

Integrated analyses of barriers and opportunities for access to polio vaccination services

Kirotshe & Karisimbi Health Zones, North Kivu Province and Kongolo Health Zone, Tanganyika Province, DRC

Context

The Democratic Republic of the Congo (DRC) was declared free of wild poliovirus (WPV) after the elimination of the last case in 2011¹. However, since 2017, an outbreak of vaccine derived poliovirus (both type 1 (cVDPV1) and type 2 (cVDPV2)) has seen cases confirmed across 20 provinces². 238 cases have been reported since January 2022³, compared to just 28 cases during 2021, and 80 during 2020, highlighting a deteriorating situation particularly in areas of low vaccination coverage, exacerbated by poor sanitation, and hygiene practices. Recent cases have been concentrated towards the East of the DRC, with Tanganyika, Maniema and North Kivu provinces principally affected.

COVID-19 has been recognised globally as having indirectly impacted vaccination uptake^{4,5}. Evidence from the DRC has similarly highlighted disruption to routine health services including vaccination, as well as a tendency of communities to avoid health structures for fear of contracting the disease (CAI, 2021). More recently, corresponding with expansion of COVID vaccination in the DRC, routine immunisation campaigns, including polio, have been met with resistance at community level, aggravated by rumours and misinformation.

A polio vaccination campaign managed by the Ministry of Health in May 2022 targeted seven provinces, yet in the first of the two rounds, North Kivu, Tanganyika, Tshopo and South Kivu province were unable to achieve the target coverage of 90%.

Applying an Integrated Outbreak Analytics (IOA) approach, the Integrated Analytics Cell (CAI) has conducted research to explore the factors influencing vaccination uptake in three health zones having recorded low immunisation uptake during the first round: Kongolo, Tanganyika and Karisimbi and Kirotshe, North Kivu. Evidence provides a holistic analysis of the gender, socio-behavioural and environmental context, with the aim of reinforcing polio response activities and corresponding prevention strategies in the target health zones to support efforts to reach at least 90% vaccination coverage during future campaigns.

Key results

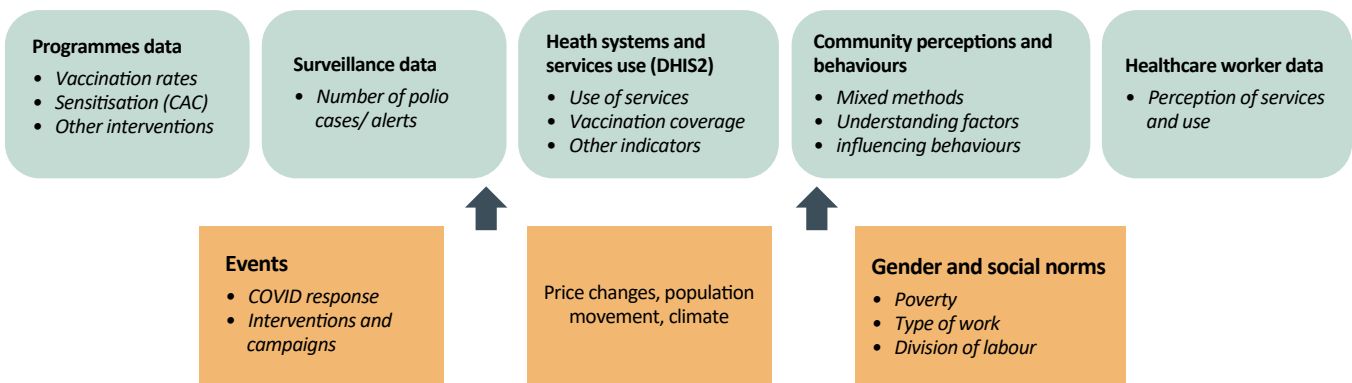
- Women in Kongolo reported a significantly lower level of education than men and women in the North Kivu health zones. This may have an impact on exposure to key health promotion messages, and awareness of polio-related topics, such as symptoms and prevention measures (page 3).
- Across all zones, polio is very rarely mentioned as a disease that affects children; knowledge of the disease, its symptoms, and modes of transmission is generally low (page 3).
- A considerable proportion of households in Kirotshe and Karisimbi cited diarrhoea as a health problem for children in their community: in this context, diarrhoea is associated with inadequate access to water, sanitation, and hygiene, all of which are significant risk factors for polio transmission (page 3).
- There is limited awareness of the routine immunisation schedule, including polio, particularly in Kongolo; households primarily associated polio immunisation with specific campaigns (page 4).
- In all health zones, men are primarily considered the head of the household, controlling household income and expenditures. In Kongolo, men were primarily responsible for the decision to vaccinate their children. In contrast, in the North Kivu health zones, this decision was made by the mother (page 5).
- Men may be present at home when vaccinators visit, but they are often more reluctant than women to let their children be vaccinated. This may be due to greater exposure to information and rumours about vaccines, whether true or false, through radio or telephone communication channels (social media – particularly Karisimbi), which are generally less accessible to women (page 6).
- Women, the primary carers of children, reported that they were often away from home during the day, working in the fields, at the market, or fetching water (for example). Many women reported being away from home when vaccinators visited, and rarely available to bring their children for routine immunisation (page 6).
- Some mothers reported bringing their children to a health facility for vaccination in secret, either during a campaign or during routine immunisation, being aware of the importance of vaccination but fearful of the reaction of family members (page 6).

- Healthcare workers and communities in all health zones perceived a decrease in adherence to routine immunisation since the start of the COVID-19 response. The main reasons cited were fear of parents that their children would be infected with the COVID, as well as general shortages of certain vaccine antigens (North Kivu) (page 7).
- A high proportion of women in Kongolo tend to give birth at home or in prayer rooms. When women do not deliver in a maternity ward, babies will not receive the necessary vaccinations at birth, and their mothers miss key messages from healthcare workers on maternal and child health and nutrition practices, including the importance of child immunisation (page 7).

Integrated Outbreak Analytics (IOA)

Integrated Outbreak Analytics (IOA) is a multidisciplinary approach to understanding the dynamics of outbreaks and informing responses. It aims to develop comprehensive, accountable, and effective clinical and public health strategies by enabling communities and national and international health authorities to use data to make operational decisions. IOA takes a holistic perspective of outbreak dynamics: from research questions, to data collected or sourced, to interpretation of results and resulting recommendations co-developed with response actors.

Data included in the integrated analyses for polio outbreaks in DRC



Methods

Objectives of the analysis

- Understand the barriers for community members (women, men) to accessing polio vaccination during campaigns, as well as routine services.
- To co-develop evidence-based recommendations with implementing partners to support responses to polio outbreaks and improve vaccine uptake.

Data source

A primary source of the data included in this analysis is a household survey and complementary qualitative research conducted in July 2022 in Kongolo (Tanganyika) and Kirotshe and Karisimbi (North Kivu).

Zones and sampling

N= representative (95% CI, 5% ME)

a) North Kivu

- Number of health zones (HZ): 2 (Karisimbi and Kirotshe),
- Quantitative: 417 households (282 Karisimbi; 135 Kirotshe)
- Qualitative: 4 focus group discussions (FGD)

b) Tanganyika

- Number of health zones: 1 (Kongolo)
- Quantitative 384 ménages,
- Qualitative: 3 FGD et 2 KII

Zone selection criteria

- Low polio vaccination rate (data provided by the Ministry of Health).
- Teams on site to use evidence (Central Health Zone Office (BCZ)/ partners).

Respondent selection criteria

1. Quantitative survey

- Community members: the interview was to be conducted with an adult member of the household who is involved in bringing the child for routine vaccination/care (this member could be the father, mother, or another adult in the household).

2. Qualitative component

- Health personnel, chairpersons of community outreach cells (CACs), community animators, and community relays (RECOs) in the areas targeted by the study.
- Women's associations, religious denominations in the health zone targeted by the study.
- Other key persons such as journalists, teachers, heads of gender divisions and youth associations.

Access to education, work and money

Kongolo (N=384)

Men = 96 (25%)
Women = 288 (75%)

Women constituted the majority of respondents in all health zones (Kongolo, 75%, N=384; Karisimbi and Kirotshé, 95%, N=417). Women were generally cited as the primary caregivers of children, but they were also more often present in the household when the researchers visited.

Kirotshé and Karisimbi (N=417)

Men = 21 (5%)
Women = 396 (95%)

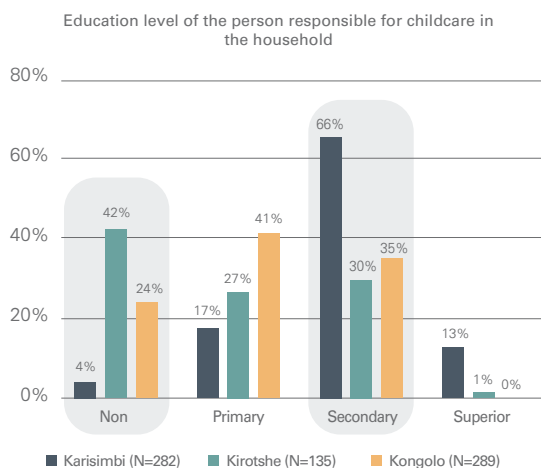


Fig.1

The level of education of respondents in Karisimbi (96% female) was significantly higher than that of respondents in Kirotshé (93% female), with 66% in Karisimbi reporting having completed secondary school (N=282), compared to only 30% in Kirotshé (N=135) (fig. 1). Karisimbi is an urban health zone in the city of Goma, which includes many people from other parts of the country who move there in search of work. There are many schools, both private and public, which improve accessibility to education.

However, 56% of households in Karisimbi (n=270) reported that the person primarily responsible for childcare was unemployed, compared with 21% in Kirotshé (n=126) and only 2% in Kongolo (N=289) (Fig. 2). "Unemployed" in this sense does not necessarily mean staying at home, unoccupied, but suggests informal work, providing a less reliable income, for example the production and sale of beignets, or chapattis. 22% of women in the North Kivu health zones (collectively) reported working in small commerce.

In Kongolo, a rural area, 30% of women reported having no formal education (N=289), compared to only 4% of men (N=95) (significant). Similarly, 60% of men had completed secondary education, compared to 27% of women. In North Kivu, however, there was no significant difference between the education levels of men and women (difficult to measure due to the small sample size of male respondents).

- Women with lower levels of education may lack knowledge or understanding of polio symptoms and prevention.
- Need for more simplistic explanations of themes relating to vaccination? (adapted messaging)
- Suggests a need to adapt the channels and messages of community engagement given by RECO, radio etc.?

In Kongolo, 71% of women reported working in agriculture (N=289), requiring them to be away from home for most of the day, either in the fields or at the market. This figure was significantly higher than the number of men citing farming as their occupation (57%, N=95). 47% of respondents in Kirotshé, a peri-urban health area, reported working as farmers (combined men and women).

Profession of the person responsible for childcare in the household

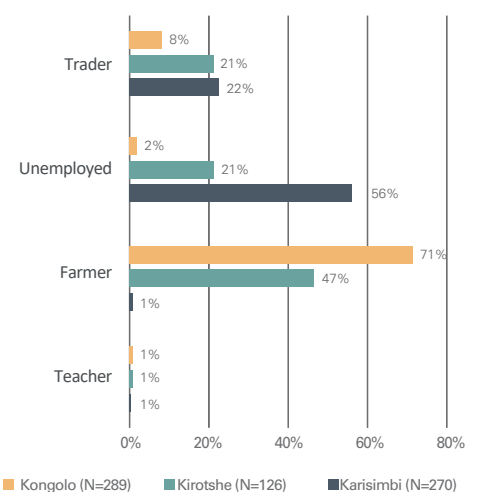


Fig.2

Although life in the city is generally more expensive than in rural areas, households in Karisimbi reported having some degree of regular access to money and goods such as telephones, radio and television.

- Increased exposure to health messages, including vaccination and promotion campaigns.
- Increased exposure to 'fake news' and rumours about vaccination (particularly evident during COVID-19).

Knowledge and perception of the disease, symptoms and prevention methods

Only 2% of respondents in Kongolo (N=384), and 4% in Karisimbi (N=282) cited polio as a health problem in their community.

- Lack of knowledge and understanding of the signs of polio (people do not know how to recognise a case?)
- Have people never seen a case of polio (cases are very infrequent)?
- Less attention is paid to polio compared to other diseases? e.g. malaria, diarrhoea (very common)
- Limited communication around polio (lack of general awareness of the existence of the disease) ?

A significantly higher proportion of households in Kirotshe compared to other areas reported that polio was a health problem affecting their children (11%, N=135). This may suggest greater exposure of communities to the disease itself, who may know or have known cases, or more frequent awareness through, for example, campaigns or routine messages.

In all health zones, identification of signs of polio was mainly limited to late-stage symptoms, including atrophy and stiffness of the limbs. There was little mention of fever, diarrhoea or fatigue, which are some of the early signs of polio infection. Recognition of these early signs would allow parents to seek treatment for their child as soon as they appear. However, the similarity to other infections more commonly affecting children, such as malaria or diarrhoea, may lead parents to buy medicines from a pharmacy or treat themselves at home rather than seek care at a health facility.

Only 21% of households in North Kivu health zones (N=417) (no difference between zones) reported that polio was a disease could be treated, compared to 55% in Kongolo (N=384) (no significant difference between men and women).

What do you do in your community to prevent polio?

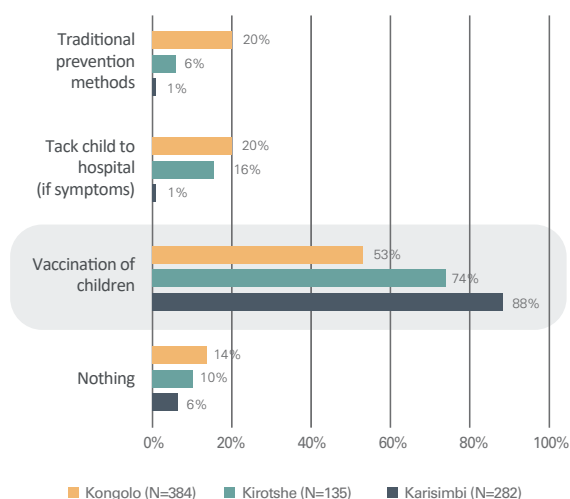


Fig.3

However, 88% of respondents in Karisimbi (N=282), and 74% in Kirotshe (N=135) cited vaccination as the main method of preventing polio.

If the majority of people believe that polio cannot be treated, but also understand the role of vaccination in preventing the disease, why are parents reluctant to vaccinate their children?

Only 53% of households in Kongolo cited vaccination (N=384). 20% of respondents preferred traditional methods of preventing polio, compared to only 2% in the North Kivu health zones.

These data suggest that despite some reluctance towards the vaccine itself, households in North Kivu, particularly in Karisimbi, are more aware of the role of vaccination in polio prevention than those in Kongolo.

In all health zones, there was limited reference to maintaining household sanitation and hygiene as a means of preventing polio transmission.

In Kirotshe, a significantly higher proportion of women with a primary education (84%, N=69) reported vaccination as the principal method of polio prevention, compared to women with no formal education (64%, N=55), suggesting a greater awareness of the importance of vaccination amongst better educated mothers. In Kongolo, however, women with no formal education were significantly more likely to cite vaccination (61%, N=87), compared to those with primary (51%, N=124) or secondary (41%, N=78) education. (In Karisimbi, there was no difference between women with different levels of education).

Access to polio vaccination

Knowledge of the routine vaccination calendar for polio

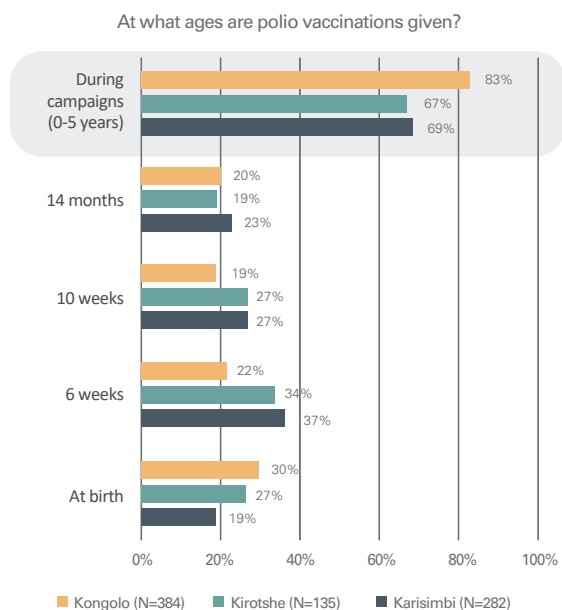


Fig.4

A significantly higher proportion of households in Kongolo (83%, N=384) reported that polio vaccinations were primarily available during specific campaigns, compared to households in the North Kivu health zones (collectively, 68%, N=417). A significantly higher proportion of respondents in North Kivu (36%) identified that the polio vaccine can be given to children aged 6 weeks, compared to Kongolo (22%). However, only 19% of respondents in Karisimbi knew that the first dose of polio vaccine could be given at birth, compared to 27% in Kirotshe and 30% in Kongolo.

Despite an overall low level of knowledge of the polio vaccination schedule, the data suggest a higher level of knowledge amongst households in the North Kivu health zones, compared to those in Kongolo. No significant differences were recorded between the responses of men and women within the health zones.

Households in Karisimbi and Kirotshe are more exposed to health promotion around routine vaccination (high concentration of medical NGOs, radio messages, RECO) ?

Men and women in Kongolo suggested in interviews and focus groups that health workers and BCZ staff rarely promote routine immunisation but tend to increase activity considerably before and during campaigns, when motivated by supporting partners.

Interviews with health structure managers (IT) in the target health areas (across all zones) revealed that some mothers do not bring their children to pre-school (post-natal) consultation (PNC) in the months following delivery. This was reinforced by RECO, who reported difficulties in convincing women to attend PNC. This highlights a problem, as children will not receive the vaccines routinely provided during PNC and women miss opportunities to receive health promotion messages from health staff on key health topics, including the importance of immunisation in preventing certain diseases.

- Mothers' lack of awareness of the importance of PNC and of immunisation?
- Lack of clear messages from health staff and RECO about the importance of PNC for mothers and children?

These data highlight that even where knowledge and awareness of the routine vaccination schedule is limited, communities are at least aware that they may be able to immunise their children during campaigns. This may be a positive reflection of the community engagement efforts of health staff and community health workers, as well as communication through other channels (radio, NGOs etc.) to inform communities of the need for immunisation and the days and times of campaigns.

Household decision-making on vaccination

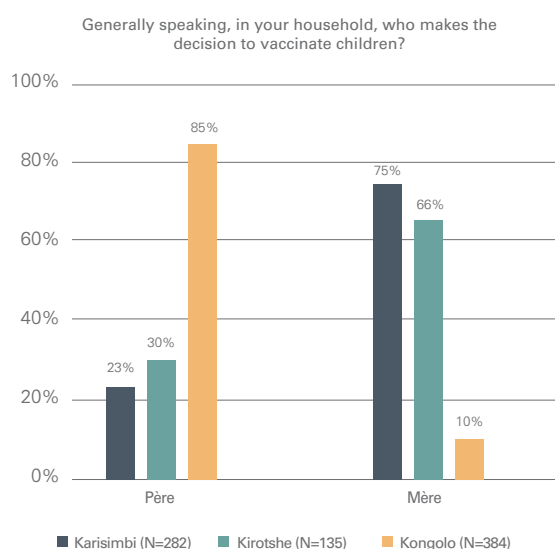


Fig.5

85% of respondents in Kongolo said that the father was responsible for the decision to vaccinate children. In contrast, in Kirotshe and Karisimbi, the mother was cited as the main decision-maker (66% and 75% respectively) (fig.5).

Reinforcing the differences in social gender norms between health zones?

Qualitative data showed that in the North Kivu health zones, decisions relating to child health are essentially the responsibility of the mother. Only when there is money involved does the father usually intervene.

95% of households in Kirotshe and Karisimbi reported that the mother was responsible for taking children to be vaccinated (N=417). In Kongolo, children were also reportedly brought to the vaccination by their siblings (10%) and father (11%) (N=384). However, 21% of respondents in Kongolo stated that it was not the responsibility of anyone in the family, as their children would not be vaccinated.

Engagement with routine polio vaccination

Time and distance were cited as key barriers to bringing children to routine immunisation in all health zones, but particularly evident in Kongolo, a rural health zone (Fig. 6).

In Kongolo, 65% of respondents reported that the nearest site for routine immunisation was more than 30 minutes' walk away (N=384), compared with 30% in the North Kivu health zones (N=417). Households in Karisimbi appear to have better access to transport, with 25% of respondents reporting taking a bus or motorbike to the site, compared to only 1% in Kongolo and Kirotshé.

There is a greater concentration of health facilities in Karisimbi and Kirotshé than in Kongolo, however, 10% of households in both areas of North Kivu said they did not know of any places where they could have their children vaccinated in their town.

Do the sites not exist, or do people simply not know that they exist?

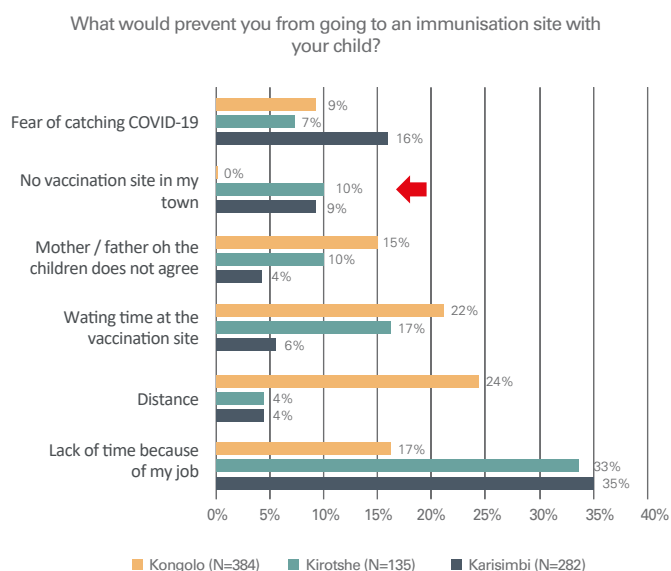


Fig.6

Several parents across all health zones said that they had taken their children to the health facility for routine polio vaccination, but due to the high concentration of people, the vaccines had been used up, and they were asked to return another day. Others said that by the time they reached the front of the queue, the staff were tired and were not prepared to continue with the vaccination.

Preferred time and place for routine vaccination

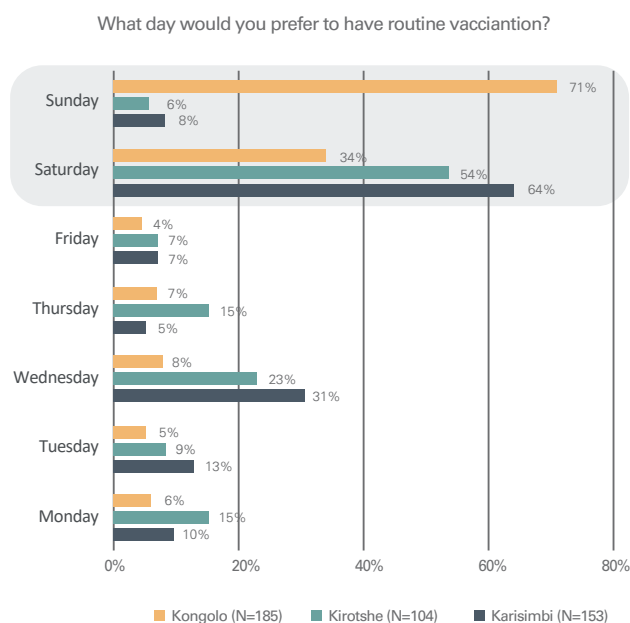


Fig.7

48% of households in Kongolo reported having days of the week on which they prefer to bring their children for routine immunisation, compared to 54% in Karisimbi and 77% in Kirotshé.

Across all health zones in North Kivu, Saturday was the preferred day, whilst in Kongolo, 71% of respondents said they preferred Sunday to have their child vaccinated.

- Many health facilities are closed at weekends or work at lower capacity.
- BCZ staff are less available on weekends to support health facilities with vaccine stocks in case of stock-outs.

Whilst most households in Karisimbi and Kirotshé preferred to receive routine vaccinations at the health structure, in Kongolo 43% of respondents said they would prefer them to be carried out at home.

- Reflecting the poor access to transport in Kongolo, and the distance to health facilities providing vaccination?
- High proportion of women in Kongolo working in agriculture, where the fields may be far from home, or any vaccination site (it would take longer than for someone working in town, for example in Karisimbi) ?

19% of respondents in Kongolo cited cases where they had to go home after leaving a vaccination site without having their child vaccinated. In 64% of the cases, this was due to a long queue and not being able to wait (n=72). In contrast, in Karisimbi and Kirotshé, 65% of respondents (no difference between zones) reported not being able to have their children vaccinated, the main reason being that the vaccine stock was finished and children had to be brought back on another day (Karisimbi, 56% (n=189); Kirotshé, 75% (n=80)).

Health staff in the Karisimbi health zone cited cases where women of high socioeconomic status came to the health facility to have their children vaccinated, but refused to wait in a waiting room with a considerable number of other women, and demanded to be seen before anyone else who was waiting. Some staff reported having set up separate "VIP waiting rooms" to accommodate this demand.

Engagement with polio vaccination campaigns

75% of respondents in Karisimi and Kirotshé said that the existing days, months and seasons for vaccination campaigns suited their schedule (N=417), compared to 63% in Kongolo. Amongst those who did not consider the current campaign schedule to be suitable, households in all zones tended to prefer weekends, with those in Kongolo indicating mainly Sunday afternoons (14:00-17:00), and those in Karisimbi and Kirotshé indicating Saturday mornings (8:00-9:00), as families are usually at home during these times.

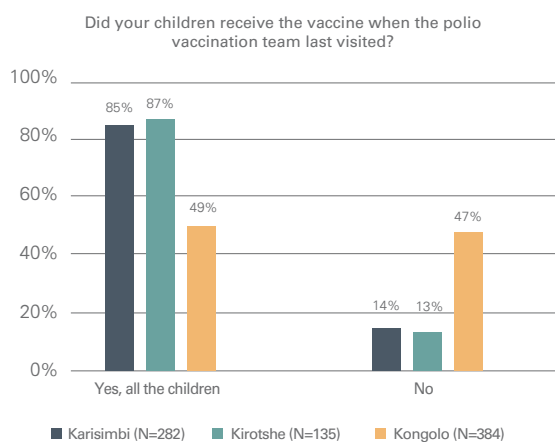


Fig.8

In Kirotshé and Karisimbi, 86% of households reported that all their children had been vaccinated against polio during the last campaign (N=417), compared to only 49% in Kongolo (N=384) (fig.8).

The main reasons cited in Kongolo for not vaccinating children were the belief that vaccines are dangerous to the child's health, that the father was not supportive, or that the parents were away from home when the vaccination teams visited.

73% of the women in Kongolo who reported being away from home when the vaccinators visited were working in the fields at the time (n=49).

Of those who were at home and available when the vaccinators visited, 20% of respondents in Kongolo said that they lost time that could have been spent working in the fields. In contrast, only 3% of respondents in Kirotshé and Karisimbi felt that this process had cost them anything.

Opinions of health workers

Polio vaccination campaigns are conducted according to the Ministry of Health (MoH) schedule in each province (through the BCZ) and can therefore take place during the week or at weekends. Local health staff in all zones indicated that they found weekdays more suitable for vaccination campaigns, as BCZ teams would be more likely to be available to support and respond to demand from the field.

Household resistance to vaccination

47% of respondents in Kongolo said that there were people in their household who were against vaccinating their children (N=384), compared to 23% in the North Kivu health zones (N=417).

In 60% of cases in Kongolo, the father would be the main barrier, compared to 48% in Kirotshé, and 40% in Karisimbi.

Men have greater access to information than women, so are more exposed to misinformation and rumours - they are more likely to own radios and phones, and generally have more time to listen to and discuss theories with friends and neighbours (considerable influence of social media in North Kivu).

During interviews, women said that they would consider vaccinating their children in secret, but that they would fear their husband's reaction. Many women said that this would create tension in the household, and that they may be physically and verbally abused, and sent back to her family for disobeying her husband.

In interviews and focus group discussions in Kongolo, some parents reported cases of children falling ill, or very occasionally dying, after receiving a polio vaccine. This seems to reinforce existing beliefs in some communities that vaccines cause illness and death.

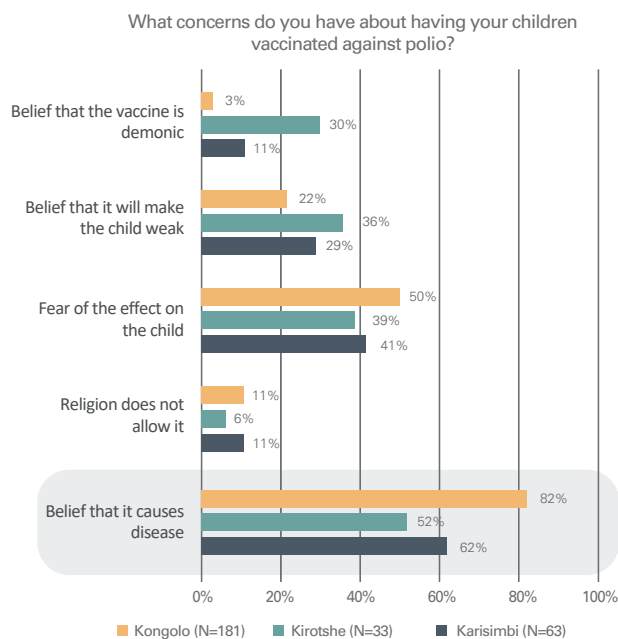


Fig.9

- Were parents not properly informed about the possible side effects of the vaccine (common or rare)?
- Does the timing of the vaccination coincide with other health problems that may cause illness or death (e.g. malaria and diarrhoea, which are cited as very common across all health zones)?
- Very rare vaccine-associated complications resulting in serious illness or death?

In Kongolo, a significantly higher proportion of women with no formal education reported that their religion and other cultural factors would influence their decision on whether to vaccinate their child (32%, N=87), compared to those with primary education (18%, N=124). In Kirotshé, however, a higher proportion of women with primary education reported being influenced by their religion or culture (21%, N=34), compared to those with no education (9%, N=55).

- Several respondents from Karisimbi and Kirotshé said they knew that the type of vaccine had changed, which would make them reluctant to bring their child for the next campaign.
- Would long waiting times discourage people?
- The possibility of vaccine rupture (frequently reported in North Kivu)?

Indirect impacts of COVID-19 on routine immunisation

Why do you think there has been a change in community commitment to vaccination since COVID?

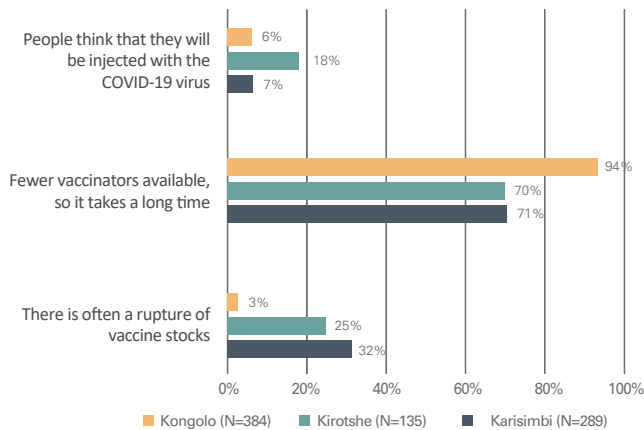


Fig.10

50% of respondents in North Kivu (N=417) and 45% in Kongolo (N=384) said they had noticed a reduction in routine immunisation attendance in their community since the start of the COVID response (March 2020). The main reason provided was that people were afraid that their children would be injected with the COVID virus if they went to the health structure for routine vaccination (fig.10).

29% of respondents in the North Kivu health zones also mentioned that there were shortages of vaccines during this period. Some people said that they brought their children for vaccination but were sent home after a considerable waiting time due to the depletion of vaccine stocks. Most said they lacked the motivation to return with their children on another day, as requested by health workers. Further analysis in North Kivu in 2021 also revealed some shortages of vaccines, including BCG (CAI, 2021).

Home births and impact on routine vaccination

Qualitative data collected in Kongolo suggested that women are increasingly giving birth at home or in prayer rooms (linked to certain churches). In interviews and focus group discussions, both men and women indicated that they believed that prayers by pastors and members of religious congregations could change the position of the baby in the womb, in order to avoid birth complications or the need for a caesarean section (a costly health intervention). This trend was not identified in Karisimbi or Kirotshé.

Home births, comparing Kongolo, Karisimbi and Kirotshé

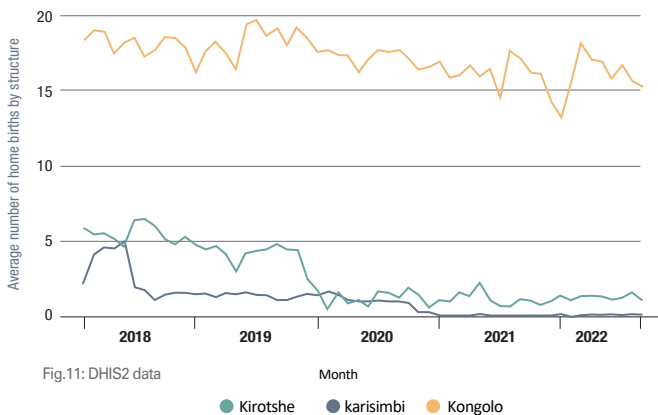


Fig.11: DHIS2 data

This trend is also highlighted in DHIS2 data, which shows a consistently and significantly higher prevalence of home deliveries in Kongolo, compared to Karisimbi and Kirotshé health zones (fig.11).

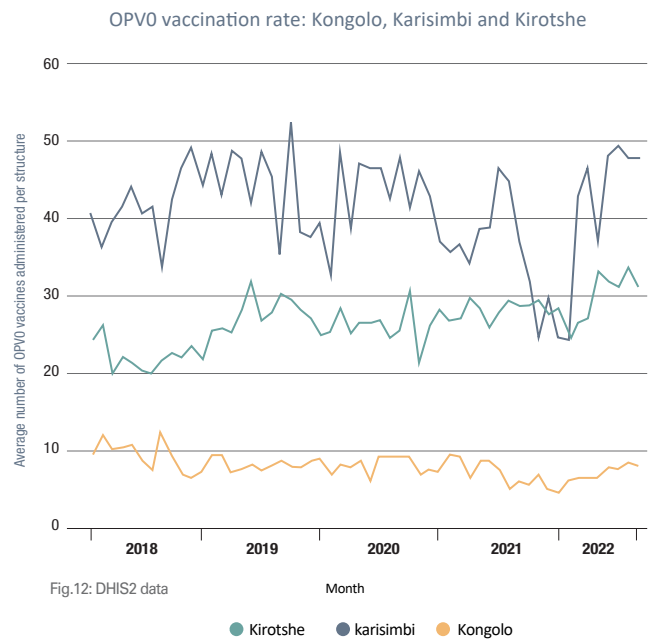
- Socio-cultural factors influencing childbirth practices?
- Barriers to accessing maternity services in Kongolo (e.g. distance, money, lack of services)?
- Greater concentration of health structures (private and public) in North Kivu (better equipped maternity units)?

When women give birth in maternity wards, they are exposed to health promotion and messaging from staff on key maternal and child health and nutrition topics, including immunisation. In addition, babies receive certain vaccines directly after birth, including the first of four recommended doses of polio vaccine (OPV0).

DHIS2 data comparing OPV0 vaccination rates in Kongolo, Karisimbi and Kirotshé (fig.12) show a consistently lower rate in Kongolo than in the two health zones of North Kivu.

This reinforces the idea that many women do not deliver in health facilities and thus miss the opportunity for their newborns to receive the first polio vaccination (high home delivery rate, low OPV0 vaccination rate).

To have an indication of community engagement in routine polio immunisation, data for OPV3, which is to be administered 14 weeks after birth, would be most appropriate.



Conclusions and next steps

The analysis highlights marked contextual differences between the three health zones, with specific factors influencing community engagement in vaccination campaigns, and barriers limiting access.

In Kongolo, there are fewer health facilities, so people must travel further to bring their children for routine immunisation, with transport less available, and expensive. Women are responsible for taking children to be vaccinated, but they are generally not allowed to make decisions around child health. In addition, women work mainly in agriculture, and so may not be present when vaccination teams visit, and unable to afford to stay home and wait due to potential loss of income. Women who are away from home all day may be less exposed to communication about the importance of vaccination. Health care seeking in Kongolo is influenced by cultural and religious beliefs to a much greater extent than in Karisimbi and Kirotshé, including a mother's decision to give birth at home.

In Karisimbi and Kirotshé, there is a high concentration of health facilities offering immunisation services. However, in these urban and peri-urban settings, the concentration of people is equally high. Facilities are often understaffed and can be overwhelmed, leading to stock-outs and an inability to meet demand. The level of education (both male and female) is relatively high in Karisimbi, and people seem to have a reasonable awareness of the importance of vaccination, with access to radio, mobile phones (social media) and NGO outreach teams. However, this can also lead to exposure to misinformation and rumours around vaccination, impacting engagement.

The identification of different barriers in each context should be accompanied by the identification of context-specific solutions, with the overall goal of strengthening the polio response and related prevention strategies to maximise immunisation coverage and improve community health outcomes.

This data has been shared and presented to local and national stakeholders to inform the development of recommendations to address the issues raised. To date, recommendations and actions have been proposed at the community level, with the Ministry of Health and local partners, and their implementation is being monitored.

Recommendations co-developed with partners and community members

Problem	Recommendations and actions	Location and organisation
<p>Poor communication around routine vaccination; limited knowledge of vaccination calendar</p>	<p>BCZ teams and health structure management to organise health promotion sessions to discuss vaccination in schools, and in Technical Medical Institute, focusing on:</p> <ul style="list-style-type: none"> • Routine vaccination – the calendar, and campaigns • Target age groups for polio vaccination • The importance of vaccination and the routes of administration (depending on the antigen) • Possible side effects of different vaccines (reassuring that they are rare) 	<p>BCZ Kirotshe BCZ Kongolo, Partenaires</p>
	<p>Set up a telephone SMS alert system for parents of children <5 (age for vaccination):</p> <ul style="list-style-type: none"> • IT(Titular nurse) or vaccination teams charged with sending reminders of dates of meetings for routine vaccination, and schedules for campaigns (SMS cost from health structure budget) • Implicate RECO in following up on reminder messages 	<p>BCZ Karisimbi BCZ Kirotshe</p>
<p>Messages on routine vaccination poorly adapted for mothers with lower education levels</p>	<p>Training and capacity building for Community Animation Cells (CAC) / RECO on themes including routine vaccination, with messages adapted to anticipated audiences (men, women, youth, higher/lower education etc):</p> <ul style="list-style-type: none"> • Opportunities for vaccination: routine, and during supplementary immunisation activities, e.g. antenatal visit (ANC), postnatal visit (PNC), preschool consultations • Health benefits of vaccinating children and adhering to the immunisation schedule • The difference between the OPV and COVID-19 vaccines (especially if both antigens are given at the same time, or at the same structure) <p>Training on messages to break down hesitancy in certain groups – e.g.</p> <p>» <i>For women "mama, you may have carried your child's for 9 months during pregnancy, which was not easy, it is good to protect him/her from vaccine preventable diseases"</i></p> <p>» <i>For men: "As a father, I have the responsibility to protect my child and I have decided to do so by having him vaccinated to prevent him from being disabled".</i></p>	<p>BCZ Kirotshe BCZ Kongolo</p>
<p>Information on routine vaccination not shared amongst specific groups (women, youth, religious etc.) – representing a missed opportunity.</p>	<p>Organise community dialogues/ meetings with women in communities to discuss themes linked to vaccination.</p> <ul style="list-style-type: none"> • Work with RECO to bring together female community leaders. • Implicate IT from the health structure to delegate responsibility to healthcare workers to respond to questions around vaccination that might come from the meetings. 	<p>Women leaders Kahembe health area, Karisimbi</p>
<p>Certain segments of the community not frequently targeted during outreach by associations, health providers, RECO</p>	<p>Organise door-to-door or mass sensitisation days/plans that will address the importance of routine and mass immunisation against polio in children under 5 years of age by broadening the targets: farmers in the fields (might not always be at home), miners, fishermen at the lake, village savings and credit associations (AVEC).</p>	<p>Women in AVEC in Rapha health area, Karisimbi</p>
<p>Rumours circulating in communities around COVID vaccines; RECO lack knowledge and capacity to correctly inform people (differences between vaccinations etc.)</p>	<p>Capacity building for RECOs on vaccination, with a considerable element addressing COVID-19 rumours (specifying the different rumours, and different methods and messages to address each one)</p> <p><i>Many of the RECO themselves believe and perpetuate the rumours – communication needs to start with them.</i></p>	<p>BCZ Karisimbi BCZ Kirotshe BCZ Kongolo</p>

Problem	Recommendations and actions	Location and organisation
Messages communicated in communities around vaccination do not take into account community feedback.	<p>Health structures supervise/ support RECO to collect community feedback around vaccination (concerns, barriers, rumours – e.g side effects, fear of COVID)</p> <p>Organise sessions with representatives of associations, community and religious leaders, via radio broadcasts in the local language, or in specific groups (community or religious associations) on routine immunisation (they can address the issues addressed in the feedback with the support of the IT)</p>	Women's associations, Karisimbi
Low level of community knowledge about the signs and means of prevention of polio	<p>Organise awareness sessions for the RECo in the community to reinforce the community's knowledge of the symptoms and the importance of the polio vaccine as a means of prevention.</p> <p>Advocate with the IT to organise the capacity building sessions for community leaders and RECO (during monthly health committee meetings), ensuring coverage of the following topics:</p> <ul style="list-style-type: none"> • The symptoms of polio and the importance of polio vaccine (prevention). • The difference between the routine vaccine and other vaccines (COVID-19) 	Women leaders Kahembe, BCZ Karisimbi
The community is not sufficiently involved in the dissemination of immunisation messages	<p>Allocate funds for the implementation of a community centric approach to vaccination campaigns:</p> <ul style="list-style-type: none"> • Make the activity permanent (not just during campaigns) • Prepare integrated messages. <p>Work in collaboration with the Bill & Melinda Gates Foundation project in Tanganyika to strengthen CAC coverage in the province according to existing approaches to support routine vaccination and campaigns.</p>	UNICEF-Kalemie (all sections)
Poor planning of engagement activities during campaigns	Organise a briefing of field teams (community engagement) before the campaign to plan activities, HR, required tools etc.	UNICEF-C4D
<p>Lack of collaboration between the central office (BCZ) and field level actors, including religious and community leaders.</p> <p>Leads to the non-involvement of religious leaders in the sensitisation, sometimes resulting in resistance from certain, less informed groups.</p>	<p>The BCZ-Kongolo core team will need to improve collaboration with the community (community leaders/local structures, associations, during daily activities as well as during campaigns.</p> <p>For example, involve community and religious groups in activities so that they can sensitise their followers, and help to identify lost cases (or vaccine refusals).</p> <p>Support the BCZ team with capacity building for leaders of associations and religious leaders on:</p> <ul style="list-style-type: none"> • Reporting information related to adherence to vaccination (feedback, barriers, rumours), • Supporting communities with community-based surveillance of vaccine-preventable diseases (measles, AFP (acute flaccid paralysis), meningitis, tetanus, yellow fever, etc.) 	UNICEF (health and C4D) BCZ Kirotshe
Poor communication between health structures and community leaders about the importance of vaccines	Organise community dialogue sessions to discuss routine immunisation and the campaign with community leaders.	BCZ Kongolo BCZ Karisimbi BCZ Kirotshe
Limited knowledge about vaccination (all themes) particularly women and youth.	<p>Through U-Report, in consultation and harmonisation with the National EPI:</p> <ul style="list-style-type: none"> • Organise a survey on the community's knowledge of the immunisation schedule • Design an awareness message through the platform and expect community feedback 	C4D UNICEF (national) BCZ Karisimbi BCZ Kirotshe

Problem	Recommendations and actions	Location and organisation
Low knowledge of the difference between polio and COVID vaccines	<p>Strengthen communication for adherence to polio vaccination by emphasising the difference between polio vaccine and COVID 19 vaccine:</p> <ul style="list-style-type: none"> • Solicit a message from the Provincial Governor General in the relevant provinces, in favour of polio vaccination. • Plan emissions on 3 radio stations supported by UNICEF in Goma to raise awareness about immunisation at well-defined times (6am, 9am, 12pm, 6pm) and talk about routine immunisation and campaigns (when relevant), importance, targets, what to do in the event of side effects, etc.) <p><i>Ensure these radio messages are not only shared around campaigns, but regularly, to also promote routine vaccination.</i></p> <ul style="list-style-type: none"> • Emissions on 2 radio stations supported by UNICEF in Butembo • Mobilise certain community leaders to take part in radio broadcasts to raise community awareness • Find a space for the presentation of CAI evidence for Polio in CPC meetings, EPP, all UNICEF North Kivu C4D consultants and CNPC committee 	C4D UNICEF (North Kivu)
Low coverage of routine immunisation messages, leading to confusion about different antigens	<p>Organise radio broadcasts before the 2nd round of polio vaccination (campaign) and launch messaging in mosques and churches to promote vaccination policy, and reduce cases of reluctance or resistance to vaccination</p> <p><i>Including clarification of information on the difference between polio vaccine and COVID-19 (route of administration and target to dispel misinformation).</i></p>	BCZ Karisimbi BCZ Kirotshe
Vaccination is typically the responsibility of women, but men can prevent mothers from taking the children for vaccination (routine or campaign) so if they disagree with it.	<p>Creation of a men's committee with some RECO to exchange between peers, constructive debate between men/fathers of families or young men on the importance of routine child immunisation.</p> <p>Identify men among the RECOs in the health areas in order to organise debates and educational sessions in different environments (household, neighbourhood meetings, refreshment stands, etc.) with the aim of breaking down any resistance to vaccination.</p>	Women's associations Kongolo (organised through Gender Division)
Vaccination schedule less adapted to the availability and workload of parents	<p>Ensure the availability of vaccination teams at the site during the scheduled vaccination days (preferably on weekends)</p> <p>Include private health structures and health posts as vaccination sites – remove distance between households and sites to encourage access (particularly health areas of Makonto, Misambi, Kangoy, Kilae, Kilembi, Loni, Matenta)</p>	BCZ Kongolo
High number of unvaccinated or incompletely vaccinated children aged 12-23 month	<p>Initiate a circular that requires health care workers (nurses or doctors) to establish vaccination status of all target children who visit the health structure</p> <p>Organise in certain health facilities, vaccination at all contacts of the targets 0-11 months, sometimes 12-23 months)</p>	BCZ Karisimbi BCZ Kirotshe
Mistrust of vaccination, and refusal of parents to vaccinate their children (sometimes due to religious beliefs – more prevalent in Kongolo)	<p>Identify the unvaccinated children by health area (those who missed the first phase in June 2022) in order to organise recovery (catch-up) vaccination days.</p>	BCZ Kongolo BCZ Kirotshe
Shortage of immunisation stocks (and equipment) due to low storage capacity or lack of refrigerators for vaccines	<p>Increase cold chain capacities in certain health areas to improve storing and preservation of vaccines to prevent stock issues (provision of refrigerators in the areas without storage/conservation facilities) – identified by health zone.</p>	BCZ Karisimbi BCZ Kirotshe BCZ Kongolo
Poor dissemination of messages on routine immunisation through certain reliable channels such as churches; women's and men's associations; at health structures (ANC, PNC).	<p>Support/ manage the announcements related to the vaccination sessions, to start one week before the launch of the campaign.</p> <p>Organise with health structure IT to plan and manage RECO (of MUUNGANO LA SOLIDARITE health area) to pass communicated messages around vaccination, and promotion of specific campaigns.</p> <p>Exploit the various traditional channels and strategic places (where communities congregate) to talk about routine immunisation (markets, churches, schools, women's associations, youth clubs, CODESA, RECO, ANC, PNC, public beaches, ports, etc.), as well as campaigns.</p>	Men leaders in Muungano Solidarité health area, in Karisimbi health zone.

Problem	Recommendations and actions	Location and organisation
Communities prefer vaccination campaigns to take place at weekends, or early in the morning and late in the day (if during the week).	<p>Support the organisation of the door-to-door polio immunisation campaign ensuring that parents (particularly mothers) are at home.</p> <ul style="list-style-type: none"> • Early in the morning or late in the day on weekdays • Mornings or late afternoon on weekends (more flexibility at weekends) • Work with vaccination teams to mobilise women in the community. 	Women of AVECs in Murara health area, Karisimbi.
Some vaccination sites are far from households, which prevents some mothers from accompanying their children to the vaccination (during workday)	<p>Establish vaccination sites in neighbourhoods that might be far from health facilities, facilitating access for all parents.</p> <p>Integrate religious and private structures into routine immunisation.</p>	Women's associations - Kongolo
Parents' refusal to vaccinate children due to religious beliefs, misinformation, or fear of side effects.	<p>Sensitise men and women in churches that do not accept the vaccine on the importance of getting children vaccinated.</p> <ul style="list-style-type: none"> • Show examples of children already vaccinated and living in the community, healthy. <p>Organise an advocacy meeting with religious leaders of vaccine-resistant religious sects.</p>	Women's associations - Kongolo
Men make up the majority of those who are most wary of vaccinating children because of rumours, religious beliefs, etc.	<p>Make the immunisation schedule available to the communities (men, women, youth) for information to help in the decision-making process of immunisation of children.</p> <p>Share the immunisation schedule via different WhatsApp groups of men and women in the community, ANC, PNC sessions etc.</p>	Men leaders in Muungano Solidarité health area, in Karisimbi health zone.
Mistrust of vaccination	<p>Organise recovery days for children who resisted the first phase of the June 2022 polio campaign (military camps and elsewhere) based on lists provided by the health areas</p>	BCZ Karisimbi
Rumour and resistance of parents, especially men, to routine and mass vaccination	<p>Target specific groups to communicate about routine and mass immunisation, including:</p> <ul style="list-style-type: none"> • Carpentry shops • Hairdressing salons • AVEC and other women's associations • Youth and footballers' associations 	BCZ Karisimbi
Religious sects refuse routine and mass vaccination	<p>Organise with the C4D UNICEF team and the Communication Task Force, awareness-raising visits to sects that are against vaccination in the Kirotshe health zone in order to convince them to accompany their children for vaccination.</p>	BCZ Goma, UNICEF-Goma
Rumours linking polio vaccine to COVID-19 – leading to resistance by certain groups such as churches, members of certain neighbourhoods, etc.	<p>Identify women's associations and youth groups who can support with awareness raising around vaccination and support capacity building on the activities to be carried out in the field.</p> <p>Reflect on how to approach sensitive communities or those who refuse vaccination, prepare messages to talk about vaccination, tailored to intended (specific) targets.</p> <p>Take feedback from the community, and respond to concerns through information sessions, through radios, newspapers, conferences in universities, etc.</p>	BCZ Kongolo, BCZ Karisimbi BCZ Kirotshe
Some providers do not master cold chain management and the need for vaccines for vaccination sessions	<p>Organise a capacity building workshop for providers on Cold chain management, behaviour change communication and community engagement, organization and planning of an immunization session, and identifying and recover of unvaccinated or insufficiently vaccinated children</p>	BCZ, C4D UNICEF Goma

Problem	Recommendations and actions	Location and organisation
Vaccinators come to the BCZ to get the vaccines, but they do not find the person in charge (lack of staff availability)	Organise a duty service at the BCZ by training the other members of the BCZ to serve the orders for vaccines coming from the health facilities and thus avoid false breaks due to the absence of the person responsible for the cold chain.	BCZ-Kirotshe
Low coverage by refrigerators in the Kongolo health zone	Provide cold chain equipment and specifically refrigerators in the health areas that do not have them in order to avoid breakages and facilitate good conservation of vaccines to maintain or increase vaccination sessions.	BCZ Kongolo PEV National, UNICEF
Communities claim that vaccinators are not able to do the job properly and do not know how to answer the community's questions about vaccination	<ul style="list-style-type: none"> • When recruiting vaccinators: select people from the community who are known, speak the local language and are trusted by the community and who may have knowledge of the health area in which they will be working, • Train the selected people on the basic questions that communities may ask and how to answer them, taking into account the community feedback collected in the area 	BCZ Karisimbi BCZ Kongolo
Low motivation of the providers due to the delay in payment of the fees foreseen by the MASHAKO Project for the strategy put forward by AS during the campaigns	<p>Ensure that the commitments of the MASHAKO Project* are respected by really motivating the providers by making the RECOs and providers receive their allowance or emolument</p> <p><i>* Mashako Plan: is a project initiated and financed by GAVI and other partners for the relaunch of routine immunisation with an emphasis on the advanced strategy: for more click here)</i></p>	PEV National, UNICEF
Ad hoc support for immunisation activities	Mobilise resources for routine immunisation and occasionally build the capacity of CACs / RECOs for routine immunisation	C4D UNICEF-Goma
Weak accountability/ ownership of immunisation at different levels	Reinforce by positive or negative sanctions in the sense of accountability at different levels of the state structure to discourage bad practices (e.g. absence of providers from the vaccination site) and encourage good ones (recovery of children who have missed the vaccination, organisation of advanced sites)	DPS North Kivu
Planning by field providers is not respected at provincial and national level.	Respect the micro-planning sent by the base (field agent) for the success of field activities, considering the needs in terms of resources required for the success of immunisation activities.	DPS, UNICEF-Tanganyika
The defined payment methods (Mpesa) of the defined providers are not suitable for remote areas	<p>Define a payment method for the teams:</p> <ul style="list-style-type: none"> • Mpesa for those who are in the area with Vodacom network coverage and easy access to withdraw money in Vodacom shops • Cash for those who are outside Vodacom network coverage or who do not have easy access to Vodacom shops • Respect the deadline for payment of vaccinators according to the dates provided in the activity schedule <p><i>The partners can choose the agents in the zone responsible for paying the people who are in remote areas and without Mpesa</i></p>	UNICEF Kalemie
Overlapping activities that increase providers' workload with disruption of other activities (e.g. launching several campaigns for different antigens with limited time for outreach)	<ul style="list-style-type: none"> • Plan and separate activities well, if two campaigns are to be done at the same time • Seize opportunities for synchronization of certain activities (OPV, vitamin A, deworming, net distribution, OPV and deworming) • Take time to sensitize the community to explain what happens if two campaigns are done together 	UNICEF, DPS
The level of knowledge about the diseases and their signs is low.	Organize community dynamics briefings and explain to communities the symptoms of polio	BCZ-Kongolo, UNICEF- Kalemie

Problem	Recommendations and actions	Location and organisation
<p>The movement of communities following displacement in conflict zones is not controlled by the health authorities, which creates difficulties in planning activities in the field.</p> <p>No count and numbers of households in the fields, mining quarries not known while in these households live children</p>	<ul style="list-style-type: none"> • Involve RECOs and village chiefs in identifying households living in fields, mining households, fishermen's camps etc. • Record the numbers of children under 5 living in these households • Get the message about immunisation to these households and especially to those who do not have access to the radio) 	BCZ-Kongolo
Lack of electricity, and access to radio limits coverage of radio messages.	<p>Multiply the number of radio awareness sessions on health: go from 2 to 3 broadcasts per week to reach women farmers, women traders or market women, men who go to the mines and return late at night, men with multiple occupations.</p> <p><i>Ensure to test messages with communities to ensure they are reaching the targets.</i></p>	UNICEF-Kalemie, CARITAS Kongolo
Under-information on health in the area. Communities do not feel that RECO are very involved.	Strengthen the awareness of RECOs, and remind them of the definition of diseases, the vaccination schedule, and vaccine-preventable diseases	IMC-Kongolo
Lack of recovery of unvaccinated children.	Increase supervision in the structures of the Diocesan Office of Medical Works, in relation to Primary Health Care, (from 1 supervision per quarter to 1 supervision per month) by searching in the registers for children in conflict with the immunisation schedule for recovery.	Caritas- Kongolo
Poor planning of field activities at national level by putting two campaign activities for adults and children in the same period.	Designing responsibilities for campaign planning processes in collaboration with all partners involved in immunization to avoid duplication of activities (i.e., not launching more than one campaign).	PEV, UNICEF, BCZ Kongolo
Weak accountability for immunization at all levels.	Correctly organise the evaluation at the end of each campaign and routinely each month to detect the bottleneck (strengthen the monthly monitoring meetings which bring together the providers of a health zone for the analysis of the immunisation data).	PEV, BCZ

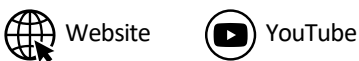
Integrated Analytics Cell

The Integrated Analytics Cell (CAI) is a research unit in the DRC that conducts rapid operational studies to determine environmental and socio-behavioural factors related to public health emergencies. The objective of CAI research is to provide evidence to support response actors and stakeholders in developing programmes or adapting existing strategies to ensure maximum impact and community health outcomes. Recommendations derived from CAI research are co-developed to ensure feasibility and implementation is monitored.

References

1. Alfonso, V.H., et al. (2022). Poliovirus immunity among adults in the Democratic Republic of the Congo: a cross-sectional serosurvey. *BMC Infect Dis* 22.
2. Organisation Mondiale de la Santé (OMS) (2022). La République démocratique du Congo lance une campagne de vaccination contre la polio ciblant 6,8 millions d'enfants de 0 à 59 mois
3. Global Polio Eradication Initiative (GPEI) (2022). « Polio this week as of 07 December ».
4. Ota, M., et al. (2021). Impact of COVID-19 pandemic on routine immunization. *Ann Med.* 53(1):2286-229.
5. Shet, A., et al. (2021). Impact of the SARS-CoV-2 pandemic on routine immunisation services: evidence of disruption and recovery from 170 countries and territories. *The Lancet Global Health.* 10(2) E186-E194.

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