Report from the Twenty-third Meeting of the Global Commission for Certification of Poliomyelitis Eradication

Amman, Jordan, 21 – 22 February 2023

World Health Organization

Members of the Global Commission for Certification of Poliomyelitis Eradication, Regional and Global Secretariats and GPEI partners

GCC members, left to right, front row: Professor Yagoub Al-Mazrou, Dr Arlene King, Professor Mahmudur Rahman, Professor David Salisbury, Professor Rose Leke, Dr Nobuhiko Okabe

Abbreviations

Containment

CAG	Containment Advisory Group
CC	Certificate of Containment
CCS	Containment Certification Scheme to support GAPIII
CP	Certificate of Participation
CWG	Containment Working Group of the GCC
ICC	Interim Certificate of Containment
GAPIII	Global Action Plan for Poliovirus Containment, 3rd edition, 2014
NAC	National Authority for Containment
PEF	Poliovirus-Essential Facility

Certification

GCC	Global Commission for Certification of Poliomyelitis Eradication
NCC	National Certification Committee
RCC	Regional Commission for Certification of Poliomyelitis Eradication

Viruses and vaccines

IPV	Inactivated poliomyelitis vaccine
OPV	Oral poliomyelitis vaccine
bOPV	Bivalent oral poliomyelitis vaccine containing Sabin type 1 and 3
mOPV2	Monovalent oral poliomyelitis vaccine Sabin type 2
nOPV	Novel oral poliomyelitis vaccine
PV	Poliovirus (PV1 is PV type 1 etc)
VDPV	Vaccine-derived poliovirus
aVDPV	Ambiguous vaccine-derived poliovirus
cVDPV	Circulating vaccine-derived poliovirus
iVDPV	Immunodeficiency-associated vaccine-derived poliovirus
WPV	Wild poliovirus
WPV1	Wild poliovirus type 1
WPV2	Wild poliovirus type 2
WPV3	Wild poliovirus type 3

Others

AFP	Acute Flaccid Paralysis
BMGF	Bill and Melinda Gates Foundation
CDC	Centers for Disease Control (United States of America)
ES	Environmental surveillance
GPEI	Global Polio Eradication Initiative
IDM	Institute Disease Modelling
IDP	Internally Displaced Persons
IMB	Independent Monitoring Board
KPI	Key Performance Indicator
LQAS	Lot Quality Assurance Sampling
LSHTM	London School of Hygiene and Tropical Medicine
PEESP	Polio Eradication and Endgame Strategic Plan 2013—2018
PID	Primary Immunodeficiency Disorders
SAGE	Strategic Advisory Group of Experts on immunization
TAG	Technical Advisory Group
ToR	Terms of Reference
WHO	World Health Organization

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Introduction

The 23rd meeting of the Global Commission for Certification of Poliomyelitis Eradication (GCC) took place in Amman on 21 and 22 February 2023, chaired by Professor David Salisbury. Commission Members are chairs of their respective Regional Commissions for Certification of Poliomyelitis Eradication (RCC):

Professor David Salisbury – WHO European Region,

Professor Yagoub Al-Mazrou – WHO Eastern Mediterranean Region,

Dr Arlene King – WHO Region of the Americas, and Chair, GCC Containment Working Group,

Professor Rose Leke – WHO African Region,

Dr Nobuhiko Okabe - WHO Western Pacific Region,

Professor Mahmudur Rahman – WHO South-East Asian Region.

Aim and Objectives

The aim of the meeting was to ensure global certification of poliovirus eradication takes place in a timely manner with transparent processes.

The main objectives of the GCC meeting are:

- To review current epidemiology of WPV1 and progress and barriers toward its interruption of transmission;
- To review global polio surveillance, with a focus on high-risk areas such as the consequential geographies identified by the GPEI namely: South KP in Pakistan, East Afghanistan, Eastern DR Congo, Northern Yemen, Northwest Nigeria, South-central Somalia and Tete province in Mozambique, as well as the conflict affected and inaccessible areas, and
- To review progress toward cessation of circulation of VDPVs, and development of criteria to validate their absence.

The agenda is included in appendix 1.

Session 1: Review of global progress on WPV eradication

WPV1 epidemiology overview

Global update

With reduction in the number and geographical extent of WPV1 polio cases and positive environmental samples, and the genetic diversity of WPV1 in Afghanistan and Pakistan, it is feasible that goal-1 of the GPEI strategy, that is interrupting WPV1 transmission by end-2023 and certifying eradication by 2026 will be achieved. However, both endemic countries continue to face a variety of challenges, risking the progress made to date. In Afghanistan, the ongoing political, economic and security-related challenges continue to affect the reach and quality of polio vaccination activities, especially in the South, South-east and East regions. In Pakistan, there is continuing high-level political commitment to the polio programme, which is reassuring; however, deteriorating security and socio-economic situation as well as the impact of the devastating floods are adversely affecting the operational programme implementation, notably in southern Khyber Pakhtunkwa (KP) province. Available data analysis and modeling reaffirms concentration of risk in the remaining two endemic zones, that is the East Afghanistan and South KP, and highlight continued risk in Southern Afghanistan where importation can occur. The two country programmes are taking tailored measures to improve the programme implementation quality in East Afghanistan and South KP, and there are early signs of positive impacts.

A multi-country subregional immunization response is currently ongoing in south-eastern Africa, following WP1 importation from Pakistan. Simultaneously, AFP surveillance strengthening, and environmental surveillance expansion are also being carried out. The polio programme is also coordinating with immunization partners to support strengthening of essential immunization. Outbreak response assessments were carried out in Malawi and Mozambique during October/November 2022 and planned in Zambia and Tanzania during March 2023, to inform the ongoing outbreak response on any required mid-course corrections.

Regarding goal 2 of the strategy, the cVDPV2 outbreak in Nigeria declined in 2022. However, the cVDPV2 outbreaks in other consequential geographies i.e. northern Yemen, eastern Demographic Republic of the Congo and south-central Somalia, are continuing due to operational and security-related challenges. The number of cVDPV1 and cVDPV3 cases and environmental isolates increased in 2022; notably also, the cVDPV1 outbreak in Madagascar which has continued for a prolonged period and is concerning.

Forty-one countries, considered at risk for cVDPV2, have been verified for nOPV2 use, and a total of 560 million doses have been administered in 26 of those countries. The major constraint regarding nOPV2 use is that the sole supplier had ongoing monitoring of EUL safety, genetic stability and efficacy issues, leading to significant supply-related challenges.

Endemic Countries - Afghanistan

Overall situation and epidemiology

WPV-1 transmission is currently at its lowest historic levels in Afghanistan, and geographically restricted to the East Region of the country. Moreover, WPV1 genetic diversity is markedly reduced in 2022 with just one genetic cluster circulating in the country. This represents a significant and unique opportunity to stop WPV1 transmission in Afghanistan. Nonetheless, there are significant risks to the gains made, notably persistent WPV1 transmission in the East Region despite frequent SIAs, the significant immunity gap in the South Region due to inability to implement house-to-house vaccination and the risk of WPV1 outbreak extension from southern Khyber Pakhtunkhwa (KP) of Pakistan to the South-east Region of Afghanistan. The aggressive immunization response using tOPV to the explosive cVDPV2 outbreak which caused more than 300 paralytic cases in 2020 and 2021 appears to have been successful with no cVDPV2 detected in 2022.

Efforts to stop WPV1 transmission

Following a review and restructuring of the National Polio Emergency Operation Center, the country programme implemented an intense SIA schedule in 2022 using bOPV, which is continuing in 2023. A total of six nationwide and three sub-national vaccination rounds, using bOPV, were implemented in 2022, reaching three million additional children not earlier accessible since 2018. Access for house-to-house campaigns progressively improved in 2022, reaching almost 80% by end of the year.

The only remaining WPV1 endemic focus in Afghanistan, the East Region, has been unable to stop transmission despite frequent SIAs since May 2022 mainly due to inconsistent campaign quality at the district level. However, as a result of targeted quality improvement measures, campaign quality has improved since November 2022. These measures include the review of microplans, improved participation of women as vaccinators, a focus on the quality of training of supervisors and vaccinators, enhanced monitoring of SIAs and tailored social mobilization approaches suited to local culture and norms. As a result, the proportion of missed children in the East Region declined from 5% in May 2022 to 2.8% in January 2023.

Surveillance

The surveillance network in Afghanistan comprises a conventional component with 1932 health facilities and clinics as active surveillance sites and more than 3,200 zero (routine) reporting sites, as well as a major community-based component with almost 50,000 reporting volunteers. The size of the surveillance network has gradually increased over the years based on ongoing review of surveillance quality and community healthcare seeking behaviour. Environmental surveillance is now comprised of 33 sample collection sites in 13 provinces from all the regions of the country. Access for surveillance activities has been possible in all parts of the country in 2022. Nationally, and in most of the regions, there has been a gradual increase in the number of reported AFP cases over the years; more than 5,300 AFP cases were reported in 2022, compared to 3,972 in 2020 and 4,088 in 2021. All age groups under age 15 are well represented in the reported AFP cases, with about 55% males since 2021.

Key surveillance indicators are meeting the target at the national and regional level as well as in most of the provinces in 2021 and 2022. The non polio AFP rate was more than 6, and proportion of adequate stool specimens was more than 80% in all the provinces of the country. The non-polio enterovirus isolation rate from the AFP stool specimens has been more than 10% in all the provinces in 2022. Further analyses

indicate that AFP cases are being regularly reported from the areas that are snow-bound during the winter (central and north region) as well as from nomadic populations. Based on available information, the non-polio AFP rate among nomads was 5 and 4 in 2021 and 2022, respectively.

More than 80% of AFP cases in 2022, nationally and in all the regions, were notified within 7 days of onset of paralysis and were investigated within 48 hours. Stool specimens from AFP cases are processed in the WHO-accredited Regional Reference Laboratory in Islamabad, Pakistan. In 2022, 46% of AFP stool specimens reached the regional reference laboratory within 72 hours of being sent, which is below global standards. This is a persistent issue in Afghanistan due to long distances and cross-border shipment related challenges. However, the programme has systematically implemented measures to ensure reverse cold chain maintenance during several phases of specimen transportation. All the stool specimens were reportedly received by the laboratory in good condition in 2022 irrespective of the duration of transportation time.

Afghanistan, after a long time, had its first thorough international surveillance review in 2022, carried out by independent experts. All regions of the country, 75% of the provinces and 12% of districts were reviewed. The review found that there is a sound AFP surveillance system, well-complemented by environmental surveillance, in place in Afghanistan, covering all geographies/populations including high-risk mobile populations. The review flagged the South, South-east and East regions, particularly neighboring districts along the border of Pakistan, as high-risk, given the high proportion of Zero-Dose children and inconsistent vaccination quality during polio SIAs. The review team concluded that the likelihood of undetected poliovirus transmission in Afghanistan is low; however, surveillance for polioviruses must be scaled up to improve the ability to detect any low-level transmission, particularly in the South-East and South regions.

As recommended by the international surveillance review and the TAG, the Afghanistan programme is prioritizing surveillance strengthening in South and South-east regions while maintaining surveillance quality in the East region and the rest of Afghanistan. At the same time, the efforts are continuing to improve vaccination reach and quality, focusing to stop WPV1 transmission in the East Region and boost population immunity in the South Region. The plan is to implement two nationwide and seven sub-national bOPV SIAs in 2023.

Endemic Countries - Pakistan

Overall situation and epidemiology

The country has been seeing very encouraging epidemiological circumstances since early 2021, with decreasing levels of WPV1 transmission and endemicity geographically restricted only to South KP. After a period of no WPV-1 cases for 14 months (Feb. 2021 – Mar. 2022), there was an outbreak with 20 WPV1 cases from April to September 2022, all in South KP. However, during the year preceding the reporting of paralytic polio cases, WPV1 was being persistently detected in the environmental samples collected from South KP, indicating local transmission in this block. The WPV1 transmission from South KP did spread to Karachi, Peshawar and more recently to Lahore but did not become re-established as evidenced by ongoing environmental detections or paralytic ases. All WPV1 isolates in 2022 belong to a single genetic cluster (YB3C), indicating significant reduction in the viral genetic diversity. The number of orphan WPV1 isolates also decreased significantly from 50 (in 20 districts) in 2020 to two isolates (in two districts) in 2022. For the first time since 2020, a cross-border transmission event was observed in January 2023 with detection of a WPV1 genetic cluster (YB3A) that is only known to be circulating in East Afghanistan.

Surveillance

The surveillance network comprises almost 4,500 active surveillance sites and close to 9,000 zero (routine) reporting sites from the public, private and informal healthcare sectors. Almost 80% of the AFP cases in 2022 were reported by public/Government health facilities, while the rest were reported by the private and informal sectors as well as community-based surveillance personnel. The country programme systematically reviews the surveillance networks at the district level, at least once annually, to make necessary adjustments to the evolving healthcare seeking behaviour. The surveillance activities are carried out by trained professionals and there is at least one full-time disease surveillance officer in each district. All districts of the country are accessible for surveillance activities except for a few areas in the South KP.

After a slight dip in AFP reporting in mid-2021 due to the COVID-19 pandemic, the number of reported AFP cases has been on the rise, consequent to the surveillance strengthening efforts. The key AFP surveillance indicators have been meeting the global standards at the national level and in most of the provinces for several years. The country had a high non-polio AFP rate of 13 in 2021 and 18.3 in 2022, with uniformly high AFP reporting rates from all the provinces. A sample of 10% of cases are validated. At the district level, all union councils (sub-districts) with a population size of more than 30,000 (<15 years) have been regularly reporting AFP cases. The adequate stool specimen collection rate has been more than 80% in most of the districts; though in 2022 some critical districts in Balochistan and KP provinces remained below 80%. More than 400 AFP cases in 2022 were reported from the high-risk population groups, two of which were confirmed as WPV1 cases. With a continued focus on surveillance strengthening among high-risk populations, there has been an increase in the number of reported AFP cases from these populations: 289 in 2020, 321 in 2021 and 406 in 2022.

The Environmental surveillance network in Pakistan is comprised of 113 collection sites in 80 districts (of the total 156 districts) across all the provinces. All historic poliovirus reservoirs are well-covered by environmental surveillance system and it is consistently detecting polioviruses (WPV, VDPV, SL) and other enteroviruses across all sites. Environmental surveillance sites are reviewed annually by the national surveillance team.

The country programme carried out a series of surveillance reviews in 2022 in Sindh, KP

and Balochistan provinces. With overall satisfactory quality, the reviews identified some challenges including high turnover of staff in health facilities, late documentation of AFP cases in hospital records, lack of access to electronic hospital records and inability of surveillance staff to visit some areas of South KP due to insecurity. The reviews also identified some potential AFP cases not line-listed in Sindh and KP provinces. Several surveillance strengthening measures were implemented during 2022 including introduction of more community surveillance focal points, training of staff and healthcare providers, expansion of environmental surveillance, validation of AFP cases, and monitoring the reverse cold chain of specimens.

Immunization activities

The county programme's core focus in 2022 has been on the only remaining endemic area i.e. southern KP; the three districts with WPV1 cases in 2022 had at least four vaccination campaigns following the last case, and the three districts with WPV1 isolation in environmental samples had at least three campaigns following the last WPV1 detection. All districts with WPV1 importations identified through environmental surveillance implemented at least three campaigns following the last isolation, with the exception of Lahore where campaigns are currently being planned.

Nationally, the LQAS pass rate improved from 71% in January 2022 to 84% in January 2023. As per the reported administrative data, the proportion of missed children at the end of campaigns marginally reduced from 1.4% in January 2022 to 1.0% in January 2023.

In South KP, the LQAS pass rate improved from 71% in January 2022 to 80% in January 2023; while the reported administrative data indicates persistence of missed children of between 0.4% to 0.8%. The number of reported children not available at the time of the vaccination teams' visit increased from 13,800 to 23,200 and the children not vaccinated due to families' refusal increased from 4,100 to 8,800 between January 2022 and January 2023. A number of SIA quality improvement measures are ongoing in South KP under the auspices of the national and provincial EOCs and South KP hub. These include selection of locally appropriate frontline workers, strengthening of supervision and monitoring with follow-up actions, accountability measures and directly observed polio vaccination.

The programme is also taking measures to improve reach and quality of vaccination among high-risk and mobile population groups. Currently, 176 transit vaccination posts with 749 teams are functioning at strategically selected points. In addition, special vaccination teams are deployed to vaccinate nomadic groups during peak movement times. Mechanisms are in place to regularly review and update SIAs microplans to include high-risk populations. Special missions are planned to identified hard-to-reach areas to assess SIAs reach and quality. A targeted microplan validation exercise was conducted in the Indus river belt in January 2023 that identified 12 previously missed settlements.

Session 1 Conclusions

The GCC expressed its appreciation for the tremendous programmatic efforts in both endemic countries, with a lot of hard work and dedication being evident. The GCC acknowledged the difficulties that the program is facing, in terms of political instability, insecurity and operational barriers to implementation of high quality activities, including the loss of life of polio workers in some instances.

The GCC recognized the achievements of the programme in Pakistan and Afghanistan, and concluded that many areas in the two countries appear to have already halted endemic transmission. Based on the high quality information presented at the meeting, the GCC concluded that there is a real opportunity to stop endemic transmission of WPV1 throughout Afghanistan and Pakistan in 2023.

The GCC agreed that holding the meeting in the Eastern Mediterranean Region provided a welcome opportunity to engage in a closer dialogue with the endemic countries' eradication programs and would welcome being able to hold future GCC meetings in the Region.

The GCC agreed that involving RCC and GCC members in regional meetings, such as the Regional Committee meetings, would be beneficial to advocate for the final push needed to halt transmission in 2023, and that global certification should motivate and facilitate momentum in the endemic countries.

Session 1 Recommendations

1.1 The GCC recommends that the governments of the two endemic countries build on the current momentum to seize the opportunity to finally halt endemic transmission of WPV1, and that GPEI partners continue to work intensively with the endemic countries to achieve this.

1.2 The GCC recommends that as global certification of polio eradication approaches, the 'deep dives' on endemic countries' epidemiology be repeated 6 monthly, with a standardized format for the presentations from each country.

1.3 The GCC recommended that the GCC secretariat provides necessary support to ensure that the information provided in the deep dives addresses key issues such as the confidence that the surveillance system in the endemic countries will detect transmission anywhere, particularly within high-risk mobile populations, areas of greater risk due to gaps in population immunity, and AFP reporting rates in high-risk groups.

1.4 The GCC noted the data presented at the meeting suggested possible gender bias in detecting more male than female cases of AFP and recommended that this be explored further and presented to the GCC to ensure female cases are not being missed.

1.5 In preparation for the situation when no WPV1 is detected in the endemic countries, the GCC recommends that coordination of all the RCCs and the GCC be enhanced to ensure the process of WPV1 global certification is as smooth and transparent as possible. This may include interaction among the GCC and RCCs' chairs and members, as necessary and harmonization of monitoring and reporting certification processes In particular, the work of the Eastern Mediterranean RCC and GCC should be very well coordinated to ensure a robust, flawless process.

Session 2: Implementation of Global Surveillance Action Plan

Update on iVDPV Surveillance

iVDPV surveillance together with AFP and environmental surveillance is an integral part of the Global Polio Surveillance Action Plan as well as the Post Certification Strategy. The SAGE also recognized chronic excretion of iVDPVs as a global risk to polio eradication. To achieve and sustain a polio-free world, it will be important to detect iVDPV excretors and stop poliovirus excretion by developing effective antivirals and monoclonal antibodies,and ensuring their appropriate use.

The WHO iVDPV registry currently includes about 200 cases of prolonged or chronic iVDPV excretors with median excretion length of 1.3 years, 90% of whom stopped excreting after 3.7 years. As of February 2023, there are iVDPV known excretors in India, Egypt, Philippines and Iran. GPEI has piloted iVDPV surveillance in Iran, Egypt and Tunisia; and GPEI research teams are currently supporting Pakistan, India, China and Sri Lanka to initiate the same. Senegal and Nigeria are also carrying out iVDPV surveillance as part of the requirement to use nOPV2.

In 2023, the GPEI plans to review the implementation of PID surveillance in the pilot countries and further support Pakistan, India and Sri Lanka to establish PID surveillance. Efforts will continue in relevant nOPV2 countries to establish iVDPV surveillance and engage with regional societies on immunodeficiencies. The GPEI will also identify and support any further countries interested in establishing PID surveillance.

Progress in Implementation of Global Polio Surveillance Action Plan

Regarding surveillance performance, there was little change in terms of the non-polio AFP rate at the district level from 2021 to 2022, with 21 (62%) and 22 (65%) of the 34 priority countries meeting the district-level annual target (2/100,000), and poor performance mainly concentrated in priority countries classified as medium high-risk countries. Globally, several priority countries are having difficulties optimizing environmental surveillance with only 14/34 (41%) of those meeting the global standard of having 80% or more sites meeting enterovirus isolation rate of 50% or more in 2022. There was marginal improvement in stool adequacy, from 14 of the 34 countries meeting the target of 80% in 2021 to 19 in 2022. The largest factor in delays in timeliness of detection were reported to be logistical challenges, particularly in specimen transportation. Such challenges tend to be in countries that do not have a national polio laboratory.

It is notable that before detection of WPV1 in 2022, Malawi was not a priority country based on the global risk assessment. Although the route of transmission from Pakistan to south eastern Africa is unknown, a decline in surveillance performance in Mozambique and Malawi in 2020 and 2021 possibly contributed to prolonged undetected WPV1 transmission, highlighting the need to sustain surveillance globally.

The GPEI Surveillance Group continues to conduct bi-annual environmental surveillance

desk reviews in all WHO regions and conducts field reviews, as needed. The Group developed new online training tools for AFP and ES surveillance in 2022. The Group carried out desk reviews in 2022, for all the five countries included in the WPV-1 response in Southeast Africa (Malawi, Mozambique, Tanzania, Zambia and Zimbabwe) and for seven additional countries in the African subregion, as well as provided technical assistance for the outbreak response assessment.

Optimization of Environmental Surveillance

Well-implemented environmental surveillance (ES) can significantly increase the sensitivity of the poliovirus surveillance system. ES has been used for many years to detect and monitor the reintroduction of WPV into polio-free countries and to provide confidence in the successful elimination of WPV in previously endemic countries. Repeatedly, ES has detected transmission in areas undetected by AFP surveillance, highlighting its value as a supplement to AFP surveillance. Since 2016, progress has been made in expanding the global ES network, with the GPEI now supporting over 500 sites.

Since 2016, 82 VDPV2 emergences have been detected globally, with about a third of these spreading to at least one other country, resulting in 157 new national detections, made up of 75 importation events in addition to the 82 new local emergences. Overall, while most new detections (55%) were from AFP surveillance, 38% of all new in country detections were from ES.

The significant global ES expansion in recent years (both number of countries commencing ES and the number of sites in countries that already have ES) has led to challenges in achieving and maintaining good quality. According to GPEI standards, a site should detect enteroviruses in 50% of samples over a 12 month period. The current (is the proportion of sites in priority countries that have detected enteroviruses in 50% of samples, with a target of 80% of sites. This is a low threshold at site level, given that good systems such as Afghanistan and Pakistan achieve 100% enterovirus positivity rate for environmental surveillance. Only 11 countries achieved the target of 80% of sites.

A common challenge is finding a site that meets the criteria for a good quality ES site, especially in countries with poor sewage infrastructure. In settings that lack a convergent sewer network, other systems for wastewater flow, such as open canals or water channels are used. Some sampling sites capture less than the recommended 100-300 000 high-risk population, and the population coverage is often lacking and the ideal number of sites not well defined. ES poses a significant workload and cost for laboratories, particularly when specimens must be transported internationally.

Session 2 Conclusions

The GCC reiterated the importance of conducting deep and comprehensive analyses of all indicators of surveillance performance in the two endemic countries.

The GCC noted the progress toward implementation of the global polio surveillance action plan (GPSAP), but also noted that there remain significant gaps in global surveillance, particularly in the timeliness of detection and the quality of environmental surveillance.

The GCC reiterated that ES remains an important supplemental polio surveillance activity, but that its utility varies from country to country, depending on other factors, including the quality of AFP surveillance, appropriateness of wastewater collection sites, existence of mass gatherings including high risk populations, and the presence of PEFs.

The GCC noted that key performance indicators for ES were not being met in many priority countries, but also noted that determining what constitutes quality apart from ability to detect enteroviruses is not well defined.

The GCC concluded that iVDPVs are an important topic for discussion, and as there are now prospects for their elimination, through adoption of newly available therapeutics, there is a need to include iVDPV surveillance considerations in the validation of the absence of cVDPVs. The GCC expert working group will deliberate and provide further advice on this to the GCC.

Session 2 Recommendations

1.1 The GCC recommended that the GPEI program provides greater granularity in its reporting of progress in implementing the GPSAP standards and key performance indicators across Regions, and that as global certification approaches, there needs to be a deeper understanding of all surveillance gaps, including those that are Region-specific.

1.2 The GCC recommended that further analysis be provided on why ES in some countries appears to be failing to reach indicators of good quality, noting that different countries and regions face different challenges, and recommended that that the six monthly ES desk reviews continue to be performed and shared with Regions and countries in order to improve quality. The same review should be included in ES update to the GCC during its next meeting.

1.3 The GCC recommended that iVDPV surveillance continues to be developed as an important aspect of the validation of the absence of cVDPVs. Work of the GCC Expert Working Group on this subject will inform further work on this area.

Session 3: Feedback from RCCs - current priorities and issues

Western Pacific Region

According to the risk assessment of the Regional Certification Commission, three countries are considered high-risk: Lao DPR, Papua New Guinea and Philippines, and four countries/sub-regions medium risk: Cambodia, Malaysia, Viet Nam and the Pacific Island Countries. Furthermore, there have been significant rises between 2020 and 2021 in sub-national risk at provincial level in some countries, including in Cambodia, Lao DPR, Papua New Guinea and the Philippines. Type-2 polio risk in 2021 was assessed as high in Lao DPR, Papua New Guinea, Philippines and Viet Nam and medium in Malaysia, Mongolia and the Pacific Island Countries.

The impact of the COVID-19 pandemic continues to be one of the key factors leading to sub-optimal quality surveillance and vaccination activities. Philippines, Cambodia and Viet Nam face challenges in shipment of AFP stool specimens, while ES introduction was delayed in Lao and has been disrupted in Viet Nam and PNG. In Malaysia, high-risk populations are not well covered by the AFP surveillance network. WHO Regional Office under the auspices of the Regional Certification Commission is working closely with the country teams to address the current challenges and risks.

The Regional Certification Commission during its meeting in November 2022, flagged the COVID-19 pandemic as an ongoing challenge for the performance of routine immunization and poliovirus surveillance. The commission recommended to continue monitoring the sub-national risk in all countries, as overall satisfactory performance and low risk at the national level can mask gaps at subnational levels. The commission urged the introduction of second dose of IPV in routine immunization in all the countries, as per recommendation of the SAGE. The Commission, while appreciating overall good progress on poliovirus containment, noted that China has not yet designated a National Authority for Containment regarding Poliovirus Essential Facilities. The RCC plans to include validation of the absence of cVDPVs in its own TORs and that of NCCs according to the GCC recommendation.

Eastern Mediterranean Region

Most Member States in the region are meeting the surveillance quality indicators, with endemic and outbreak countries having non-polio AFP rates of more than 3 and adequate stool specimens rates of more than 80%. The region is facing exceptional challenges in Yemen and Somalia, where polio outbreaks have continued for prolonged periods due to inability to implement high-quality immunization responses. Both these countries are facing complex political and security related challenges. The outbreak in Yemen also spread to Egypt, Djibouti and Somalia. Polio outbreaks in Sudan and Iran were closed in 2022. Sudan recently had a new poliovirus importation and is currently planning the response.

Regional priorities for 2023 include stopping all cVDPV outbreaks in the region, risk mitigation and prevention of outbreaks through routine immunization strengthening, and improving regional outbreak response capacity and preparedness.

The Regional Certification Commission in its last meeting emphasized the need to fully

implement the Global Polio Surveillance Action Plan 2023 – 2026. The Regional Commission hopes to initiate the regional certification process by end-2023 and to enhance its engagement with regional and country programmes including advocacy, data verification and validation in support of the NCCs. The RCC may consider meeting more frequently, depending on the evolving regional situation. Regarding containment, the RCC recommended to update the containment section in certification reports, address communication gaps between NCCs and NPCCs and finalize the inventory of poliovirus infectious and potential infection material as well as its destruction or transfer to the PEFs.

South-east Asian Region

Sustaining polio free status continues to be a regional priority, and polio eradication remains high on the agenda of the Regional Committee. The Regional Certification Commission continues to provide oversight to the polio programme; the most recent meeting of the commission was held in September 2022. National Certification Committees are functional in all countries except Myanmar. The South-East Asia Region is quite advanced in polio transition, as acknowledged by the Transition IMB and independent mid-term evaluation of the Strategic Action Plan.

The Regional Certification Commission assesses the regional risk once annually, based on population immunity, surveillance quality, containment and other factors like outbreak response preparedness, vulnerable populations etc. In 2022,the RCC assessed risk as high in Indonesia, Myanmar and Timor-Leste and medium in DPR Korea, India, Nepal and Thailand.

Indonesia is currently responding to a cVDPV2 outbreak, that affected Aceh province in the north of the country. The RCC and its secretariat are supporting Indonesia as well as other high and medium risk countries in addressing the current challenges and risks.

The last meeting of the Regional Certification Commission concluded that the Region has maintained its polio free status, and recommended implementation of two IPV doses in routine immunization in all countries, a review of the expansion of environmental surveillance, strengthening outbreak response capacity, implementation of poliovirus containment GAP-IV and establishing collaborative mechanisms for polio research activities. The Regional Commission noted that the GPEI funding ramp-down was a potential risk, especially regarding sustainability of surveillance in five transition priority countries and urged national governments to improve engagement and ownership of polio surveillance and management.

European Region

In 2022, cVDPV2 and cVDPV3 outbreaks were detected in Israel and a cVDPV2 outbreak in the United Kingdom (London). Germany and the Russian Federation both reported detection of aVDPV in 2022. Wild poliovirus type 3 was isolated from human and environmental samples from Netherlands as a result of a containment breach from a poliovirus essential facility in December 2022. There was no community transmission however.

The United Kingdom, in response to cVDPV2 isolation, intensified clinical and environmental surveillance, increasing the frequency of environmental samples collection and adding 15 sites across England. Moreover, routine childhood immunization was strengthened, specially focusing on new migrants. An IPV booster campaign was initiated in London, targeting children aged up to 10 years. Results from the latter are awaited.

cVDPV2 transmission in Israel appears to be limited to a subset of the population. Immunization response to the cVDPV3 outbreak resulted in high IPV coverage among the general population; however, there are ongoing challenges related to acceptance and access among the Haredi community. The country programme in collaboration with the WHO Regional Office, is currently working to develop intensified and targeted approaches to improve IPV uptake among this population.

Ukraine, affected by a cVDPV2 outbreak in 2021, reported the last case with date of onset of paralysis in December 2021. Ukraine implemented an IPV catch-up campaign from February to October 2022, reportedly achieving 67% coverage in first round and 91% in the second round. Despite the present challenging situation, AFP surveillance is continuing in Ukraine and sewage samples are being collected from seven environmental surveillance sites since November 2022.

The 36th meeting of the European Regional Certification Commission was held on in October 2022. The commission noted low surveillance quality in Switzerland and low population immunity in Bosnia-Herzegovina, Montenegro, Romania and Ukraine. Based on recent detection of circulating polioviruses in Israel, UK and the USA, the Commission expressed concern about the possibility of undetected poliovirus in IPV-only countries and the potential of an increasing cohort of susceptible individuals during the war in Ukraine. The Commission urged all countries to achieve and sustain high polio vaccination coverage and high quality surveillance for polioviruses, as well as updating their outbreak preparedness plans. The Commission also recommended that all countries appoint and support a national poliovirus containment coordinator, to regularly assess national inventories and ensure proper destruction of unneeded materials or transfer those to PEFs.

African Region

In 2022, a WPV1 importation from Pakistan was detected in Malawi resulting in a single polio case, with further spread to Mozambique with eight polio cases. All the cases in Mozambique were reported from Tête province and the most recent case had onset of paralysis on 10 August 2022. The region reported 401 cVDPV2 cases from 14 countries and 209 environmental cVDPV2 isolates from 13 countries in 2022. There is an ongoing cVDPV1 outbreak with 13 cases in 2022 in Madagascar. Malawi and DR Congo are co-infected with cVDPV1 and cVDPV2. In 2022, a total of 46 campaigns were implemented in 44 countries using type-2 poliovirus containing vaccine (primarily nOPV2) and 18 campaigns in four countries using bOPV.

Surveillance quality in the region is variable at the sub-national level in some countries, including outbreak affected countries in southern and western Africa. Timely and efficient transportation of stool specimens remains a major challenge. A decline in stool transportation time was observed since before the COVID-19 pandemic that worsened in 2020 and has yet not fully recovered. In 2022, 18 countries had more than 50% of stool samples arriving in laboratories after more than 7 days of shipment. Mali, Central African Republic, Burkina Faso, Djibouti, Kenya, South Sudan, Cameroon, Uganda and Nigeria are facing security related challenges in some of the sub-national geographies.

Outbreak response assessments were carried out in Malawi and Mozambique during the last quarter of 2022. The Malawi assessment concluded that WPV1 circulation might still be ongoing and there is evidence of an immunity gap based on the quality of the immunization response and vaccination status of non-polio AFP cases. Rapid implementation of high-quality immunization activities was needed to ensure cessation of poliovirus transmission. The assessment mission recommended to enhance AFP surveillance

quality and optimize environmental surveillance to detect any further transmission.

The Mozambique assessment appreciated the leadership and commitment of the Government, leading to significant improvement in immunization response quality. The assessment mission noted that the surveillance system is not yet sensitive enough to demonstrate absence of poliovirus transmission in Malawi and the risk of cross border transmission continues. The assessment mission noted inconsistent cross-border coordination at the sub-national level. Outbreak response assessments are planned in Zambia and Tanzania during March 2023.

The African Regional Certification Commission, during its meeting in November 2022, concluded that the region remains free of indigenous WPV. The Commission established a Select Group among Commission members to review the implications if transmission of imported WPV in the region becomes prolonged.

The Regional team, with the aim of stopping all polio outbreaks by December 2023, is developing plans to fully implement recommendations of the outbreak response assessment and Regional Certification Commission, focusing on multi-country high quality synchronized SIAs, improving microplans, enhancing training of frontline workers and refining communication and social mobilization strategies.

Region of the Americas

Regional risk assessment in 2022 categorized four countries as very high-risk namely Haiti, Brazil, Dominican Republic and Peru; and eight countries as high-risk: Ecuador, Bolivia, Venezuela, Panama, Guatemala, Bahamas, Argentina and Surinam. The risk assessment is primarily based on the susceptibility to polio and surveillance quality.

The USA and Canada reported cVDPV2 detections in 2022. In USA, a cVDPV2 case, an unimmunized immunocompetent young adult, was confirmed from New York state in July 2022. Moreover, US CDC confirmed the presence of poliovirus in a total of 100 samples of 1,901 tested from New York; 93 of these samples have been found to be genetically linked to the cVDPV2 case. Canada reported detection of cVDPV2 in two wastewater samples collected from Quebec in August 2022, linked to the cVDPV2 detected in New York.

The risk of poliovirus circulation in the region is higher than before due to low vaccination coverage and underperforming surveillance systems. The risk of emergence or importation of type 1 poliovirus is high, given the large number of susceptible children mainly due to late introduction of IPV2 after the switch and low vaccination coverage (79% POL3 coverage in 2021). The risk of type 2 importation and consequent spread is also heightened by low immunization coverage.

PAHO has established a Polio IMST to address the risk of possible polio outbreaks in the region. A Polio Strategic Response Plan has been developed with the objective to support the countries on rapidly improving vaccination coverage and surveillance quality and to ensure that national health systems are well prepared to detect and respond to a poliovirus event or outbreak.

The Regional Certification Commission, during its annual meeting in 2022, agreed that countries prepare and address a Polio mitigation plan based on the risk assessment at municipality level and recommended that countries should prepare and share a 2022-polio annual report by 30 April 2023.

The Commission recommended the necessary orientation of the NCCs be conducted in

preparation for global WPV1 certification. The Commission recommended that Brazil, El Salvador, Ecuador, Mexico, and the USA are required to submit an updated containment report before 31 August 2023.

Report back from GCC Expert Working Group

The Chair of the GCC presented an update from the working group, assigned to review and advise the GCC on the timing of certification of WPV1 eradication and the validation of absence of cVDPVs.

The Expert Working Group, in 2022, reviewed available information on the criteria and 3-year time interval required for WPV1 certification. The working group, after several thorough deliberations, concluded that the three-year rule is not sacrosanct and that it can be shortened to or lengthened depending on the quality of surveillance. The reference group recommended that the retrospective application of a three-year period of non-detection be replaced by a flexible interactive prospective review of the quality of surveillance conducted at six-monthly intervals until a high level of confidence that the absence of detection did indeed indicate the WPV1 transmission had ceased in Afghanistan and Pakistan. The Eastern Mediterranean Regional Certification Commission could therefore certify the Region in less than three years. The GCC will then review surveillance data from all six regions to be satisfied that global eradication has been achieved. The GCC accepted and endorsed the recommendations of Working Group on WPV1 certification.

The Expert Working Group, after adjusting membership because of the different range of experience required, initiated work on validation of absence of cVDPVs, in late 2022. During its two meetings to date, the group noted that whilst the number of cVDPV2 cases remains high, the number of cVDPV2 outbreaks is falling, with a decrease in the number of new emergences detected from 44 in 2019 to five reported in 2022.

The increasing availability and use of nOPV2 with fewer new emergences suggests that cVDPV2 outbreaks can be stopped with a lower risk of seeding further outbreaks. Moreover, nOPV1 and nOPV3, currently under development, will provide more tools to halt any cVDPV1 and cVDPV3 outbreaks. There is also encouraging progress in development of antivirals (Pocapavir and V7404) and long-acting monoclonal antibodies to treat chronic excretors of iVDPVs. The development work on Vaccine-Like Particles (VLPs) offers future possibility of IPV production without using live polioviruses.

The Expert Working Group is continuing its work and plans to convene next in March 2023. The upcoming deliberations are planned on timelines and tools for nOPV1, nOPV3, nOPV2 supply situation and use, epidemiology of cVDPVs, aVDPVs and iVDPVS, and VDPVs in IPV-only countries.

Session 3 Conclusions

The GCC noted the different challenges in the six WHO Regions, and the key role of RCCs in documenting and supporting countries in addressing these challenges.

The GCC noted that all certified Regions continue to be free of indigenous wild polio transmission, recognizing the WPV1 outbreak in southeastern Africa was due to an importation from Pakistan.

Session 3 Recommendation

The GCC recommended that all Regions and countries continue to address surveillance gaps, population immunity, polio outbreak preparedness and planning and poliovirus containment so that the world is in the best possible position to certify global WPV eradication no later than 2026.

Annex 1: Agenda

Global Commission for the Certification of Poliomyelitis Eradication
21 - 22 February 2023

FINAL AGENDA

Tuesday 21st February		
09.00	Welcome remarks	Aidan O'Leary
09.05	Objectives of the meeting	David Salisbury
Session 1: WPV eradication		
09.15	Global update	Aidan O'Leary
09.30	'Deep Dive' on Pakistan - review epidemiology, virology, immunization coverage, surveillance	Zainul Khan
10.15	Discussion	all
10.45	*Coffee break*	
11.15	'Deep Dive' on Afghanistan - review epidemiology, virology, immunization coverage, surveillance	Irfan Akbar
12.00	Discussion	
12.30	Way forward in 2023	Hamid Jafari
13.00	*Lunch*	
Session 2: Implementation of Global Surveillance Action Plan		
14.00	iVDPV surveillance	Ondrej Mach (virtual)
14.30	Progress in implementation of the GPSAP	Stephanie Kovacs
15.00	Optimization of ES	Graham Tallis
15.30	Discussion	
16.00	*Coffee break*	
16.30	Draft Recommendations for day 1	
17.00	*Finish*	
Wednesday 22nd Feb		
09.00	Review draft recommendations	all
Session 3: Feedback from RCCs - current priorities and issues		
09.30	African Update including formation of ARCC WG	AFRO
10.00	Eastern Mediterranean Update	EMRO
10.30	Discussion	
11.00	*Coffee break*	
11.30	South East Asian Update	SEARO
11.45	European Region Update	EURO
12.00	Region of the Americas Update	PAHO
12.15	Western Pacific Update	WPRO
12.30	Discussion	
13.00	*Lunch*	
14.00	Report back from cVDPV2 WG	David Salisbury
14.15	Discussion	
15.00	*Coffee break*	
15.30	Recommendations from day 2 and wrap up	David Salisbury
16.30	*Finish*	