UNICEF assumed an institutional role in supporting immunization, which is commensurate with its mandate, capacities and comparative advantages, especially in relation to key partners? To what extent does UNICEF's operational and strategic role at the country level reflect its institutional strengths and comparative advantages in immunization support in relation to key partners?

Finding 4: Key stakeholders recognized the essential role played by UNICEF in supporting immunization programming in BiH, particularly in enhancing collaboration between health authorities and CSOs. This support has been well-aligned with UNICEF's mandate and capacities, enabling strategic interventions across the country's immunization systems. UNICEF contributions, from coordinating vaccine procurement during the COVID-19 pandemic to driving community engagement initiatives and improving cold chain logistics, focused on addressing gaps in vaccination coverage.

Strategic Role in Immunization Programmes

119. UNICEF was a significant supporter of the immunization systems in BiH throughout the period under evaluation. For example, the UNICEF Country Programme Document (2015-2025) indicates that UNICEF has played the role of a primary technical advisor (alongside the WHO) to the health authorities in BiH at the state, entity, canton, and municipality levels[67]. Interviews with key informants confirmed that this role had been maintained, with UNICEF supporting the development of policies, strategies, laws, and regulations for services provided to children to align with international best practices.

120. UNICEF's role in immunization programming in BiH during the period under evaluation included the provision of support to community engagement and improving cooperation between health authorities and CSOs to address immunization coverage and respond to the needs of vulnerable groups. The playing of such a role was confirmed by KIIs with health authorities in all three jurisdictions[68]. UNICEF supported the development of plans for immunization programmes within the healthcare systems of RS, FBiH, and BD. Key informants also indicated that UNICEF's immunization support activities had been coordinated with PHC institutions and healthcare professionals responsible for immunization services[69]. UNICEF's support programmes were also monitored by the M&E Unit of UNICEF BiH CO.

121. During the COVID-19 pandemic, the BiH Council of Ministers selected UNICEF as the procurement coordinator for COVID-19 vaccines under the COVAX mechanism[70] and for CCE through the EU4Health project[71]. KIIs with health authorities[72] confirmed that, with UNICEF's support, vaccines were

[67] Country Programme Document, UNICEF Bosnia and Herzegovina, Sarajevo 2015-2022 (2015).
[68] KIIs with PHC workers, the PHI of RS, and CPHIs in FBiH, as well as the DHOS in the BD government.
[69] KIIs with UNICEF CO and health authorities in all three jurisdictions and the WHO.
[70] Country Office Annual Report 2020, UNICEF, Sarajevo, 2021, p.2.
[71] UNICEF BiH, Cost Estimate for Cold Chain Commodities (2022).
[72] KII in the Ministry of Civil Affairs of BiH, Department for Health.

distributed to all healthcare institutions across the country using validated CCE to meet specific temperature requirements. To improve vaccination coverage, UNICEF supported CSOs and healthcare professionals to engage with communities in tracking postponed vaccinations while also supporting the provision of training for healthcare workers. Effective and strategic community engagement supported by UNICEF was observed by the evaluation in healthcare centres in the cantons of Sarajevo, Tuzla, and Goražde in FBiH through site visits and validated by interviews with healthcare workers, including nurses and doctors.[73]

5.2 Coherence of UNICEF Support within National Systems

5.2.1 Alignment with Key Partners

KEQ 3. Where key partners have a significant influence on the strengthening of the immunization systems, has UNICEF's support been aligned with and/or complementary to actions taken by stakeholders to improve vaccination coverage in the ECA region?

Finding 5: UNICEF BiH provided support to immunization programming aligned with the immunization strategies, programmes, and activities of health authorities in all three jurisdictions. Moreover, UNICEF collaborated with health authorities in the development of agreed strategies, policies, and programmes.

Finding 6: As well as aligning with the work of health authorities, UNICEF's support in BiH was well-aligned with and complementary to the efforts of key development partners. Working closely with the EU, USAID, and health authorities, UNICEF led efforts to support the rehabilitation of the cold chain infrastructure, coordinated the delivery of critical equipment, and promoted electronic health records for more accurate immunization tracking.

Alignment of UNICEF and Key Stakeholders' Support for Immunization in BiH

122. Key informants noted that UNICEF's support for routine immunization during and following the COVID-19 pandemic was well aligned with the identified needs and the agreed responses among BiH health authorities and development partners[74].

123. As reported in the UNICEF BiH CO Annual Report of 2021, with the support of the EU Delegation and USAID through the Ministry of Civil Affairs of BiH, UNICEF completed a comprehensive assessment of the immunization programme's cold chain and achieved 100 percent rehabilitation of the cold chain infrastructure (this required all existing and non-prequalified CCE and facilities to be replaced and expanded). UNICEF investment in refurbishing BiH's cold chain significantly strengthened the overall healthcare system. Supported by USAID, 31 refrigerators for vaccine storage, 11 generators, and three cold rooms were delivered to healthcare

> "When the doors of the PHI open, you can see the optimal distribution practices in the form of equipment procured through UNICEF and imported through the Ministry of Civil Affairs."
>
> Key Informant: Ministry of Civil Affairs of BiH

[73] KIIs with nurses and doctors in healthcare centres in the cantons of Sarajevo, Tuzla, and Gorazde.
[74] KIIs with UNICEF CO staff and health authorities in all three jurisdictions.

institutions nationwide. To further improve the system, UNICEF and its partners have begun advancing electronic health records on immunization to provide more accurate, up-to-date, real-time data, thereby strengthening vaccination programmes.[75]

124. UNICEF also supported the RS, FBiH, and BD governments by donating eight ultra-cold freezers, enabling BiH to receive Pfizer vaccines for the first time. With such capacity, healthcare institutions were able to store over 1.1 million doses of Pfizer vaccines at once, as confirmed by KIIs with professionals from the Ministry of Civil Affairs of BiH. The same sources confirmed that UNICEF procured medical devices and supplies worth EUR 2.5 million through the EU4Health project and facilitated donations amounting to approximately $3.5 million from USAID and the EU. Key informants reported that UNICEF and USAID ensured their support was aligned to the equipping of the cold chain and the catch-up vaccination activities.

125. In addition, the UNICEF CO implemented a USAID-funded project aimed at promoting COVID-19 vaccine uptake and strengthening the cold chain and logistics capacities of healthcare institutions in BiH[76]. Under this project, 55 healthcare facilities were strengthened to respond to vaccine demand and 77 healthcare facilities were provided with CCE[77].

126. After the completion of the EVM assessments in 2022, it was determined that the evaluation had led to the development of an improvement plan. Within this plan, one of the established goals was immediately implemented: the creation of SOPs for the efficient management of vaccines. Working groups in FBiH, RS, and BD were convened to develop SOPs for EVM[78]. UNICEF supported

Supporting the Interreligious Council in the Response to COVID-19

In 2021, the Interreligious Council in BiH, comprising Islamic, Orthodox, Catholic, and Jewish communities, presented the results of UNICEF-supported surveys on knowledge, beliefs, and attitudes in relation to COVID-19 to representatives of religious communities. Following the surveys, UNICEF supported workshops led by public health professionals and local healthcare workers, with participants from 15 communities. As a result, awareness of COVID-19 reportedly increased among direct beneficiaries. Based on survey results, UNICEF supported the education of 4,953 direct users of religious communities and 253 religious officers in 15 local communities. The Council conducted activities with youth focused on immunization, mental health, and health protection.

During 2022-2023, the Interreligious Council in BiH, supported by the UNICEF CO in 15 local communities covered topics such as "Religion for Health" (Žepče), "How to improve mental health" (Zenica), "Family values from religious perspectives and challenges during COVID-19" (Tuzla), "Religious communities in rehabilitation of consequences of COVID-19" (Trebinje), "COVID-19 yesterday, today and tomorrow" (Orašje), and "COVID-19 consequences and preventive action" (Sarajevo - "Youth Network,") and "Let's put a smile back on people's faces" (Foca). During those activities in local communities, people gained knowledge and occasionally received hygiene packages.

World Vision International BiH. Ensuring COVID-19 response within Interreligious Council in BiH (2021).

[75] Country Office Annual Report 2021. UNICEF. Sarajevo, 2022.
[76] In 2020, USAID provided funding for a two-year $4.8 million project implemented by UNICEF BiH under the title: "Strengthening social and health protection in response to COVID-19." The project had four components including one to strengthen healthcare systems to support COVID-19 vaccination efforts. Accessed at: https://www.usaid.gov/bosnia-and-herzegovina/fact-sheets/fact-sheet-strengthening-social-and-health-protection-response-covid-19-pandemic-bosnia-and-herzegovina.
[77] "Strengthening Social and Health Protection in Response to the COVID-19 Pandemic in Bosnia and Herzegovina" and "COVID-19 Vaccine Rollout in Bosnia and Herzegovina," UNICEF/USAID (2021).
[78] UNICEF, EVM Assessments, BiH, RS, and BD (2022).

this initiative by organizing training sessions with nominated representatives from the ministries of health, PHIs, and PHC centres across FBiH, RS, and BD. This contribution of UNICEF was confirmed through KIIs with representatives of the UNICEF CO and health authorities.

127. UNICEF also supported the celebration of European Immunization Week in collaboration with the WHO, as confirmed by interviewed professionals from the Ministry of Civil Affairs of BiH[79]. Interviews with healthcare professionals during site visits to PHC centres also confirmed their active participation in immunization promotion activities supported by UNICEF and the WHO in BiH. Public health specialists and faculty members from medical schools were also involved, as verified by interviewed healthcare professionals.

128. In addition, during catch-up immunization activities, the importance of promoting immunization through various communication channels and close collaboration with the WHO team in BiH was emphasized. Interviewed stakeholders also highlighted examples of effective cooperation between the UNICEF CO, the WHO, and health authorities in planning and implementing immunization activities in BiH.[80] Notably, according to those interviewed, there was no duplication of activities. Duplication, in their view, was avoided due to effective interagency coordination in the technical support provided to catch-up immunization services. An example of the cross-coordination of UNICEF and international and national CSOs occurred in 2020, when UNICEF partnered with the Danish Refugee Council and supported the team from the CPHI in Sarajevo, in cooperation with the healthcare centre in Sarajevo Canton, which successfully vaccinated the migrant population in the Blažuj community[81].

5.2.2 Integration of UNICEF Support and National Action

KEQ 4. Where UNICEF has supported efforts to identify and address barriers and to increase demand for immunization (including adjustments to policies, programmes, services, workforce capacity, and accountability), has this resulted in programmes and actions being embedded into healthcare systems and integrated into national immunization programmes, budgets, and policies?

Finding 7: Building on clear alignment with immunization system priorities and strategies, initiatives supported by UNICEF in BiH have been integrated and embedded into systems for procurement, distribution, cold chain management, and staff capacity development.

129. Key informants at all levels noted, with some exceptions, that UNICEF's support in identifying and addressing barriers to immunization in BiH had resulted in programmes and actions which had been integrated into the healthcare systems and embedded into national immunization frameworks, budgets, and policies[82].

130. Despite remaining unofficial, the Multi-Year Action Plan on Immunization for 2018-2022 supported by UNICEF and developed in collaboration with key health ministries (the Ministry of Civil Affairs of FBiH and the MoH of FBiH, the MoHSW RS, and the DHOS of the BD government) was a crucial step in harmonizing and enhancing the vaccination programmes across RS, FBiH, and BD[83]. Although not

[79] Evidence of participation in European Immunization Week: KIIs with health authorities, UNICEF CO staff, WHO staff, and medical school faculty members.
[80] KIIs with UNICEF CO and WHO staff in BiH.
[81] UNICEF Country Office Annual Report (2021).
[82] KIIs with UNICEF CO staff and staff of the PHIs of FBiH and RS, as well as health authorities in BD and WHO staff.
[83] Multi-Year Action Plan on Immunization for 2018-2022 (Unofficial), UNICEF (2018).

formally endorsed by the respective governments, the plan outlined a strategic framework with key achievements, challenges, and the way forward for immunization, including detailed components on routine immunization services, vaccine quality, supply management, surveillance, programme management, and a comprehensive M&E system. The document provided clear guidance on areas such as vaccine procurement, cold chain management, adverse event surveillance, and immunization coverage reporting. It remains an important reference for future improvements in the national immunization programmes and has influenced strategic decision making at various levels[84].

131. The UNICEF Country Programme Document for 2021-2025 highlighted its strategic focus on expanding immunization services through the development of strategies, advocacy for budget increases, replacement of CCE, social mobilization campaigns, and pre- and in-service training[85].

132. There were some indications of the effectiveness of the support provided by UNICEF (and other key stakeholders) during the period under evaluation. For example, the number of municipalities in BiH with an estimated coverage of at least 80 percent for the DPT 1 vaccine rose from 67 percent in 2018 to 73 percent in 2021[86]. Similarly, the number of children vaccinated for measles (MCV1) rose from 3,500 in 2022 to 5,000 in 2023, and no stockouts of DPT-containing vaccines were recorded at the national level in 2023[87].

133. In terms of integration into the immunization systems, UNICEF reportedly played a key role in supporting the development of an electronic immunization reporting system in RS[88]. This system includes the following four main components: planning and distribution of vaccines; monitoring of cold chain procedures; tracking of vaccination status; and generation of immunization analysis reports. Although similar systems in FBiH and BD have faced administrative delays, their eventual implementation is expected to standardize immunization data and processes across the country[89]. Key informants noted that UNICEF's ongoing advocacy and technical support were crucial to overcoming procedural barriers and advancing the digitalization of immunization records.

134. In addition, UNICEF facilitated 14 workshops focused on developing SOPs for the immunization process across RS, FBiH, and BD. These workshops introduced EVM principles to enhance immunization programmes nationwide. Held in autumn 2023 across cities such as Sarajevo, Neum, Mostar, Tuzla, Travnik, Banja Luka, Zvornik, Doboj, Brčko, Konjic, and Trebinje, the workshops brought together 368 healthcare professionals responsible for immunization. The workshops aimed to equip participants with the skills necessary to standardize vaccine management and streamline the delivery of immunization services across the country.[90]

[84] KIIs with UNICEF CO staff and staff of the Ministry of Civil Affairs of BiH.
[85] UNICEF/Government of Bosnia and Herzegovina, Country Programme Document 2021-2025 (2021).
[86] UNICEF Results Assessment Module, UNICEF inSight Outcome/Output Data Explorer: Updated 05/09/24.
[87] UNICEF inSight (2024).
[88] UNICEF Report on the Digitalization of Immunization Records in Bosnia and Herzegovina, Republika Srpska (2022).
[89] KIIs with UNICEF CO staff and health authorities in FBiH and BD.
[90] "Leading the Development of Standard Operating Procedures (SOPs) as a Part of Effective Vaccine Management (EVM) Activities in FBiH, RS, and BD," UNICEF (2023).

5.3 Effectiveness of UNICEF Support

5.3.1 UNICEF Capacity

KEQ 5. To what extent do UNICEF ECARO and CO staff have the capacity, tools and incentives to effectively support national actions to address social and behavioural drivers affecting vaccine uptake as an integral element of its support to strengthening immunization within PHC?

Finding 8: The UNICEF CO health and SBC teams collaborated to support the management of vaccination programming and scaling-up of operations during the COVID-19 pandemic. Stakeholders consistently praised the teams' expertise and performance, although team members reported being overworked and understaffed. In providing technical assistance with regard to immunization, the UNICEF CO relied on adaptable tools developed and supported by the UNICEF ECARO.

135. The UNICEF CO team involved in supporting immunization included specialists in health and nutrition, an immunization programme officer, an SBC officer, and M&E experts. According to key stakeholders, the team has been instrumental in strengthening workforce capacity and coordinating immunization programmes, particularly during challenging times such as the COVID-19 pandemic. Healthcare professionals at the PHC level acknowledged the effectiveness of UNICEF's staff in providing tools and solutions to improve vaccination efforts[91].

136. Interviews with national health authorities confirmed that UNICEF provided critical technical support and guidance, including guidelines for immunization practices, CCE, and the engagement of international consultants to assess and improve the immunization systems in BiH[92]. They also noted that UNICEF CO staff worked to support the identification of gaps and barriers in vaccination coverage and supported government and CSO partners in engaging at the community level to address these challenges. These efforts were verified through reviewed reports and interviews.

137. During the period under evaluation, UNICEF CO staff engaged with ministries of health, PHIs, and other sectors such as media, education, and civil society. This cooperation was seen by these actors as technically sound and important in assisting them to address specific immunization needs, particularly in marginalized and underserved communities[93].

138. However, the evaluation also highlighted capacity challenges. UNICEF CO staff reported a very heavy workload, which strained human resources during the pandemic, as UNICEF BiH struggled to meet the increasing demand for immunization services. Despite these constraints, the UNICEF immunization team reported that they were able to successfully reallocate programme resources in collaboration with other UN offices in BiH, enabling them to respond to the demand for vaccines effectively[94].

139. The UNICEF CO was able to augment its capacity by relying on collaboration with international experts and consultants to assist in supporting health authorities in conducting assessments and improving immunization processes. The UNICEF CO staff also relied on technical support and, especially,

[91] KIIs with health authorities at all levels in all three jurisdictions and at all levels, and KIIs with UNICEF CO staff.
[92] KIIS with health authorities in all three jurisdictions.
[93] KIIs with health authorities, the WHO, bilateral development partners, academic institutions, implementing partners, and CSOs.
[94] KIIs with UNICEF CO staff.

adaptable tools for the analysis, planning, and management of immunization support programming originating from the UNICEF ECARO. Finally, stakeholders from all categories were positive regarding UNICEF's ability to provide technical assistance to efforts in all three jurisdictions to ensure that healthcare professionals received the necessary training and tools to carry out their duties effectively.

5.3.2 Strengthened National Capacity to Improve Vaccine Uptake

KEQ 6. To what extent has UNICEF contributed to strengthening national systems capacity to improve vaccine uptake?

Finding 9: UNICEF support in supply chain management, healthcare worker, digitalizing immunization data collection, and improved access to immunization services all contributed to reforms in the immunization systems in BiH. These efforts, carried out in close collaboration with health authorities, focused on strengthening key elements of the systems and were validated through site visits and KIIs with stakeholders.

Improving the Immunization Systems and Digital Infrastructure

140. As documented in the preceding sections, during the period under evaluation, UNICEF's support for the strengthening of the immunization systems in BiH included cold chain assessments, EVM assessments, digital immunization record capacity assessments, and root cause analyses. All of these efforts helped to identify critical areas requiring improvement in immunization programmes. Health authorities in all three jurisdictions indicated that this support helped in the planning and implementation of efforts to optimize vaccine distribution, storage, and administration, with a view to ensuring that vaccines remained safe and effective throughout the supply chain[95].

141. An important development supported by UNICEF during the period under evaluation was the initial steps taken towards the development of electronic immunization systems across BiH. These systems are currently integrated into the Health Integration Information System (IZIS) in RS and have been proposed for FBiH and BD[96]. Interviews with health authorities indicated that, when fully implemented, the digitized systems will allow real-time tracking of vaccine inventory, monitoring of vaccination coverage, and streamlined reporting for health authorities[97]. These tools will enhance the national immunization programme's ability to meet local and international standards and ensure more efficient management of immunization data, as confirmed by KIIs with healthcare professionals[98].

142. In addition, the Vaccine Logistics Management Information System (VLMIS), proposed as part of the upgrading of immunization infrastructure and developed with UNICEF's support[99], will aim to allow health authorities to track vaccine logistics, including shipment, inventory, and vaccine expiration, thereby further optimizing vaccine distribution. Key informants indicated that this system will be critical in ensuring that vaccines reach healthcare centres in a timely manner and remain safe for use.

[95] KIIs with MoH FBiH, the MoHSW RS, and the DHOS of the BD government.
[96] Report on the Digitalization of Immunization Records in Bosnia and Herzegovina, Republika Srpska (2022).
[97] KIIs with the MoH FBiH, the MoHSW RS, as well as the PHIs of FBiH and RS, and the DHOS of the BD government.
[98] KIIs with the MoHSW RS and the MoH FBiH.
[99] UNICEF Report on the Digitalization of Immunization Records: Republika Srpska; Federation of Bosnia and Herzegovina (2022).

Strengthening Access to Immunization Services

143. Key informants also reported that UNICEF's support had been crucial in expanding access to immunization services, particularly for vulnerable populations. They noted that UNICEF's support helped in empowering CSOs to undertake grassroots efforts to improve vaccine awareness and uptake, particularly in Tuzla Canton and Bijeljina[100]. Through UNICEF's support and coordination, Infohouse Foundation was able to work with healthcare workers in PHC centres to improve communication with young parents. As a result of this activity, 410 parents and caregivers received SMS reminders about their children's vaccination schedules, while nearly 1,000 promotional materials were distributed to raise awareness about the importance of immunization[101].

144. Key informants noted that before the COVID-19 pandemic, UNICEF supported the development of an immunization application, but that the onset of the pandemic resulted in it achieving only limited success. At the same time, UNICEF supported the development of the web platform www.vakcine.ba, which has reportedly been hugely successful and remains active in 2024.[102]

145. To enhance communication with the public, UNICEF also equipped 70 healthcare institutions with LCD screens displaying promotional content about immunization[103]. This initiative reached not only parents visiting healthcare centres, but also the wider public through displays at key locations, such as airports, further expanding the reach of vaccine promotion efforts.

Building Health Workforce Capacity

146. As already noted, UNICEF BiH supported strengthening the capacity of healthcare workers as part of its efforts to improve vaccine uptake. UNICEF-supported training sessions and workshops on IPC provided to healthcare workers by the respective PHIs focused on providing healthcare workers with the skills needed to effectively address vaccine hesitancy and communicate the benefits of immunization to caregivers[104]. IPC training was found to have been essential in fostering trust between healthcare providers and parents, ensuring that parents receive accurate and reliable information about vaccines[105].

147. In addition, 368 healthcare workers participated in 14 workshops in 2023, on the use of newly developed immunization SOPs supported by UNICEF in collaboration with Infohouse Foundation. The USAID-funded and UNICEF-led project encompassed both the identification of SOPs by working groups in all three jurisdictions as well as capacity-building training on the use of the SOPs, with workshops in 11 cities covering all three jurisdictions[106].

[100] KIIs with UNICEF CO staff and CSOs.
[101] Infohouse Foundation for UNICEF BiH - An Insight into the Knowledge, Attitudes, and Practices of Parents and the Wider Social Community Regarding Regular Immunization in Bosnia and Herzegovina (2023).
[102] Society for Promotion of Natural Sciences "Science and the World." Vakcine.ba: Immunization information public support website for the identification and management of the targeted population (2023).
[103] KIIs with the staff of USAID.
[104] KIIs with UNICEF CO staff and health authorities in all three jurisdictions.
[105] Infohouse Foundation - Design, Prototyping, and Evaluation of Interventions Based on Behavioural Analysis In Order to Strengthen Regular Immunization (2023).
[106] Infohouse Foundation, Report of the Project "Leading the Development of Standard Operating Procedures as Part of Effective Vaccine Management Activities in FBiH, RS, and BD" (2023).

148. Moreover, UNICEF's collaboration with the CSO "Science and the World" led to the creation of the www.vakcine.ba website and social media platforms, which have become critical sources of information about immunization. These platforms reached 168,400 page views, with 77,600 active users, showing the effectiveness of online engagement in countering misinformation and promoting vaccine awareness. The audience primarily consisted of women aged 25-44, a key demographic for childhood immunization decisions[107].

Continuing Challenges

149. Despite continued efforts supported by UNICEF and other key stakeholders to increase the level of access to immunization services and the capacity of the immunization systems, coverage data and the views of key informants indicate that important challenges remain. In 2023, estimated coverage of the DPT 1 vaccine in BiH stood at only 85 percent, the second-lowest estimate for the ECA region[108]. Similarly, the estimated number of zero-dose children was the same in 2023 as it was in 2021 (4,000) and BiH ranked tenth (along with Moldova) among the 21 countries in the ECA region in the data reported by WUENIC (WUENIC estimates are not available for Kosovo)[109].

150. As well as the challenge of extending immunization coverage, maintaining cold chain infrastructure, especially after the warranty periods for equipment end, was one of the key challenges identified during site visits and interviews with health authorities. The same key informants noted that ensuring the sustainability of these systems will require continued investment and coordination between UNICEF and health authorities[110].

151. Despite these challenges, regions like Doboj provide examples of best practices in public health, with high vaccination rates attributed to traditional public health activities and strong community engagement[111]. Each PHC centre in Doboj region employs an epidemiologist, ensuring that public health issues, including vaccination, are closely monitored. Key informants also noted that these localized approaches, supported by UNICEF, have the potential to serve as models for improving vaccination coverage nationwide[112].

5.3.4 Understanding and Addressing Factors Limiting Access

KEQ 7. To what extent have healthcare systems been able to identify, understand and address factors affecting their ability to reach the most vulnerable and address issues of inequity in immunization programming?

Finding 10: UNICEF's efforts in BiH have focused on assisting health authorities in reaching marginalized communities and vulnerable populations, including Roma communities, especially by supporting the work of local CSOs in targeted vaccination campaigns and catch-up programmes.

[107] UNICEF, Vakcine.ba: Immunization information public support website for the identification and management of the targeted population, Society for the Promotion of Natural Sciences "Science in the World" (2022-2023).
[108] UNICEF/WHO, WUENIC 2023 Revision, Europe and Central Asia (2024).
[109] WUENIC 2023 Revision, (2024).
[110] KIIs with PHI staff in RS and FBiH as well as the DHOS of the BD government, and CPHIs and healthcare centres.
[111] Data and observations from the Doboj regional unit of the PHI of RS.
[112] KIIs with UNICEF CO staff and health authorities in all three jurisdictions.

Support in Addressing Social and Behavioural Drivers Affecting Vaccine Uptake

152. UNICEF BiH's support in addressing the social and behavioural drivers affecting vaccine uptake has been grounded in research on the knowledge, attitudes, and practices of parents and the broader community regarding regular immunization[113]. Analysis of the collected data identified the following four main reasons for insufficient vaccination coverage: fear of possible side effects or diseases caused by vaccination; lack of trust in vaccine manufacturers and the quality of vaccines; insecurity in the healthcare system's approach and expertise; and the impact of COVID-19[114].

153. The Infohouse Foundation study included an online survey, with 809 parents responding (732 or 90.6 percent of whom were women). The results of the survey revealed that the majority (64.7 percent) believed that vaccination is the best way to protect against fatal infectious diseases and that it is essential for children's protection. However, nearly half of the respondents held misconceptions, such as believing that vaccination increases the chance of diseases and disorders. One in five respondents believed that vaccination could lead to autoimmune diseases in adulthood, and a slightly bigger proportion believed that neurological disorders are possible side effects of vaccination.

154. In response to this most recent assessment (and also in light of research throughout the period under evaluation, including root cause analysis studies), UNICEF supported CSOs' activities in local communities to improve awareness of the importance of vaccination both during and after the COVID-19 pandemic with the goal of increasing confidence in immunization among the population in BiH[115]. As mentioned previously, having identified IPC as a key factor in vaccination uptake, UNICEF, in cooperation with Johns Hopkins University, supported trainings designed to improvement of IPC skills among 600 healthcare workers. This included a three-day training on vaccine safety and how to talk to parents about the importance of vaccines[116].

Advantage of Community Engagement Supported by UNICEF in Immunization Promotion

155. Key informants noted that a major institutional strength of UNICEF had been its capacity to support community engagement. In 2022-2023, one example of UNICEF's community engagement in immunization promotion was provided by its support for the CSO Infohouse Foundation[117]. This support focused on enhancing coordination and collaboration among healthcare professionals (including pediatricians, epidemiologists, family physicians, and nurses) in both rural and urban areas of BiH. It also aimed to foster connections with parents and vulnerable groups within local communities. In pursuit of this goal, Infohouse Foundation organized public events in three major cities in BiH, actively collaborating with key community stakeholders[118].

[113] Infohouse Foundation for UNICEF, BiH: An Insight into the Knowledge, Attitudes, and Practices of Parents and the Wider Social Community Regarding Regular Immunization in BiH: Research conducted within the "Designing, Prototyping, and Evaluating Interventions Based on Behavioural Analysis in Order to Strengthen Regular Immunization" project (2023).
[114] Infohouse Foundation (2023).
[115] KIIs with staff of UNICEF CO and implementing CSOs (Mediacenter Sarajevo/Infohouse Foundation/Association for Promotion of Natural Sciences/Roma Support Centre/Lega Artis and Interreligious Council in BiH).
[116] UNICEF Country Office Annual Report (2019).
[117] KIIs with UNICEF CO staff and Infohouse Foundation report: "Designing, Prototyping, and Evaluating Interventions Based on Behavioural Analysis in Order to Strengthen Regular Immunization" (2023).
[118] Infohouse Foundation (2023).

156. In communities with low immunization coverage and vulnerable populations, UNICEF supported Roma CSOs to improve access to immunization services for Roma children and to increase Roma parents' knowledge of vaccination[119]. CSOs who were engaged in supporting the Roma population noted that UNICEF facilitated the coordination of activities between PHC centres and the Roma population both during and after the COVID-19 pandemic[120].

157. Interviewed healthcare professionals, including nurses and pediatricians at PHC centres in Kalesija and Tuzla, indicated that they could not have effectively addressed immunization barriers and vaccine uptake challenges without UNICEF's support[121]. The same healthcare professionals emphasized that UNICEF's provision of CCE to healthcare institutions helped to ensure the maintenance of quality vaccination services and that community engagement contributed to improving safe immunization coverage.

5.3.5 Drivers Affecting Uptake

KEQ 8. What drivers or group(s) of drivers have influenced the change in immunization coverage, positively or negatively, at policy, system, service, community, and individual levels?

Finding 11: UNICEF supported research and evidence generation efforts to identify root causes and drivers affecting immunization uptake. Positive drivers identified included proactive communication between healthcare providers and parents, bolstered by continuous professional training for healthcare workers. Negative drivers cited were fears of side effects, lack of knowledge of immunization benefits on the part of caregivers, and inadequate organization of immunization services in some regions.

Finding 12: UNICEF's support for targeted outreach, including healthcare worker training, community engagement, and media campaigns, was grounded in the lessons learned on drivers affecting vaccine uptake through UNICEF-supported research efforts. As a result, UNICEF supported outreach with the specific aim of improving vaccine acceptance. These initiatives focused on raising awareness and addressing misinformation. Key informants praised the effectiveness of these interventions while noting the requirement for improved data on coverage among marginal groups as well as stronger institutionalization of outreach within healthcare institutions in all three jurisdictions.

Root Causes of Declining Immunization Coverage

158. In 2019, UNICEF BiH engaged an international consultant to conduct a root cause analysis in several municipalities across BiH, including Banja Luka, Bijeljina, and the cantons of Sarajevo, Zenica, and West Herzegovina[122]. The analysis highlighted several systemic issues, including insufficient knowledge of vaccine safety among pediatricians, lack of IPC skills, and inadequate defaulter tracking systems. Applicable laws in all three jurisdictions require parents/caregivers to ensure timely vaccination of

[119] Roma support centre "Romalen" Kakanj - Health Promotion and Disease Prevention in Roma Communities, Final Progress Report (2023).
[120] KIIs with UNICEF CO staff and staff of CSOs.
[121] KIIs with nurses and pediatricians in healthcare centres in Tuzla and Kalesija.
[122] "Root Cause Analysis and Improvement Plan of Immunization System Performance in Banja Luka Municipality of Republika Srpska of Bosnia and Herzegovina," UNICEF (2020); "Root Cause Analysis and Improvement Plan of Immunization System Performance in Sarajevo Canton, Bosnia and Herzegovina," UNICEF (2020).

children but the report noted that paper-based systems for vaccine reporting were not effective in tracking and reporting unvaccinated or under-vaccinated children for follow-up by healthcare centres.

159. The root causes were categorized into the following key areas:

- Governance and Leadership: Challenges in organizing vaccination services and a lack of formalized defaulter tracking mechanisms.
- Service Delivery: Limited capacity of healthcare staff and low motivation among pediatricians to report vaccination refusals or promote immunization.
- Communication and Demand Generation: Ineffective communication between healthcare providers and caregivers, coupled with high levels of vaccine hesitancy, particularly among the Roma population, religious groups, and socially marginalized communities.
- Vaccine Hesitancy: Strong anti-vaccination campaigns on social media and insufficient promotion of immunization benefits at the municipal level.

160. The analysis led to the development of improvement plans published along with each root cause analysis report[123]. The plans included training healthcare workers, promoting IPC skills, and creating more structured communication strategies to engage with parents and caregivers.

Drivers and Barriers Affecting Immunization Uptake

161. In 2022, UNICEF conducted a qualitative study involving focus groups with healthcare workers, teachers, youth, and adults (162 participants) to improve understanding of the drivers and barriers affecting immunization, particularly COVID-19 vaccination. The study identified the following[124]:

162. Main Positive Drivers:
- Active communication between healthcare workers and parents, supported by SMS reminders and official notifications.
- Continuous professional training of and certification for healthcare workers, facilitated through partnerships with professional organizations and chambers.
- Increased use of digital tools, such as vaccination apps and electronic reminders, to keep parents informed about vaccination schedules.
- Community engagement initiatives, supported by CSOs, to foster trust in the healthcare system and address misinformation.

163. Main Barriers:
- Vaccine hesitancy stemming from fears of side effects, a lack of knowledge about vaccination benefits, and misinformation spread via social media.
- Inadequate organization of immunization services in some regions, including short vaccination hours and insufficient staff capacity[125].

[123] Root Cause Analysis and Improvement Plans for Immunization System Performance: Banja Luka, Sarajevo, West Herzegovina, and Bijeljina Cantons, UNICEF (2020).
[124] "Barriers and Drivers Affecting Acceptance of COVID-19 Vaccines in Bosnia and Herzegovina: Qualitative Survey with Focus Groups," UNICEF BiH (2022).
[125] KIIs with nurses and phyisicans in PHC centres in Banja Luka.

- A lack of IPC skills among healthcare workers, leading to difficulties in addressing parents' concerns and dispelling myths about vaccines[126].

164. Nurses working in vaccination centres emphasized the importance of reminders and personalized communication to encourage parents to adhere to vaccination schedules. Pediatricians also noted that parents often relied on their advice when making vaccination decisions, highlighting the need for continuous education and the availability of promotional materials[127].

Drivers and Barriers Affecting Immunization of Vulnerable Groups

165. UNICEF also worked with the London-based Behavioural Insights Team (BIT) and Infohouse Foundation to address some of the barriers impeding immunization in vulnerable communities, particularly among the Roma population. Key interventions in Tuzla Canton included SMS reminders, educational videos in healthcare centres, and leaflets about vaccine safety [128]. In addition, UNICEF supported the development of catch-up immunization initiatives, which provided caregivers with reminders and relevant information about immunization schedules. Key informants indicated that this approach had been effective in improving vaccine uptake in underserved populations[129]. The subsequent evaluation indicated that these efforts led to a 5 percent increase in vaccination rates in some areas during the subsequent months[130].

5.4 Sustainability

5.4.1 Sustainable System Strengthening

KEQ 9. To what extent has UNICEF's support for immunization at country level contributed to sustainable system strengthening including with regard to capacity to address factors affecting vaccine uptake/demand?

Finding 13: The evaluation was unable to identify definitive evidence of the overall sustainability of UNICEF-supported investments in the absence of UNICEF playing a central role. However, the extent to which some, if not all, UNICEF-supported strategies and policies have been integrated into the immunization systems in all three jurisdictions implies institutional sustainability. At the same time, KIIs highlighted that maintaining the CCE donated by UNICEF, particularly after the warranty period ends, remains a critical challenge for the healthcare systems.

[126] KIIs with staff of PHC centres in Sarajevo Canton.
[127] KIIs with staff of healthcare centres interviewed during site visits.
[128] "Evaluating a behaviourally-informed intervention to increase demand for MMR1 immunization in Bosnia and Herzegovina," UNICEF BiH/Behavioural Insights Team (2023).

[129] KIIs with UNICEF CO staff, healthcare staff, and CSOs.
[130]UNICEF BiH, Behavioural Insights Team (2023).

Finding 14: IPC as an area of expertise has not yet been institutionalized into healthcare worker education, either through integration into medical school curricula or by incorporating IPC skills into the continuous training of all PHC workers, including doctors and nurses. Given that insufficient knowledge and poor IPC skills among healthcare workers have been identified as key barriers impeding vaccine uptake, failure to institutionalize continuous training of this type was noted by key informants as a risk factor in attaining and sustaining coverage targets.

Finding 15: During the period under evaluation, the immunization systems in RS, FBiH, and BD were sustained through UNICEF's support in renewing the cold chain and partnerships with health authorities. UNICEF provided support in developing SOPs used across all PHC centres, aiming to improve vaccine procurement and administration in all three immunization systems.

Institutional Sustainability

166. As noted in Section 5.3, from 2020 to 2022, UNICEF's support in EVM was instrumental in the development of SOPs for vaccine handling and administration. These SOPs are now implemented across all PHC centres in RS, FBiH, and BD, improving the planning and administration of vaccines. Interviews with key health authorities confirmed the positive impact of these efforts on the immunization systems in all three jurisdictions[131].

167. UNICEF also supported the development of an electronic immunization database and the enhancement of cold chain supply systems, enabling better vaccine distribution to PHC centres. Site visits and interviews with healthcare professionals further validated these contributions. The equipment distributed by UNICEF was also reported to have assisted in ensuring vaccines were safely stored and administered in even the most remote areas.

168. Key informants indicated that UNICEF had played a pivotal role in strengthening the operation of the immunization systems across the three jurisdictions. Important elements of immunization systems in RS, FBiH, and BD were reinforced through UNICEF's support, particularly in renewing the cold chain infrastructure and coordinating immunization campaigns in partnership with the relevant health authorities in each jurisdiction[132].

169. The evaluation did not find direct evidence of the extent to which these improvements could be expected to be sustained in the future, especially if continuing technical and operation support is not provided by UNICEF, the WHO, and other key partners. However, key informants at all levels agreed that most, if not all, UNICEF-supported investments in co-developed strategies, programmes, and activities were integrated well into the immunization systems and their administrative and operational bodies in all three jurisdictions[133]. This level of integration suggests that UNICEF-supported initiatives are well institutionalized and should be sustainable from an institutional perspective at least.

170. One example of this level of integration comes in the form of UNICEF's support for the hiring of a communications specialist in the PHI of FBiH to be actively involved in public campaigns during the

[131] KIIs with health authorities and healthcare centre staff (nurses and pediatricians) in all three jurisdictions, as confirmed during site visits.
[132] Ibid.
[133] KIIs with UNICEF CO staff, WHO staff, and health authorities in all three jurisdictions.

COVID-19 pandemic. Following the pandemic, this role was institutionalized, with the specialist now employed full-time at the PHI[134].

171. However, while UNICEF supported the training of over 600 healthcare workers in IPC, key informants noted that significant challenges remain in institutionalizing this training in the medium term[135]. The same key informants noted that it is critical to embed such education within medical schools to ensure future healthcare professionals are equipped with the necessary skills to promote immunization. UNICEF's efforts in this area were directly aimed at incorporating these skills into broader healthcare practices, including engaging students from medical faculties to help educate young parents on the importance of vaccination[136].

Financial Sustainability

172. When compared to other countries in the region, BiH is relatively well positioned in terms of its track record of public financing of health, including PHC and immunization. In 2022, the European Observatory on Health Systems and Policies, a partnership hosted by the WHO, published a review of the healthcare system[137]. The report noted that public spending on health in BiH was among the highest in southeastern Europe. Furthermore, per capita public spending per person on health rose from $330 per person in 2000 to $1,015 in 2019. This was above the average of upper-middle income countries in the WHO European Region. The share of public spending on health as a share of GDP increased from 4.1 percent in 2000 to 6.2 percent in 2019, when it exceeded the European average of 6.0 percent[138].

173. However, the same review also noted that fragmented management systems and the devolved system of administration in the health sector had contributed to financial deficits among healthcare providers in the preceding decades[139].

174. Key stakeholders, including external development partners, have been responding to the challenges in financing the PHC system (including immunization) in BiH in recent years. UNICEF, for example, has been taking part in an EU-funded programme supporting reform of the PHC sector in BiH with interventions to benefit children's health including childhood immunization, early childhood development, and mental health. The four-year programme has a budget of EUR 10 million and runs until February 2027[140].

175. In a parallel development, in 2023, the World Bank announced its approval of a EUR 92.3 million ($100 million equivalent) Health Sectors Programmatic Development Policy Loan for BiH. The loan was intended to provide budget support to underpin policy efforts by BiH authorities to improve the financial sustainability of the healthcare system and the quality of health services its citizens receive[141].

[134] KIIs with UNICEF CO staff and PHI of FBiH staff.
[135] KIIs with UNICEF CO staff and healthcare service delivery staff during site visits.
[136] Committee for International Exchange of Medical Students of Republika Srpska (SAMSIC): We Care (2023).
[137] European Observatory on Health Systems and Policies, Health Systems in Action: Bosnia and Herzegovina (2022).
[138] Health Systems in Action (2022), p.9.
[139] Health Systems in Action (2022), p.11.
[140] UNICEF BiH, EU Support to the Health Sector Reform in Bosnian and Herzegovina. Accessed at: https://www.unicef.org/bih/en/eu-support-health-sector-reform-bosnia-and-herzegovina, Sept. 2024.
[141] World Bank, Press Release March 2023: World Bank Backs Reforms to Improve Healthcare Systems in Bosnia and Herzegovina: Accessed at: https://www.worldbank.org/en/news/press-release/2023/03/22/world-bank-backs-reforms-to-improve-health-care-systems-in-bosnia-and-herzegovin.

176. Clearly, there are some constraints hindering the financing of the PHC system, including immunization services, in BIH. However, the combination of high public spending on healthcare and the ongoing provision of financial support to reforms on the part of the EU and the World Bank suggests that immunization services are less at risk of being financially unsustainable compared to other countries in the ECA region supported by UNICEF.

5.5 Efficiency

5.5.1 Efficiency of Policies and Programmes

KEQ 10. How efficient are the healthcare system's immunization policies and programmes when it comes to identifying and addressing current and potential bottlenecks or inefficiencies?

Finding 16: UNICEF's participation in strategic partnerships, including collaboration with the WHO and local health authorities, and coordination of support for immunization activities was seen by key informants as a contribution to avoiding duplication of efforts. By aligning efforts with other stakeholders, UNICEF has helped to create synergies aimed at minimizing duplication and leveraging financial resources.

Finding 17: UNICEF's collaboration with country authorities focused on strengthening BiH's immunization systems and improving coverage to address identified gaps and bottlenecks. However, key informants noted that challenges remain in implementing SBC strategies and addressing systemic healthcare issues which include much-needed improvements in assessed areas of the immunization supply chain, and enhancing multi-sectoral collaboration to fully achieve comprehensive immunization goals.

Coordination and Partnerships

177. Key informants at every level of the immunization systems in each of the three jurisdictions indicated that UNICEF BiH had been an important force in working to eliminate duplication of efforts and to coordinate support for the immunization systems internally and externally. In particular, key informants noted:

- Coordinated technical and advisory support from UNICEF and the WHO in BiH[142];
- Coordinated support for immunization services during and after the COVID-19 pandemic including support from USAID and the EU[143]; and
- Coordinated support for CSOs undertaking efforts in social mobilization and community engagement[144].

178. In addition, UNICEF BiH's engagement in the development of the (unofficial) Multi-Year Annual Plan on Immunization for 2018-2022 at the beginning of the period under evaluation was seen by key

[142] KIIs with staff of UNICEF CO, the WHO, the MoH FBiH, the MoHSW RS, and the DHOS of the BD government.
[143] KIIs with staff of UNICEF CO, the WHO, and USAID.
[144] KIIs with staff of UNICEF CO, health authorities in all three jurisdictions, and CSO staff.

informants as an important contribution to coordinating external support and investments in the immunization systems across all three jurisdictions[145].

Identifying Gaps and Bottlenecks in the Immunization Systems

179. As described in Section 5.3 (Effectiveness), UNICEF provided support to health authorities in identifying gaps and bottlenecks in BiH's immunization systems throughout the period under evaluation, not least through root cause analyses and research on social, behavioural, and cultural drivers affecting vaccine uptake (listed in Section 5.3.4). Key gaps and bottlenecks identified in those studies included:

- Communication Challenges: Healthcare workers often had difficulties in communicating effectively with parents about the benefits of vaccination. This had been further complicated by the presence of anti-vaccination campaigns, which eroded parental confidence in health authorities.
- Paper-based Reporting: The continued use of paper-based forms for notifying vaccination status and coverage hindered timely data collection and reporting.
- Staffing Shortages: Healthcare facilities in all locations face staff shortages. For example, key informants reported that in Bijeljina, with only two pediatricians, the ratio of registered children per pediatrician was three times higher than standards allow. In general, across all locations there is a shortage of pediatricians and nurses trained in effective communication, which is a key factor in promoting vaccine uptake.

180. In Bijeljina, the healthcare system has faced additional challenges due to high population mobility—many parents were inclined to cross the border to seek pediatric care in Serbia, which disrupted the continuity of vaccination schedules[146]. Similar gaps were found in Tuzla, where the local health department had to send formal letters to parents who had missed vaccinations, highlighting the need for more proactive tracking and communication systems. While particularly acute in Bijeljina and Tuzla, the challenge of high population mobility and the difficulty in tracking and reaching children on the move is present across the whole country.

181. The UNICEF-supported EVM assessments in 2022 also provided key insights into the efficiency of immunization services and pointed to the need for action to address gaps and deficiencies[147]. The overall EVM scores were 81 percent for RS, 76 percent for FBiH, and 54 percent for BD. Although immunization systems in RS and FBiH were relatively efficient, BD faced significant challenges, with low scores in areas such as regional vaccine stores (47 percent) and immunization service points (19 percent).

182. Areas requiring improvement identified in the EVM assessments for all three jurisdictions included:

- Cold Chain Management: Half of the CCE in regional storage and service points lacked 30-day temperature recorders, and the vaccine storage and transportation systems did not fully adhere to WHO pre-qualified standards.

[145] KIIs with staff of UNICEF CO, the WHO, the MoH FBiH, the MoHSW RS, and the DHOS of the BD government.
[146] KIIs with PHI staff and staff of healthcare centres interviewed during site visits.
[147] UNICEF, Effective Vaccine Management Assessments, Republika Srpska (2022); Federation of Bosnia and Herzegovina, (2022); Brčko District, (2022).

- Stock Management and Temperature Monitoring: These systems were not web-based, limiting real-time data collection and reporting. In addition, preventive maintenance of CCE was lacking.
- Human Resources and Capacity Building: Training was insufficient for healthcare professionals in IPC and SOPs to support EVM were lacking.

183. The assessments also identified gaps in the immunization supply chain, revealing the need for better performance monitoring, strategic planning, and supervisory support.

184. Without UNICEF's support, the healthcare systems in BiH would not have had the necessary resources to adequately address these gaps, as confirmed by key health authorities from the Ministry of Civil Affairs of BIH and the MoH FBIH during interviews.

Social Mobilization and Media Engagement to Improve Efficiency

185. UNICEF also contributed to improving the efficiency of communication efforts through social mobilization campaigns. In 2023, UNICEF supported the Media Centre in organizing workshops aimed at increasing media literacy and combating misinformation about immunization. These workshops, held in five cities (Zavidovići, Bijeljina, Brčko, Jajce, and Travnik), engaged 99 youth participants, improving their knowledge of conspiracy theories and misinformation by 22.77 percent[148].

186. In addition, a five-day media boot camp attended by 19 youth participants was assessed to have increased knowledge of misinformation in the population by 25.8 percent. Post-camp social media campaigns reached an estimated 5.75 million people, with influencer posts reaching 224,520 people. These efforts were reported to have been effective in disseminating accurate information about vaccines and addressing misinformation, as evidenced by the 6.1 million impressions and 967,591 people reached through promoted posts on social media[149].

5.6 Impact

5.6.1 Impact on Vaccine Coverage and Disease Prevention

187. It is important to note that this evaluation cannot be classified as a classical "impact evaluation" as commonly understood in the evaluation literature. It does not, for example, attempt to test a counterfactual situation in which BiH or a similar country did not benefit from UNICEF support and none of the interventions examined were randomized to allow for a comparison of communities or individuals with or without intervention. In an effort to examine UNICEF's potential impact, the evaluation considered some of the changes over time where it would be credible (or not) to infer a contribution made by UNICEF over the period of the evaluation. The evaluation did not attempt to attribute the trends and changes noted here to the support provided by UNICEF BiH. At the same time, the findings presented in the sections above and interviews with key informants of all types indicated that UNICEF's support had made a significant contribution to the results achieved.

KEQ 11. To what extent have national healthcare system policies and programmes (including on demand generation) aiming to improve vaccination rates over the past five years had an impact on overall vaccination coverage (including in under-vaccinated populations), VPD incidence, and the

[148] Foundation for the development of media and civil society "Media Centre": "Youth for Better Media – Increased media and health literacy skills to reduce effects of misinformation on routine vaccination," UNICEF (2023).
[149] Ibid. (2023).

perceptions and immunization-related behaviours of key stakeholders, such as healthcare providers and caregivers?

Finding 18: The immunization systems in RS, FBiH, and BD are challenged by declining vaccination rates, particularly for MMR and revaccination. However, the evaluation found that in some UNICEF-supported cantons, targeted efforts such as parent recalls, counseling, SMS reminders, and social media engagement had led to improved vaccination rates and boosted MMR coverage.

Vaccine Supply and Delivery

188. Over the period under evaluation (2018-2023), BiH's immunization coverage faced significant challenges, with noticeable declines in vaccine uptake, particularly for vaccines to combat measles, mumps, and rubella (MMR). For example, coverage for the first dose of the MMR vaccine dropped from 68 percent in 2018 to just 55 percent in 2023[150]. In certain administrative units, such as FBiH, the coverage for MMR vaccines fell below 25 percent[151]. This decline is primarily attributed by health authorities and the UNICEF CO staff to vaccine hesitancy, misinformation, and the COVID-19 pandemic, which disrupted routine immunization services, as well as a lack of mechanisms for following up on missed vaccinations and fully implement laws on immunization[152].

189. As noted by UNICEF in its regional analysis of immunization coverage for 2020, the COVID-19 pandemic had a particularly detrimental effect on vaccination rates across the country[153]. Despite significant government investments to accelerate COVID-19 vaccination efforts, only 30 percent of the population received their first dose, with 25 percent receiving the second dose, and just 6 percent receiving the third dose, representing some of the lowest rates in Europe. Among the Roma community, routine immunization rates were as low as 6 percent, and COVID-19 vaccination uptake was only 5 percent.

190. Despite these challenges, UNICEF's involvement has proved instrumental in maintaining relatively stable immunization rates in certain areas. Health authorities and healthcare professionals in Tuzla and Doboj noted that targeted community engagement and communication strategies helped to improve vaccination uptake, even in areas which the same healthcare personnel indicated had historically low coverage[154]. Similarly, UNICEF's involvement in supporting PHC centres in cooperation with health authorities in RS, FBiH, and BD helped to mitigate some of these declines, at least in some areas. In Tuzla Canton, UNICEF-supported initiatives, such as systems for calling and recalling, counseling, and SMS reminders to parents, contributed to a 5 percent increase in vaccination rates in 2023[155]. Similarly, in Doboj, the immunization rate for the MMR vaccine increased due to enhanced communication with parents through social media platforms, supported by CSOs[156].

[150] WHO/UNICEF Estimates of National Immunization Coverage (WUENIC), 2023 Revision (July 2024).
[151] PHI of FBiH. Health status of the population and healthcare in FBiH 2018-2022 (2024).
[152] KIIs with UNICEF CO staff and staff of health authorities in all three jurisdictions.
[153] WUENIC Analysis of Europe and Central Asia Region, UNICEF BiH (2021).

[154] KIIs with health authorities and service providers in Tuzla and Doboj.
[155] UNICEF/Behavioral Insights Team - "Evaluating a behaviourally-informed intervention to increase demand for MMR1 immunization in Bosnia and Herzegovina" (2024).
[156] Ibid.

191. However, similar to other countries in the region, in BiH the MMR vaccines (MCV1 and MCV2) continued to face significant challenges. Coverage for the first dose of MMR remains under 50 percent in some local communities, highlighting the need for improved community engagement and more robust demand-generation strategies[157]. Site visits and meetings with healthcare professionals confirmed that a lack of coordination at the local level and widespread vaccine hesitancy continued to hinder progress.

5.6.2 UNICEF and Key Stakeholders

KEQ 12. To what extent has UNICEF been able to influence key stakeholders to take actions that could reasonably be expected to result in changes to vaccination rates and what have been the most impactful UNICEF-supported investments aimed at increasing immunization coverage – including those fully or mostly financed by national governments?

Finding 19: Interviews with health authorities in all jurisdictions highlighted that, without UNICEF's support for cold chain infrastructure and education, organizing comprehensive trainings and immunization interventions to further strengthen the country's immunization systems would not have been feasible.

Finding 20: In 2022, UNICEF BiH secured funds to digitalize the immunization reporting system, thereby providing the opportunity to strengthen a crucial element in managing vaccination data. According to key stakeholders, this digitalization has the potential to enhance decision making as well as planning and identification of unvaccinated groups, thereby strengthening the immunization systems in all three jurisdictions. However, there is a continuing gap in the capacity of immunization service managers in all three jurisdictions to use the resulting data to inform decisions on vaccine service management, especially when it comes to reaching marginalized communities more effectively.

UNICEF's Influence with Key Stakeholders[158]

192. UNICEF's role during the evaluation period was perceived by health authorities as pivotal in advancing immunization efforts across all entities in BiH. Collaboration with health authorities at various levels, including PHIs and PHC centres, was seen by these same stakeholders as an important contribution to improving the quality and accessibility of vaccination services. For example, in RS, vaccination services were provided throughout the workday, with healthcare professionals certified every four years by the PHI. Moreover, an e-vaccination record was recently introduced, and meant to be integrated into an electronic immunization database to streamline vaccine administration, planning, and monitoring.

193. In FBiH, one key challenge identified was improving access to vaccination services, including extending service hours and ensuring that healthcare workers were adequately trained and licensed. UNICEF's influence in these areas included supporting the development of mapping tools for immunization services to address gaps in vaccine coverage. Stakeholders also highlighted UNICEF's

[157] PHI of RS - Health Status of the Population of the Republika Srpska 2018-2022; and PHI of FBiH - Health Status of the Population and Healthcare in the Federation of Bosnia and Herzegovina 2018-2022 (2024).
[158] Observations in this sub-section are based on KIIs with staff of: UNICEF CO, the MoH FBiH, the MoHSW RS, the DHOS of the BD government, and PHIs of FBiH and RS as well as site visits to healthcare centres in all three jurisdictions.

ability to build strong networks between and among public institutions, government entities, and CSOs, particularly in engaging vulnerable populations such as the Roma community.

194. UNICEF's investments in community engagement and capacity building were also seen as instrumental in increasing vaccine uptake. Health authorities in all three jurisdictions noted that UNICEF supported targeted projects focusing on reaching marginalized populations and building trust through social media campaigns, direct community outreach, and collaborations with local organizations. These efforts were further validated by interviews conducted during site visits, which showed measurable improvements in vaccination rates in certain regions.

UNICEF's Most Impactful Investments

195. KIIs with each category of key stakeholder (staff of the UNICEF CO, other UN agencies, health authorities in all three jurisdictions, healthcare service delivery personnel, and CSO staff) identified the following as the most impactful investments supported by UNICEF during the period under evaluation (this is also supported by the findings reported in Sections 5.1 (Relevance), 5.2 (Coherence), and 5.3 (Effectiveness)):

- Support of improvements in the planning, management, logistical arrangements, and infrastructure of the supply chain for vaccines, especially the cold chain.
- Support for the digitalization of the immunization system, by providing an efficient tool for managing all relevant vaccination data (health authorities in BiH recognized this as a critical step in modernizing the immunization systems and improving overall coverage, however they also noted that healthcare professionals and managers in all three immunization systems will require capacity development to effectively use the resulting data to support evidence-based decision making to improve coverage – especially with regard to equitable access for marginalized communities).
- Support for the education of healthcare workers, particularly in PHC centres, where nurses and pediatricians requested additional materials to communicate with parents effectively (for example, in Sarajevo Canton, the Hygienic Epidemiological Department trained 402 healthcare workers from 17 organizational units in 2023, ensuring that the vaccination process was safe, efficient, and well-coordinated[159]).
- Support of public information campaigns, along with partnerships with religious communities and civil society, aiming to counter vaccine hesitancy, particularly in relation to COVID-19 and HPV vaccines.
- Support of platforms such as the www.vakcine.ba blog and Facebook page, which were noted as credible sources of vaccine information, reaching hundreds of thousands of users and actively engaging the public.
- Support of youth engagement projects focused on promoting immunization (one notable project, implemented by the Association of Students of the Faculty of Medicine in Banja Luka (SAMSIC), reached over 1,400 participants through events and social media campaigns focused

[159] Healthcare centre of Sarajevo Canton -- Hygienic Epidemiological Department, activity report for 2023 (2024).

on the importance of vaccination -this demonstrated the value of youth-led initiatives in increasing vaccine awareness and reducing hesitancy, especially among young adults[160]).

6.0 Evaluation Conclusions

196. This section presents the overall conclusions of the evaluation. Each conclusion is numbered and linked directly to the corresponding evaluation findings.

197. **Conclusion 1:** UNICEF has played an important role in identifying and addressing systemic gaps in BiH's immunization systems. Through assessments of cold chain infrastructure, vaccine management, and social and behavioural drivers affecting vaccine uptake, UNICEF's support guided guide health authorities toward evidence-based solutions. This support contributed to improvements in vaccine delivery, the introduction of digital immunization records, and the enhancement of healthcare worker capacity to engage with communities, although challenges remain in fully institutionalizing these advances.

Supporting Findings: 1, 3, 7, 9.

Evaluation Criteria: Relevance, Coherence, Effectiveness.

198. **Conclusion 2:** UNICEF's investments in upgrading cold chain infrastructure and supporting the digitalization of immunization data have contributed to strengthening the resilience of the healthcare system in BiH. The introduction of web-based tools for vaccine management and digital records in RS and plans for similar systems in FBiH and BD have the potential to improve vaccine tracking, reduce wastage, and enhance service delivery. However, the sustainability of these improvements is contingent on continued government investment and coordination, particularly in maintaining CCE post-warranty and improving the quality, level of disaggregation, and timeliness of vaccine coverage reporting data. In addition, evaluation service managers in all three jurisdictions require capacity development in the use of improved data for evidence-based decision making.

Supporting Findings: 5, 13, 15, 19, 20.

Evaluation Criteria: Coherence, Sustainability, Impact.

199. **Conclusion 3:** UNICEF has played a highly regarded role in supporting and enhancing immunization programming in BiH. Its ability to foster effective collaboration between and among health authorities, CSOs, and international partners such as the EU, USAID, and the WHO has been pivotal. By coordinating efforts during the COVID-19 pandemic and leading key initiatives like the rehabilitation of cold chain infrastructure and the promotion of electronic health records, UNICEF has contributed to minimizing duplication of efforts and maximized the impact of available resources. However, the overstretched capacity of the UNICEF CO health and SBC teams underscores the need for sustained support to avoid burnout and ensure long-term effectiveness.

Supporting Findings: 4, 6, 8, 16.

[160] UNICEF, Committee for International Collaboration of Medical Students in Republika Srpska (SAMSIC), Narrative Progress Report (2023).

Evaluation Criteria: Relevance, Coherence, Effectiveness, Efficiency.

200. **Conclusion 4:** Vaccine hesitancy, fueled by misinformation, remains a significant barrier to improving immunization coverage in BiH, particularly for MMR and COVID-19 vaccines. While UNICEF-supported activities have made progress in addressing hesitancy through media campaigns, community outreach, and the training of healthcare workers, these efforts need to be scaled-up to counteract entrenched misinformation, particularly in marginalized communities such as Roma populations. Moreover, healthcare workers require ongoing support to enhance their communication skills and effectively address parental concerns about vaccine safety.

Supporting Findings: 11, 12, 14, 18.

Evaluation Criteria: Effectiveness, Sustainability, Impact.

201. **Conclusion 5:** UNICEF has mobilized CSOs to promote vaccine awareness, especially among vulnerable groups. Initiatives such as SMS reminders, community events, and partnerships with Roma organizations have improved vaccine uptake in underserved areas. However, inequities in access to immunization services persist, particularly in remote and border regions where healthcare infrastructure is weaker and populations are more mobile. Addressing these inequities requires continued efforts to integrate community-level interventions with national immunization strategies.

Supporting Findings: 2, 10, 12.

Evaluation Criteria: Relevance, Effectiveness.

202. **Conclusion 6:** UNICEF's support in training healthcare workers in IPC has equipped frontline staff with the skills to better engage with parents and caregivers. However, the integration of these skills into formal medical education and ongoing professional development remains limited. To ensure long-term sustainability, there is a need to institutionalize training on vaccine promotion and communication within medical curricula and continuous professional education programmes for healthcare workers.

Supporting Findings: 2, 12, 14.

Evaluation Criteria: Relevance, Effectiveness, Sustainability.

203. **Conclusion 7**: UNICEF's collaboration with national authorities has led to improvements in BIH's immunization system, particularly in cold chain management and EVM assessments. However, challenges persist in implementing SBC strategies and addressing systemic healthcare issues, including gaps in stock management, real-time temperature monitoring, and preventive maintenance of CCE, especially in BD. To fully achieve comprehensive immunization goals, further efforts are needed to strengthen multi-sectoral collaboration and improve supply chain performance across the country.

Supporting Findings: 17, 18.

Evaluation Criteria: Efficiency, Impact.

204. **Conclusion 8:** While UNICEF's support has been critical in advancing immunization efforts in BiH, the long-term sustainability of these improvements hinges on sustained government investment and commitment. This includes maintaining cold chain infrastructure, expanding digital immunization systems, and ensuring the continuous training of healthcare workers. Without ongoing government

support, sustaining the progress achieved may be at risk, particularly in underserved and marginalized communities.

Supporting Findings: 13, 14.

Evaluation Criteria: Sustainability

7.0 Lessons Learned

1) The importance of tailored strategies building on SBC approaches to address vaccine hesitancy among marginalized communities

205. UNICEF-supported community engagement with Roma populations and other marginalized groups revealed that vaccine hesitancy is often driven by deep-rooted distrust in healthcare systems based on a lack of understanding of immunization benefits, poorly informed healthcare workers, and fears of side effects, all compounded by misinformation. Personalized communication strategies, such as cell phone reminders, face-to-face counseling, and leveraging trusted community figures, have proved effective in improving vaccine uptake. These strategies can be further refined in response to ongoing social listening system outputs and other results of SBC- and BI-driven research. The tailored approaches already tested have demonstrated that clear, culturally sensitive communication is key to addressing vaccine hesitancy and promoting immunization among underserved communities. For example, pilot programs in Tuzla Canton used targeted messaging to successfully increase immunization rates in hard-to-reach areas.

2) The role of digital solutions in enhancing immunization programme efficiency

206. The introduction of digital immunization systems in RS has significantly improved vaccine tracking and management, allowing for real-time monitoring of vaccine coverage and more accurate planning. In particular, data on zero-dose and under-vaccinated children at the facilities level are useful in developing targeted approaches to reach underserved populations. However, the delays in implementing similar systems in FBiH and BD highlight the need for consistent national-level commitment to digital health infrastructure. Pertinently, the digitalization process has been crucial in identifying gaps in coverage and facilitating better vaccine distribution. The lesson learned here is that while digital tools can greatly enhance service delivery, their effectiveness is limited without nationwide adoption and sufficient political and financial support. Furthermore, immunization system managers in all three jurisdictions require training in the use of improved quality data for evidence-based decision making.

3) Collaborative efforts with CSOs are essential to improve outreach to vulnerable populations

207. UNICEF's partnerships with local CSOs have been a cornerstone of outreach efforts, particularly in Roma communities and other underserved groups. CSOs have helped to bridge the gaps between health authorities and communities by conducting outreach campaigns, hosting informational sessions, and ensuring that immunization services are accessible. This collaborative model has proved successful in increasing vaccination rates in previously resistant areas. However, ongoing support for these partnerships is necessary to maintain momentum and ensure consistent coverage across all regions.

4) Ongoing training and capacity building for healthcare workers are crucial to sustainability

208. UNICEF's support for training healthcare workers in IPC has been pivotal in equipping them with the skills necessary to address vaccine hesitancy. However, these skills need to be further institutionalized into formal medical curricula and continuous professional development programmes to ensure long-term sustainability. Short-term training programmes, while beneficial, are not sufficient to ensure that healthcare workers remain up to date on the best practices. Continuous education is needed to embed these skills into routine practice and strengthen healthcare system capacity to handle future challenges. In addition, healthcare workers and, in particular, immunization system managers require training in the use of better quality and timely data (resulting from digitalization) for evidence-based decision making to allow for: a) better targeting of communications and engagement efforts to teach marginalized communities; b) more precise identification (at the facilities level) of zero-dose and under-vaccinated children; and c) changes in the location, timing, and delivery of vaccines services to provide more equitable access for marginalized communities of parents, caregivers, and children.

5) Strengthening cold chain infrastructure is necessary for the sustained success of the immunization programme

209. With support from donors, UNICEF has contributed to significantly improved cold chain infrastructure in BiH, yet bottlenecks remain, particularly in stock management, preventive maintenance, and real-time temperature monitoring. These issues are especially acute in BD, where equipment malfunctions have been more frequent. The lesson learned here is that while upgrading infrastructure is critical, regular maintenance and monitoring systems are equally important to ensure the sustainability of these improvements. UNICEF's contributions to cold chain management have laid a solid foundation, but ongoing investment in training and equipment upkeep will be essential to long-term success.

8.0 Recommendations

210. The evaluation findings and conclusions presented above have been used to develop the following evaluation recommendations. Each recommendation includes a supporting rationale and an assigned level of priority.

211. **Recommendation 1:** The UNICEF CO, in collaboration with health authorities in each jurisdiction, should strengthen SBC strategies to address social and behavioural drivers affecting uptake, build knowledge among caregivers and healthcare workers and address vaccine hesitancy to improve uptake.

212. *Rationale:* Despite previous efforts, barriers impeding vaccine uptake, including vaccine hesitancy, remain key challenges in BiH. Enhancing SBC strategies is essential to build knowledge and understanding, combat misinformation, and improve the public's trust in vaccines. This could include more targeted community outreach programmes and strengthening IPC skills of healthcare workers.

Based on Conclusions: 4, 7. Priority: High.

213. **Recommendation 2:** The UNICEF CO should continue to support health authorities in developing and expanding the digitalization of immunization systems across BiH.

214. *Rationale:* The implementation of electronic immunization systems has proved promising in improving vaccine management and monitoring coverage in RS, but these systems must be fully expanded and operationalized in FBiH and BD. Real-time tracking and data integration are crucial to addressing gaps in vaccine coverage.

Based on Conclusions: 2, 8. Priority: High.

215. **Recommendation 3:** The UNICEF CO should advocate for increasing investment in the cold chain infrastructure, focusing on sustainability and preventive maintenance on behalf of local authorities.

216. *Rationale:* UNICEF's support has improved cold chain systems, but challenges in real-time temperature monitoring and preventive maintenance remain. Further investment is necessary to ensure the sustainability of these systems, particularly after the warranty periods for equipment expire.

Based on Conclusions: 1, 7, 8. Priority: Medium.

217. **Recommendation 4:** The UNICEF CO should build on its existing partnerships with national health authorities, the WHO, and USAID to strengthen multi-sectoral collaboration, particularly with CSOs, and improve outreach and immunization efforts for vulnerable populations to improve equitable access and address the problem of zero-dose and under-immunized children.

218. *Rationale:* Marginalized groups, including Roma communities, continue to experience low vaccination coverage. Strengthening partnerships with CSOs and other community stakeholders could enhance outreach efforts and improve access to immunization services in underserved areas.

Based on Conclusions: 3, 4, 5. Priority: High.

219. **Recommendation 5:** The UNICEF CO should work with health and educational authorities to integrate the training of healthcare workers regarding both technical knowledge of immunization and its benefits (and contra-indications) and the required IPC skills into national medical and nursing curricula.

220. *Rationale:* While UNICEF has trained over 600 healthcare workers in IPC skills, this training needs to be institutionalized within national curricula to ensure sustainability and effectiveness. Continuous education is essential to improve the health workforce’s ability to address vaccine hesitancy and promote immunization.

Based on Conclusions: 4, 6, 8. Priority: Medium.

221. **Recommendation 6:** The UNICEF CO should advocate for increased government funding and ownership of immunization programmes to reduce reliance on external donors.

222. *Rationale:* To ensure long-term sustainability, the BiH government must increase its financial investment in immunization programmes, thereby reducing dependence on external support. This includes securing funding for cold chain maintenance, community outreach, and healthcare worker training.

Based on Conclusions: 2, 8. Priority: Medium.

223. **Recommendation 7**: The UNICEF CO, in collaboration with the UNICEF ECARO, should develop a medium-term strategy ensuring continued technical capacity in immunization (including SBC) at the CO level with necessary tools and support provided by the ECARO.

224. *Rationale:* The evaluation has demonstrated that the small and somewhat overstretched CO team supporting immunization in BiH has been able to provide quality technical support and advocacy to counterparts among health authorities and civil society while accessing and adapting tools provided by the ECARO. However, there is no indication that the requirement for this assistance will diminish in the medium term and UNICEF thus requires a plan to sustain this capacity in periods when donor resources and investments may diminish.

Based on Conclusions: 3, 4, 5, 7. Priority: High.

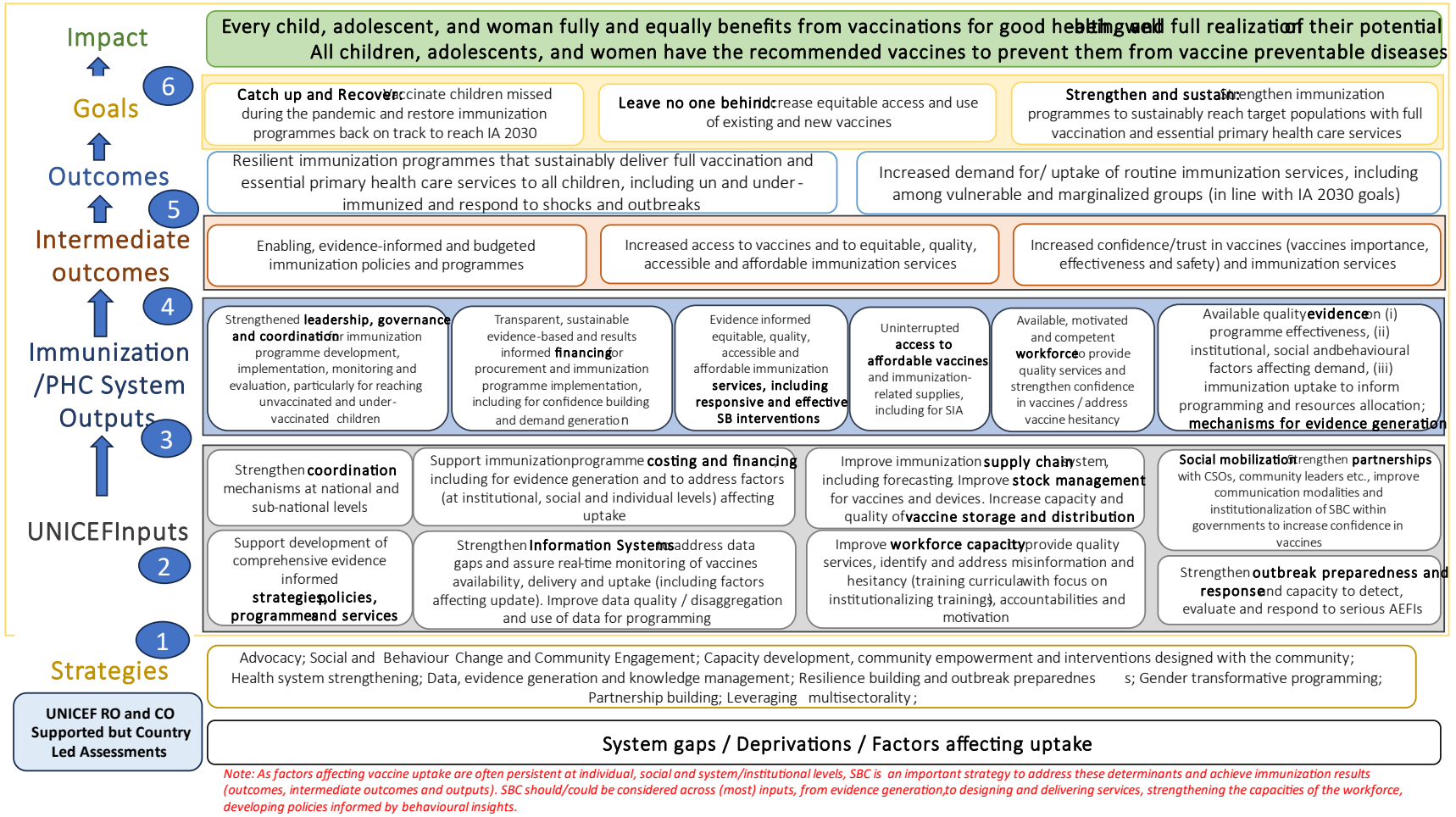
Annex 1: Terms of Reference

The complete terms of reference (ToR) for the evaluation are available via this link:

TOR Evaluation - Immunization FULL.docx

Annex 2: Theory of Change

The theory of change (ToC) presented here is comprehensive and meant to apply to UNICEF's support for each country in the region. However, it recognizes that each UNICEF CO will engage in the selection of the supporting activities and programming illustrated here in accordance with national needs and priorities and the changing national immunization context.



Note: As factors affecting vaccine uptake are often persistent at individual, social and system/institutional levels, SBC is an important strategy to address these determinants and achieve immunization results (outcomes, intermediate outcomes and outputs). SBC should/could be considered across (most) inputs, from evidence generation, to designing and delivering services, strengthening the capacities of the workforce, developing policies informed by behavioural insights.

Annex 3: Methodology and Evaluation Evidence Base/Dataset

Part One: Analytical Methods

At both regional and country levels, the evaluation relied on two main analytical methods to analyze the evaluation evidence gathered: contribution analysis (CA); and a simplified form of process tracing.

Contribution Analysis (CA). The essential value of CA is that it offers an approach designed to reduce uncertainty about the contribution the intervention is making to the observed results through an increased understanding of why the observed results have occurred and the roles played by the intervention and other internal and external factors (UNEG 2020, p.14). The findings of a CA are not definitive proof, but rather provide evidence and a line of reasoning from which the evaluation was able to draw a plausible conclusion that, within some level of confidence, the programme has made an important contribution to the documented results.

The process of CA involves six main steps (UNEG, 2020, p.14). The table below sets out the different steps and outlines how they have been applied to the country-level evaluation in BiH.

Steps in Contribution Analysis as Applied to ECA Immunization Evaluation

Steps in Contribution Analysis	Application to the Evaluation of Immunization Programming in Bosnia and Herzegovina
1. Set out the contribution problem (questions to be addressed)	Completed during the inception phase: evaluation questions (particularly question 1) identified expected UNICEF contributions
2. Develop ToC (results chain with causal links and assumptions)	Regional ToC developed during the inception phase and vetted by UNICEF CO
3. Gather evidence (pre-existing and available)	Preliminary document and data review carried out by the central evaluation team during the inception phase (completed March 2024)
4. Assemble and assess evidence (lay out and assess the credibility of the narrative of UNICEF's contributions)	Completed by the national evaluator between mid-April and the end of May 2024 with participation of a member of the central evaluation team
5. Seek out more evidence (gather more primary and secondary data to augment evidence as needed)	Carried out concurrently with Step 4 based on weekly team meetings and consultations and interaction between the central evaluation team and the BIH-based evaluation team
6. Revise the narrative (identify reasonable causal claims wherever supported by evidence)	All country-based team members met with the central evaluation team in Istanbul for a data consolidation workshop to review evidence for each KEQ and develop an assessment of the credibility of claims regarding UNICEF's actions and their contribution to the observed results

Source: UNICEF, Evaluation Dataset (2024).

The claimed contribution made by UNICEF is supported by both the achieved results and underlying assumptions.

Process tracing is a methodology deployed in qualitative analysis that examines important positive decisions made (for example, a change in strategy, an alteration to a curriculum for training, or the introduction of new vaccines) and arrives at an assessment of how different actors may have contributed to the change. In applying process tracing, the evaluator should identify and describe the process of decision making while paying attention to the matter of sequence (for example, the timing between advocacy and decision) (Collier, 2011). As such, process tracing is most often used **within a case-study framework**.

Given the complexity and variety of the important changes made to the immunization systems in BiH over time, the evaluation relied on a simplified approach to process tracing by identifying key changes in the orientation and operation of immunization. The role of UNICEF in these changes was then examined through cross-triangulation of key stakeholder inputs to the influence of UNICEF BiH's engagement and support. It is important to note that process tracing was designed from the beginning as a supplement to the main analytical approach of CA.

Part Two: Data Collection, Analysis, and Reporting

The evaluation applied a mixed-method approach to data collection, including for each country a document and data review, KIIs, and site visits both inside and outside the national capital.

The evaluation team for BiH consisted of a nationally engaged evaluator supported by a member of the central evaluation team.

- The **national evaluation consultant** was responsible for data collection and joint analysis, and acted as lead author in the preparation of draft and final country evaluation reports. The CO played a supportive role in country-level data collection to ensure access and guidance, as appropriate. In addition, the evaluation was guided by its own ERG comprising members from the UNICEF CO and the Government of BiH.
- The **central evaluation team member** provided input, guidance, and oversight to the national evaluator, and engaged in joint analysis and preparation of the draft Country Evaluation Reports. The central evaluation team was responsible for quality assurance of the Country Evaluation Reports and took part in all presentations given to the ERG. The regional evaluation team member also took part in a brief mission to BiH in April 2024 to join selected KIIs and provide support and oversight to the national evaluator.
- During the data collection phase, the national evaluation consultant for BiH took part in regular weekly remote meetings of the overall evaluation team. He also participated in the three-day data consolidation and analysis workshop held in Istanbul in June 2024.

Document review

The evaluation conducted a desk review of key strategic, policy, program and project documents and a review of secondary sources of information and analysis, including documents published by the UNICEF, government and other donors, and immunization and health systems technical documents.

The desk review also identified key priorities, and challenges to be addressed during the evaluation process (KIIs and site visits), ensuring that efforts were focused on areas needing further inquiry and analysis. The list of key documents consulted can be found in Annex 4.

Quantitative Data Review

Quantitative profiling included collecting quantitative data from UNICEF reports and immunization programme datasets, related to coverage and other relevant reports and assessments. Quantitative analysis of secondary data included tracking the trends of immunization coverage from 2018 to 2023 in the country using different sources of information (Joint Reporting Form (JRF), administrative data, and WUENIC data (updated for 2023). Elements of the quantitative data review are presented in the relevant sections of the report and in Annex 6.

Key Informant Interviews (KIIs)

Building from a stakeholder map developed in consultation with UNICEF BiH, the list of stakeholders to be interviewed was agreed between the evaluation team and the UNICEF CO prior to the in-country mission undertaken by the overall evaluation team leader in April 2024. The evaluation conducted semi-structured interviews based on a set of guidelims tailored to each category of key stakeholder[161].

The data collection guides afforded the interviewer the flexibility to deviate from the pre-determined order. This approach enabled improvisation while ensuring that all key topics were covered, thereby promoting flexibility, empathy, and mutual understanding to encourage the exchange of information. A script was also developed to structure the interview content. Meanwhile, the evaluation took advantage of many personal interactions to obtain detailed information related to immunization programme components. These direct interactions provided deeper insights into stakeholders' perspectives, experiences, and challenges, which are critical to establish a thorough and accurate assessment and evaluation. Interviews were conducted in person, virtually, or by phone.

Key Informant Interviews (KIIs) by Institutional Type

Category	Number of interviewees
UNICEF BiH Country Office	5
Government (ministries/public health institutes (PHIs))	13
Development agencies/donors	3
Implementing partners	4
Academia	1
CSOs	7
Beneficiaries/doctors/medical assistants	15
Warehouse	1
Total	**49**

Source: Evaluation Dataset, UNICEF 2024.

Site Visits and Observations

In addition to collecting documents and conducting KIIs in the offices of key stakeholders in the capital, the evaluation visited regional and cantonal branches, vaccine storage and distribution centres, and rural healthcare facilities. The primary purpose of these site visits was to gather additional evidence by

[161] Evaluation of Immunization Programming at the System Level (2018-2023): Annex 5 - Data Collection Instruments.

observing immunization services at grassroots level. The sites to be visited were chosen in consultation with the UNICEF CO.

The site visits aided the evaluation in exploring the extent of the contribution to the observed results by UNICEF (and other partners) and in identifying barriers and challenges at operational level. By allowing the evaluation to engage with service managers and providers across a wide variety of contexts, site visits also provided an important lever for triangulation and served as a validity check on results identified through other data sources such as survey data or research reports.

Part Three: Analysis and Reporting

The analysis phase of the BiH evaluation relied on a collaborative process involving the national evaluation team member, the central evaluation team, and evaluators carrying out the other four country studies. It adhered to the following sequence:

- Evaluation evidence from all sources was entered into an Excel database under each evaluation question with the evidence coded as negative, positive, or neutral and with the relevant evidence data point summarized. In this way, all relevant data could be organized under each evaluation question for analysis.
- After initial analysis by the country evaluation team member, the evidence for BiH was presented and discussed in the data consolidation workshop in Istanbul in early June with the participation of all evaluation team members and the UNICEF Evaluation Office for ECA.
- This process allowed for calibration of the evidence across all five country studies and the identification of themes to inform the overall regional evaluation report.
- Subsequent to the data consolidation workshop, the national evaluator for BiH prepared the first zero draft of the report along with preliminary findings. Analysis was then carried out on an interactive basis with the central evaluation team providing oversight, comments, and quality assurance.
- Evaluation conclusions and recommendations were developed and incorporated into the draft evaluation report shared with the evaluation manager.
- After being reviewed by the evaluation manager, the draft report was communicated to the members of the ERG to be finalized after receipt of comments and feedback.

The challenges and limitations faced by the evaluation and the mitigating strategies used to address them are described in detail in Section 2.0 of the main report.

Part Four: Evaluation Matrix, Data Collection Instruments, and Evidence Base/Dataset

The guiding evaluation matrix used for the evaluation along with all data collection instruments is provided in the Evaluation Inception Report, which can be assessed through the following link:

Final ECA Inception Report_March 13_TFR.docx
The completed evaluation evidence base for this country evaluation, which matches the evaluation evidence to each KEQ, can be found via the following link:

https://docs.google.com/spreadsheets/d/1Fmj7F446piEnYlegQMNIwLIMIXWYBvLW/edit?usp=drive_link&ouid=107704483353401912107&rtpof=true&sd=true

Annex 4: References

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Annex 5: Persons Interviewed

ID	Category	Entity	Name	Position
1	Government	Ministry of Civil Affairs of Bosnia and Herzegovina	Dalibor Pejović	Head of Department for Health Statistical Reporting in Health Sector
2	Government	Ministry of Health and Social Welfare of the Republika Srpska	Prim Dr Amela Lolić	Assistant Minister, Government of the Republika Srpska, Ministry of Health and Social Welfare of the Republika Srpska
3	Government	Ministry of Health of the Federation of Bosnia and Herzegovina	Prim Dr Goran Čerkez	Assistant Minister of Health of the Federation of Bosnia and Herzegovina
4	Government	Ministry of Health and Social Welfare of the Republika Srpska	Zdravko Grubač	Health Evidence and Reports Expert in the Department of Public Health, International Cooperation, and European Integration
5	Government	Government of the Brčko District of Bosnia and Herzegovina	Asmir Mujanovic	Head of the Department of Health and Other Services in the Government of Brčko District in Bosnia and Herzegovina
6	Government	Government of the Brčko District of Bosnia and Herzegovina	Dr Andja Nikolić	Head of the Department of Public Health and Other Services in the Government of Brčko District in Bosnia and Herzegovina
7	Government	Government of the Brčko District of Bosnia and Herzegovina	Emina Hajdarevic	Pharmacist, Cold Chain Management in the Department of Health and Other Services in the Government of Brčko District in Bosnia and Herzegovina
8	Government	Public Health Institute of the Republika Srpska	Bojan Djenić	Director of the Public Health Institute of the Republika Srpska
9	Government	Public Health Institute of the Republika Srpska	Dr Jelena Djaković Dević	Specialist of Epidemiology in the Department of Epidemiology, Program Evaluation Manager
10	Government	Public Health Institute of the Republika Srpska	Dejan Arežina	Sanitary Technician in the Department of Epidemiology, Cold Chain Management, Republika Srpska
11	Government	Public Health Institute of the Federation of Bosnia and Herzegovina	Dr Sc Med Siniša Skočibušić	Director of the Public Health Institute of the Federation of Bosnia and Herzegovina
12	Government	Public Health Institute of the Federation of Bosnia and Herzegovina	Prof Dr Sanjin Musa	Head of the Department of Epidemiology, Immunization Program Manager of the Federation of Bosnia and Herzegovina
13	Government	Public Health Institute of the Federation of Bosnia and Herzegovina	Šejla Čolaković	Pharmacist, Cold Chain Management of the Federation of Bosnia and Herzegovina
14	Supply Chain Distribution and Service Delivery Points	Cantonal Public Health Institute Tuzla, Federation of Bosnia and Herzegovina	Dr Jasmina Brkić Džamić	Epidemiologist, EPI Coordinator

15	Supply Chain Distribution and Service Delivery Points	Cantonal Public Health Institute Sarajevo, Federation of Bosnia and Herzegovina	Dr Anisa Bajramović	Head of Department of Epidemiology in Cantonal Public Health Institute Sarajevo
16	Supply Chain Distribution and Service Delivery Points	Cantonal Public Health Institute Sarajevo, Federation of Bosnia and Herzegovina	Denis Djurović	Sanitary Engineer, Cold Chain
17	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Sarajevo Canton, Federation of Bosnia and Herzegovina	Dr Sabiha Jahić	Pediatrician in the Department of Pediatrics, Vaccination Centre, Ilidza
18	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Sarajevo Canton, Federation of Bosnia and Herzegovina	Adnan Šorlija	Sanitary Engineer, Hygienic Epidemiological Department
19	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Sarajevo Canton, Federation of Bosnia and Herzegovina	Selma Alić	Sanitary Engineer, Coordination of Vaccination in Organizational Units of Healthcare Centre
20	Supply Chain Distribution and Service Delivery Points	Cantonal Public Health Institute of Bosnian-Podrinje Canton Gorazde, Federation of Bosnia and Herzegovina	Dr Medina Bičo	Epidemiologist in cantonal Public Health Institute of Bosnian-Podrinje Canton Gorazde, Federation of BIH
21	Supply Chain Distribution and Service Delivery Points	Public Health Institute of the Republika Srpska, Regional Centre East Sarajevo	Vlado Miovčić	Head of Regional Units of East Sarajevo in the Public Health Institute of the Republika Srpska
22	Supply Chain Distribution and Service Delivery Points	Public Health Institute of the Republika Srpska, Regional Centre Doboj	Prof Dr Marin Kvaternik	Epidemiologist, Professor of Epidemiology
23	Supply Chain Distribution and Service Delivery Points	Healthcare Centre “Dom zdravlja" Bijeljina, Republika Srpska	Dr Mladen Grujičić	Epidemiologist, Head of Hygienic and Epidemiology Department in Healthcare Centre Bijeljina
24	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Bijeljina, Republika Srpska	Dr Stojanka Škorić	Pediatrician, Head of Department for Specialist Consultation in Pediatrics
25	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Tuzla, Federation of Bosnia and Herzegovina	Dr Dijana Dugonjić	Pediatrician, Head of Department for Pediatrics

26	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Tuzla, Federation of Bosnia and Herzegovina	Adnedina Lugavić	Nurse in Vaccination Centre, Department of Pediatrics
27	Supply Chain Distribution and Service Delivery Points	Healthcare Centre Banja Luka, Republika Srpska	Marina Radičević	Nurses Supervisor in Vaccination Centre in “Dom zdravlja” Banja Luka
28	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Kalesija, Federation of Bosnia and Herzegovina	Dr Nermin Kuralić	Director of Healthcare Centre “Dom zdravlja” Kalesija
29	Supply Chain Distribution and Service Delivery Points	Central Warehouse Hercegovina lijek Sarajevo	Adna Tabakovic	Quality Assurance Manager
30	Other UN Offices	WHO Country Office in Bosnia and Herzegovina	Dr Mirza Palo	National Professional Officer for Emergency Preparedness Response
31	Other UN Offices	WHO Country Office in Bosnia and Herzegovina	Dr Stela Stojisavljević	National Professional Officer for Immunization
32	Development Partner	USAID Country Office in Bosnia and Herzegovina	Marinko Šakić	Project Management Specialist
33	Academic Institutions or Research Bodies	University of Banja Luka, Medical Faculty	Prof Dr Janja Bojanić	Professor at the Department of Epidemiology at the Medical Faculty of the University of Banja Luka
34	Implementing Partners	Foundation for Media Development and Civil Society "Mediacentar" Sarajevo	Maida Muminović	Director of Foundation
35	Implementing Partners	Infohouse Foundation	Milica Gajić Brčkalo	Project Coordinator for the "Designing, prototyping, and evaluating interventions based on behavioural analysis to strengthen routine immunization" project
36	Implementing Partners	Association for the Promotion of Natural Sciences "Science and the World"	Jelena Kalinić	President of Association,
37	Implementing Partners	Committee for International Exchange of Medical Students of the Republika Srpska (SAMSIC)	Dr Andjela Arar	President of Committee
38	CSOs	Roma Support Centre “Romalen” Kakanj	Mujo Fafulić	President of Association Board
39	CSO	Roma Support Centre “Romalen” Kakanj	Mirela Begic	Director of Association

40	CSOs	Civil Society Organization - Lege Artis	Dr Slaven Krajina	Pediatrician Working in Primary Healthcare Centre Doboj
41	CSOs	Civil Society Organization - Web Platform "Raskrinkavanje.ba"	Tijana Cvjetičanin	Advisor
42	CSOs	Interreligious Council in BiH	Helena Martinović	Expert advisor in Interreligious Council (representative of Roman Catholic Church)
43	CSOs	Interreligious Council in BiH	Sladjana Sarit Ninković	Expert Advisor in Interreligious Council in BiH (Representative of Jewish Community)
44	CSOs	International Red Cross Brcko District	Eldin Fazlović	Program Coordinator
45	UNICEF CO	UNICEF Regional Office in Geneva and CO in Bosnia and Herzegovina (2018-2023)	Fatima Čengić	Head of Department of Health in the UNICEF Country Office (during evaluation period)
46	UNICEF CO	UNICEF Country Office in Bosnia and Herzegovina	Dr Dušan Kojić	Immunization Focal Point
47	UNICEF CO	UNICEF Country Office in Bosnia and Herzegovina	Andrea Marinković	Evaluation Focal Point
48	UNICEF CO	UNICEF Country Office in Bosnia and Herzegovina	Šejla Dizdarević	Social and Behavioural Change Officer
49	UNICEF CO	UNICEF Country Office in Bosnia and Herzegovina	Dr Jela Aćimović	Head of Department of Health Sector (and during the evaluation period, Immunization Program Manager for the Republika Srpska)

Source: Evaluation Dataset, UNICEF (2024).

Annex 6: Sites Visited

ID	Category	Entity	Contact Point	Position
1	Supply Chain Distribution and Service Delivery Points Warehouse for the Republika Srpska, Banja Luka	Public Health Institute of the Republika Srpska	Dejan Arežina	Sanitary Technician in the Department for Epidemiology, Cold Chain Management, Republika Srpska
2	Supply Chain Distribution and Service Delivery Points Warehouse for the Federation of Bosnia and Herzegovina, Mostar	Public Health Institute of the Federation of Bosnia and Herzegovina	Šejla Čolaković	Pharmacist, Cold Chain Management, Federation of Bosnia and Herzegovina
3	Supply Chain Distribution and Service Delivery Points Warehouse for Brčko District, Brčko	Department for Health and Other Services in the Government of the Brčko District of Bosnia and Herzegovina	Emina Hajdarevic	Pharmacist, Cold Chain Management in the Department of Health and Other Services in the Government of Brčko District in Bosnia and Herzegovina
4	Supply Chain Distribution and Service Delivery Points Vaccine Storage in the Regional Centre of the Public Health Institute of the Republika Srpska	Public Health Institute of the Republika Srpska, Regional Centre Doboj	Ružica Tanasić	Sanitary Technician
5	Supply Chain Distribution and Service Delivery Points Vaccine Storage in the Regional Centre of the Public Health Institute of the Republika Srpska	Public Health Institute of the Republika Srpska, Regional Centre East Sarajevo	Vlado Miovčić	Head of Regional Units of East Sarajevo in the Public Health Institute of the Republika Srpska
6	Supply Chain Distribution and Service Delivery Points	Cantonal Public Health Institute Tuzla, Federation of Bosnia and Herzegovina	Dr Jasmina Brkić Džamić	Epidemiologist, EPI Coordinator
7	Supply Chain Distribution and Service Delivery Points	Cantonal Public Health Institute Sarajevo, Federation of Bosnia and Herzegovina	Dr Anisa Bajramović	Head of Department of Epidemiology in Cantonal Public Health Institute Sarajevo
8	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Sarajevo Canton, Federation of Bosnia and Herzegovina	Adnan Šorlija	Sanitary Engineer, Hygienic Epidemiological Department
9	Supply Chain Distribution and Service Delivery Points	Healthcare Centre "Dom zdravlja" Bijeljina, Republika Srpska	Dr Gordana Savin	Associate Director of the Healthcare Centre Bijeljina

10	Supply Chain Distribution and Service Delivery Points	Health Care Centre "Dom zdravlja"Tuzla, Federation of Bosnia and Herzegovina	Dr Dijana Dugonjić	Pediatrician, Head of Department for Pediatrics
11	Supply Chain Distribution and Service Delivery Points	Health Centre "Dom zdravlja" Kalesija, Federation of Bosnia and Herzegovina	Dr Nermin Kuralić	Director of Healthcare Centre “Dom zdravlja” Kalesija
12	Supply Chain Distribution and Service Delivery Points	Healthcare Centre “Dom zdravlja” Banja Luka, Republika Srpska	Dr Mirela Kasabašić	Associate Director of the Healthcare Centre “Dom zdravlja” Banja Luka
13	Implementing Partners	Foundation for Media Development and Civil Society "Mediacentar" Sarajevo	Maida Muminović	Director of Foundation
14	Implementing Partners	Infohouse Foundation	Milica Gajić Brčkalo	Project Coordinator for the "Designing, prototyping, and evaluating interventions based on behavioural analysis to strengthen routine immunization" project
15	Supply Chain Distribution and Service Delivery Points	Central Warehouse Hercegovina lijek Sarajevo	Adna Tabakovic	Quality Assurance Manager
16	CSO	Roma Support Centre “Romalen” Kakanj	Mirela Begic	Director of Association

Annex 7: Selected Data

UNICEF Annual Expenditures on Immunization Interventions (in USD)

Expenditure Intervention Code	2018	2019	2020	2021	2022	2023
Immunization Action Plans Implementation	741	186	454	30,789	89,652	43
Healthcare Professionals Training	86,091	65,315	44,250			
Raising Awareness of Immunization	16,287	60,057	48,269			
R/M Children Immunization		45,722	88,126			
COVID-19 Immunization			2,028			
Cold Chain Assessments				128,003	318,502	221,134
Support for Risk Communication				285,329	637,405	369,278
Support for Immunization Services				361,087	440,860	189,922
Trainings – Immunization					10,720	31
Action Plans and Procurement						671,211
Skills Building						22,608
Risk Communication, Community Engagement						552,922
EVM Improvement, Digitalization						120,551
Standards for Children						42,641
Total	**165,934**	**232,979**	**249,578**	**805,207**	**1,650,027**	**3,631,275**

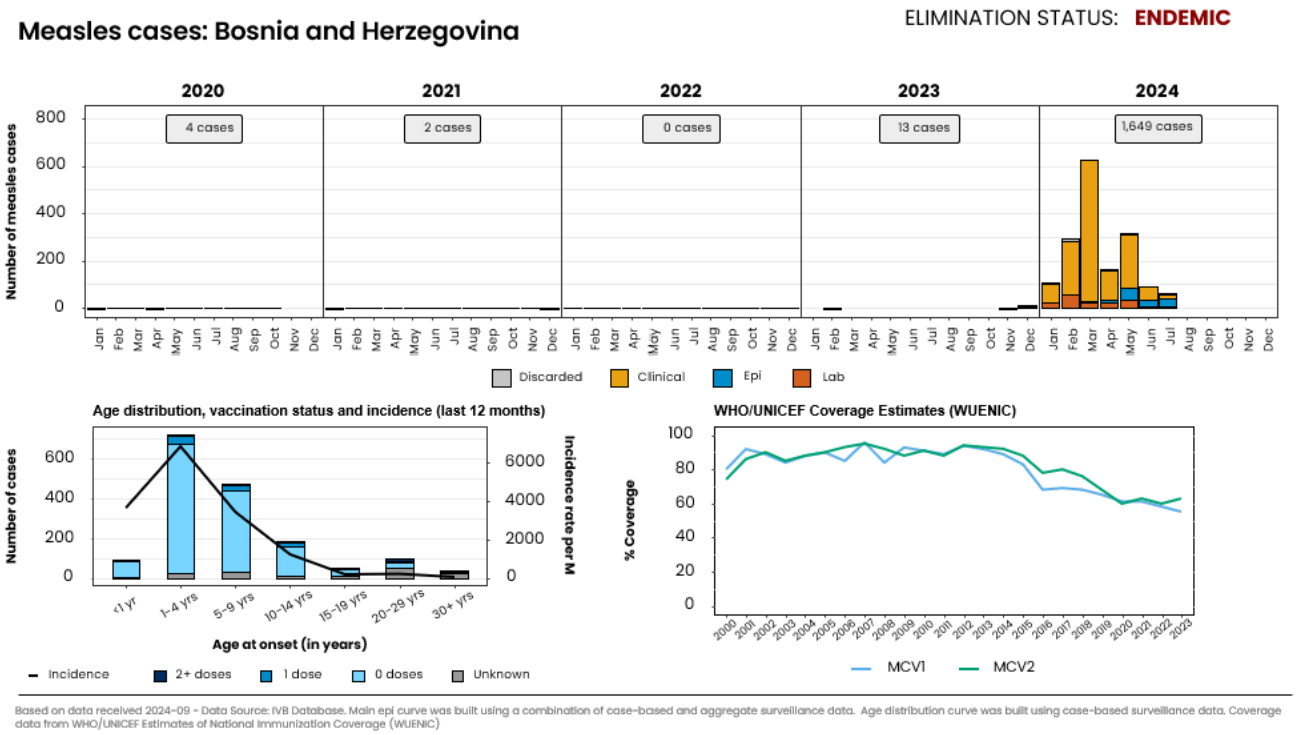
Source: UNICEF Country Office for Bosnia and Herzegovina, (2024). Where data fields are empty, no expenditures were coded to that intervention in the reference year.

Estimated Vaccine Coverage for Selected Antigens in BIH (2018-2023) (Source: WUENIC, 2024)

Vaccine	B+H 2018	Reg Avg 2018	B+H 2019	Reg Avg 2019	B+H 2020	Reg Avg 2020	B+H 2021	Reg Avg 2021	B+H 2022	Reg Avg 2022	B+H 2023
BCG	95	96	96	95	96	96	94	95	96	95	95
DPT 1	87	97	84	97	85	96	85	96	85	96	85
DPT 3	73	95	72	96	72	94	76	94	75	94	73
MCV1	68	96	65	97	61	94	61	95	58	93	55
MCV 2	76	94	68	94	60	92	63	94	60	93	63
HPV											
Polio3	73	95	74	96	74	94	75	94	75	95	75

Source: WUENIC, Revision, July 2024. Reg = ECA Regional Average.

Measles Outbreak in Bosnia and Herzegovina (2020-2024)



Source: WHO EpiData, WHO European Region

Selected Results Assessment (RAM) Indicators in Immunization for UNICEF Bosnia and Herzegovina (2018-2023)

Indicator name	Type	Baseline yr	Baseline value	Target yr	Target value	Actually achieved	Rating
District or equivalent administrative unit with at least 80 percent coverage of DTP-containing vaccine for children < 1 year (21-02-L2-04)	Std	2018	67	2021	73	73	Fully Achieved
# children receiving measles vaccine	Std	2021	3500	2022	5000	5000	Fully Achieved
Dropout rate between DPT1 and DPT3 coverage (21-02-L3-05)	Std	2018	19	2021	19	19	Fully Achieved
Months with stockout of DTP-containing vaccine at the national level (Target: 0 months) (21-02-L3-09)	Std	2018	0	2021	0	0	Fully Achieved
Number of cold chain rehabilitation plans completed	Add	2020	0	2021	3	3	Fully Achieved
Dropout rate between DPT1 and DPT3 coverage (21-02-L3-05)	Percent	2018	19	2023	19	23	Not Achieved

Indicator name	Type	Baseline yr	Baseline value	Target yr	Target value	Actually achieved	Rating
Months with stockout of DTP-containing vaccine at the national level (Target: 0 months) (21-02-L3-09)	Number	2018	0	2023	0	0	Fully Achieved
Number of people reached on COVID-19 through messaging on prevention and access to services [COVIDSitRep]	Number	2021	0	2022	1500000	1686259	Fully Achieved

Source: UNICEF inSight Outcome/Output Data Explorer: Updated 05/09/24.

Annex 8: Compliance with Norms and Standards in Evaluation

United Nations Evaluation Group (UNEG) Norms and Standards

The evaluation was carried out in accordance with UNEG norms and standards. The following table provides an overview of the evaluation design and operational plan as it was carried out in BiH in light of said norms and standards (UNEG, 2021, pp. 10-12):

UNEG Norms	Evaluation Compliance
1. Internationally Agreed Principles, Goals, and Targets	The evaluation assessed UNICEF's performance and contribution to goals in immunization which are integral to the achievement of SDG 3 "Ensure well being and promote healthy living for all at all ages" and in accordance with SDG Target 3.b on ensuring access to essential medicines and vaccines.
2. Utility	The evaluation report provides findings, conclusions, and recommendations that can inform and guide programming for UNICEF, national authorities, and key stakeholders in BiH.
3. Credibility (independence, impartiality, and rigorous methodology)	The evaluation was independently managed by the UNICEF ECA Office of Evaluation and conducted by an impartial team of international and national team members recruited through a competitive process and vetted to ensure no conflicts of interest. In addition, the evaluation methods were reviewed by key stakeholders at regional and national levels.
4. Independence	In prior evaluations, the central and national team members demonstrated their ability to evaluate without undue influence from any party. The ECA Evaluation Office also provided independent management of the evaluation.
5. Impartiality	None of the evaluation team members were or will be directly responsible (in the near future) for policy setting, design, or management of immunization programming in the region.
6. Ethics	Discussed in detail below
7. Transparency	The evaluation report will be made publicly available through the online UNICEF Evaluation Portal.
8. Human Rights and Gender Equality	The evaluation directly focused on access to quality evaluation services for marginalized populations in accordance with the principle of "no-one-left-behind." This is especially relevant in immunization programmes. The evaluation addressed, in particular, the availability of disaggregated data by sex and by marginalized or underserved groups.
9. National Evaluation Capacities	By engaging the national evaluation team member fully in all aspects of the evaluation, it has contributed to strengthening national capacity in BiH capacities that can in turn strengthen national systems for evaluation.
10. Professionalism	All members of the evaluation team were selected based on their experience, knowledge, and demonstrated integrity. They followed these norms and applicable ethical standards throughout the evaluation.

Adhering to Ethical Standards

Throughout all phases of the evaluation, the evaluation team conformed to and upheld the UNICEF Ethical Guidelines for Evaluation organized around the principles of respect, beneficence, integrity, and accountability[162].

Respect

Respect encompasses providing access to the evaluation process to relevant stakeholders: from powerless to powerful. This was pursued during the inception phase of the evaluation by engaging with UNICEF staff at regional and CO levels and through their engagement with national authorities, including participation in the country's ERG. It also required fair representation of different voices in the evaluation process, which was accomplished through engagement with stakeholders across the spectrum of UNICEF CO and ECARO staff, national health authorities at all levels, and development and implementing partners.

Beneficence

This principle required the evaluation and the evaluators to consider the ongoing risks and benefits arising from the evaluation process and products, including longer term consequences. For this evaluation, that meant, among other considerations, ensuring that the costs, including the opportunity cost of staff time devoted by UNICEF staff, national authorities, service providers, and other stakeholders, were commensurate with the benefit realized through the eventual findings, conclusions, and recommendations which can inform and improve future programming. In addition, it required the evaluation to "do no harm" and to ensure an overall positive contribution to human and natural systems and to the mission of the United Nations. This positive contribution was pursued throughout the commissioning and design of the evaluation and remained a priority during the data collection, analysis, and reporting phases.

Integrity

This required the evaluation managers and the evaluation team to commit to honesty and truthfulness in their communications and actions, and to demonstrate professionalism and competence throughout the evaluation process. It also demanded that the evaluation team demonstrate independence, impartiality, and incorruptibility. These interdependent and mutually reinforcing principles were supported by an evaluation design that required frequent updating and reporting to key stakeholders at regional and national levels, and oversight by the independent ERG for BiH.

Accountability

Accountability was achieved through ensuring transparency regarding the evaluation's purpose and actions taken, as well as genuine responsiveness to any questions arising during the conducting of the evaluation. The evaluation manager and team members acted with full responsibility for fulfilling the evaluation's purpose, for exercising due care, and for ensuring redress whenever needed. The team members remained committed to delivering high-quality evaluation products and deliverables on time and within budget to the extent that these aspects were within their control. Accountability was also

[162] UNICEF Procedure on Ethical Standards in Research, Evaluation, Data Collection and Analysis (2021) Document Number: Procedure/Oor/2021/001

secured through fair and accurate reporting to stakeholders about the decisions, actions, and intentions of the evaluation.

UNICEF Ethical Standards in Research

In addition, the evaluation was designed and carried out in accordance with UNICEF's ethical standards in research, evaluation, data collection, and analysis (UNICEF, 2021). As per these standards (p.2), all team members completed UNICEF ethics training prior to commencing work and reflections on ethics were embedded into the quality assurance process. The evaluation plan was assessed in relation to Instruction 3 of the UNICEF ethical standards (pp.12- 13) and did not require a review by an external ethical review board or panel.