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Vaccination coverage among migrant and refugee populations in Uganda: A narrative review of challenges and recommendations

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ABSTRACT

Uganda hosts one of Africa's largest refugee populations, yet displaced and migrant communities face persistent barriers to routine immunisation. Despite commitments to vaccine equity, many remain unprotected against preventable diseases. This narrative review synthesises evidence from peer-reviewed studies, national surveys, and institutional reports up to September 2025 to assess immunisation coverage, challenges, and potential solutions among refugees and migrants in Uganda. The findings indicate that vaccination rates in refugee communities are generally lower than national averages due to administrative barriers, vaccine shortages, long distances to health facilities, language difficulties, misinformation, and challenges intensified during the COVID-19 pandemic. Economic hardship further limits healthcare access. However, several strategies show promise: integrating refugees into national immunisation systems, simplifying registration processes, strengthening mobile outreach, engaging community health workers, and improving cross-border data coordination. Addressing these inequities requires both technical and social commitment through adequate financing, inclusive policies, and meaningful community engagement. Achieving equitable immunisation for refugees in Uganda is essential for public health protection and the realisation of universal health coverage.

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Refugees; vaccination coverage; vaccination challenges; vaccination strategies; Uganda

1. Introduction

1.1. Background

According to the World Health Organization (WHO) Immunisation Agenda 2030, vaccination is essential in advancing progress toward the Sustainable Development Goals (SDGs), serving as a backbone of primary health care and universal health coverage. However, certain vulnerable groups, particularly migrant and refugee populations, remain underserved (Immunization Agenda 2030, 2020). Globally, immunisation among refugees and migrants is hindered by language barriers, vaccine safety concerns, logistical difficulties, and inaccessibility, among others, emphasising the need for improved health information and equitable access (Crawshaw et al., 2022; Deal et al., 2023; Ganczak et al., 2025; ResearchGate; Sana et al., 2023; SciSpace - Paper, 2024).

In Uganda, national immunisation coverage remains below the recommended 90% threshold for most vaccines (A Guide for National and District Leaders to Promote Routine Immunisation in Uganda). The 2022 Uganda Demographic and Health Survey (UDHS) reported that among children aged 12–23 months, coverage was highest for Bacillus Calmette-Guérin (BCG) (97%), Diphtheria, tetanus, pertussis, hepatitis B and Haemophilus influenzae type b (DPT-HepB-Hib) first dose (95.6%), and oral polio first dose (96%), while measles coverage was lower at 83%. For the pneumococcal conjugate vaccine (PCV), 94% received the first dose, 92% received the second dose, and 83% received the third dose. Rotavirus vaccine coverage improved markedly from 10% and 6% in 2016 to 93% and 87% for the first and second doses, respectively. Despite these improvements, only 63% had received all basic vaccinations, while 2% had none (UNFPA).

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Uganda's continued dedication to a progressive refugee policy and its open-door approach to refugees and asylum seekers has led to a growing number of refugees and, subsequently, immunisation gaps among its refugee population. By the end of 2024, Uganda was home to an estimated 1.8 million refugees and asylum-seekers, the largest refugee-hosting nation in Africa (UNHCR, 2025), placing significant pressure on its health system. The majority of the refugees come from neighbouring countries such as South Sudan, Democratic Republic of Congo (DRC), Rwanda, Burundi, Somalia and Ethiopia. South Sudan accounts for the largest number of refugees in Uganda, approximately 173,650. Most of these asylum seekers have settled in districts of Adjumani, Arua in West Nile and Kiryandongo (WFP_DP-Analysis-Uganda-Refugees). Recently, the high number of influx is from DRC, primarily due to the conflict between the government of DRC and the rebel group allegedly backed by Rwanda and Uganda, which has led to the arrival of over 23,000 new refugees and migrants (Lomo et al.).

Immunisation gaps within these populations are evident. And such gaps contribute to immunity deficits that increase the risk of vaccine-preventable disease outbreaks both within and beyond refugee settlements (Orenstein & Ahmed, 2017). Insufficient vaccination coverage among refugee children has been linked to higher morbidity and mortality rates, while also posing public health risks through potential transmission to host communities (Wesley & Rabbanie, 2024). Furthermore, refugees and migrants often live in overcrowded conditions, with inadequate sanitation and limited nutrition, further heightening vulnerability to vaccine-preventable diseases (Lam et al., 2015).

1.2. Immunisation policy context in Uganda

1.2.1. Uganda's national immunization program (UNEPI)

The Uganda Ministry of Health (MoH), in partnership with the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the Global Alliance for Vaccines and Immunization (GAVI), implements a structured routine immunisation schedule targeting children under 2 years, 9-year-old girls, and women of reproductive age. At birth, infants receive Bacillus Calmette–Guérin (BCG) for tuberculosis, the zero dose of oral polio vaccine (OPV-0), and hepatitis B. Subsequent immunisations at 6, 10 and 14 weeks include the pentavalent vaccine (DPT–HepB–Hib), pneumococcal conjugate vaccine (PCV), rotavirus vaccine, and additional OPV and inactivated polio vaccine (IPV). At 6 months, vitamin A supplementation is introduced, followed by measles–rubella and yellow fever vaccines at 9 months, and booster doses of PCV and measles–rubella at 18 months. Human papillomavirus (HPV) vaccination is administered to 9-year-old girls for cervical cancer prevention, while women of reproductive age (15–49 years) receive tetanus toxoid (TT) or tetanus–diphtheria (Td) vaccines in a five-dose schedule to prevent maternal and neonatal tetanus (Uganda National Expanded Program On Immunisation (UNEPI) Milestones from Inception to 2024 | MOH Knowledge Management Portal). In 2025, Uganda rolled out the malaria vaccine, administered at 6, 7, 9 and 24 months (Uganda launches world's biggest malaria vaccine rollout | UNICEF Uganda) (Table 1).

The COVID-19 vaccination program in Uganda includes both single-dose and two-dose vaccines. It initially targeted individuals 18 years and older but was subsequently extended to children and adolescents aged 5–17 years. The Johnson & Johnson vaccine requires a single dose for full vaccination, whereas vaccines such as AstraZeneca, Pfizer–BioNTech, Moderna, and Sinopharm are administered in two doses, typically spaced 12 weeks apart for AstraZeneca and 4 weeks for the rest (COVID-19, 2026). Booster doses are recommended at least 6 months after completing the primary series, particularly for healthcare workers, older adults, and individuals with underlying health conditions (Admin, 2023; COVID-19).

1.3. Integration with global and regional initiatives

Uganda's Health Sector Integrated Refugee Response Plan (HSIRRP, 2019–2024) is anchored in global commitments, including the New York Declaration on Refugees and Migrants and the Comprehensive Refugee Response Framework (CRRF). It aligns refugee health services with national systems, ensuring their inclusion in primary healthcare alongside host communities (Komakech et al., 2025). International and multilateral partnerships have been central in strengthening this approach. In October 2024, the Ministry of Health, in collaboration with WHO, launched the *Refugee and Migrant Health System Review*, which emphasised health workforce capacity, access to essential medical supplies, and improved coordination among government

Table 1. Routine immunisation schedule for children under 2 years, 10-year-old girls and women of child-bearing age (Key practice: Immunization | UNICEF Uganda; Routine Immunization Schedule - Ministry of Health - Uganda, 2025).

Number of visits/ contacts	Age of administration	Vaccine and dose	Disease against	Mode of administration
1st	At birth	Oral polio vaccine 0 BCG Hepatitis B	Polio Tuberculosis Hepatitis B	2 drops in the mouth Injection on right upper arm Injection on left upper thigh
2 nd	At 6 weeks	Oral polio vaccine 1 Injectable polio vaccine (IPV1) DPT-Hep B-Hib1	Polio Polio Diphtheria, tetanus, whooping cough, <i>Haemophilus influenza</i> type B, hepatitis B	2 drops in the mouth Injection on right upper thigh Injection on left upper thigh
3 rd	At 10 weeks	Pneumococcal conjugate vaccine 10(PCV1) Rota vaccine 1 Oral polio vaccine 2 DPT-Hep B-Hib 2	Meningitis and pneumonia Diarrhoea caused by rotavirus Polio Diphtheria, tetanus, <i>Haemophilus influenza</i> type B, whooping cough, Hepatitis B	Injection on right upper thigh Slow release into the mouth 2 drops in the mouth Injection on left upper thigh
4 th	At 14 weeks	Pneumococcal conjugate vaccine 10(PCV 2) Rota virus vaccine 2 Oral polio vaccine 3 Injectable polio vaccine (IPV2)	Meningitis and pneumonia Diarrhoea caused by rotavirus polio Polio	Injection on right upper thigh Slow release into the mouth 2 drops in the mouth Diphtheria, tetanus, <i>Haemophilus influenza</i> type B, Whooping cough, Hepatitis B
5 th	At 6 months	Pneumococcal conjugate vaccine 10(PCV3) Rota virus 3 Malaria vaccine 1	Meningitis and pneumonia Diarrhoea caused by rotavirus malaria	Injection on right upper arm Slow release into the mouth Injection on right upper arm
6 th	At 7 months	Malaria vaccine 2	Malaria	Injection on right upper arm
7 th	At 8 months	Malaria vaccine 3	Malaria	Injection on right upper arm
8 th	At 9 months	Measles-Rubella vaccine 1 Yellow fever vaccine	Measles, rubella Yellow fever	Injection on left upper arm Injection on right upper arm
9 th	At 18 months	Measles rubella vaccine 2 Malaria vaccine 4	Measles, rubella malaria	Injection on left upper arm Injection on right upper arm
Single dose	10-year-old girls	Human Papilloma virus	Cancer of the cervix	Injection on upper arm
1 st dose	Women of child bearing age(15-49years)	Tetanus Diphtheria (Td1) vaccine	Tetanus diphtheria	Injection on upper arm
2 nd dose	1 month after first dose	Tetanus diphtheria (Td2) vaccine	Tetanus diphtheria	Injection on upper arm
3 rd dose	6 months after 2 nd dose	Tetanus diphtheria (Td3)	Tetanus diphtheria	Injection on upper arm
4 th dose	12 months after 3 rd dose	Tetanus diphtheria (Td4) vaccine	Tetanus diphtheria	Injection on upper arm
5 th dose	12 months after 4 th dose	Tetanus diphtheria (Td4) vaccine	Tetanus diphtheria	Injection on upper arm

bodies, UN agencies, and implementing partners (Uganda's Ministry of Health and WHO unveil key strategies to strengthen health care services for refugees and migrants). The report, jointly produced by MoH, WHO, United Nations High Commission for Refugees (UNHCR), and UNICEF, outlines strategies that integrate refugee health within broader health system strengthening, reflecting a global push for inclusive healthcare (Uganda's Ministry of Health and WHO unveil key strategies to strengthen health care services for refugees and migrants).

Under the HSIRRP, an estimated USD 100 million (UGX 2.1 trillion) has been allocated over 5 years to expand access to medicines, infrastructure, and human resources across refugee-hosting districts (Monitor, 2020). Uganda's commitment to equity was further demonstrated during the COVID-19 pandemic, when UNICEF and the Ministry of Health rolled out an accelerated vaccination campaign through the COVAX Humanitarian Buffer (UNICEF, 2022).

1.4. Policies on refugee health and vaccination access

Uganda has progressively advanced policies that integrate refugees into its national systems, transitioning from restrictive frameworks to inclusive development-oriented approaches. The Control of Alien Refugees Act of 1960 represented an early, control-based policy (Uganda), later superseded by the Refugee Act of 2006 and Refugee Regulations of 2010, which domesticated international obligations and expanded refugee rights (Act No. 21 of 2006 Refugees Act 2006). The adoption of the Self-Reliance Strategy (1999) and its successor marked

a shift toward harmonising service delivery and enhancing local government capacity ([Self-reliance strategy \(1999–2003\) for refugee hosting areas in Moyo, Arua and Adjumani districts, Uganda: Report of the mid-term review | UNHCR; UNHCR](#)). Refugees were further embedded into Uganda's development agenda through the Settlement Transformation Agenda (STA) under the National Development Plan II (2015/16–2019/20), which institutionalised the non-encampment policy and promoted land allocation for cultivation ([NDPII-Final](#)). At the global level, Uganda endorsed the New York Declaration (2016), launched the Comprehensive Refugee Response Framework (CRRF) in 2017, and adopted the Global Compact on Refugees in 2018, reinforcing its international commitments ([A/RES/71/1; The Global Compact on Refugees | UNHCR](#)). More recently, integration has been operationalized through frameworks such as the ReHoPE strategy (2017), ([ReHoPE_Strategy-Report_2017_low-res-3-1](#)) the Uganda Country Refugee Response Plan (2019), ([Uganda Country Refugee Response Plan: The integrated response plan for refugees from South Sudan, Burundi and the Democratic Republic of the Congo, January - December 2020 \(Revised in March 2019\) - Uganda | ReliefWeb 2019](#)) and the Health Sector Integrated Refugee Response Plan (2019–2024), ([Health Sector Integrated Refugee Response Plan | MOH Knowledge Management Portal](#)) which collectively align refugee inclusion with national health, development, and resilience agendas. Health facilities in refugee settlements operate under the Ministry of Health guidelines. On the other hand, there is free access to government and UNHCR-supported health services for refugees ([UNHCR Uganda](#)). During the COVID-19 pandemic, Uganda's Ministry of Health and UNHCR extended vaccination services to refugees and nationals alike free of charge ([UNICEF, 2022](#)).

The aim of this review is to assess vaccination coverage, identify barriers to access, and propose strategies to improve vaccine uptake among the refugee and migrant population in Uganda, as well as draw lessons from other countries or contexts.

2. Methods

This review was conducted with the aim of evaluating policies that guide vaccine delivery, assessing vaccination coverage, identifying barriers to access and proposing strategies to improve vaccine uptake among refugees and migrant populations in Uganda, as well as drawing lessons from other countries or contexts. Searches were performed across PubMed, Web of Science, Google Scholar, African Journals Online, and a general Google search to identify grey literature, including WHO and United Nations (UN) agency reports, government policy documents. The search terms combined concepts of 'vaccination', 'immunization', 'refugee', 'migrant', and 'Uganda', with no language restriction; publications and reports up to September 2025 were included. Findings were then synthesised thematically.

3. Findings

3.1. Immunisation coverage among refugee populations in Uganda

Publicly available literature regarding immunisation coverage among refugee populations remains scarce because of fragmented data systems with incomplete integration into national databases, high mobility as refugees frequently move between settlements or return to their countries of origin, and the lack of disaggregated data in national surveys Bou-Karroum et al. (2024); Hargreaves et al. (2022). Additionally, limited research funding (Kaur et al., 2024), logistical and ethical challenges, and reliance on unpublished reports (grey literature) reduce the availability of peer-reviewed studies (Petrie et al., 2024). Coverage among refugees in Uganda remains uneven, with routine vaccination rates often falling below national targets. For example, a 2024 study in the Kyangwali settlement found that only 33.3% of children aged 12–59 months were fully immunised (Wesley & Rabbanie, 2024). During outbreaks and mass campaigns, however, coverage can be much higher: measles vaccination rates reached 87% among refugees in Kiryandongo during a 2023 outbreak response (admin, 2024) and 98.1% during a national campaign reported by the UNHCR (5.1.1_Annual_Results_Report, 2024).

3.2. Key challenges to immunisation among refugee and migrant populations

Refugees and migrants often encounter distinct challenges that hinder their access to vaccination services (Nichol et al., 2022). The studies reveal that obstacles to vaccine access can be categorised into legal, individual,

community-level barriers, and structural or system-level barriers [Hargreaves et al. \(2022\)](#); George et al., 2025; [ResearchGate](#)).

3.2.1. Administrative and legal barriers

Refugees are often required to present their refugee ID cards with them to receive vaccination. This excludes those who do not have one, and those without IDs are required to have a letter from the office of the prime minister (OPM), and this could also be a hard administrative process ([Access to COVID-19 vaccines for Refugees in Uganda](#)). On-site exclusion may occur despite inclusive policies when frontline staff request unnecessary documentation due to unconscious bias, misunderstandings of guidelines or concerns about increased administrative workload (Klabbers et al., 2023). Moreover, it is common for cases of fraud and corruption to be reported in refugee camps during ongoing vaccination and health campaigns and, as such, viewed as 'suspicious business' by those in higher authority (Monitor, 2021; Mylan, 2024; Rush N. CIS.org, 2019; The New Humanitarian | Fraud discovery sparks fresh concerns for Uganda's refugee programme, 2023). The diversion or mismanagement of resources intended for refugees undermines trust in these programs (Mylan, 2024). There are also reports of extortion by local actors, which interferes with beneficiary registration and compromises service delivery, reduces transparency, and further erodes community trust in programs designed to benefit migrant populations (Jenkins et al., 2024).

3.2.2. Logistics, supplies and infrastructure challenges

Despite Uganda's progressive integration of refugees into its national health system, challenges still persist, such as resource constraints, including limited vaccine stock, insufficient trained healthcare workers, and gaps in logistics and supply chains (Uganda's Health System Addresses the Health Needs of Refugees et al., 2024). During the COVID-19 vaccination campaign, challenges in vaccine supply significantly hindered uptake in refugee settings such as the Palabek settlement. Inconsistent availability of vaccines disrupted the continuity of immunisation, with many individuals who received a first dose of AstraZeneca or Moderna unable to access the corresponding second dose within the recommended timeframe. When alternative vaccines were later introduced, uptake remained low, as many recipients expressed reluctance to complete their schedules with different vaccine types, raising concerns about safety, delayed second doses, and uncertainty surrounding heterologous vaccination (Mylan, 2024). Globally, similar trends have been seen among migrant populations, especially in low-trusted healthcare settings. A systematic review involving over 29,000 migrants found vaccine acceptance to be only 56.7%, with hesitancy affecting approximately 31.7%, largely due to concerns about vaccine safety and effectiveness (Hajissa et al., 2023).

A similar study among refugees in Europe showed that fragmented vaccination pathways contribute to hesitancy towards mixed vaccine schedules. A recent mixed-methods systematic review found that interrupted vaccination histories, differing national policies, and inconsistent healthcare access are common (Khuu et al., 2025). This creates confusion about vaccine types and reduces confidence in completing vaccination with alternative vaccines.

Additionally, high population density in refugee settlements such as Kiryandongo often leads to shortages, which undermine vaccination coverage and impede effective outreach and record-keeping (Namulondo et al., 2024). A similar case is seen in the Cox's Bazar refugee camps in Bangladesh, where overcrowding has strained health services and created difficulties in vaccine delivery (Truelove et al., 2021). In both contexts, these challenges ultimately reduce overall vaccination coverage.

3.2.3. Knowledge, information gaps and health concerns

A consensus world report by WHO showed that underprivileged groups, which typically include refugees, may lack knowledge regarding the benefits of immunisation [Hargreaves et al. \(2022\)](#); ([Barriers to and Facilitators for Accessing HPV Vaccination in Migrant and Refugee Populations: A Systematic Review - ProQuest](#); Deal et al., 2023; Kaur et al., 2024; [ResearchGate](#)) Another report regarding HPV vaccination showed that many of the immigrants had little or no knowledge about the HPV vaccine and did not know about its purpose, eligibility and dosing schedule (Crawshaw et al., 2022; Ganczak et al., 2025; [ResearchGate](#); Uganda's Health System Addresses the Health Needs of Refugees et al., 2024).

On the other hand, misinformation about vaccines ([Academy of Science of South Africa, 2021](#)) often originating from open sources such as the internet ([ResearchGate](#)), contributes significantly to vaccine mistrust among refugee populations. Additionally, some refugees rely on information from fellow refugees, which is sometimes inaccurate ([Refugees included in Uganda's COVID-19 vaccine drive](#)), further reinforcing doubts and hesitancy towards vaccination.

This mistrust is further compounded by doubts among health workers themselves, particularly regarding the AstraZeneca vaccine, as many expressed concerns rooted in what they perceived as inconsistencies in standard vaccine practices, such as short research periods before its rollout (Muhamadi et al., 2021).

Refugees often have concerns about vaccine safety and fear of associated side effects ([ResearchGate \(2022\)](#)). Ensuring the Integration of Refugees and Migrants in Immunization Policies, Planning and Service Delivery Globally: Global Evidence Review on Health and Migration (GEHM) Series (p. 1, 1st ed.). Geneva: World Health Organization.; Iwami et al., 2025; Netfa et al., 2020). Widespread myths have significantly hindered vaccine acceptance among some populations. False beliefs, including claims that vaccines were designed to harm Africans, cause infertility, or were linked to satanic practices, create deep mistrust. One persistent rumour suggested that individuals who received the COVID-19 vaccine would die within 2 years (Slivesteri et al., 2024). These myths were reinforced by health concerns such as fears of blood clots and infertility, particularly as AstraZeneca, the vaccine most widely available in refugee camps, had been subject to safety debates in high-income countries. This was compounded by the relatively low severity of COVID-19 in refugee settlements, fuelling perceptions that vaccination campaigns were externally driven, including beliefs that Western actors sought to control population growth (Mylan, 2024). Some people even believed that Ugandans were unknowingly participating in a clinical trial, as one unvaccinated male informant thought that they were being used as guinea pigs in the COVID-19 vaccination (Muhamadi et al., 2021).

Parents and caregivers of young children frequently express worries about the safety of vaccines and the potential for adverse events following immunisation (AEFI) (Braka et al., 2012). These concerns can be heightened by personal or community experiences with vaccine-related reactions. For instance, most parents whose child experienced an AEFI following the 2010 seasonal trivalent influenza vaccine (STIV) reported lower confidence in the safety of influenza vaccines, which likely contributed to lower uptake of the seasonal influenza vaccination in 2011 (Parrella et al., 2012). A key barrier to immunisation in the Kyangwali refugee settlement is parents' reliance on alternative information sources instead of community health workers, which significantly reduces childhood vaccination rates (Wesley & Rabbanie, 2024).

3.2.4. *Cultural, religious and social barriers*

Religious and spiritual beliefs among cultural groups shape perceptions of illness and healing, often attributing misfortune and disease to spiritual imbalance rather than biomedical causes, and this is evident among South Sudanese refugees in Acholi. Such views can create suspicion toward external interventions such as vaccines, which may be seen as conflicting with established spiritual practices. As a result, vaccine uptake is sometimes hindered by the need to reconcile biomedical approaches with local religious understandings (Mylan, 2024).

Studies have highlighted difficulties in communication, particularly those stemming from language barriers (Bacigale et al., 2023) and the shortage of interpreters (Kletečka-Pulker et al., 2019), as a significant obstacle to healthcare access for refugees. These challenges are largely due to refugees having poor literacy in the host community languages and the absence of tailored language support services (Hargreaves et al. (2022)). Language barriers have constrained effective communication between refugees and healthcare providers in Kampala. Refugees who did not understand Luganda or English experienced difficulties communicating with health workers, while the use of Swahili, despite being familiar to some refugees, was not always sufficiently clear or well articulated by healthcare providers to facilitate understanding (Kasozi et al., 2018).

3.2.5. *Financial constraints*

Low socioeconomic status among refugee and migrant populations also hinders vaccine uptake (Backhaus, 2023). Social-economic status in this case varies from formal education level, family income, to housing conditions ([Barriers to and Facilitators for Accessing HPV Vaccination in Migrant and Refugee Populations: A Systematic Review - ProQuest](#)). On some occasions, migrants are required to pay the direct costs of vaccination (Hargreaves et al., 2022), especially for undocumented refugees and refugees who seek vaccinations at private facilities that they may not be able to afford (Babirye et al., 2014).

4. Discussion

4.1. Lessons from other countries or contexts

Global experience offers valuable models for Uganda. In Bangladesh's Rohingya camps, WHO and partners used community theatre to raise vaccine awareness among illiterate or hesitant populations. Rohingya and Bangladeshi youth jointly performed plays that dramatised vaccine benefits and risks of non-vaccination, incorporating messages about locating vaccination sites and keeping immunisation cards. This creative, participatory approach helped bridge cultural divides and gave refugees ownership of the message: actors learned key facts themselves and then taught family and neighbours through entertainment. Community leaders and the camp-in-charge supported the initiative, amplifying its reach ([Community Theater - Bridging the immunization gap in the Rohingya refugee camps](#)). Such strategies underscore the importance of engaging beneficiaries as active participants.

In Kenya's Kakuma camp, the challenge was linguistic fragmentation. Refugees from South Sudan, Somalia, DRC and Burundi lived in the same settlement but spoke different languages. The International Rescue Committee built a 'vast and efficient network of community health workers' drawn from each nationality. One veteran South Sudanese community health practitioner explained that speaking parents' mother tongue (plus Kiswahili/English) was key: 'The importance of using the mother tongue is for them to understand,' he said. This multilingual outreach has led to noticeable improvements in coverage and defaulter follow-up. Kenya also leveraged mass campaigns (e.g. measles and cholera vaccination rounds) in the camps during disease outbreaks. The Kakuma experience highlights how recruiting and training refugee volunteers can build trust and overcome information gaps ([A fighting chance: translating routine vaccination for Kakuma's multilingual refugee population](#)). Also in Kenya, during the COVID-19 pandemic, Koiboi's 'Corona Guy' radio show in the Dadaab refugee camp became a trusted voice that debunked rumours and engaged residents directly, effectively reducing misinformation and vaccine hesitancy (Deal et al., 2023).

Modelling within Turkey's large Syrian refugee population found that promoting social integration between refugees and host communities can significantly reduce measles transmission by nearly 50%, leveraging herd immunity from high vaccination rates among Turkish nationals. This underscores the epidemiological benefit of inclusive social policy, not only for refugees but also for broader public health protection (Bosetti et al.).

More to the above, digital tools for tracking vaccination coverage, such as those used in Jordan. In Zaatari Refugee Camp, the ClmA (Children's Immunisation App) provided parents with digital immunisation records and trusted vaccine information. This low-cost solution enhanced vaccine tracking and caregiver awareness, showcasing the value of digital innovation in humanitarian settings (El-Halabi et al., 2023).

Another lesson is to be drawn from Belgium. In Flanders, Belgium, mobile vaccination teams provided services to asylum seekers, homeless individuals, and other marginalised groups. All vaccinations were recorded centrally, ensuring continuity and preventing duplication, an approach that boosted both accessibility and monitoring (World Health Organization, 2022).

4.2. Strategies and recommendations for improved vaccination coverage among refugees in Uganda

4.2.1. Policy and system-level approaches

Uganda's historically inclusive refugee policy, which provides refugees with the same access to public services as hosts, provides a strong foundation for equitable immunisation ([Refugees included in Uganda's COVID-19 vaccine drive](#)). Nonetheless, gaps remain in implementation. To bridge these challenges, national policy should explicitly guarantee non-discriminatory, free and accessible vaccination for all refugees and migrants. Guidance urges governments to 'make routine immunisations free at the point of delivery' and to remove administrative barriers (Box 7, 2025; [New WHO Global Evidence Review on Health and Migration underscores how the implementation of inclusive immunization plans is critical for Member States to achieve universal health coverage](#)), and in practice, this means formally integrating refugees into the Uganda National Expanded Programme on Immunization (UNEPI) and related health strategies, a strategy that has worked well for the country ([Refugee and migrant health system review: challenges and opportunities for long-term health system strengthening in Uganda](#)).

4.2.2. *Community engagement and communication*

Effective outreach hinges on trusted, culturally sensitive communication. WHO emphasises developing a risk communication and community engagement strategy for refugees: providing vaccine information in refugees' own languages via trusted channels and messengers (Box 7, 2025). In Uganda, language barriers have been a major issue (Kasumba, 2015), with most official health messages being in English or Luganda, while many refugees speak only regional dialects. Partnering with refugee community leaders, translators, and locally recruited health promoters can overcome this. For example, refugee health workers and volunteers can hold small public discussions in refugee settlements to explain vaccine benefits and counter myths (Refugee and migrant health system review: challenges and opportunities for long-term health system strengthening in Uganda). Stakeholder forums, religious leaders, women's groups and youth networks should be involved in planning and disseminating vaccine information to build trust and dispel disinformation. Engaging refugee youth, as was done in Uganda's recent polio campaign or respected elders in settlement councils can personalise messages and encourage uptake (Shubina, 2024).

4.2.3. *Service delivery innovations*

To reach transient and hard-to-access populations, Uganda should diversify delivery modes beyond static clinics. WHO noted that mobile vaccination clinics, pop-up sites in community venues, and door-to-door outreach are highly effective for refugees (Box 7, 2025). During the COVID-19 pandemic in Uganda, aid organisations deployed mobile teams to vaccinate refugees in camps and settlements, often offering a single vaccine type per visit to simplify delivery (Prager et al., 2025). Such mobile clinics, whether on trucks, boats, or tents, can visit remote settlements on a regular schedule. Similarly, targeted mass campaigns or vaccination days in camps can rapidly boost coverage, especially following new arrivals. Integrating immunisation into other services can also improve uptake: for instance, offering catch-up vaccines alongside antenatal care, nutrition programs, or child health days reduces the need for separate visits (Box 7, 2025). Using local community health workers (CHWs), both refugees and host nationals, to deliver vaccines and track defaulters has proven crucial; in the Kakuma camp (Kenya), for example, recruiting multilingual refugee CHWs greatly expanded routine immunisation uptake (A fighting chance: translating routine vaccination for Kakuma's multilingual refugee population).

4.2.4. *Monitoring, data, and cross-border collaboration*

Uganda's porous borders mean that refugees frequently travel or return home, so cross-border coordination is important. Robust data systems are needed to track coverage among migrant groups. WHO/UNICEF guidance emphasises enhancing immunisation information systems to capture refugee status and migration history. In practice, health facilities serving refugee areas should record the country of origin and arrival date in patient files and electronic registers. Giving every refugee family a vaccination card (and educating them to retain it) helps maintain continuity if they move. Health officials should collaborate with neighbouring countries (South Sudan, DRC, Rwanda, etc.) to share immunisation records and synchronise catch-up campaigns for mobile populations (Box 7, 2025; New WHO Global Evidence Review on Health and Migration underscores how the implementation of inclusive immunization plans is critical for Member States to achieve universal health coverage).

5. **Conclusions**

Uganda's progressive refugee policies and strong partnerships have created a solid foundation for inclusive immunisation, but there is still a clear gap between policy and practice. Refugee communities face unique and overlapping barriers that make it hard to access vaccines. Some refugees are held back by documentation requirements and administrative rules, while others struggle with irregular vaccine supplies that disrupt schedules. Misinformation and cultural concerns can lead to mistrust, and language differences often make it difficult to understand health messages. On top of that, transport costs or the time required to visit clinics can discourage families from seeking immunisation.

These challenges do not just affect individuals; they leave entire communities vulnerable to outbreaks of preventable diseases. Experience on the ground shows that closing these gaps requires more than good policies. It involves fully integrating refugees into national immunisation systems, removing unnecessary

bureaucratic barriers, and ensuring reliable funding for cold chains, outreach, and staff. Practical steps such as training multilingual refugee health workers, running regular mobile clinics, holding catch-up days for new arrivals, keeping standardised records, and coordinating across borders can make a real difference. To turn Uganda's strong policy commitments into lasting health equity, national and international partners need to provide predictable funding, track coverage among refugees closely, and invest in culturally sensitive community engagement that builds trust. Aligning policy, financing, and community action is essential to protect both refugees and host communities.

Author contributions

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References

- 5.1.1_Annual_Results_Report. (2024).
- A fighting chance: translating routine vaccination for Kakuma's multilingual refugee population. <https://www.gavi.org/vaccineswork/fighting-chance-translating-routine-vaccination-kakumas-multilingual-refugee>
- A Guide for National and District Leaders to Promote Routine Immunisation in Uganda.
- A/RES/71/1: New York Declaration for Refugees and Migrants.
- Academy of Science of South Africa. (2021). Root Causes of Low Vaccination Coverage and Under-Immunisation in Sub-Saharan Africa. *Soul Beat Africa*. <https://africa.comminit.com/content/root-causes-low-vaccination-coverage-and-under-immunisation-sub-saharan-africa>
- Access to COVID-19 vaccines for Refugees in Uganda.
- Act No. 21 of 2006 Refugees Act 2006. <https://www.judiciary.go.ug/files/downloads/Act%20No%2021of%202006%20Refugees%20Act2006.pdf>
- Admin. (2023). COVID-19 vaccine uptake and coverage, Uganda, 2021-2022 - UNIPH. <https://uniph.go.ug/covid-19-vaccine-uptake-and-coverage-uganda-2021-2022/>
- Admin. (2024). Measles outbreak at a refugee settlement, kiryandongo district, Uganda, July–October 2023. UNIPH. <https://uniph.go.ug/measles-outbreak-at-a-refugee-settlement-kiryandongo-district-uganda-july-october-2023/>
- Babirye, J. N., Engebretsen, I. M., Rutebemberwa, E., Kiguli, J., & Nuwaha, F. (2014). Urban settings do not ensure access to services: Findings from the immunisation programme in Kampala Uganda. *BMC Health Services Research*, 14, 111. <https://doi.org/10.1186/1472-6963-14-111>
- Bacigale, R. M., Murhula, A. N., Kayembe, P., Mbiso, J. M., & Mutabesha, M. Z. (2023). A systematic review of the healthcare access and utilization barriers faced by refugees in Uganda. *East African Journal of Interdisciplinary Studies*, 6(1), 84–99.
- Backhaus, A. (2023). Socio-demographic factors associated with COVID-19 vaccine uptake and refusal among Ugandan women. *Globalization and Health*, 19, 68. <https://doi.org/10.1186/s12992-023-00968-z>

- Barriers to and Facilitators for Accessing HPV Vaccination in Migrant and Refugee Populations: A Systematic Review - ProQuest. <https://www.proquest.com/docview/3003822618?pq-origsite=gscholar#amp;38;fromopenview=true#amp;38;sourcetype=Scholarly%20Journals>
- Bosetti, P., Poletti, P., Stella, M., Lepri, B., Merler, S., & Domenico, M. D. Reducing measles risk in Turkey through social integration of Syrian refugees. <https://doi.org/10.48550/arXiv.1901.04214>
- Bou-Karroum, L., Daher, N., Jabbour, M., Akhu-Zaheya, L., Khater, W., Alloubani, A., Orach, C. G., Komakech, H., Bennett, S., & El-Jardali, F. (2024). Assessing the integration of refugee health data into national health information systems in Jordan, Lebanon, and Uganda. *Conflict and Health*, 18(Suppl 1), 49. <https://doi.org/10.1186/s13031-024-00608-2>
- Box 7. (2025). *Good practices in implementing immunization in refugees and migrants*. World Health Organization. <https://www.ncbi.nlm.nih.gov/books/NBK583127/>
- Braka, F., Asiimwe, D., Soud, F., Lewis, R. F., Makumbi, I., & Gust, D. (2012 Jul). A qualitative analysis of vaccine safety perceptions and concerns among caretakers in Uganda. *Maternal and Child Health Journal*, 16(5), 1045–1052. <https://doi.org/10.1007/s10995-011-0826-5>
- Community Theater - Bridging the immunization gap in the Rohingya refugee camps. <https://www.who.int/bangladesh/news/detail/15-12-2019-community-theater-bridging-the-immunization-gap-in-the-rohingya-refugee-camps>
- COVID-19. https://www.prescribingcompanion.com/uganda/infections-and-infectious-diseases-prescribing/immunizations/covid-19?utm_source=chatgpt.com
- Crawshaw, A. F., Farah, Y., Deal, A., Rustage, K., Hayward, S. E., Carter, J., Knights, F., Goldsmith, L. P., Campos-Matos, I., Wurie, F., Majeed, A., Bedford, H., Forster, A. S., & Hargreaves, S. (2022). Defining the determinants of vaccine uptake and undervaccination in migrant populations in Europe to improve routine and COVID-19 vaccine uptake: A systematic review. *The Lancet Infectious Diseases*, 22(9), e254–e266. [https://doi.org/10.1016/S1473-3099\(22\)00066-4](https://doi.org/10.1016/S1473-3099(22)00066-4)
- Deal, A., Crawshaw, A. F., Carter, J., Knights, F., Iwami, M., Darwish, M., Hossain, R., Immordino, P., Kaojaroen, K., Severoni, S., & Hargreaves, S. (2023). Defining drivers of under-immunization and vaccine hesitancy in refugee and migrant populations. *Journal of Travel Medicine: Official Publication of the International Society of Travel Medicine and the Asia Pacific Travel Health Association*, 30(5), taad084. <https://doi.org/10.1093/jtm/taad084>
- El-Halabi, S., Khader, Y. S., Khdeir, M. A., Hanson, C., Alfvén, T., & El-Khatib, Z. (2023). Children immunization app (CIMA): A non-randomized controlled trial among Syrian refugees in zaatari camp, Jordan. *Journal of Prevention*, 44(2), 239–252. <https://doi.org/10.1007/s10935-023-00721-7>
- Ganczak, M., Kalinowski, P., Kowalska-Babiarz, M., Nazrieva, M., Nyankovsky, S., & Edelstein, M. (2025). Impact of HPV educational intervention on knowledge and vaccination intentions among Ukrainian migrant and refugee parents in Poland. *Frontiers in Public Health*, 13, 1647569. <https://doi.org/10.3389/fpubh.2025.1647569>
- George, N. S., Bassey, A. E., Cruz, J. A. A., & Tambor, M. (2025). Access to vaccination among refugees, asylum seekers and internally displaced persons in sub-saharan Africa: A systematic review. *Discov Public Health*, 22(1), 1. <https://doi.org/10.1186/s12982-025-00584-9>
- Hajissa, K., Mutiat, H. A., Kaabi, N. A., Alissa, M., Garout, M., Alenezy, A. A., Almaghrabi, R. H., Alrasheed, H. A., Al-Subaie, M. F., Alhani, H. M., Alshehri, A. A., Almazni, I. A., Alqahtani, A. S., Bahwerth, F. S., Alqethami, N. H., Alzayer, A. A., & Rabaan, A. A. (2023). COVID-19 vaccine acceptance and hesitancy among migrants, refugees, and foreign workers: A systematic review and meta-analysis. *Vaccines*, 11(6), 1070. <https://doi.org/10.3390/vaccines11061070>
- Hargreaves, S., Crawshaw, A. F., & Deal, A. (2022). *Ensuring the Integration of Refugees and Migrants in Immunization Policies, Planning and Service Delivery Globally: Global Evidence Review on Health and Migration (GEHM) Series* (p. 1 1st ed.). Geneva: World Health Organization.
- Health Sector Integrated Refugee Response Plan | MOH Knowledge Management Portal. <https://library.health.go.ug/leadership-and-governance/refugees/health-sector-integrated-refugee-response-plan>
- Immunization Agenda 2030. (2020). <https://www.who.int/teams/immunization-vaccines-and-biologicals/strategies/ia2030>
- Iwami, M., Bouaddi, O., Razai, M. S., Mansour, R., Morais, B., & Ali, N. M., et al. (2025). Drivers of human papillomavirus vaccine uptake in migrant populations and interventions to improve coverage: A systematic review and meta-analysis. *Lancet Public Health*, 10(8), e693–e711. [https://doi.org/10.1016/S2468-2667\(25\)00148-3](https://doi.org/10.1016/S2468-2667(25)00148-3)
- Jenkins, M., Bergin, J., White, S., & Jackson, D. (2024). Corruption in humanitarian assistance in conflict settings
- Kasozi, J., Kasozi, G. K., & Mayega, R. W. (2018). Orach CG. Access to health care by urban refugees and surrounding host population in Uganda. *World Journal of Public Health*, 3(2), 2. <https://doi.org/10.11648/j.wjph.20180302.11>
- Kasumba, J. (2015). Challenges of peaceful co-existence: A case of language problems among refugees in Nakivale-Western Uganda. <https://makir.mak.ac.ug/handle/10570/6009>
- Kaur, M., Bridi, L., Kaki, D., Albahsahli, B., Bencheikh, N., Saadi, A., Bandoli, G., Anderson, C. A. M., Sideman, A. B., & Al-Rousan, T. (2024). Funding for refugee health research from The National institutes of health between 2000 and 2020. *JAMA Network Open*, 7(1), e2350837. <https://doi.org/10.1001/jamanetworkopen.2023.50837>
- Key practice: Immunization | UNICEF Uganda. https://www.unicef.org/uganda/key-practice-immunization?utm_source=chatgpt.com
- Khuu, E., Moussaoui, S., Vignier, N., Bonello, K., & Archer, E. (2025). Vaccine hesitancy among migrant populations in Europe: A mixed-methods systematic review. *Vaccine*, 68, 127954. <https://doi.org/10.1016/j.vaccine.2025.127954>
- Klabbers, R. E., Muwonge, T. R., Ajidiru, S., Borthakur, S., Mujugira, A., Sharma, M., Vinck, P., Pham, P., Celum, C., Parkes-Ratanshi, R., & O'Laughlin, K. N. (2023). Understanding the barriers and facilitators of COVID-19 risk mitigation strategy

- adoption and COVID-19 vaccination in refugee settlements in Uganda: A qualitative study. *BMC Public Health*, 23(1), 1401. <https://doi.org/10.1186/s12889-023-16320-4>
- Kletečka-Pulker, M., Parrag, S., Droždek, B., & Wenzel, T. (2019). Language barriers and the role of interpreters: A challenge in the work with migrants and refugees, *An Uncertain Safety* (pp. 345–361). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-72914-5_14
- Komakech, H., Elnakib, S., Karroum, L. B., Nyachwo, E., Adoch, W., Sali, S., Okeny, G. G., & Orach, C. G. (2025). Examining the integration of refugees into The National health system in Uganda: An analysis using the policy triangle framework. *Conflict and Health*, 18(Suppl 1), 78. <https://doi.org/10.1186/s13031-024-00640-2>
- Lam, E., McCarthy, A., & Brennan, M. (2015). Vaccine-preventable diseases in humanitarian emergencies among refugee and internally-displaced populations. *Human Vaccines & Immunotherapeutics*, 11(11), 2627–2636. <https://doi.org/10.1080/21645515.2015.1096457>
- Lomo, Z., Naggaga, A., & Hovil, L. T. H. E. P. Phenomenon Of Forced Migration In Uganda: An Overview Of Policy And Practice In An Historical Context.
- Monitor. (2020). Government unveils Shs2 trillion refugee health response plan. <https://www.monitor.co.ug/uganda/news/national/government-unveils-shs2-trillion-refugee-health-response-plan-1802964>
- Monitor. (2021). Refugee scam: No space for corruption, UN tells govt. <https://www.Monitor.co.ug/uganda/news/national/refugee-scam-no-space-for-corruption-un-tells-govt-1740356>
- Muhamadi, L., Edith, N., James, W., Tumwesigye, N. M., Museene, S. K., Mukakaarisa, H., Peterson, S. S., & Ekström, A. M. (2021). Lack of trust, insufficient knowledge and risk denial; an in-depth understanding of health workers barriers to uptake of the Covid-19 vaccine at iganga hospital eastern Uganda, and mengo hospital Kampala. *Journal of Vaccines & Vaccination*, 12(6), 1000469. <https://doi.org/10.1101/2021.10.13.21264920>
- Mylan, S. (2024). Suspicious business: COVID-19 vaccination in palabek refugee settlement, Northern Uganda. *Social Science & Medicine*, 346, 116695. <https://doi.org/10.1016/j.socscimed.2024.116695>
- Namulondo, E., Ssemanda, I., Komugisha, M., Nuwamanya, Y., Nsubuga, E. J., Wako, S., Kayiwa, J., Kadobera, D., Migisha, R., Bulage, L., Kwesiga, B., & Ario, A. R. (2024). Measles Outbreak in a Refugee Settlement, Kiryandongo District, Uganda, July–October 2023, *preprint*. Research Square. <https://doi.org/10.21203/rs.3.rs-4497006/v1>
- NDPII-Final. pdf. <https://www.npa.go.ug/wp-content/uploads/2023/03/NDPII-Final.pdf>
- Netfa, F., Tashani, M., Booy, R., King, C., Rashid, H., & Skinner, S. R. (2020). Knowledge, attitudes and perceptions of immigrant parents towards human papillomavirus (HPV) vaccination: A systematic review. *Tropical Medicine and Infectious Disease*, 5(2), 58. <https://doi.org/10.3390/tropicalmed5020058>
- New WHO Global Evidence Review on Health and Migration underscores how the implementation of inclusive immunization plans is critical for Member States to achieve universal health coverage. <https://www.who.int/news/item/12-07-2022-new-who-global-evidence-review-on-health-and-migration-underscores-how-the-implementation-of-inclusive-immunization-plans-is-critical-for-member-states-to-achieve-universal-health-coverage>
- Nichol, A. A., Parcharidi, Z., Al-Delaimy, W. K., & Kondilis, E. (2022). Rapid review of COVID-19 vaccination access and acceptance for global refugee, asylum seeker and undocumented migrant populations. *International Journal of Public Health*, 67, 1605508. <https://doi.org/10.3389/ijph.2022.1605508>
- Orenstein, W. A., & Ahmed, R. (2017). Simply put: Vaccination saves lives. *Proceedings of the National Academy of Sciences*, 114(16), 4031–4033. <https://doi.org/10.1073/pnas.1704507114>
- Parrella, A., Gold, M., Marshall, H., Braunack-Mayer, A., Watson, M., & Baghurst, P. (2012). Parental views on vaccine safety and future vaccinations of children who experienced an adverse event following routine or seasonal influenza vaccination in 2010. *Human Vaccines & Immunotherapeutics*, 8(5), 662–667. <https://doi.org/10.4161/hv.19478>
- Petrie, G., Angus, K., & O'Donnell, R. (2024). A scoping review of academic and grey literature on migrant health research conducted in Scotland. *BMC Public Health*, 24(1), 1156. <https://doi.org/10.1186/s12889-024-18628-1>
- Prager, G., Hayek, H., Fawad, M., Nyakoojo, R., Kasozi, J., Khalifa, A. M., Spiegel, P., & Altare, C. (2025). Strategies to maintain health service provision during the COVID-19 pandemic in refugee settings in Jordan and Uganda. *PLOS Global Public Health*, 5(5), e0004484. <https://doi.org/10.1371/journal.pgph.0004484>
- Refugee and migrant health system review: challenges and opportunities for long-term health system strengthening in Uganda. <https://www.who.int/publications/i/item/9789240098824>
- Refugees included in Uganda's COVID-19 vaccine drive. <https://www.gavi.org/vaccineswork/refugees-included-ugandas-covid-19-vaccine-drive>
- Refugees included in Uganda's COVID-19 vaccine drive. <https://www.gavi.org/vaccineswork/refugees-included-ugandas-covid-19-vaccine-drive>
- ReHoPE_Strategy-Report_2017_low-res-3-1. pdf. https://ddrn.dk/wp-content/uploads/2022/12/ReHoPE_Strategy-Report_2017_low-res-3-1.pdf
- ResearchGate. Multi-method findings on COVID-19 vaccine acceptability among urban refugee adolescents and youth in Kampala, Uganda. https://www.researchgate.net/publication/369091762_Multi-method_findings_on_COVID-19_vaccine_acceptability_among_urban_refugee_adolescents_and_youth_in_Kampala_Uganda
- ResearchGate. Barriers to immunization among newcomers: A systematic review. https://www.researchgate.net/publication/322960802_Barriers_to_immunization_among_newcomers_A_systematic_review

- ResearchGate. Knowledge, attitudes and mental health of sub-Saharan African migrants living in Tunisia during COVID-19 pandemic. Available from: https://www.researchgate.net/publication/370000192_Knowledge_attitudes_and_mental_health_of_sub-Saharan_African_migrants_living_in_Tunisia_during_COVID-19_pandemic
- Routine Immunization Schedule - Ministry of Health - Uganda. (2025). <https://health.go.ug/download/routine-immunization-schedule/>
- Rush N. CIS.org. (2019). UNHCR Corruption: Resettlement Spots for a Price. <https://cis.org/Report/UNHCR-Corruption-Resettlement-Spots-Price>
- Sana, S., Fabbro, E., Zovi, A., Vitiello, A., Ola-Ajayi, T., Zahoui, Z., Salami, B., & Sabbatucci, M. (2023). Scoping review on barriers and challenges to pediatric immunization uptake among migrants: Health inequalities in Italy, 2003 to Mid-2023. *Vaccines*, 11(9), 1417. <https://doi.org/10.3390/vaccines11091417>
- SciSpace - Paper. (2024). Immunization Insights: Trends and Coverage Among Afghan Children refugee in Iran (2021-2024). <https://scispace.com/papers/immunization-insights-trends-and-coverage-among-afghan-50mh3c659ok> doi:10.21203/rs.3.rs-5309598/v1
- Self-reliance strategy (1999-2003) for refugee hosting areas in Moyo, Arua and Adjumani districts, Uganda: Report of the mid-term review | UNHCR. <https://www.unhcr.org/media/self-reliance-strategy-1999-2003-refugee-hosting-areas-moyo-arua-and-adjumani-districts>
- Shubina, D. (2024). *U-Report: Empowering Youth for Community Vaccination Success in Uganda*. Polio Toolkit / Global Polio Eradication Initiative (GPEI), UNICEF. <https://www.poliokit.org/news/u-report-empowering-youth-community-vaccination-success-uganda>
- Slivesteri, S., Ssali, A., Bahemuka, U. M., Nsubuga, D., Muwanga, M., Nsereko, C., Ssemwanga, E., Robert, A., Seeley, J., Elliott, A., & Ruzagira, E. (2024). Structural and social factors affecting COVID-19 vaccine uptake among healthcare workers and older people in Uganda: A qualitative analysis. *PLOS Global Public Health*, 4(5), e0002188. <https://doi.org/10.1371/journal.pgph.0002188>
- The Global Compact on Refugees | UNHCR. Uganda. <http://globalcompactrefugees.org/gcr-action/countries/uganda>
- The New Humanitarian | Fraud discovery sparks fresh concerns for Uganda's refugee programme. (2023). <https://www.thenewhumanitarian.org/news/2023/04/21/exclusive-ugandas-refugee-programme-hit-fresh-fraud-concerns>
- Truelove, S. A., Hegde, S., Niehaus, L., Kostandova, N., Altare, C., Rao, V. B., Smith, J., du Cros, P., Azman, A. S., & Azman, P. (2021). Estimating the burden of SARS-CoV-2 among the rohingya refugees. *Epidemiology (Cambridge, MA)*. <https://doi.org/10.1101/2021.06.11.21258445>
- Uganda Country Refugee Response Plan: The integrated response plan for refugees from South Sudan, Burundi and the Democratic Republic of the Congo, January - December 2020 (Revised in March 2019) - Uganda | ReliefWeb 2019. <https://reliefweb.int/report/uganda/uganda-country-refugee-response-plan-integrated-response-plan-refugees-south-sudan-0>
- Uganda launches world's biggest malaria vaccine rollout | UNICEF Uganda.
- Uganda National Expanded Program On Immunisation (UNEPI) Milestones from Inception to 2024 | MOH Knowledge Management Portal. <https://library.health.go.ug/communicable-disease/vaccination-and-immunisation-uneipi/uganda-a-national-expanded-program-0>
- Uganda: The Refugee Act 2006 | Refworld. <https://www.refworld.org/legal/legislation/natlegbod/2006/en/102125>
- Uganda's Health System Addresses the Health Needs of Refugees, Migrants and Host Communities | WHO | Regional Office for Africa. (2024). <https://www.afro.who.int/countries/uganda/news/ugandas-health-system-addresses-health-needs-refugees-migrants-and-host-communities>
- Uganda's Ministry of Health and WHO unveil key strategies to strengthen health care services for refugees and migrants. <https://www.who.int/news/item/31-10-2024-uganda-ministry-of-health-and-who-unveil-key-strategies-to-strengthen-health-care-services-for-refugees-and-migrants>
- UNFPA. ind. <https://www.ubos.org/wp-content/uploads/publications/UDHS-2022-Report.pdf>
- UNHCR Uganda. Refugee Settlements. <https://help.unhcr.org/uganda/services/health/settlements/>
- UNHCR. (2025). UNHCR. <https://www.unhcr.org/where-we-work/countries/uganda>
- UNHCR. Handbook for Planning and Implementing Development Assistance for Refugees (DAR) Programmes: Overview of Part I - Main Concepts and Issues, Module One, Module Two. <https://www.UNHCR.org/media/handbook-planning-and-implementing-development-assistance-refugees-dar-programmes-overview>
- UNICEF. (2022). 80 per cent of refugees to be vaccinated in third accelerated COVID-19 vaccination campaign | UNICEF Uganda. https://www.unicef.org/uganda/stories/80-cent-refugees-be-vaccinated-third-accelerated-covid-19-vaccination-campaign?utm_source=chatgpt.com
- Wesley, S., & Rabbanie, T. (2024). Determinants of vaccination coverage among refugee children aged 12-59 months in kyangwali refugee settlement in Uganda. *In Review*. <https://doi.org/10.21203/rs.3.rs-4219112/v1>
- Wesley, S., & Rabbanie, T. (2024). Determinants of vaccination coverage among refugee children aged 12-59 months in kyangwali refugee settlement in Uganda [Internet]. *In Review*. <https://doi.org/10.21203/rs.3.rs-4219112/v2>
- WFP_DP-Analysis-Uganda-Refugees. https://www.developmentpathways.co.uk/wp-content/uploads/2020/05/WFP_DP-Analysis-Uganda-Refugees.pdf
- World Health Organization. (2022). *Ensuring the integration of refugees and migrants in immunization policies, planning and service delivery globally*. World Health Organization. <https://www.ncbi.nlm.nih.gov/books/NBK583127/>.