

MONITORING AND EVALUATION OF IMPLEMENTATION OF INTERNATIONAL HEALTH REGULATIONS (2005)

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Background

The International Health Regulations (IHR) are an international legal framework firstly adopted by the World Health Assembly (WHA) in 1969. At the beginning, IHR covered six diseases but with the amendments from 1973 and 1981, put the focus on just three: cholera, yellow fever, and plague [1].

In 1995, in response to the growing international travel and trade, as well as the emergence and global spread of diseases and other threats, the WHA recommended a major revision of the IHR. This revision broadened the scope of the IHR to cover any potential public health emergency of international concern, regardless of its origin or cause. This included emergencies arising from natural events, accidents, or intentional releases of biological, chemical, or radiological materials [2].

The revised document IHR (2005) has been adopted by World Health Organisation (WHO) to strengthen global capacity for preventing and controlling infectious diseases [1]. The IHR (2005) introduced a key measure: requiring member states to establish essential core public health capacities in order to ensure the effective implementation of the IHR (2005).

Monitoring and evaluation of the IHR implementation imply assessment of the effectiveness of countries comply to the IHR's requirements and can include examination of the progress in core capacities, the responsiveness to public health emergencies, and the overall impact on international health collaboration [3].

To measure, monitor and evaluate the countries capacities in implementation of the IHR the WHO created the IHR Monitoring and Evaluation Framework (IHR MEF) [4] a unified method for monitoring and evaluating IHR implementation across member states. The IHR MEF aims to assist member states in assessing their progress towards achieving sustainable IHR core capacities, support the development and enhancement of these capacities, standardise the reporting process to the WHA, and enable WHO to effectively direct capacity-building support [4].

The IHR MEF defines country-led and country-owned processes for monitoring the progress of implementing the IHR for public health events and emergencies that have the potential to cross borders. Key approaches involved as part of this framework include: IHR SPAR, JEE, After Action Review (AAR), and Simulation Exercises (SimEx) (Fig. 1).

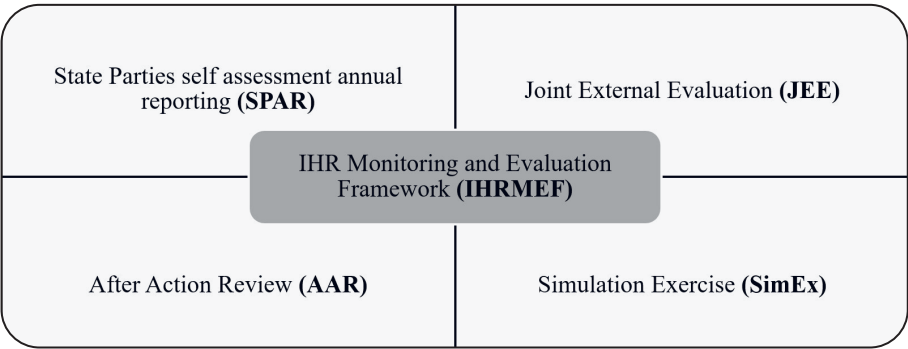


Figure 1. IHR Monitoring and Evaluation Framework

State Parties Self Assessment Annual Reporting (SPAR)

To monitor progress in implementation of IHR, WHO introduced a self-assessment process. Countries were required to evaluate their own capacities and report on their implementation of the IHR [3]. This process was formalized in 2010 with the release of the IHR Core Capacity Monitoring Framework and the IHR Monitoring Tool (IHRMT) [6].

Despite its intentions, the self-assessment process faced challenges. By 2014, only 60 countries had reported their self-assessments to WHO, indicating low engagement [7]. Reviews following the Ebola outbreak in West Africa (2014-2016) revealed that self-reports often did not accurately reflect national capacities for disease control, leading to calls for reform [8–11]. As a result, the WHO in 2018 launched the IHR Monitoring and Evaluation Framework (IHR MEF) with States Parties Selfassessment Annual Reporting as one of its four components [12]. Since obligatory, 196 countries yearly reported in accordance to defined capacities and indicators. In first three years countries reported on 13 capacities and 24 indicators, while in second edition (2021) the number of capacities and indicators increased to 15 and 35 respectively [13, 14].

With the aim to assist WHO Member States in meeting their annual reporting obligations to the World Health Assembly regarding the implementation of capacity requirements under the International Health Regulations, WHO designed the web-based platform - e-SPAR. This platform promotes visibility of data among Member States in support of global public health security, in line with the WHO IHR Monitoring and Evaluation Framework. Data for all countries are available for the period from 2010 to 2023 [15] and they are widely used in practice and scientific papers.

Comparing the results of SPAR from the beginning of the implementation of new tool (2018) and last available year (2023) in WHO regions - African Region (AFRO), the Region of the Americas (AMRO), the Eastern Mediterranean Region (EMRO), the European Region (EURO), the South-East Asia Region (SEARO), and the Western Pacific Region (WPRO) we can see the increase of total average capacities in all regions, except AMRO (Fig. 2 and Fig. 3).

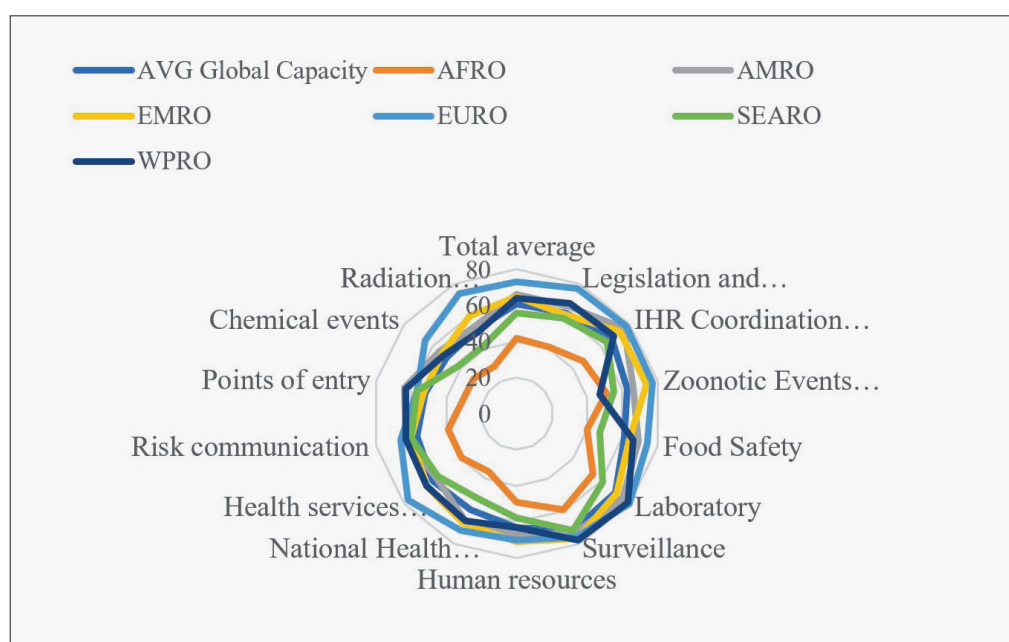


Figure 2. IHR capacities in WHO regions in 2018. Source of data: e-SPAR

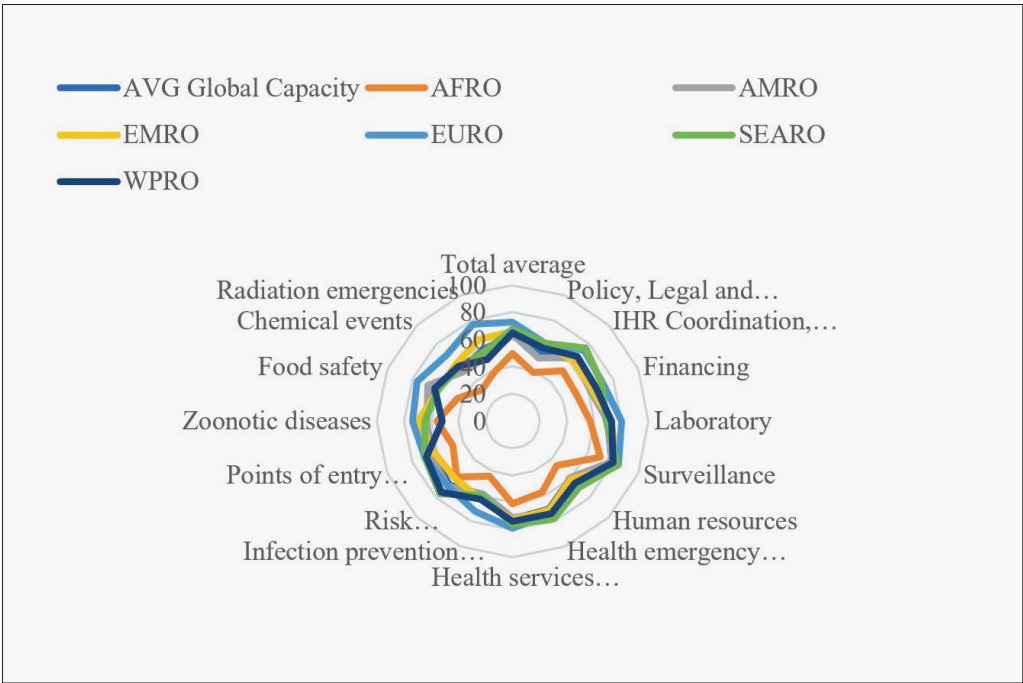


Figure 3. IHR capacities in WHO regions in 2023. Source of data: e-SPAR

In Serbia, the average IHR capacity (in the period 2018-2023) ranged from 68% to 71% with the highest value in 2023 (Fig. 4 and Fig. 5). In the second observed period (2021-2023) there was a significant decrease in risk communication capacity - from 80% (in the period 2018-2020) to 20% (in the period 2021-2023).

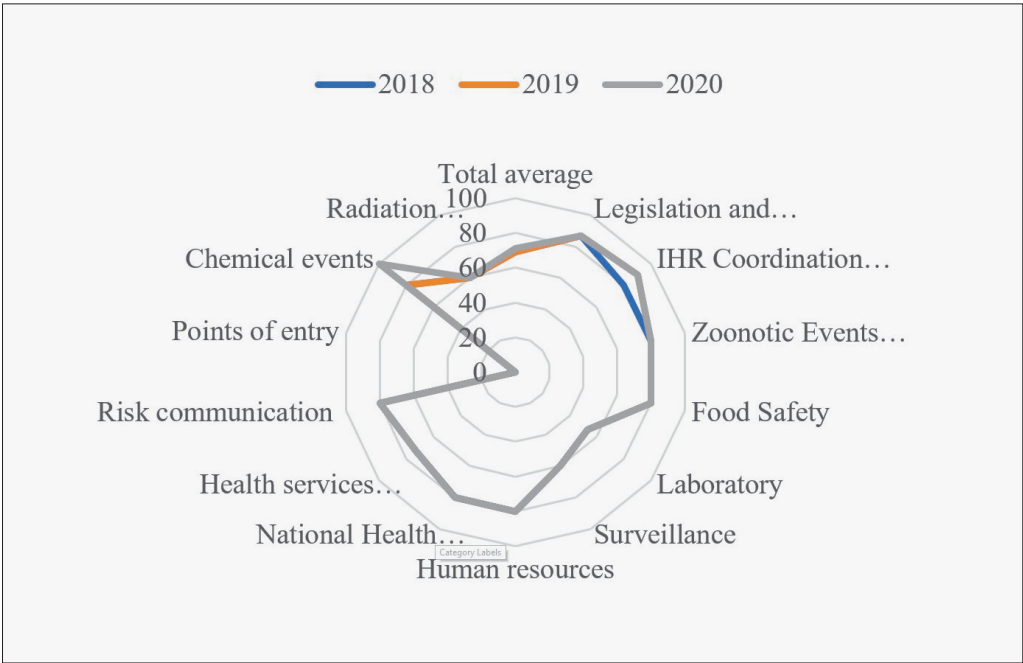


Figure 4. IHR capacities in Serbia 2018-2020. Source of data: e-SPAR

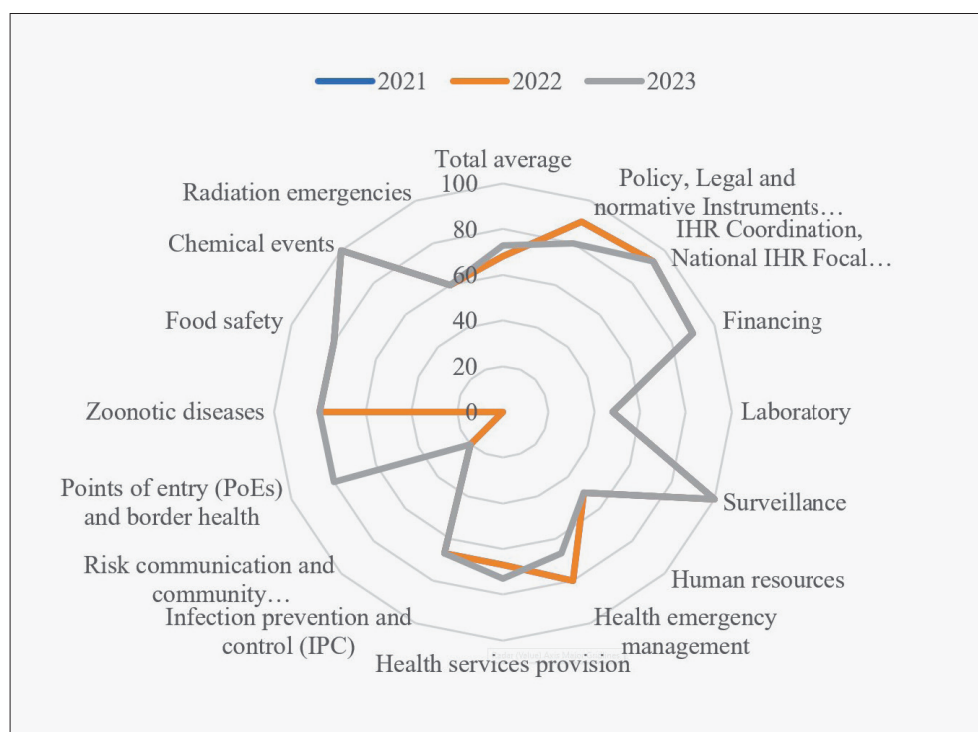


Figure 5. IHR capacities in Serbia 2018-2020. Source of data: e-SPAR

Joint External Evaluation (JEE)

The self-assessment process for evaluating compliance with the International Health Regulations (IHR) has shown some deficiencies, including inaccuracy of reports, lack of standardisation, bias in reporting, insufficient accountability. Self-reports often lack accuracy, as countries may present an optimistic view of their health capacities, leading to misleading evaluations. Variability in how countries interpret and implement self-assessment guidelines can result in inconsistent reporting, making it difficult to compare capacities across nations. There is a tendency for countries to under-report deficiencies or over-report capabilities, influenced by social desirability and political considerations [2].

In light of these findings, WHO introduced Joint External Evaluations (JEE) as a more reliable mechanism for evaluating national capacities in pandemic preparedness [16,17].

The JEE is a voluntary, collaborative, multisectoral process to comprehensively assess country capacity to prevent, detect and rapidly respond to public health risks in the framework of the International Health Regulations.

The JEE helps countries to identify their most critical gaps in IHR core capacity implementation, in order to prioritize actions to improve preparedness and response capacities presenting the opportunity to engage to enhance national multisectoral coordination and networking, and raise stakeholders' awareness on health security issues and IHR. The JEE assesses 19 technical areas.

Serbia is one of the countries in the WHO European Region that has conducted a Joint External Evaluation (JEE). In 2018, representatives from the health and other sectors, together with external experts, assessed the country's health security through a comprehensive whole-of-government approach. As a follow-up, Finland developed an action plan to enhance national public health security.

JEE has been conducted jointly by representatives of Ministries of Health, Agriculture, Interior, Environmental Protection, Institute of Public Health of Serbia, Serbian Environmental Protection Agency, Serbian Radiation Protection and Nuclear Safety Agency, Institute for Virology, Vaccines and Sera “Torlak” and Belgrade airport “Nikola Tesla” and external technical experts [18].

The highest value was reported on the Reporting capacity (4), while the lowest (2) were Biosafety and Biosecurity, Emergency Preparedness, Medical Countermeasures and Personnel Deployment, and Radiation Emergencies (Fig. 6).

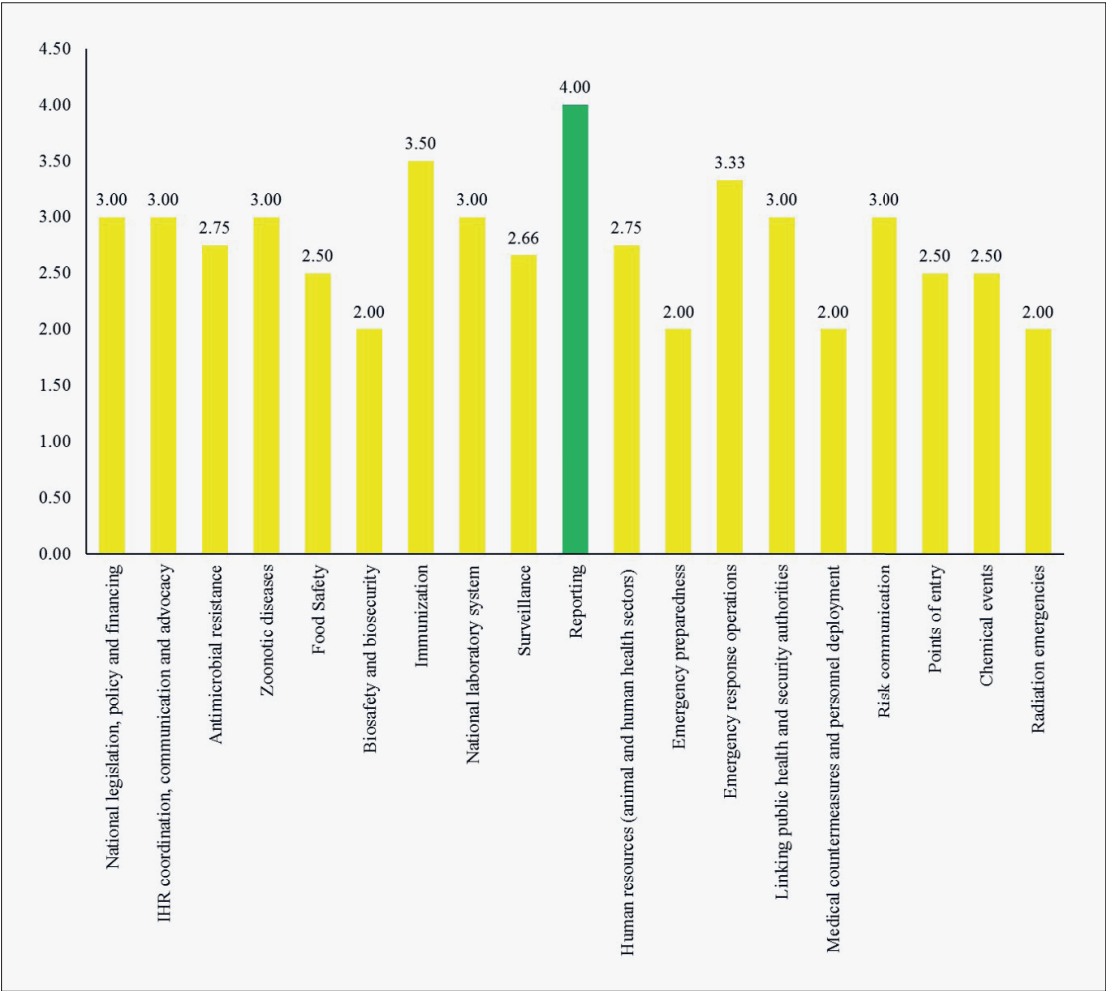


Figure 6. Joint External Evaluation (JEE), Serbia. 2018.

After Action Review (AAR)

Unlike SPAR and JEE, After Action Review (AAR) is a qualitative review of the action that was taken as a real response to concrete situation. AAR aims to identify and documet all positive and negative aspects of what happend during the response. This will allow decision makers to determine both immediate and long-term corrective actions to be implemented in future responses. The AAR can pay attention to particular function or encompass a wide range of functions, addressing one or more sectors involved in the response. The AAR should be conducted after the event of importance for public health, ideally up to three months after the official end of the event. The AAR evaluates the performance of preparedness system in reality [19].

AARs give possibility to teams to identify both, the areas of successes and the areas that could be improved. By analyzing that, teams can develop strategies for improvement of future achievements, and take responsibility for their own decisions and actions. The AARs can improve communication and build trust among team members and allow them prompt feedback-based adaptation of their strategies. After Action Reviews build up a culture of continuous learning and improvement leading to decisive organizational transformation. The AARs results and lessons learned can be noted, archived and distributed to serve as a relevant resource in the future [20].

Intra Action Review (IAR)

Intra Action Review is a relatively new evaluation tool in public health emergency management and pandemic response developed by WHO in 2020, in light of COVID-19 pandemic. Since the beginning of pandemic countries expected recommendation how to deal with and to manage the response to COVID-19.

The aim of the IAR tool is to provide countries mechanism to assess the national functional capacity of public health and emergency response systems during the pandemic.

The IAR is a process that gives the stakeholders possibility to assess the „functional capacities of public health and emergency response systems at the national or subnational levels to identify best practices, gaps and lessons learned, and propose corrective measures and actions for immediate remediation or sustained improvement of the COVID-19 outbreak response“ [21-23].

As a result of conducted IAR the stakeholders can continue to reflect on the ongoing response and revise national and subnational response strategies and propose corrective measures and actions.

Even though the IAR has been developed as a prompt reaction of WHO to COVID-19 pandemic, there is also the opportunity to use intra-action reviews for other protracted public health events beyond COVID-19.

Simulation Exercises (SimEx)

Simulation exercises are recognized as a vital element in validating core capacities within the IHR monitoring and evaluation. Together with After Action Reviews (AAR), these exercises provide a functional assessment of capabilities, complementing SPAR, independent reviews, and JEE. They are essential for identifying both strengths and weaknesses in the development and implementation of preparedness and response strategies [24].

A simulation exercise involves practicing, training, monitoring, or evaluating capabilities by describing or simulating an emergency, followed by a corresponding response.

These exercises allow participants to practice their roles and responsibilities, helping to develop, assess, and test the functional capabilities of emergency systems, procedures, and mechanisms in response to outbreaks and public health emergencies [25]. They are an instrument in identifying gaps and enhancing preparedness for actual emergencies before they arise.

SimEx are recommended to be done every year. They range from discussion to improve existing plans to practicing all or specific parts of the response plan, with or without the involvement of partners [26]. There are several types of exercise – Tabletop, Drills, Functional, Field/full-scale exercise [25]. Selecting the appropriate type of exercise is crucial to ensure the exercise objectives are met.

Conclusion

The IHR are a crucial component of the global health framework, designed to facilitate a coordinated and effective response to international health threats. The COVID-19 pandemic highlighted both the strengths and the shortcomings of the IHR framework. Consequently, discussions and proposals are underway to enhance global health security and reinforce the IHR's role in addressing future public health emergencies. The significant role in this process play the mechanisms for monitoring and evaluation of implementation of the International Health Regulations (2005).

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