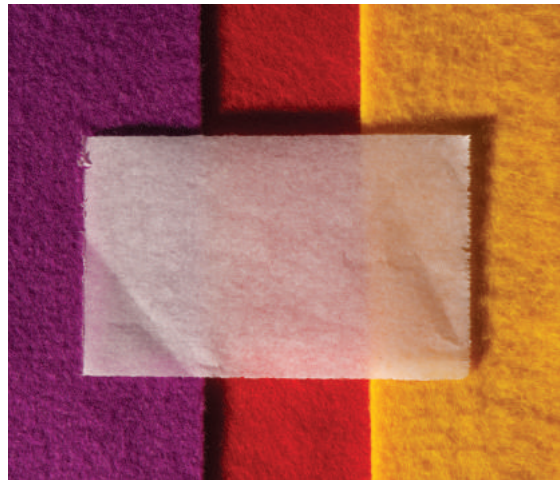




RESEARCH REPORT: COVID-19 SERIES



Breathing Space: Vaccination Ceasefires in Armed Conflict



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Introduction

In March 2020, as people worldwide grappled with the onset of the Covid-19 pandemic, the United Nations Secretary General (UNSG) called for a global ceasefire “to help create corridors for life-saving aid. To open precious windows for diplomacy. To bring hope to places among the most vulnerable to COVID-19” ([UN News, 2020](#)). Following this call, and positive responses from several conflict parties, researchers and practitioners questioned whether these so-called “Corona Ceasefires” could fulfil all these objectives at once ([Ozcelik Olcay, 2020](#); [Rustad et. al., 2020](#); [Clayton, 2020](#)). In February 2021, almost a year on from the UNSG’s call and following the successful development of multiple vaccines for Covid-19, the UN Security Council adopted Resolution 2565, which demanded that “all parties to armed conflicts engage immediately in a durable, extensive, and sustained humanitarian pause to facilitate, inter alia, the equitable, safe and unhindered delivery and distribution of COVID-19 vaccinations in areas of armed conflict” ([UN Security Council, 2021](#)).

As part of the Covid-19 response at the Political Settlements Research Programme, we wanted to understand how ceasefires could potentially support Covid-19 public health responses, including vaccination campaigns. In pursuit of this goal, in this report we examine past experiences of using ceasefires to facilitate vaccination campaigns in contexts as diverse as El Salvador, Afghanistan, and the Philippines, and consider how these experiences might help us to better understand the conflict-peace-Covid-19 nexus. In our analysis, we rely on our original dataset of vaccination ceasefires, the [VaxxPax Vaccination Ceasefires Dataset](#), which covers vaccination ceasefires across the world from 1985 to 2018, as well as a comprehensive review of the available literature.

Key Findings and Recommendations

As the Covid-19 pandemic has continued to impact conflict-affected communities, urgent calls for Covid ceasefires to facilitate potentially life-saving vaccinations in conflict zones have highlighted the need to better understand vaccination ceasefires. In contrast to the peacebuilding aspirations behind some of these calls, we suggest that potential Covid vaccination ceasefires should not be treated as a mechanism for revitalising stalled peace processes or for initiating new ones. We contend that vaccination ceasefires are unlikely to regulate conflicts in the context of Covid-19, even if the pandemic is a threat to armed actors as well as civilians. We base this cautious assessment of the peacebuilding potential of Covid ceasefires on two core findings. First, our research suggests that there is little historical evidence for vaccination ceasefires translating into progress in wider peace processes, and it appears unlikely that vaccination ceasefires can directly jumpstart broader negotiations. At best, such arrangements may contribute to the temporary building of trust among warring parties and between armed groups and humanitarian actors. Second, as our data show, past vaccination ceasefires were primarily aimed at immunising children. For Covid-19, however, the focus is on adults, whose health may have more direct and immediate consequences for conflict dynamics. This may well lead armed groups to consider the pandemic and vaccination as immediate tactical issues which can affect their standing more than a campaign aimed at children would, making it less probable that vaccination ceasefires can be used to build trust between warring parties.

Instead of focussing on the use of vaccination ceasefires as peacebuilding activities, we propose that such interventions should be viewed as one of a range of actions that can help to address public health needs in areas affected by conflict. Having considered past instances of vaccination ceasefires, we find that these arrangements can be important in providing health care and allowing humanitarian access to conflict-affected areas. We encountered cases where vaccination ceasefires constituted part of successful wide-ranging humanitarian campaigns, for example by enabling immunisation programmes to reach otherwise hard-to-reach populations. Despite their limitations, we argue that the potential for vaccination ceasefires to support the realisation of improved public health outcomes in conflict zones should not be ignored.

Report Content and Structure

In the report, we draw upon a new dataset of vaccination ceasefires and a comprehensive review of the available literature in order to analyse the global practice of health-related ceasefires and to situate these events within broader peace and conflict processes. In Part 1, we briefly comment on the context for the report before introducing the VaxxPax dataset, which is publicly available at: <https://datashare.ed.ac.uk/handle/10283/4018>, and describing the processes of data collection for the dataset and literature gathering for the literature review. Part 2 then uses the VaxxPax dataset to provide an overview of the characteristics of vaccination ceasefires, highlighting, for example, the tendency for vaccination ceasefires to be focussed on children. In Part 3, we examine existing evidence regarding the relationship between vaccination ceasefires and conflict dynamics before then exploring what our dataset can add to these discussions. We also comment on the contributions that vaccination ceasefires have made to public health outcomes in different contexts. In Parts 4 and 5, we identify core issues that can arise when negotiating and implementing vaccination ceasefires, indicating throughout the relevance of these issues for the context of the Covid-19 pandemic. Finally, in Part 6 we summarise the main findings from the report and further elaborate upon the implications of the research for potential Covid ceasefires and the future use of vaccination ceasefires in general.

Part 1: Background and Methodology

This report was created in the particular context of the Covid-19 pandemic in order to better understand vaccination ceasefires and the implications of their potential future use. We begin here by briefly summarising the context for the report before describing the methodology underlying the report's findings. In the second part of this section, we introduce the [VaxxPax Vaccination Ceasefires Dataset](#) and describe the processes involved in its creation. In the third part, we provide a brief summary of our approach to collecting relevant secondary literature and an overview of the available literature, highlighting the absence of detailed analytical studies of the relationship between vaccination ceasefires, conflict dynamics, and peace processes.

1.1. Background

The onset of the Covid-19 pandemic rapidly led to increased interest in issues related to public health in conflict areas. Populations in conflict zones are often at greater risk of disease outbreaks due to poor conditions, such as overcrowding and the breakdown of sanitation systems, while simultaneously also being less able to access health services due to a frequent lack of health infrastructure and restrictions on the ability of medical personnel to access conflict-affected areas ([Nnadi et al., 2017](#)). As shown in calls from the UN Secretary General and the UN Security Council, vaccination ceasefires have been proposed as one way of working around these constraints in the context of vaccinations for Covid-19. As we began to look into the history of these activities, however, we found that there was no data resource nor systematic and comparative analysis available that could confidently speak to the scale and prevalence of vaccination ceasefires and similar events. Our initial scoping research in response to this lack of systematic evidence showed that "humanitarian ceasefires," "days of tranquillity," "zones of tranquillity," and other similar initiatives to tackle infectious diseases in conflict zones have been used far more widely and frequently than we initially first thought and that there was a wealth of humanitarian practitioner literature on the causes and consequences of such initiatives that could be examined in the context of Covid-19.

From this literature, we could see that the use of ceasefires to facilitate vaccination campaigns and other similar public health initiatives emerged as a prominent feature of the broader humanitarian landscape in the mid-1980s. In 1984, Colombian President Belisario Betancur organised for a vaccination drive to take place in rebel-held areas amidst a ceasefire agreement ([Beigbeder, 2001](#)). The following year, inspired partly by the activities in Colombia, negotiations took place in El Salvador to arrange a series of pauses in fighting so that nationwide polio vaccination campaigns could be carried out. To avoid the connotations of labelling such pauses as “ceasefires,” the resulting cessations in hostilities were described as “days of tranquillity” ([Hay and Sanger, 1992](#)). During the period of 1985–1991, days of tranquillity were held on three Sundays every year to allow for children’s immunisations to take place across El Salvador. Partly aligned with the push for polio eradication that occurred in the 1980s and 1990s, in the years that followed the events in Colombia and El Salvador, days of tranquillity and other similar activities came to be a recognised part of the toolkit of interventions of actors seeking to address public health issues in conflict-affected contexts ([OCHA, 2011](#)). To the best of our knowledge, however, such ceasefires and accompanying vaccination campaigns have never been systematically and comparatively studied nor has there been a publicly available resource that would allow such comparison.

1.2. VaxxPax Vaccination Ceasefires Dataset

As part of our response to the dearth of systematic analysis of vaccination ceasefires, we collated information on cases of vaccination ceasefires from across the world. This report presents and analyses the resulting dataset of ceasefires that were arranged for the purpose of conducting vaccination campaigns and similar public health interventions. This is the only such resource that has global coverage, extends across an extensive time span (1985 - 2018), and is publicly available. Existing datasets predominantly focus on ceasefires connected to formal agreements that are embodied in written agreement texts. This is the case, for example, with the PA-X Peace Agreements Database and dataset ([Bell et al., 2021](#)), where each ceasefire arrangement is agreed as part of a formal process that aims to end armed conflict. A significant portion of ceasefire events, however, do not fit these criteria and yet remain important for the study of conflict dynamics. This can be seen to be the case with ceasefires during religious holidays ([Wise and Badanjak, 2020](#)), those that support humanitarian efforts (e.g., [Palik, 2019](#); [Ryland et al., 2018](#)), or those considered in this report, i.e., agreed to allow vaccination campaigns to take place. Such ceasefires are informal, rarely written, and more difficult to verify. The ceasefires data presented in the report are explicitly considered as being part of their conflict setting, with each ceasefire event linked to the relevant country, via [Gleditsch and Ward \(1999\)](#) and ISO3 country codes, and to conflict dynamics, through UCDP conflict codes (see [Gleditsch et al., 2002](#); [Petterson et al., 2021](#)). While we do not suggest that these ceasefires form part of any formal peace process, the data may still be used in conjunction with the PA-X Peace Agreements Database and Dataset by matching events to countries, conflicts, and years in the PA-X dataset.

Turning to the inclusion criteria for the dataset, our data consist of cases where a cessation of hostilities was agreed during a conflict for the purpose of, in part or in full, conducting a vaccination campaign or similarly addressing a public health need. In addition to vaccination campaigns, examples of activities related to public health needs that cessation of hostilities have facilitated, or have attempted to facilitate, include:

- ▶ the provision of medical supplies and/or services to address the outbreak of diseases, such as cholera.
- ▶ the provision of medical supplies and/or services to support the ongoing functioning of healthcare infrastructure, such as the provision of pharmaceuticals to hospitals.
- ▶ and the transportation of patients whose medical needs cannot be met in situ.

With regards to the universe of conflicts that we considered, we were guided by the conflict lists compiled by the UCDP ([Gleditsch et al., 2002](#); [Pettersson et al., 2021](#)).

The data cover cases where the cessation of hostilities was limited in terms of its duration as well as cases where it was limited in terms of its geographical scope. Our data do not include, however, cases where the health need to be addressed directly relates to the harms associated with conflict, such as the treatment of war-wounded, as many general ceasefires have this type of provision. The data also do not include agreements relating to the broader range of activities associated with humanitarian protection or relief, such as the relocation of populations displaced by conflict and the provision of food in famine-hit areas, or agreements relating to, for example, prisoner exchange, except in cases where such activities take place in return for the provision of vaccines or other medical supplies or services. Throughout the report, we refer to all events that meet our inclusion criteria as vaccination ceasefires, due partly to vaccination being involved in the vast majority of cases that we identified and partly to a major goal of the report being to discover what these events might indicate about future vaccination ceasefires for Covid-19.

Data collection took place through internet searches for activities that met the inclusion criteria above. The primary platforms that were used for data collection were Nexis Advance, ProQuest, Google, Google Scholar, Factiva, the document repositories of organisations such as UNICEF and the WHO, and relevant databases, such as the PA-X Peace Agreements Database ([Bell et al., 2021](#)). Due to the varied terminology used to denote these activities and the fact that some of the terms are often used interchangeably ([Price, 2020](#)), we focussed our search on the characteristics of the activities rather than use of a particular label. The table below gives an indication of the terms that have been commonly used to describe vaccination ceasefires. The first two entries – “days of tranquillity” and “corridors of peace/tranquillity” – were the most frequently relevant terms for vaccination ceasefires. For clarity, the table includes working definitions that point to how a given term tends to be used as well as examples that illustrate the nature of the events that each term tends to describe. Note that we also use the term cessation of hostilities throughout to refer to any stop in fighting outside of those associated with the normal conduct of war (e.g., gaps between offensives).

Term	Definition
Ceasefire	<p>A permanent or temporary cessation of hostilities for any reason, regardless of how it is phrased. Ceasefires can vary in terms of geographic scope, length, and complexity of arrangement, including whether they are unilateral, bilateral or multilateral.</p> <p>Example: In July 2020, the Taliban declared unilateral three-day ceasefires for both the Eid al-Fitr and Eid al-Adha religious holidays, which were reciprocated by the Afghan government. Attempts to extend the ceasefires through a prisoner release were unsuccessful (CV-19 Ceasefires, 2020).</p>
Days of Tranquillity	<p>Regional or national events where parties to a conflict agree to a pause in hostilities so that health campaigns, such as national immunisation days, can take place.</p> <p>Example: From the mid-1990s until the early 2000s, fighting in the war between the Sri Lankan government and the Liberation Tigers of Tamil Eelam LTTE stopped for four days every year so that immunisation campaigns could be carried out. These temporary cessations of hostilities, known as "days of tranquillity", were agreed to by both the Government of Sri Lanka and the LTTE and formed part of a global effort to eradicate polio (Kleinfeld, 2009).</p>

Term	Definition
Corridors of Peace/ Tranquillity	<p>Pathways through conflict-affected areas along which parties to a conflict agree to a pause in hostilities so that supplies and personnel can be transported for public health and other humanitarian activities.</p> <p>Example: To facilitate the delivery of humanitarian aid to conflict-affected populations in Sudan in 1989, UNICEF negotiated humanitarian access with the Government of Sudan and the SPLM/A. While the SPLM/A initially rejected calls for a general ceasefire to enable such access, they nonetheless expressed willingness to cooperate in order to assist needy populations (Akol, 2005). The solution to the problem of how to organise a relief operation without a general ceasefire led to the idea of a ceasefire solely along the routes followed by UN relief convoys, which came to be described as “Corridors of Tranquillity”. In other contexts, such as Uganda, the term “Corridors of Peace” has been used to describe similar arrangements.</p>

Term	Definition
Humanitarian Pause	<p>A temporary, often limited, cessation of hostilities between parties to armed conflict in order to support or facilitate humanitarian activities, such as access for delivering relief aid or evacuating sick or wounded persons, prisoner exchanges, or to provide respite to civilians.</p> <p>Example: In May 2015, the governments of Saudi Arabia and Yemen agreed to implement a five-day humanitarian pause from the 12th to the 17th, "in order to facilitate humanitarian access, and the delivery of essential supplies and personnel." According to OCHA Yemen, "the pause made a substantial difference in facilitating the delivery of critical humanitarian assistance. It also allowed civilians in many areas to move out of insecure areas and seek aid." However, there were violations throughout the pause across several governorates, including armed violence and shelling, which contributed to logistical challenges and reduced the impact of the pause. As a result, OCHA called for the pause to be renewed so that they could reach more civilians (OCHA Yemen, 2015).</p>

Term	Definition
Negotiated Humanitarian Access	<p>Situations where humanitarian or other actors are granted permission to enter and conduct activities within the territories where armed groups and/or militaries are operating. The term usually refers to temporary, informal agreements rather than more permanent or formal agreements for cooperation. Permission to enter may or may not come with a stoppage in fighting to facilitate humanitarian access, with only the former type of event counting as a cessation in hostilities and thus meeting the inclusion criteria.</p> <p>Example: Following a large outbreak of measles in South Sudan in 2018 and 2019, Save the Children negotiated with both the Government of South Sudan and non-state armed groups in order to arrange for their staff to be able to carry out vaccination campaigns in opposition areas. While a medical logistician for Save the Children described the campaign as successful, the ability of medical personnel to operate in rebel-held areas could change rapidly depending on the conflict situation, with staff having to be airlifted out of the Mayom region when their compound was threatened by rebel forces (Save the Children, 2020).</p>

Based on this understanding of the relevant terms, we made use of the following search strings when collecting examples of vaccination ceasefires:

- ▶ days/week/period of tranquillity;
- ▶ humanitarian + ceasefire/truce;
- ▶ vaccination/immunisation + ceasefire/truce;
- ▶ 'public health' + ceasefire/truce;
- ▶ 'national immunisation days' + truce/ceasefire/war/conflict;
- ▶ 'days of peace' + polio;
- ▶ 'negotiated access' + vaccination/immunisation + conflict/war;
- ▶ 'humanitarian pause' + vaccination/immunisation + conflict/war.

The data collection process also utilised country-specific search strings, such as Afghanistan + vaccination + truce, for contexts where conflicts were known to have taken place. The searches were conducted almost exclusively in English, with some limited, similar searches in French and Spanish. The overall pool of sources used to identify and verify cases included newspapers articles and reports from humanitarian actors as well as academic and policy texts.

During the data collection process, cases were separated into main cases, which are those ultimately presented in this report, and borderline cases, which are those where the evidence was insufficient to confidently conclude that an event matching the inclusion criteria had taken place. Excluding these borderline cases, the dataset consists of 74 instances of vaccination ceasefires. Each case of ceasefire is recorded separately, such that, for example, days of tranquillity that took place on non-contiguous dates in connection with the same vaccination campaign are counted as distinct cases. In Sri Lanka in 1996, for instance, days of tranquillity were held on September 6th and 7th and October 11th and 12th. The cessations of hostilities on September 6th and 7th are counted as one case, with the activities on October 11th and 12th counting as another single case, despite the two pairs of dates forming part of the same broad health campaign. This decision reflects our intention to consider these as instances of ceasefires rather than instances of public health interventions. We consider these vaccination ceasefires as periods of up to a month's duration, with a limited number of cases having available information on exact dates during which the vaccinations were administered and the ceasefires held. Accordingly, each case in the dataset is represented as a period, defined using the best available estimates of start and end dates, as opposed to a discrete point in time.

A last point on the characteristics of the dataset relates to what has not been included in the final data. During the data collection, we identified more than one hundred potential cases, with 73% of those then ultimately being included in the dataset and the rest excluded due to a lack of clear information on the ceasefire, the implementation of the vaccination campaign, or both. That around a quarter of the encountered instances of vaccination ceasefires were left out of the dataset due to the difficulty of verifying the details of prospective cases speaks, perhaps, to the lack of solid information regarding vaccination ceasefires. One likely factor in this is that many relevant activities will have been informal and will have occurred without significant publicity, potentially at the behest of conflict actors who wanted to conceal their cooperation, meaning that there is a lack of clear, publicly available information for ascertaining whether the nature of the activity fits the inclusion criteria. This point is made in a WHO review of the global polio eradication campaign, which notes that "although internationally brokered truces to boost routine immunization coverage are the ones that have been best documented, most of the ceasefires for polio eradication activities have been both low profile and unofficial" (1997, p.85). Additionally, it may be that significant numbers of these activities simply go undetected by the sorts of data collection strategies applied here. Another factor is the complexity of the negotiation and implementation processes, as discussed in Parts 4 and 5. The fact that cessations of hostilities "can be called quickly, without negotiating the precise conditions under which they take place" (Clayton and Sticher, 2021, p.5) and can also easily be called off means that it can be difficult to concretely identify what has actually taken place, as opposed to what has been planned or advocated by different actors.

1.3. Literature Review

In addition to the [VaxxPax dataset](#), the report also draws upon a wide-ranging review of literature on vaccination ceasefires and related issues, such as humanitarian negotiation, in order to provide contextualising information and key insights that can help inform decision making around future vaccination ceasefires. The body of literature covered in the study was principally compiled through the searches used to generate the [VaxxPax dataset](#), with the sources we used to identify the occurrence of a given vaccination ceasefire often including notes on, for example, the challenges faced during its implementation. To complement this literature and to situate the findings drawn from it, we also made use of focussed searches for academic and policy texts on key issues that emerged from our analysis.

The surveyed literature on vaccination ceasefires and related issues covered falls into three main categories. First, there is a substantial volume of public health and medical texts that focus on the implementation and public health outcomes of, for example, vaccination campaigns in conflict-affected areas (e.g., [Guha-Sapir et al., 2020](#); [Nnadi et al., 2017](#)). Second, there are a considerable number of reports and documents from humanitarian organisations and related actors that review practices and results in this area of intervention (e.g., [Black, 1996](#); [WHO, 1997](#)). Finally, we identified a comparatively limited number of academic texts from the social and political sciences, consisting predominantly of case studies of particular humanitarian interventions as well as works that articulate particular visions of how health activities might contribute to peace, such as those associated with the idea of Health as a Bridge for Peace (e.g., [Percival, 2017](#); [Peters, 1996](#)). While the first two categories of literature offer important insights about the practicalities of vaccination ceasefires, they say relatively little about their wider implications for the development of peace processes and changes in conflict dynamics.

In our research, we found important gaps and limitations in the available literature. There is a dearth of detailed analytical literature on the connections between vaccination ceasefires and broader conflict dynamics. Kelman highlights, for example, that the literature is “missing long-term, in-depth analyses of the influence, or lack thereof, of specific disease eradication programs on specific conflicts” (2019, p.164), while Fitzduff comments that no “systematic study has been conducted to document the effects of the ‘days of tranquillity’ beyond their health benefit” (2013, p.112). This absence of concrete data and analysis means that it is difficult to draw clear conclusions about the consequences of, for example, days of tranquillity for conflict resolution, peace processes, or peacebuilding more generally. Furthermore, as noted in the previous section, vaccination ceasefires have often been informal and the subject of limited publicity. As a result, it is likely that the available literature engages with a fraction of the universe of relevant activities, capturing only the larger-scale and higher-profile activities. It is particularly difficult to capture the full range of negotiated access agreements, where conflict actors and humanitarian and health actors arrange temporary safe passage, and thus sometimes a limited cessation of fighting, so that particular groups or individuals can carry out public health activities. The available literature is also considerably concentrated on issues related to polio amongst children, which raises questions about the general applicability of some of the findings, especially in the context of Covid-19.

Part 2: What Are the Characteristics of Past Vaccination Ceasefires?

In this part of the report, we describe and analyse significant features of our dataset of vaccination ceasefires. With regards to the chronology of the events, the first case is in El Salvador in 1985, with the most recent case occurring in 2018 in Yemen. The data are heavily skewed, however, toward the 1980s and 1990s, with 57 of the 74 cases occurring before 2002. The limited number of cases following 2001 is an interesting finding, which may be partly associated with the changing geopolitical landscape after the events of 9/11 and corresponding shifts in approaches to dealing with non-state armed groups. In particular, the increased restrictions that many countries and actors have imposed on interactions with groups designated as terrorist organisations has introduced additional obstacles to humanitarian operations in conflict-affected areas, while the reputational costs that can emerge from engagement with armed actors that are described as terrorists can have a chilling effect on humanitarian actors and their funders ([Debarre, 2019](#); [Pantuliano et al., 2011](#); [Ulmschneider and Lutz, 2019](#)). Similarly, while the number of armed conflicts has increased in recent years, the number of peace agreements has not ([Pettersson et al., 2019](#)), which suggests that the limited number of recent vaccination ceasefire cases may also be tied to broader trends connected with changes in the types of conflicts taking place.

The most common type of activity captured in the data are short-term days of tranquillity for polio vaccination campaigns (seen in 64 of the 74 cases, as shown in Figure 1). These activities have often also included broader immunization provisions for the most common and most harmful childhood diseases, such as measles (21 cases), tetanus (19 cases), diphtheria (16 cases), and pertussis (15 cases). The prevalence of polio in the data is likely partly due to the Global Polio Eradication Initiative, which, since the 1980s, has seen substantial resources mobilised to immunise children in every part of the world against the disease ([GPEI, 2021](#); [Rahi and Sharma, 2020](#)). In pursuit of reservoirs of the disease, the eradication campaign has often focussed on conflict-affected countries such as Afghanistan and Pakistan, where the disease remains endemic, with vaccination ceasefires forming part of the intervention toolkit in these areas ([Nnadi et al., 2017](#)). One related key point to note about the data is that the identified vaccination campaigns are predominantly aimed at children. Only five cases do not primarily seek to provide vaccinations for children and just 14 target women/mothers.

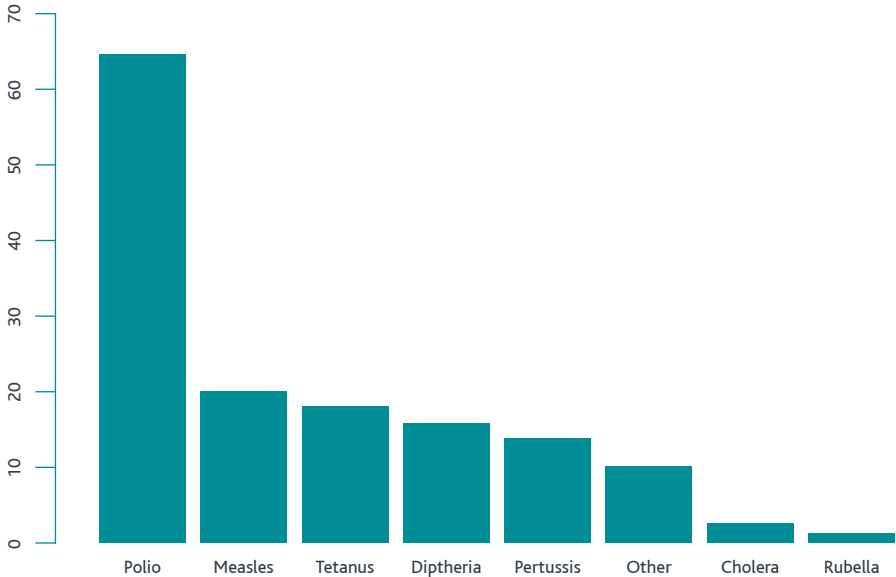


Figure 1: Prevalence of vaccine interventions in the VaxxPax data. Note that many campaigns addressed more than one communicable disease.

Another visible feature of the overall data, as seen in Figure 2, is that the cases are geographically concentrated. Afghanistan (17), El Salvador (17), and Sri Lanka (15) combined make up just under two-thirds of the total number of cases (66.2%). The rest of the cases are more evenly split between countries, with a total of 18 countries represented in the data.

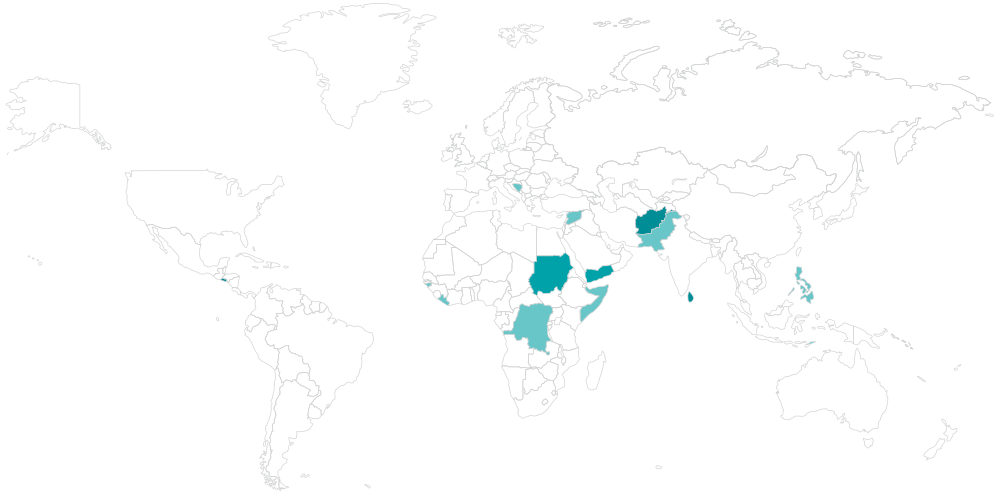


Figure 2: Vaccination ceasefires, 1985-2018. Darker colours indicate countries that experienced a greater frequency of vaccination ceasefires over the time period.

As is illustrated in Figure 2, there are numerous conflicts for which we have found no reports of fighting being paused to allow for vaccination ceasefires. For instance, we record no cases in the Central African Republic, Mali, Croatia, Ukraine, or in the conflict between Armenia and Azerbaijan. Part of the reason for this may be that vaccination ceasefires have often focussed on the eradication of polio, which has been endemic in some conflict zones, such as Afghanistan and Pakistan, while being comparatively absent in others, such as Ukraine. It is also possible that the variation in the presence and extent of these ceasefires and related public health campaigns depends on the duration of fighting and the type of territorial control that the warring sides have. For example, when each side is able to control a certain territory, they may also be taking responsibility for some aspects of public health, particularly if the lines of demarcation are stable.

Additionally, if the initiative for an immunization campaign is coming from external actors, i.e., from the UN and UNICEF, whose activities dominate our data, these actors may only be negotiating with one side for access rather than with both sides for a cessation of fighting. Finally, it is likely that the places where immunizations and other public health interventions can most easily be carried out are not the areas where fighting is intense but rather the places to which people have fled in search of safety. These may be in neighbouring countries or relatively peaceful areas of the countries in conflict, where ceasefires would not be necessary. With all these considerations in mind, the relative lack of cases in our dataset from conflicts in which public health campaigns and ceasefires are otherwise frequent becomes less puzzling, although further research is still required.

In addition to the concentration of vaccination ceasefires in particular areas, we found that there are distinct differences between vaccination ceasefires and other ceasefire arrangements, such as those recorded in the PA-X database. Vaccination ceasefires are seldom formalized, written, and signed, in contrast to the types of ceasefires that tend to be the focus of existing studies of ceasefires. For example, descriptions of ceasefires negotiated for the purposes of supporting vaccination campaigns rarely mention provisions for issues such as long-term monitoring and ceasefire verification, which frequently form part of more formal ceasefire agreements. This suggests that vaccination ceasefires may often be relatively basic in design, with the only evidence of a ceasefire being the ability of medical staff to safely carry out their public health-related activities. In contrast, data from the PA-X Peace Agreements Database and Dataset ([Bell et al., 2021](#)) of formally agreed and written ceasefires suggests that the practice of ceasefire-making is quite broad and that ceasefires often provide for a variety of arrangements, including both arrangements that directly support ceasefires and arrangements with wider social and political relevance. For example, PA-X data show that more than 20% of all agreements classified as ceasefires also deal with some dimension of socio-economic development. We also find instances of ceasefire agreements discussing issues related to elections and constitutional affairs. The ceasefires that support vaccination campaigns, however, do not appear to be as ambitious, suggesting that this class of ceasefires is qualitatively different from the formally agreed, written ceasefires that are often the object of researcher and practitioner interest.

Conversely, we find that direct arrangements for immunizations and other public health interventions are exceedingly rare in formal agreements, ceasefires or otherwise, that aim to address broader conflict issues. If vaccination campaigns do appear in formally agreed documents, they tend to be found in lists of issues that conflict parties agree on in principle rather than as specific events that parties are agreeing to practically support, with such agreements, therefore, falling outside the scope of our dataset. The two agreements with the Taliban signed in Pakistan, for instance, feature points concerning the Taliban allowing health teams to vaccinate children against polio and cooperating with the government when it comes to vaccinating children ([North West Frontier Province Government's Agreement with the Taliban, 2008](#); [Swat Peace Accord, 2009](#)). Similar content is found in the [Cairns Joint Communiqué \(1995\)](#) in Papua New Guinea / Bougainville: "All parties to the Talks agree on the need for access to be immediately granted throughout Bougainville to UNICEF and relevant donor organisations for the implementation of health care programmes, especially child immunisation". In two of the agreements concerning Palestine ([Agreement on Preparatory Transfer of Powers and Responsibilities, 1994](#); [Israeli Palestinian Interim Agreement on The West Bank and the Gaza Strip, 1995](#)), vaccinations are discussed as a part of the regular work of public health authorities, as is the case for the [National Dialogue Conference Outcomes Document in Yemen \(2014\)](#). In one case, that of the [Lusaka Agreement \(1999\)](#) in the DRC, the parties agree to form a consultative mechanism "which shall make it possible to carry out operations or actions throughout the national territory which are of general interest, more particularly in the fields of public health (e.g., national immunisation campaign), education (e.g., marking of secondary school leavers examinations), migrations, movement of persons and goods". Thus, public health and vaccination campaigns are topics that sometimes make it to the negotiation table but do so as public policy goals rather than as matters of urgency that require that the fighting stops.

These findings paint a picture of vaccination ceasefires as considerably limited in scope. Vaccination ceasefires have tended to be informal, restricted in duration, and focussed on a narrow range of predominantly childhood illnesses (as shown in Figure 1 above). Our data also show that vaccination ceasefires have not been used universally in conflict settings. Instead, their use has been concentrated in particular conflict contexts, such as Afghanistan and El Salvador.

Part 3: What Are the Implications of Vaccination Ceasefires for Levels of Violence, Peace Processes, and Public Health?

Having set out the broad characteristics of vaccination ceasefires, in this section of the report we turn to examine the connections between vaccination ceasefires and levels of violence, peace processes, and public health outcomes in conflict settings. We begin by summarising what existing works suggest about these relationships, focussing first on proposed mechanisms by which vaccination ceasefires might interact with peacebuilding and conflict dynamics. Next, we consider what our dataset indicates about the connections between vaccination ceasefires and conflict dynamics, highlighting the lack of evidence for vaccination ceasefires contributing to peace processes or a reduction in violence. We then comment on the range of reasons why armed actors might engage with vaccination ceasefires. Finally, we briefly discuss the impacts that vaccination ceasefires can have on health in conflict-affected areas.

3.1. Synthesis of Existing Literature on Vaccination Ceasefires and Conflict Dynamics

Two broad categories of mechanisms by which vaccination ceasefires might contribute to peacebuilding can be identified: contributions to peace associated with the provision of health services and contributions connected with the cessation of hostilities. Starting with the former, MacQueen et al. identify nine means by which health initiatives might contribute to peace processes:

“communication of knowledge; evocation and broadening of altruism; construction of superordinate goals; extension of solidarity; strengthening of communities; psychological healing of individual and society; noncooperation and dissent; diplomacy; and redefinition of the situation” (1997, p.180).

Concerning the building of superordinate goals across conflict lines, for example, MacQueen et al. suggest that public health is one prominent area in which such goals can be set, with the potential for cooperation on these goals to improve overall relations between warring parties. Similar ideas are encapsulated by the concept of Health as a Bridge for Peace (HBP) that was put forward by PAHO in the 1980s and later adopted by the WHO, albeit with minimal funding and functional capacity within the organisation (Arya, 2007), and they can also be seen in concepts such as Peace through Health (Buhmann, 2005; Santa Barbara and MacQueen, 2004). The core argument can often be reduced to, as Rushton puts it, "As the warring parties agree to work together... trust is gradually built, and political space opened up for future cooperation in more contentious areas" (2005, p.446). In addition to building trust, some proponents of Health as a Bridge for Peace have contended that the provision of health services may help build a common sense of belonging to the same state or society, thereby making people less likely to side with insurgent actors (Santa Barbara and MacQueen, 2004), although the logic of contribution here may be undermined where the service delivery is associated more with international organisations or the militant groups themselves. Further potential mechanisms for contribution can be found in a UNPSO report on the contributions of administrative and social services to peacebuilding. It suggests, for instance, that the delivery of health and other services can reduce social tensions through the provision of tangible benefits, create incentives for non-violent behaviour, and support statebuilding (UNPSO, 2012). Along similar lines, Mac Ginty (2012) suggests that humanitarian stoppages like Operation Lifeline Sudan can lead to changes in the debates within groups about the attractiveness of exploring more serious peace options.

Turning to the second category of peacebuilding mechanism, contributions to peace associated with the cessation of hostilities dimension of vaccination ceasefires, Clayton and Sticher (2021) suggest that armed group engagement in simple cessation of hostilities agreements, which make up the majority of identified vaccination ceasefires, can perform an important signalling function, communicating to other parties that they are ready to move towards an agreement. At the same time, however, they highlight that communicating this intent and then renegeing on the ceasefire can provide opportunities for gaining military advantage. For either intention, parties are likely to prefer limited ceasefire arrangements, such as those seen for days of tranquillity. As Clayton and Sticher argue,

"The logic here is that parties seeking to gain a military advantage will want to keep the costs of defection low, making it easy to escalate back to violence and potentially avert blame for the collapse of an agreement. Conversely, the logic for those who see the benefits of a political settlement, and seek to communicate their intentions to an opponent, is to ensure that they do not impose a significant price in the event that the gesture is not reciprocated and equally do not provide too strong a signal as to risk calling into question their violent resolve. They are thus likely not to want to risk the time, resources, and political capital associated" (2021, p.5).

Overall, we found that there is limited evidence to support the argument that health-related ceasefires make significant contributions to peace in the long-term, although there are some examples of more extended periods of peace emerging from initial vaccination ceasefires (Sudan, Afghanistan). Focussing specifically on the question of whether health interventions support peace through disaster diplomacy, Kelman highlights that in the case studies he has engaged with "disease eradication - through vaccines, behavioural change, and sometimes associated lifestyle alterations - has not led to new, lasting diplomacy, despite some short-term successes" (2019, p.165). In their work on the connections between health, stabilisation, and securitisation, Gordon comments that they have "been unable to identify systematic evidence that the health interventions were significant factors in creating conditions under which conflict could be resolved (as opposed to temporarily mitigated). Furthermore, the grey literature appears to have distorted the debate somewhat – demonstrating both an almost ideological advocacy for the concept of HBP and a strong selection bias in favour of the more positive examples" (2011, p.50). Percival offers a similar sentiment, noting that "many of the assertions within the literature lack full explanatory and predictive value and are aspirational in nature, rather than based on empirical evidence" (2017, p.72). Duffield provides further context on this aspirational tendency by suggesting that the view that humanitarian aid through corridors of tranquillity could promote peace emerged from the "initial post-Cold War euphoria that overtook Western policy makers before the Gulf War" (2003, p.210).

Beyond a lack of peacebuilding efficacy, some literature suggests that these health interventions could, if poorly done, in fact worsen conflict situations. Arya, for example, argues that “by working through existing power structures in order to gain access to people in need, international assistance agencies can prolong oppression by authoritarian regimes. By adopting policies of solidarity with groups fighting for their legitimate rights, international donors can contribute to the will of the people to engage in violent conflict over prolonged periods of time” (2007, p.369). Connected to the earlier points about the timing of interventions, Mahieu similarly suggests that early truces “postpone the attainment of a state of exhaustion by the belligerents, providing them a respite from combat and allowing them to reconstitute their forces” (2007, p.224). In further contrast to the notion of health-related ceasefires contributing to wider peace processes, it is also possible that the time spent on negotiating short-term activities like days of tranquillity detracts from the time spent on negotiating the core political issues that are key to bringing conflicts to an end (Whitfield, 2019). Furthermore, there is the potential for problems with negotiations related to health activities to spill over into wider processes.

Due to the lack of evidence, important questions remain unanswered about the interaction between vaccination ceasefires and conflict dynamics. While days of tranquillity, for instance, may decrease the prevalence of violence during their period of operation, it is unclear what effects these activities have on rates of violence either side of these periods. One possibility is that violence increases in the lead up to the cessation of hostilities as it may be easier for armed actors to consolidate any gains made through such operations during the lull in fighting. Similarly, while groups may not be engaging in active conflict during a cessation of hostilities, they may be using the time to regroup and prepare for fresh assaults. A further central question relates to the degree in which such activities do actually build trust and foster communication between warring parties, with a clear absence of systematic data on this issue. Arya's point above about the potential that health activities in conflict zones might, in fact, prolong conflict is an important one. There is also the possibility that the focus on conflict-affected areas might skew public health conditions in potentially problematic ways. For example, Naufal et al. find that "children residing in high-conflict areas in Iraq are more likely to be vaccinated against tuberculosis and measles than children residing in low-conflict areas" (2020, p.1). They suggest that one possible explanation for this finding is the heavy involvement of international organisations in such areas. In addition to these questions, there are also uncertainties about when cessations in hostilities for public health issues are possible in the first place. It may be the case, for example, that these ceasefires may only be feasible where there are already established negotiation channels, which may also connect to the duration of the conflict.

3.2. Insights from the Data

The [VaxxPax Vaccination Ceasefires Dataset](#) makes it possible for us to provide some insights into the questions raised above. First, by combining our data with data on conflict dynamics, we are able to tentatively respond to the question of whether there is any shift in the intensity of conflict. Second, by considering the VaxxPax data alongside PA-X data on peace agreements, we can see whether the occurrence of vaccination ceasefires appears to be associated with an acceleration or deceleration of peace agreement signings.

Figure 3 shows the UCDP estimates of violent deaths in armed conflict for each conflict event on a daily basis (Pettersson et al. 2021; Sundberg and Melander, 2013) for the five conflicts that have seen the most instances of vaccination ceasefires: Afghanistan, Sudan, Philippines, Sri Lanka, and Yemen. UCDP events data do not go back in time long enough to capture similar for El Salvador, which prominently features in our data for the 1980s. Each vertical bar represents the UCDP's best estimate of the number of conflict deaths for each day when deaths are recorded (logged to fit easily on one scale), ordered from earliest to most recent. The month-long periods during which there was a vaccination ceasefire are indicated by the lighter blue bars. This way of representing vaccination ceasefires reflects our conceptualization of vaccination ceasefires as events of some duration rather than as discrete points in time. For each country, we also highlight the relevant PA-X peace agreement signature dates, representing these with bright-coloured dots below the bars. One clear suggestion we can make based on Figure 3 is that vaccination ceasefires appear to be very much limited in what they achieve, in keeping with their generally limited scope and aims. Most of the instances of vaccination ceasefires do not seem to mitigate the occurrence of other conflict events or the progression of the conflict, with no obvious reductions in the level of conflict deaths in the periods around these ceasefires. In the cases of Afghanistan, Sri Lanka, and Sudan, we see a somewhat greater incidence of vaccination ceasefires in times when no peace agreements are being signed among the relevant warring sides. It is possible to see vaccination ceasefires, therefore, as a functional substitute for a framework of talks, with vaccination ceasefires providing a route for making arrangements to reach vulnerable populations, particularly children, in war-affected areas. Figure 3 indicates, however, that there is no regularity in the ordering of vaccination ceasefires and agreement signings, which leads us to tentatively conclude, in agreement with Kelman (2019), that past vaccination ceasefires have likely not served to build up wider peace processes.

In sum, the vaccination ceasefires captured in our dataset appear to be largely distinct from, and often disconnected from, broader attempts to encourage peace negotiations amid armed conflict. The two sets of events and processes seem to serve different functions, aim for very different immediate outcomes, and diverge in their ability and ambition for long-term social and political change. We suggest that any future attempts to support ceasefires arranged to facilitate Covid-19 vaccination campaigns take these issues into consideration when evaluating success.

3.3. Reasons for Participation in Vaccination Ceasefires

The questions raised above about the efficacy of health-related ceasefires as peacebuilding instruments point to the need for future research to interrogate the broader impacts of these initiatives and to explore the reasons why armed actors take part in them. These are also issues that ought to be considered in the field, when such ceasefires are being prepared or negotiated. In particular, we argue that legitimacy dimensions may be important for understanding armed actors' participation in vaccination ceasefires. For example, a form of legitimacy may be conferred on an insurgent group due to the fact that it is communicating with known international actors, such as the WHO or UNICEF. Furthermore, ensuring the provision of health services to a population under its control may enhance the legitimacy of an armed group in the eyes of that population and incentivise cooperation. Distinct but related issues around political legitimacy can be seen to play out in connection with childhood vaccination activities in Myanmar, where parallel health systems are operated by Ethnic Armed Organisations (EAOs) in areas under their control. Décobert (2020) argues that when EAOs were sidelined from delivering vaccines through local health systems, it was "perceived by non-state armed actors as undermining local health and governance systems, as well as enabling the expansion of state power into areas previously under EAO control. This fuelled local grievances and risked impacting negatively on a fledgling peace process" (2020, p.3).

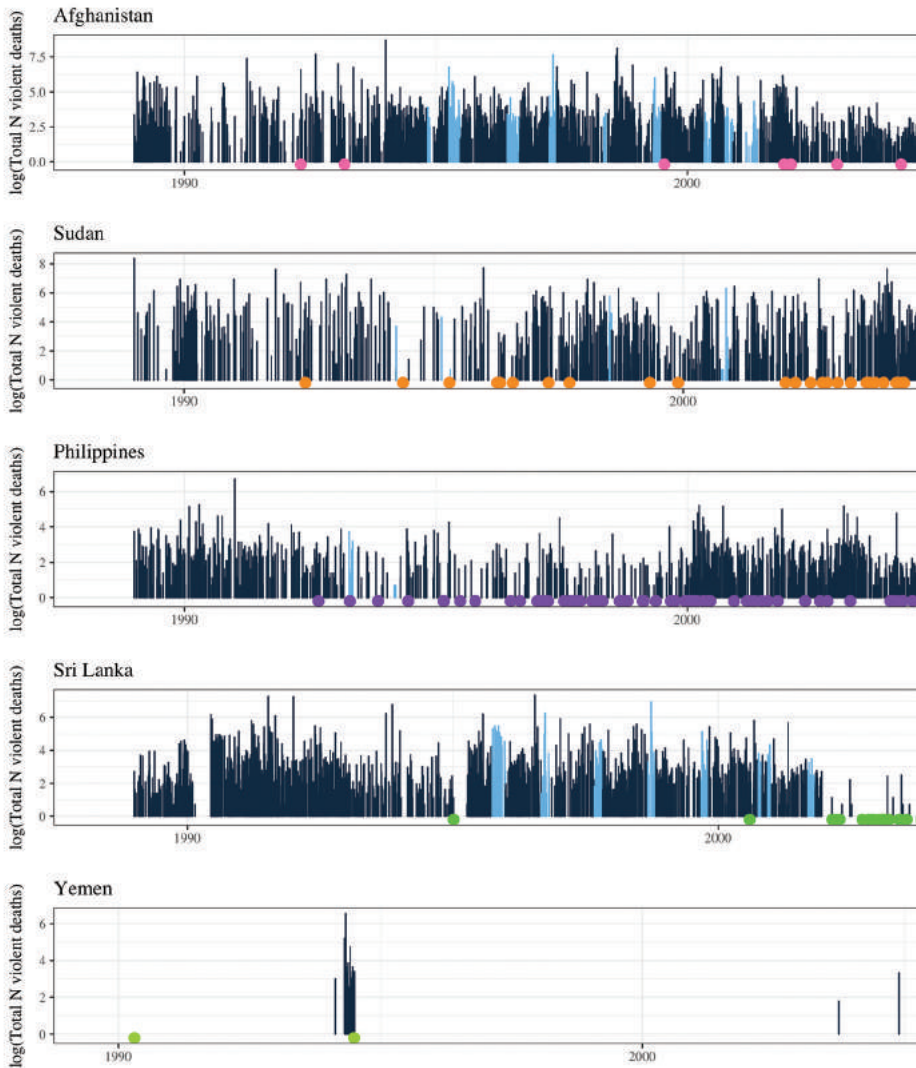
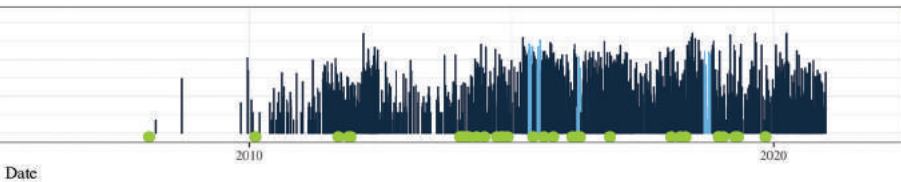
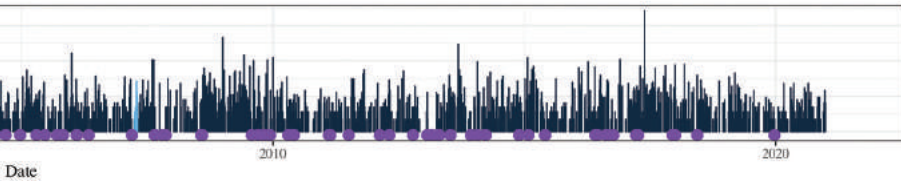
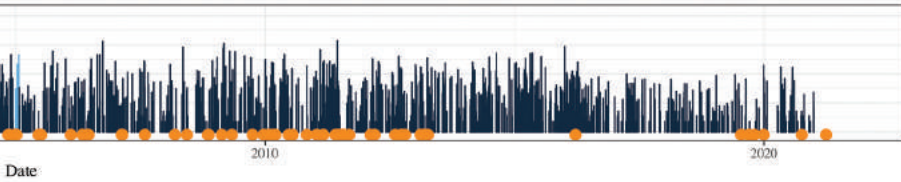
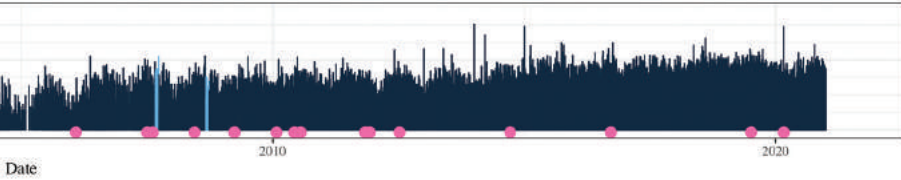


Figure 3: Timelines for conflicts with the most instances of ceasefires supporting vaccination campaigns. Vertical bars represent the logged number of violent conflict deaths (UCDP conflict events dataset, see [Pettersson et al., 2021](#); [Sundberg and Melander, 2013](#)), with lighter shades of blue marking the periods when vaccination ceasefires are in place. Dots are peace agreements signed in the relevant conflicts, as in the PA-X Database ([Bell et al., 2021](#)).



3.4. Vaccination Ceasefires and Public Health

While the findings above imply that vaccination ceasefires do not tend to play a major role in altering ongoing levels of violence or in advancing peace processes, vaccination ceasefires nevertheless constitute one means of delivering health services to populations in conflict zones. WHO figures for Afghanistan, for example, suggest that the immunisation campaigns facilitated by ceasefires in 1994 and 1995 reached around two million children and 700,000 mothers ([Peters, 1996](#)). In El Salvador in the 1980s, days of tranquillity helped to ensure that more than 250,000 children were vaccinated against polio annually ([Rubenstein, 2010](#)), with child immunisation coverage rising from just 3% to around 80% by the end of the six-year campaign ([WHO, 1997](#)). During a humanitarian pause in Yemen in 2015, UNICEF was able to support 18 mobile health units to travel to remote villages and sites where displaced populations had taken refuge. These mobile medical teams provided vaccinations and other critical health services to people who otherwise likely would have gone without ([UNICEF, 2015](#)). Although the scope of the public health activities facilitated can vary significantly between contexts, from relatively comprehensive immunisation campaigns in El Salvador and Sri Lanka to more limited and ad hoc efforts in Syria and Yemen, these examples nonetheless suggest that ceasefires for vaccination campaigns and other public health interventions have the potential to deliver concrete health benefits to conflict-affected populations.

Part 4: What Are Key Factors that Impact the Negotiation of Vaccination Ceasefires?

Recognising the role that vaccination ceasefires can play in delivering health services to populations in conflict zones, in Parts 4 and 5 of the report we present an overview of issues relevant for conducting vaccination ceasefires, as discussed across the varied literature we examined. Throughout, we also point to potential implications of these issues for vaccination ceasefires in the context of Covid-19. While Part 5 deals with topics related to implementation, here we consider key factors that can affect how vaccination ceasefires are negotiated and arranged. We start by examining the role of negotiators and intermediaries before moving to discuss issues of trust. Next, we comment on important considerations related to communication practices around vaccination ceasefires and issues of misinformation. Finally, we explore issues relating to the timing of activities and the priorities of different actors. Before proceeding, it is important to note that while negotiation and implementation are distinct elements of the conduct of vaccination ceasefires, and hence are treated separately in this report, they are, nevertheless, interlinked and interacting processes that can be affected by the same dynamics and factors. The issues raised in Parts 4 and 5, therefore, may have implications for both the negotiation and implementation of vaccination ceasefires, with clear and consistent communication, for instance, being a vital facet of both.

4.1. Negotiators and Intermediaries

Negotiators and intermediaries have been a significant feature of many of the ceasefires discussed in the literature, with a broad range of actors intervening to broker ceasefires for vaccination campaigns. The Catholic Church, for example, contributed to bringing about the days of tranquillity in El Salvador ([de Quadros and Epstein, 2002](#)), while Rotary International has supported campaigns in Sierra Leone, Sri Lanka, and elsewhere ([All Africa, 2001](#); [Sever et al., 2017](#)). A key actor in the field has been UNICEF, likely related to the fact that most previous ceasefires for public health have focussed on children. Alongside these larger, organisational-level negotiators, several works highlight the role that local-level intermediaries and health actors can play in negotiating access and ensuring that cessations of hostilities go ahead (e.g., [Karakus and Svensson, 2020](#); [Kennedy and Michailidou, 2017](#); [WHO, 1999](#)). This can be particularly important where armed groups are fragmented and local-level armed actors are less likely to follow orders from nationally or internationally recognised group leaders. As Rubenstein highlights for the case of earlier iterations of the Taliban in Afghanistan, for example, “because Mullah Omar’s letter is insufficient to gain cooperation from factions that do not follow the Taliban hierarchy, the ICRC approaches these groups directly, or local vaccinators try to reach agreement with them regarding dates for immunization” ([2010, p.3](#)).

Mostly in keeping with the broader literature on humanitarian negotiations (e.g., [Grace, 2017](#); [Minear and Smith, 2007](#)), the available texts on negotiations for ceasefires related to public health initiatives highlight the complexity of these processes and the propensity for progress to occur through ad hoc and contextually specific channels, with relatively few examples found of formal written agreements. Kennedy and Michailidou’s work ([2017](#)) on the response to the Syrian polio outbreak in 2013, for example, comments on the difficulties the WHO faced in trying to organise an effective response to the outbreak while observing its mandate to respect the sovereignty of the Syrian government under Assad, which continued to deny the WHO access to rebel-held areas. Instead, efforts to manage the outbreak were led by an ad hoc coalition, known as the Polio Control Task Force (PCTF). As Kennedy and Michailidou note, the PCTF could “only operate with the agreement of the various rebel organizations that exert political power at the local level” ([2017, p.696](#)), requiring that a variety of cooperation and negotiation strategies had to be put in place to make access happen with separate groups.

Accounts of negotiations for Corridors of Peace in Uganda in 1985 underscore this complexity, illustrating the stop-start nature of such conversations ([Dodge, 1991](#)). Dodge notes that negotiations with a sovereign government required a formal frame of reference to start from, which in this case was UNICEF's basic agreement with the government which provided for access to all needy children ([1991, p.72](#)). Key factors in enabling negotiation progress were the use of "the principle of giving assistance only to civilians, with the emphasis on children" and the fact that the government was reassured that UNICEF had "only dealt with the NRA in the context of local authority and not as an alternative government" ([Dodge, 1991, p.74](#)). Despite these steps, the flights delivering medical supplies and vaccines came under threat and were disrupted at points, particularly due to suspicion on behalf of the military. For the days of tranquillity in Lebanon, agreements for training and equipment were signed with NGOs who were connected to different factions and who, thus, could help with convincing warring parties to keep quiet during the days of the campaign ([Roberfroid, 2007](#)).

As suggested by the discussions above, the situation of children has often been at the centre of negotiations for vaccination ceasefires. Starting with Save the Children and taken on by UNICEF during the 1980s, the concept of Children as Zones of Peace (CZoP) formed part of the inspiration for the development of days of tranquillity and corridors of peace, with some arguing that the deployment of “humanitarian spaces for children could be uniquely effective in depoliticizing a conflict environment” and could thus serve “as confidence-building measures that might set warring parties on a path to peace” ([Kleinfeld, 2009, p.875](#)). The fact the language of child rights and threats to child wellbeing have formed a core part of negotiation discourses ([Gulaid and Gulaid, 2009](#)) raises questions about the applicability of existing strategies for negotiating vaccination ceasefires for the case of Covid-19, where the disease burden has fallen predominantly on adult populations and has been particularly pronounced amongst the elderly. Estimates for the United States, for instance, suggest that fewer than 200,000 of the close to 5.6 million hospitalisations from Covid-19 between February 2020 and March 2021 were for under 18s compared to 2.6 million for those 65 and over. This translates to hospitalisation rates per 100,000 of around 260 for under 18s and nearly 4,900 for the 65 and over category, with the rate at close to 1,000 for those aged 18 to 49 ([CDC, 2021](#)). While ideas around protecting elders may have moral purchase in some contexts, there may not be the same negotiating frameworks available for humanitarian and health actors to work with as for negotiations involving children. This can be seen in the above example, where UNICEF’s pre-existing agreement with the Ugandan government around access to all needy children was an important part of the negotiation infrastructure. Furthermore, the fact that the disease burden for Covid-19 falls more heavily on the 18 to 65 age group, who are likely to form the bulk of armed group membership, than it does on children may mean that state actors are less inclined to grant permission for vaccination ceasefires to facilitate Covid-19 immunisation campaigns in opposition-controlled areas.

4.2. Trust

A key dimension of these negotiations relates to the issue of trust. For instance, when UNICEF finally received permission from the Government of Sudan to fly medicines and vaccines into SPLM-N held areas, amidst a fractious relationship between the SPLM-N and international actors, officials from SPLM-N complained that the supplies had been tampered with by Government of Sudan officials ([Mosel and Jackson, 2013](#)). As Mosel and Jackson comment, the incident "shows how, in the absence of mutual trust and strategic, systematic engagement with the SPLM-N, poor planning and communication can lead to misunderstandings and further erode trust" ([2013, p.10](#)). The available literature on Pakistan and Afghanistan provides further examples of how the lack of trust can have consequences for the organisation and implementation of vaccination ceasefires. This can also intersect with broader distrust of health campaigns. The CIA's use of a fake Hepatitis B vaccination campaign in Pakistan as part of efforts to locate Osama bin Laden in 2011, for instance, led to widespread distrust of immunisation processes, while in some areas the death and destruction from drones came to be seen as connected to vaccination campaigns ([Kennedy, 2017](#)). Kennedy et al. found that the "assassination of Osama bin Laden and the use of drone strikes seemingly vindicated Islamist insurgents' suspicions that immunization drives are a cover for espionage activities" ([2015, p.1](#)), while Martinez-Bravo and Stegmann's findings ([2021](#)) strongly suggest that discovery of the CIA's ruse and subsequent anti-vaccination propaganda significantly reduced vaccination rates in parts of Pakistan. Not only can the erosion of trust lead to the revoking of access and affect the efficacy of campaigns, but it can also increase security risks for healthcare workers, particularly those who are members of communities under rebel governance regimes. For example, the response to the Ebola outbreak in the eastern DRC in 2018 was severely affected by a lack of trust between local communities and the organisations involved in the response. While commenting on the violence against Ebola response infrastructure, MSF's General Director linked attacks on Ebola centres in the area to mistrust related to the way the response had been carried out and the failure of the responding organisations to "truly engage with the grievances and fears of the communities" ([MSF, 2019](#)).

Time can be an important factor in establishing the sort of trust that can facilitate vaccination ceasefires. As an MSF official put it, "If you are negotiating with armed groups in areas you have a long-term presence, where you have been providing medical services they are aware of, it's much easier to establish this contact because then they know ... what you can do" (quoted in [Worley, 2020](#)). Discussing the prospect of vaccinating people in areas under Taliban control against Covid-19, Nazir Ghafoori from the Rehabilitation Association and Agriculture Development for Afghanistan told the New Humanitarian, "We've established a long-term relationship, which is what grants us access", although he also highlighted that such access was continually negotiated (quoted in [Glinski, 2021](#)). In the context of Covid-19, it seems possible that the fact that the state of knowledge on the virus and the implications of vaccination has rapidly evolved over the course of the pandemic may factor into population and armed group trust of negotiators and health actors. While health actors negotiating vaccination ceasefires for polio, for example, can point to the long history of the polio vaccine and its safe use across the world, and likely in other parts of a given conflict-affected country, the same cannot be said for the Covid-19 vaccines. Furthermore, the emergence of concerns over side effects, particularly with regards to the occurrence of blood clots, and other novel considerations associated with the vaccines and the virus, such as the changing prevalence of different symptoms with different variants, may make it more difficult to maintain consistent messaging and practices, which can be an important part of building trust in conflict-affected contexts ([Mancini-Griffoli and Picot, 2004](#); [Rubenstein, 2010](#)).

Finally, in the context of the Global Polio Eradication Initiative, Morry ([2019](#)) notes that the provision of multiple, similar health services concomitantly, such as vitamin A supplements with polio vaccinations, has been a useful tool for building community trust, with such tactics forming part of the initiative's revised global strategy following the disruption to polio eradication work caused by Covid-19 ([GPEI, 2021](#)). Careful consideration of which services to provide alongside vaccinations is required, however, to avoid negative associations impacting upon trust in vaccinations. For example, in Pakistan polio workers' use of leftover jackets connected with a family planning campaign may have been detrimental to its success, particularly given the presence of rumours that the vaccine drops were part of a Western conspiracy to sterilise Muslims ([McGirk, 2015](#)).

4.3. Communication and Misinformation

Linked with issues of trust, communication strategies are an important feature of the organisation of vaccination ceasefires. The first step in achieving days of tranquillity in Lebanon in 1987 was strictly an information phase, where around six months before the start of the campaign UNICEF went first to the official government and then to the de facto authorities and foreign forces to inform them of their intentions ([Roberfroid, 2007](#)). Nothing was asked of the parties at this point. However, the meetings were communicated to the media, creating a public record that could be used, along with later declarations to the national and international media about the planned ceasefire, to pressure groups into a cessation of hostilities in the absence of any formal agreements. Radio awareness campaigns have also been used in a variety of contexts, including Afghanistan and El Salvador ([Adam, 2005](#); [de Quadros and Epstein, 2002](#)), to prepare the ground for campaigns. While this is often framed in terms of encouraging participation in vaccination initiatives, it is feasible that this may play a role in improving armed actor adherence to cessation of hostilities agreements due to greater public expectations and pressure. For instance, speaking about his role in negotiating Corridors of Peace in Uganda, Dodge ([1991](#)) notes that he announced in a BBC interview that the government and the NRA had agreed five relief flights. This story was carried by the BBC World Service as a lead item, with the government going on to take credit for the plans, thereby giving a very public endorsement to the activities after previously being resistant to them. In El Salvador, thorough briefings were given to guerrilla representatives on polio eradication, the immunisation campaign, and the importance of collaboration, with communication between and within parties to the health campaign and ceasefire being key to success ([de Quadros and Epstein, 2002](#)).

Not all forms of communication about vaccination-related ceasefires are supportive, however. In particular, the propagation of misinformation and anti-vaccination sentiments may be detrimental to both the public health activity and the cessation of hostilities. In northern Nigeria, for instance, a polio immunisation campaign was brought to a halt in 2003 as religious and political leaders responded to fears that “vaccines were deliberately contaminated with anti-fertility agents and the HIV virus” ([Yahya, 2007, p.185](#)). Religious clerics also spread messages linking vaccination campaigns and forced sterilisation prior to the assassination of polio vaccinators in Kano in 2015 ([BBC News, 2013](#); [Smith, 2013](#)). At the Pakistan-Afghanistan border, militants have, supported by some religious clerics, “spun a narrative linking vaccination programmes to a Western plot to sterilise Muslims and painted vaccinators as spies for the US Central Intelligence Agency’s (CIA) highly unpopular drone programme” ([Hussain et al., 2016, p.5](#)). In Pakistan, a 2012 Taliban ban on vaccination was followed by targeted attacks on vaccinators, which led to an increase in the use of armed escorts for vaccinators that further increased suspicion among some groups ([Kennedy, 2017](#)). An important dynamic at work here is the stance that religious and political leaders take towards certain public health campaigns and associated ceasefires, with, at points, significant numbers of clerics in conflict-affected areas of Pakistan campaigning against vaccination campaigns ([Nishtar, 2010](#)). Despite this, it is important to note that prominent Islamic scholars in Pakistan have also issued fatwas (formal Islamic rulings) endorsing vaccination campaigns ([Hussain et al., 2016](#); [Waisbord et al., 2010](#)), highlighting the complex interactions that can occur between non-health issues and the conduct of vaccination ceasefires.

Bound up with these dynamics is the increasing use of social media, which has become an important factor in the spread of information and misinformation in Pakistan and elsewhere. Ittefaq et al. (2021) describe an extreme case in Pakistan where misinformation spread through social media about children getting sick after receiving a polio vaccine sparked the burning down of a small hospital, the temporary suspension of the polio vaccination campaign, and a jump in vaccine refusal cases in one affected city from 256 in March 2019 to 88,000 in April 2020. The lack of trust in state systems and the use of anti-state, as well as anti-West, rhetoric may mean that the spread and impact of misinformation about vaccines is particularly pronounced in conflict zones. Boko Haram, for example, has attempted to make use of the outbreak of Covid-19 for its own political ends. Faction leader Abubakar Shekau claimed in April 2020 that "the international measures being promoted to curb the Covid-19 virus were part of a war on Islam" and that "Muslims are immune to the virus", with further assertions that "measures such as social distancing, promotion of water drinking during the fast and suspension of pilgrimages are attempts by evil forces to suppress Islam" (Arnold, 2021, p.11). A final point here is that when combatting misinformation care needs to be taken to not suppress or ignore the legitimate concerns that populations might have about public health campaigns. As suggested by the experiences of MSF and other groups in treating Ebola in eastern DRC (MSF, 2019), failing to engage with the concerns and grievances of communities can damage trust, thereby harming the prospects for both successful health campaigns and the fostering of the sorts of relationships that might facilitate progress in peace negotiations.

4.4. Timing and Priorities

A key point of interaction between public health considerations and conflict dynamics in the context of vaccination ceasefires relates to the timing of activities. For example, some immunisations can require multiple doses, while holding repeated rounds of vaccination can help improve coverage. It is for this reason that El Salvador's days of tranquillity took place on three Sundays each year, while Sri Lanka's ceasefires for immunisations occurred on two weekends each year. That level of consistent deployment of ceasefires is not possible, however, in all conflict contexts. Access to RUF-held areas in Sierra Leone in the latter stages of the war was intermittent, meaning that it was difficult for the full programme of anti-polio activities to go ahead ([IFRC, 2000](#)). In 2000, for example, four rounds of immunisations were planned, but only the first two were able to proceed due to renewed rebel activities ([IFRC, 2000](#)). The sequencing of activities can also factor into ceasefire negotiations. Progress in negotiations in Sudan in the late 1980s, for instance, revolved at times around commitments from international actors that they would vaccinate government garrison towns before reaching SPLA-controlled rural areas and immunise 50% of the children in the North before engaging with the South ([Dodge, 1991](#)). As with areas of Pakistan and Afghanistan, public health campaigns may benefit from or require synchronisation with activities in other countries or regions ([Alexander et al., 2014](#)), with corresponding implications for how ceasefires are organised. Furthermore, it may be valuable to consider where activities such as days of tranquillity fit within the broader sequencing of peace processes.

Part 5: What Are Key Factors that Impact the Implementation of Vaccination Ceasefires?

In this part of the report, we discuss key factors that can influence the implementation of vaccination ceasefires. In particular, we explore how the particularities of who delivers vaccination campaigns, how security provisions are organised, and where such campaigns take place can be significant for the functioning of vaccination ceasefires. Discussions of these issues also serve to highlight the importance of considering the interactions between public health considerations and conflict dynamics when planning vaccination ceasefires.

5.1. Actors Delivering Vaccination Campaigns

With regards to who delivers public health assistance, there are a range of possibilities. Large international organisations such as UNICEF, WHO, MSF, and ICRC feature heavily in the available literature, possibly partly because these organisations have the access to the supplies and the organisational capacities necessary for realising public health campaigns in difficult circumstances. This dominance is also reflected in the data, as only 9 of the 74 instances of ceasefires supporting vaccination campaigns did not appear to involve some UN organisation in the delivery of the treatment. Returning to the theme of trust, one interesting point raised by discussions of negotiating humanitarian access in Angola, however, is that the actors who may be trusted by parties to conflicts may not have the technical capacities to carry out the required public health intervention ([Richardson, 2000](#)). In Angola, neither of the two organisations authorised by the Government of Angola to carry out a nationwide vaccination campaign in response to a polio outbreak in 1999 had the capabilities to carry out the work. Aid agencies may also have reservations about interacting with or negotiating with particular actors due to the impact it may have on their reputations or their relationships with other parties. For instance, Mosel and Jackson ([2013](#)) note that some aid agencies operating in Sudan avoided providing aid for people in refugee camps in South Sudan for fear that these actions would be interpreted by the Government of Sudan as support for the SPLM-N and would, thus, endanger their future ability to work in Sudan.

As well as established humanitarian and health organisations, volunteers from organisations such as Rotary International and community organisations have formed part of health campaigns connected to ceasefires ([Sever et al., 2017](#)). Juan Flavier, Secretary of Health in the Philippines during their 1990s humanitarian ceasefires, describes, for instance, how even organisations such as the boy and girl scouts were mobilised to help deliver immunisations ([Flavier, 1995](#)). Armed actors have also played a role in the delivery of immunisations in different contexts. One of the most striking images from the days of tranquillity in El Salvador, for example, is that of a woman with a gun slung over one shoulder delivering a vaccination to a baby that is held by another guerrilla member ([see de Quadros and Epstein, 2002](#)). Even when insurgents themselves are not conducting campaigns, they may prefer for known members of local communities to be the ones delivering health services. The Polio Control Task Force in Syria, for example, specifically recruited vaccinators who were trusted by both the community and the militants in order to access rebel-held areas ([Kennedy and Michailidou, 2017](#)), while in Somalia rival clan leaders were involved in recruiting people from each sub-district for a negotiated vaccination campaign so as to avoid vaccinators crossing the wrong borders ([Bower, 2000](#)).

Falling outside the scope of ceasefires, the case of vaccination operations in Nigeria is, nonetheless, useful for illustrating alternatives to the above approaches. In rebel-held areas of Borno state, two novel strategies have been used for accessing children for immunisation campaigns ([Adamu et al., 2019](#)). The first relies on security escorts for vaccinators in order to enable them to reach settlements in rebel-held areas, while the second involves training military personnel to deliver vaccinations themselves so that children can be vaccinated in areas which are only accessible to military personnel. A report on military assistance to health system strengthening in Afghanistan, however, suggests that military actors should adopt a "passive engagement approach" and avoid undermining the safety and apparent impartiality of health actors ([NATO-Harvard, 2013](#)), likely indicating the need for context-sensitive strategies. State armed forces have already been deployed to support Covid-19 vaccination campaigns in the United States and the UK, including in an area where the decision to engage military actors in public health campaigns required a conflict-sensitive approach. In Northern Ireland, Sinn Fein initially resisted a proposed deployment to aid hospitals earlier in the pandemic due to the community "sensitivities of British military intervention" ([quoted in Ferguson, 2020; Pogatchnik, 2021](#)). They did not oppose, however, the later use of British soldiers at vaccination centres in Belfast, in a context where armed dissident republican groups still target military personnel. Unlike in other parts of the UK where armed forces deployed as Covid-19 vaccinators wore uniform, in Northern Ireland British army medics dressed in scrubs, "kept a low profile and blended in with the NHS staff" ([Ministry of Defence, 2021](#)). Similar concerns as raised for military involvement in vaccination campaigns can be applicable for state-led health processes in general, which may be particularly salient for Covid-19 given the fact that the vast majority of Covid vaccine rollouts have been state-led at the time of writing. In Myanmar, for example, fear and distrust of the new military government in 2021 led to a decline in vaccine uptake, with some armed groups then stepping in to fill the gap ([Lusan and Fishbein, 2021](#)).

5.2. Security

The relationship between armed actors and local health workers negotiating access for public health campaigns is not always one of trust and support. Polio vaccinators, many of whom were local health workers, have been assassinated during vaccination drives in Afghanistan, Pakistan, and Nigeria over the past decade. In the first half of 2021, eight health workers carrying out polio vaccination campaigns in Afghanistan have been killed in violent attacks, with the regional affiliate of Islamic State (IS Khorasan Province) claiming responsibility for an attack in March which killed three female health workers in Jalalabad ([UN News, 2021](#)). Whilst the reasons behind attacks on healthcare workers are complex, and not all of the victims are female, there may be a gendered component to this violence even if armed actors do not make that explicit or claim responsibility for violence. In Pakistan, for instance, women community health workers have been the target of violence during campaigns ([Miller et al., 2020](#)), with a Pakistani Taliban fatwa issued in 2006 explicitly calling for the kidnap of women health workers during home visits for vaccinations ([Haselgrave, 2016](#)). Reflections on assassinations of polio vaccinators in Pakistan in 2013 suggest that the campaigns are targeted to resist women's development in some contexts where women's abilities to leave the home and work are tightly controlled or forbidden ([Roberts, 2013](#); [Gulland, 2013](#)). This affects not only the efficacy of vaccination campaigns in conservative communities, where female workers can enter households to vaccinate children but male workers cannot, but also impacts on women's participation in public life more broadly ([Kumar, 2021](#)) and potentially risks their exclusion from wider peacebuilding efforts.

As with other types of humanitarian activity in conflicts, vaccination ceasefires raise difficult questions related to risk, power dynamics within international organisations, and community ownership. The GPEI strategy in 2021 emphasises the need for “co-ownership and co-implementation” of programmes with communities, especially in areas with high levels of vaccine mistrust and hesitancy. It also calls for “increased female representation at all levels of the [polio vaccination] programme” ([GPEI, 2021, vi](#)), which suggests further emphasis on employing local female healthcare workers to deliver polio vaccinations. As Drurry points out in his reflections on attacks against vaccinators in Pakistan, however, “We can’t constantly provide protection to 250,000 vaccinators” ([quoted in Roberts, 2013](#)). Protective measures may also be counterproductive in some circumstances. In the context of the response to the 2018 Ebola outbreak in eastern DRC, an area with multiple active non-state armed groups, the use of military escorts and military-style protective equipment led to the conflation of medical responders with the armed forces, which legitimated attacks against Ebola response staff ([Mayhew et al., 2021](#); [Rohan and McKay, 2020](#)).

5.3. Logistical Considerations

The earlier point about synchronised campaigns highlights the need to consider the geography of ceasefires for vaccination campaigns. The literature covers nationwide campaigns connected to nationwide cessations of hostilities, like those in El Salvador, and activities such as corridors of peace, which focus primarily on ensuring the absence of violence on routes used to bring in supplies and personnel, as well as even more spatially restricted activities. An example of this last category is the negotiation of localised access agreements for medical personnel in Bria in the Central African Republic in order to address a measles outbreak in the area ([International Medical Corps, 2021](#)).

While not explicitly addressed in the literature on vaccination ceasefires and similar events, there may be an important overlap between the regions and terrains that sustain armed insurgencies and the regions and terrains that are difficult for public health campaigns, for example due to challenges transporting goods or maintaining cold chains for vaccinations. The UN Office for the Coordination of Humanitarian Affairs considers this overlap in their assessment of “hard-to reach” areas in Afghanistan: “areas that humanitarian actors struggle to access and provide assistance to, due to (1) their remoteness and poor infrastructure, (2) on-going armed clashes, and / or (3) the presence of one or multiple armed actors that actively limits access to areas under their control” ([OCHA/REACH, 2021](#)). This is an issue that has already been raised in the context of Covid-19, particularly as different vaccines developed in the past year have different dosage and storage requirements. For example, the Covid-19 vaccine developed by AstraZeneca can be stored in a domestic fridge, rather than industrial cold storage units, while the Jansen vaccine can be administered in a single dose.

An additional logistical consideration is that conflict often leads to high levels of population displacement, meaning that territorially limited vaccine ceasefires may struggle to deliver multiple doses to conflict-affected populations unless these efforts are tied to broader vaccination campaigns that operate in other areas. Furthermore, where exactly vaccinations are delivered, as well as where they are delivered from, can be a significant consideration in terms of the security requirements for a ceasefire and the broader political implications. The use of door-to-door vaccinations for polio in Afghanistan has come with higher levels of insecurity for health workers than the Covid-19 vaccination efforts, which have been conducted at health centres ([Sultan and Hakimi, 2021](#)). With regards to corridors of peace, the nature of activities can also be affected by the particular pathways separate groups are willing to agree for medical supplies and personnel to take on their way to affected areas. For example, while UNICEF had originally wanted supplies to cross the internal border between government-held and NRA-held areas of Uganda in a convoy of trucks, the government was against this direct route and the NRA was pushing for deliveries to occur across one of the borders with neighbouring countries, with a series of internal flights being the option that was finally agreed upon ([Dodge, 1991](#)). There are also complex ethical, political, and practical considerations that can emerge when different degrees of access are possible for different areas. In a slightly different context, Mosel and Jackson ([2013](#)) highlight, for instance, that the World Food Programme initially refused to provide food aid to Government of Sudan while access to SPLM-N areas remained blocked, although they ultimately met formal requests for aid in government-controlled areas. When frustrated with blocked access, some aid agencies have gone as far as to use clandestine border-crossing operations, justifying these actions on the basis of extreme need in the face of criticisms that such operations are dangerous and impractical ([Mosel and Jackson, 2013](#)).

Part 6: What Are the Implications of the Report for Covid-19 Responses and the Future Use of Vaccination Ceasefires?

In this final part of the report, we summarise our core findings and highlight potential implications for vaccination ceasefires in response to the Covid-19 pandemic. Rather than seeking to prescribe whether, how, or when vaccination ceasefires should be conducted, we outline important contextualising information and key points for consideration that, in addition to enhancing understanding of vaccination ceasefires, may help to inform decision-making around vaccination ceasefires for Covid-19. In addition to the discussions below, two further points are worth emphasising by way of conclusion. First, at a broad level, we suggest that it is important to recognise that issues related to conflict dynamics and issues related to vaccination logistics can be mutually interacting in the context of vaccination ceasefires. As part of thinking through the negotiation and implementation of vaccination ceasefires, therefore, it is important to consider how to 'translate' public health considerations into the space of conflict and ceasefire dynamics, for example with regards to the number of vaccine doses needed potentially corresponding with the number of ceasefires required, and vice versa. Second, as there is a relatively limited body of evidence directly concerning the organisation of vaccination ceasefires, with many such events likely going unrecorded due to their often informal and frequently sensitive nature, the comments provided in this report represent a broad overview, with scope for expansion and nuancing as the available evidence evolves.

On the characteristics of vaccination ceasefires

- ▶ Since 1985, there have been 74 reliably identified instances of vaccination ceasefires that have been conducted worldwide. While relatively little data has been collected on them, these ceasefires represent a valuable source of knowledge and insights about how to approach public health campaigns in conflict-affected areas.
- ▶ Vaccination ceasefires have tended to differ from other ceasefires by being shorter, more informal, and by having a more limited scope in terms of the provisions included, with, for example, a general absence of ceasefire monitoring stipulations. In these respects, they can be closer to loose negotiated access agreements than other ceasefire agreements.
- ▶ Afghanistan, El Salvador, and Sri Lanka are the main countries where vaccination ceasefires have been held, representing 66% of the cases captured in our data. The geographic concentration of vaccination ceasefires and the apparent absence of similar arrangements in notable long-running conflicts, such as those in Colombia or the Central African Republic, raises questions about the viability of Covid-19 vaccination ceasefires across different conflict contexts.
- ▶ Most of the identified vaccination ceasefires occurred in the period before 2001, with a small number of vaccination ceasefires occurring in recent years Syria and Yemen. While it is not fully clear why the use of vaccination ceasefires declined after 2001, changes in the types of armed conflicts occurring and the global security landscape following 9/11, particularly the increased restrictions on interactions with groups designated as terrorist organisations, may have negatively impacted the feasibility of arranging vaccination ceasefires with contemporary armed groups. It seems likely that these dynamics would also impact upon the organisation of ceasefires for Covid-19 vaccinations.

On the relationship between vaccination ceasefires, peace processes, and levels of violence in conflict-affected areas

- ▶ Our review of the available literature indicates that there is a lack of clear evidence on the links between vaccination ceasefires, levels of violence, and progress in peace processes.
- ▶ While some studies suggest mechanisms by which vaccination ceasefires might contribute to conflict amelioration and peacebuilding, for example by providing an opportunity for warring parties to work together towards a shared goal, other works highlight mechanisms by which vaccination ceasefires might lead to conflict exacerbation or the prolonging of conflicts, for instance through vaccine provision serving to legitimate the regional rule of an insurgent group.
- ▶ Relatedly, it is important to note that armed actors may have multiple and complex motivations behind their involvement in vaccination ceasefires, with such cessations of hostilities potentially providing opportunities for warring parties to regroup or to consolidate territorial gains.
- ▶ While limited, our data and the available literature indicate that vaccination ceasefires likely do not have a strong impact on ongoing levels of violence in armed conflicts. Furthermore, vaccination ceasefires appear to have limited potential for jumpstarting wider peace processes.
- ▶ Based on these findings, we suggest that ceasefires for Covid-19 vaccination campaigns are, by themselves, unlikely to have a significant impact on average levels of violence in conflict zones and that policymakers should not rely on vaccination ceasefires as a peacebuilding tool for launching or reenergising stalled peace processes. Additionally, the potential negative impacts of vaccination ceasefires are not well understood, further encouraging caution about their use.

On the negotiation of vaccination ceasefires

- ▶ Our data suggest that the vast majority of vaccination ceasefires have taken place to facilitate public health activities aimed at children. Compared to these ceasefires, different language, concepts, and negotiating approaches may be required to arrange vaccination ceasefires for Covid-19 given that the disease affects adults more strongly than children. The fact that Covid-19 vaccination campaigns would be targeting the same cohorts that tend to constitute the majority of armed group members, rather than children, may be a significant factor in negotiations around Covid-19 vaccination campaigns in conflict zones.
- ▶ Evidence from cases such as Pakistan and Nigeria highlights the importance of the attitudes of religious, and political, leaders towards both peace initiatives and vaccination for the successful negotiation of vaccination ceasefires. When religious and political leaders declare their opposition to vaccination campaigns, this can inhibit the realisation of vaccination ceasefires and increase the risks involved for health actors. Given the way in which the pandemic and Covid-19 vaccines have become entangled with political dynamics in some conflict zones, these considerations may be particularly salient for Covid ceasefires.
- ▶ In general, the existence of concerns around vaccines means that clear communication is a core component of organising immunisation campaigns. For conflict-affected contexts, this is likely to be especially important, particularly given the lack of trust that can exist between different institutions and actors and populations within conflict zones. The widespread availability of information and misinformation on Covid-19, and the potential for that information to change as the virus evolves, may make it even more difficult for negotiators and health actors to maintain consistent messaging.
- ▶ Priorities may also vary between public health actors, armed actors, and conflict-affected populations, which may impact upon the willingness of negotiating parties to agree to vaccination ceasefires. While Covid-19 vaccinations are a high priority for global health actors, conflict-affected populations may already be struggling with multiple health emergencies and so may not place high emphasis on activities related to Covid-19.

- ▶ Negotiations around vaccination campaigns amid ceasefires may also have to carefully consider the sequencing of activities. With regards to Covid-19, decision makers may have to balance more rapidly achieving higher population immunity levels by vaccinating those easiest to reach with reaching those in conflict-affected areas where health infrastructures may be less able to cope with outbreaks. Such choices may then have implications for negotiations and conflict dynamics as conflict-affected populations and armed actors respond to how they are positioned in the sequence of vaccination activities.

On the implementation of vaccination ceasefires

- ▶ The available literature on vaccination ceasefires highlights that the implementation of vaccination campaigns can interact with conflict considerations and vice versa.
- ▶ A key example of this dynamic is the interaction between the number of doses required for a complete immunisation campaign and the potential for a corresponding number of vaccination ceasefires to be needed. Similarly, prioritising having a particular period of time between vaccine doses may incentivise arranging vaccination ceasefires along a timeline that may not match with security conditions on the ground or the progress of other negotiations.
- ▶ The actors who have the capacity to organise vaccination campaigns may not also be the same actors that have the capacity to access conflict-affected areas during vaccination ceasefires. This means that successful vaccination ceasefires can require careful division of labour based on both health considerations and political or security considerations.
- ▶ Mobility between regions, especially along porous borders, means that synchronised efforts can be important for the efficacy of vaccination campaigns. Similarly, the tendency for populations in conflict zones to be displaced means that territorially limited vaccination ceasefires may face difficulties in achieving high coverage rates and reaching populations for multiple doses.
- ▶ Due to the overlap between areas that are experiencing conflict and areas that are difficult to access due to terrain and/or a lack of transport infrastructure, vaccination ceasefires can require creative solutions with regards to the distribution of vaccines. This may be especially relevant for the case of Covid-19 due to a number of the vaccines in operation requiring cold chain infrastructure.

- ▶ A final point to note is that vaccination ceasefires are not the only option for vaccine delivery in conflict-affected contexts. Evidence from Nigeria, for instance, points to the possibility of vaccinating using alternative strategies, such as military escorts or military personnel trained to vaccinate, although each approach has its own drawbacks. In some contexts, for example, there is the potential for military involvement, or even the perception of military involvement, in health campaigns to increase the threats posed to health actors.
- ▶ Negotiations around vaccination campaigns amid ceasefires may also have to carefully consider the sequencing of activities. With regards to Covid-19, decision makers may have to balance more rapidly achieving higher population immunity levels by vaccinating those easiest to reach with reaching those in conflict-affected areas where health infrastructures may be less able to cope with outbreaks. Such choices may then have implications for negotiations and conflict dynamics as conflict-affected populations and armed actors respond to how they are positioned in the sequence of vaccination activities.

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