



A Decade of Research at International Medical Corps (2013–2023)

March 2024



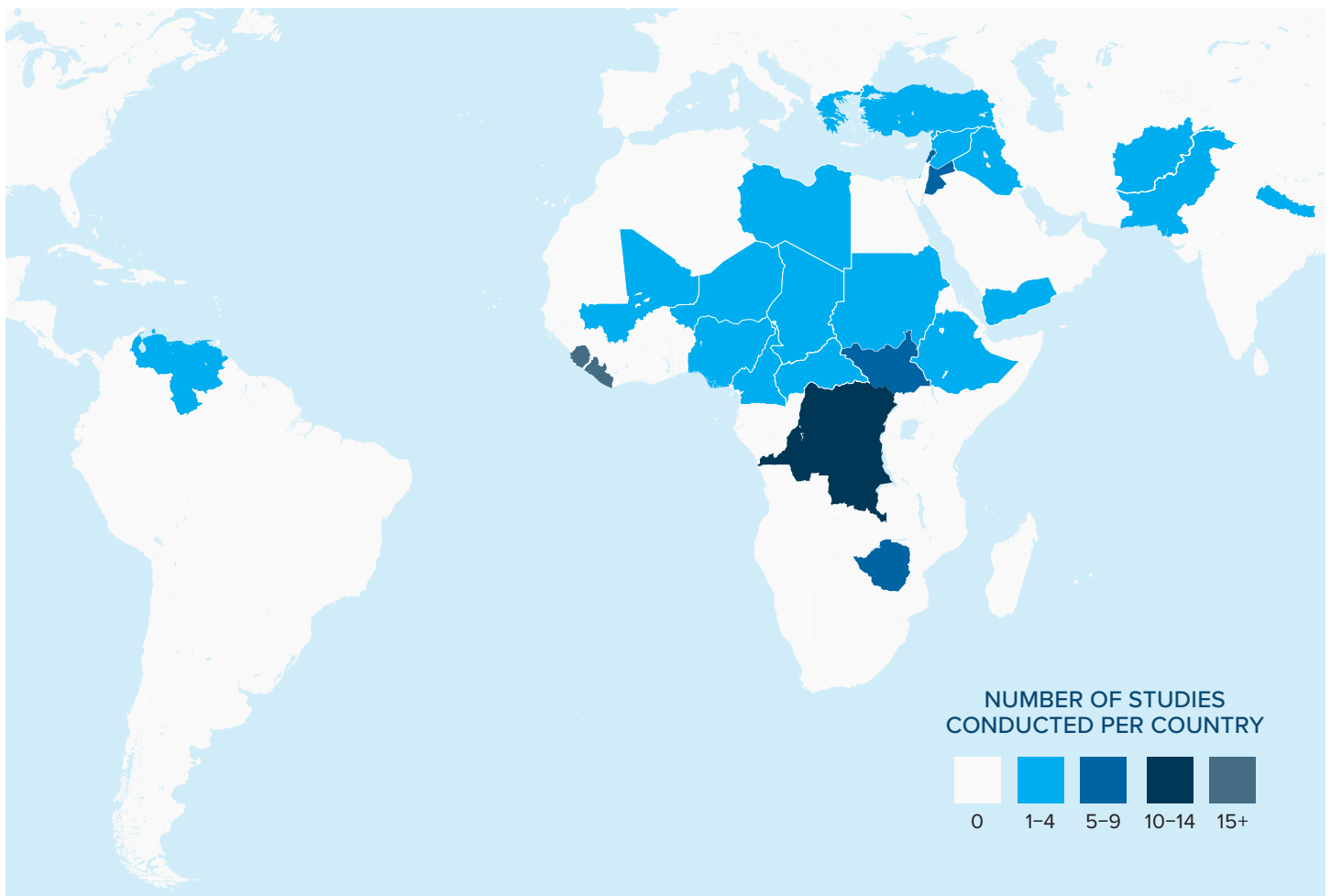
A DECADE OF RESEARCH

International Medical Corps delivers multi-sector programs that are people-centered and evidence-based with the goal of improving the health and well-being of populations in distress. Since our founding in 1984, we have worked in more than 80 countries on six continents. We are first responders during the initial emergency relief phase and continue to support governments and communities in the protracted crisis phase, responding to mass population movement and host populations affected by conflict, natural disasters and disease outbreaks. Our support also extends to building resilience through post-crisis recovery, including investing in capacity strengthening of governments, community leaders and service providers. We are committed to community-sensitive programming by actively engaging communities and local authorities in the design, implementation and monitoring of our programs.

Our extensive work along the humanitarian-development continuum places the organization at the forefront of generating cutting-edge knowledge and evidence of what works to improve multi-sectoral programming in complex and challenging settings. Our priority is researching topics, populations and geographies that are often overlooked in the global research landscape. We are often the only organization conducting research in the most remote and resource-scarce settings. This means we are uniquely positioned to answer critical questions through rigorous scientific research in a wide range of contexts—from low-income and developing countries to fragile, conflict-affected and vulnerable settings.

From 2013 to 2023, our teams have led 79 studies in 26 countries, including Afghanistan, the Democratic Republic of the Congo (DRC), Jordan, Lebanon, Liberia, Sierra Leone, South Sudan and Zimbabwe. Our research studies have been published in leading peer-reviewed journals, advancing the global knowledge base on topics such as Ebola and COVID-19 response, acute malnutrition and psychosocial interventions. Findings and recommendations from our research have catalyzed government action, leading to interventions that create lasting impact in the communities we serve.

The aim of this brief is to provide a comprehensive snapshot of our research studies over the past decade. From mixed-methods and cross-sectional studies to randomized controlled trials, International Medical Corps has delivered and continues to lead different types of research aligned with our technical areas: health, including sexual and reproductive health (SRH); nutrition; mental health and psychosocial support (MHPSS); gender-based violence (GBV) prevention and response; and water, sanitation and hygiene (WASH).



WORKING WITH LOCAL AND GLOBAL PARTNERS

International Medical Corps has a strong track record in building and strengthening research partnerships with local and global partners across the world. We work closely with community members, local academia and government agencies to co-design research agendas and co-deliver research studies to inform global advocacy, policy and programming. International Medical Corps' long-standing relationships with Ministries of Health and in-country research partners are reflective of the trust we have built through years of community engagement and our investments in locally led, high-quality research. From implementing randomized controlled trials in the DRC and Jordan to piloting a COVID-19 Vaccines Champions project in Lebanon and conducting a case-control study in Sudan, our local partners continue to be at the forefront of bridging knowledge gaps between policy and practice.

At the global level, we have worked on a wide range of research projects in collaboration with UN agencies, such as IOM, UNICEF and WHO; government agencies, such as the US Centers for Disease Control and Prevention (CDC) and the United States Agency for International Development's Bureau for Humanitarian Assistance (USAID/BHA); and international non-government organizations, including the Women's Refugee Commission (WRC), the International Rescue Committee (IRC), the International Federation of Red Cross and Red Crescent Societies (IFRC), Médecins sans Frontières (MSF), Save the Children and Alliance for International Medical Action (ALIMA). We also work closely with academics and researchers from leading universities and research institutions to design and implement rigorous research studies across our technical areas.

Snapshot of Research Partners

- Burnett International University, Haiti
- Broad Institute of MIT and Harvard, USA
- Brown University, USA
- Columbia University, USA
- Cuttington University, Liberia
- Dartmouth College, USA
- Harvard University, USA
- Institut National de Recherche Biomédicale, DRC
- Johns Hopkins University, USA
- Khyber Medical University, Pakistan
- National Institutes of Health, USA
- Scripps Translational Science Institute, USA
- Trinity College Dublin, Ireland
- Tufts University, USA
- Tulane University, USA
- University of California, Los Angeles (UCLA), USA
- University of Connecticut, USA
- University of Georgia, USA
- University of Khartoum, Sudan
- University of Lausanne, Switzerland
- University of Massachusetts, USA
- University of New South Wales, Australia
- Vrije Universiteit Amsterdam, Netherlands



OUR DONORS

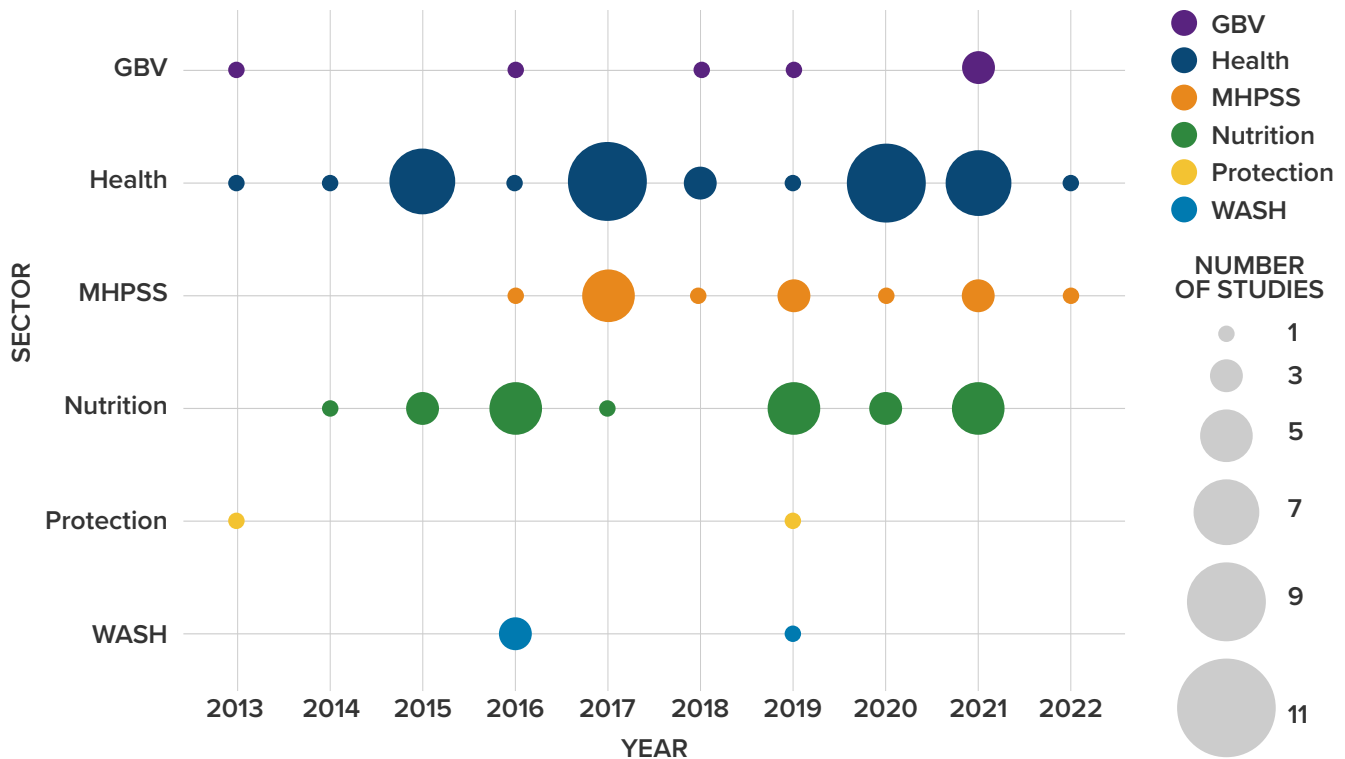
Our research is supported by a diverse group of donors, ranging from bilateral and multilateral agencies, philanthropic foundations and private donors. International Medical Corps has received research grants from UN agencies, philanthropic foundations, non-profit organizations and private donors, including UNICEF, the Bill & Melinda Gates Foundation, Grand Challenges Canada, Elrha’s Research for Health in Humanitarian Crises (R2HC) and Pfizer.

Most of our research studies have been funded by government agencies, such as USAID/BHA; the US National Institutes of Health (NIH); the CDC; the European Commission/European Civil Protection and Humanitarian Aid Operations (EC/ECHO); the US Department of State’s Bureau of Population, Refugees and Migration (PRM); the Swiss Agency for Development and Cooperation (SDC); and Global Affairs Canada (GAC).

While we receive most of our funding from government agencies, we are looking to diversify our funding sources in the non-profit and private sectors.

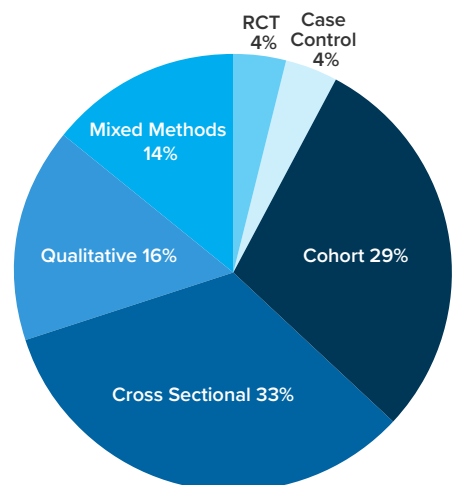
OUR RESEARCH BY TECHNICAL SECTOR

From 2013 to 2023, we have produced 79 research studies. Most of our research studies are in the health sector, primarily on the topics of Ebola, COVID-19 and SRH. We have also a significant research portfolio for nutrition and MHPSS.



STUDY DESIGN

Our research employs a wide range of study designs, including cross-sectional surveys, prospective and retrospective cohort, qualitative, mixed methods, case control and randomized controlled trials (RCT). The most common studies we conduct are cross-sectional or cohort studies.



RESEARCH DISSEMINATION, UPTAKE AND IMPACT

Over the last decade, International Medical Corps has published 59 articles in 33 journals. Our research studies have been featured in leading academic and peer-reviewed journals, such as *The Lancet: Infectious Diseases*, *The New England Journal of Medicine*, *PLOS Medicine*, *BMC Global Health*, *Frontiers in Public Health*, *JMIR Biomedical Engineering*, *The Journal of Nutrition and Water Resource Management*, among others.

We have presented research findings through oral and poster presentations, webinars, workshops and in-person sessions at numerous global conferences. In addition to global dissemination, International Medical Corps continues to invest in localizing research uptake by conducting in-country workshops and presentations to disseminate findings and recommendations to local stakeholders, including community members, local humanitarian and development networks, ministries of health (MOH), national and regional technical clusters, and inter-agency coordination bodies.

International Medical Corps invests in the use of data and research findings for decision-making—the findings and recommendations from International Medical Corps' rigorous research have been instrumental in improving International Medical Corps' policy and programming across different settings. Our research on Ebola virus disease (EVD) has informed our own programming by contributing to evidence-based guidelines for the comprehensive management of patients with suspected and confirmed EVD in West Africa and the DRC. Our research studies on COVID-19 vaccine hesitancy in Gaza, Lebanon, Afghanistan and Pakistan were used to create tailored strategies to address vaccine hesitancy based on the cultural context and other local factors in these settings. In light of these findings, we also provided technical support to the MOH and other platforms engaged in vaccination efforts. In Gaza, our research helped inform International Medical Corps' activities under a USAID-funded project on COVID-19 response, which included community outreach to promote vaccination. In Lebanon, we piloted a project called Vaccine Champions, in which vaccinated individuals from the refugee community created awareness about the benefits of vaccination and shared their experiences. In Afghanistan and Pakistan, we advised vaccine advocates to talk to male respondents about the importance of vaccination for women in their households and sharing vaccine information with them, as most of the awareness creation took place in areas where women have limited access, such as markets and mosques. Our research not only helped create new knowledge but also improved the technical capacity of national program staff to adapt local solutions to address the complexities of vaccine hesitancy in their own communities.

Through our modified nutritional causal analysis (NCA) study in Zimbabwe, we identified low levels of consumption of animal-source food (ASF) among women of reproductive age (WRA) and children under five years old (CU5) as one of the underlying context-specific causes of undernutrition in the Amalima Loko project areas. To address this issue, International Medical Corps' Health and Nutrition team, in collaboration with the Amalima Loko Social and Behavior Change team, designed local campaigns on ASF to promote awareness around the importance of consuming a nutritious diet and its impact on overall health and nutritional outcomes. Health and nutrition community dialogues were also introduced to provide communities with a platform to meaningfully discuss some of the myths and misconceptions about ASF consumption for pregnant women and CU5. In addition to improving International Medical Corps' humanitarian response on the ground, our research recommendations have also informed government policies and action. In South Sudan, International Medical Corps and our partners revised the post-abortion care (PAC) registry following recommendations from our research on PAC among internally displaced persons in the Protection of Civilian Camps in Juba and refugees in camps in Maban. While the Ministry of Health plans to do the same, our recommendations from the PAC study have been incorporated into the new national competency-based PAC training materials. These examples show that our research findings have demonstrable impact on our work across different settings. We will continue our efforts to ensure our research findings are translated into action, both at local and global levels.

Global conferences where International Medical Corps has presented its research:

- American Society of Tropical Medicine & Hygiene
- Inter-Agency Working Group on Reproductive Health in Crises
- Core Group Global Health Practitioners' Conference
- 16th World Congress on Public Health
- American Society for Nutrition
- Agriculture, Nutrition and Health Academy
- International Scientific Research for Nutrition Conference
- American College of Emergency Physicians Research Forum
- WADEM Congress on Disaster and Emergency Medicine
- Colorado WASH Symposium
- International Conference on Emergency Medicine

MOVING FORWARD

International Medical Corps is uniquely positioned to bridge global knowledge gaps because of our strong track record in conducting rigorous research in the most challenging operating contexts. As attested by our research portfolio, we investigate topics where there are evidence gaps and lack of research to inform policy and program design—we are invested in generating real-world evidence on poorly understood areas of humanitarian and development interventions that are critical to saving lives and strengthening systems in low-resource settings.

We are committed to strengthening our research capacities through various institutional efforts. For example, our Research, Evidence and Learning unit co-designs and conducts research studies and impact evaluations with country teams, builds capacity for evidence generation and promotes adaptive learning. Our Research Working Group ensures coherence across technical sectors and is committed to institutionalizing research standards and best practices for study design, implementation, knowledge management and dissemination.

Collaboration and partnerships are at the heart of our research activities. We currently have a deep bench of research partners in the US and are working towards diversifying our research partnerships and funding to respond to and support the high levels of interest from International Medical Corps' country teams to conduct cutting-edge studies on emerging topics. While we continue to expand our existing research portfolios, we are also expanding our smaller research portfolios in technical areas such as child protection and food security and livelihoods to generate new insights that will improve the lives of people we serve.

Our innovative research and thought leadership address evidence gaps and inform impactful approaches that lead to efficient, effective and accountable programming. With further funding and investments, we hope to continue International Medical Corps' prolific contributions to the global evidence base of humanitarian and development policy and practice.





OUR RESEARCH PORTFOLIO



OUR RESEARCH PORTFOLIO

Health

International Medical Corps' health research has contributed to global learning for improved response capacity and management of pandemics and epidemics. Our research includes studies on treatments, interventions and their impact on patient outcomes in the context of EVD; studies on COVID-19 and EVD vaccine uptake, attitudes and acceptance among healthcare workers and community members; and studies on strengthening SRH programming and improving outcomes in crisis-affected settings.

EBOLA VIRUS DISEASE

The Ebola outbreak and response in West Africa (2014–2016) and more recently the Democratic Republic of the Congo (DRC) (2018–2020) prompted International Medical Corps to conduct clinical and social science research related to EVD. The magnitude of both these outbreaks underscored the urgent need to examine pragmatic and impactful treatment strategies across different settings. Many of our studies have utilized existing data routinely collected in International Medical Corps Ebola treatment facilities in the context of patient care, laboratory testing and epidemiologic investigations to study the effectiveness of different diagnostic and therapeutic approaches. We have also explored the development and testing of innovative digital technologies to improve patient care as well as healthcare worker safety and effectiveness in Ebola treatment centers. Our research has informed International Medical Corps programming by contributing to evidence-based guidelines for the comprehensive management of patients with suspected and confirmed EVD. Since 2014, more than 20 articles related to our EVD research have been published in peer-reviewed journals.

Characteristics and Survival of Patients with Ebola Virus Infection, Malaria or Both in Sierra Leone: A Retrospective Cohort Study

Sierra Leone

2015–2017

Research Partners: Brown University, UCLA, Dartmouth College

Publication: [The Lancet Infectious Diseases](#)

Little evidence exists regarding the characteristics and outcomes of patients co-infected with EVD and malaria. International Medical Corps—in collaboration with Brown University, UCLA, and Dartmouth College—conducted a retrospective cohort study using data collected from Sierra Leone during the 2014 EVD response to assess survival outcomes and baseline characteristics of patients by different combinations of EVD and malaria infection. The study found that mortality was higher in patients co-infected with malaria and Ebola virus compared with patients with EVD alone, and that malaria parasite co-infection was common in patients presenting to Ebola treatment units (ETUs). This suggests expanded testing and treatment might improve care in future EVD epidemics.

The Natural History of Acute Ebola Virus Disease Among Patients Managed in Five Ebola Treatment Units in West Africa: A Retrospective Cohort Study

Sierra Leone, Liberia

2015–2017

Research Partner: Brown University

Publication: [PLOS Neglected Tropical Diseases](#)

International Medical Corps and Brown University analyzed clinical care data from Ebola virus-positive patients admitted to five Ebola treatment units in West Africa over a one-year period from 2014 to 2015 to investigate EVD symptoms and the Ebola virus cycle threshold values in patients from the time the illness started to the time they recovered or died. This retrospective cohort study found that the youngest (under 5) and oldest (45 and older) patients were less likely to survive Ebola virus (EBOV) infection. During the first week of illness, dyspnea and tachycardia were associated with increased mortality. Dyspnea, bleeding and diarrhea at any point during the illness course were associated with increased mortality. In addition, higher levels of virus in the blood at the time patients sought treatment, as well as higher virus levels over the duration of their illness, were associated with lower survival. These findings provide important insight into the progression of EVD over time and will help clinicians and other health workers to identify and design interventions for subgroups of patients who are more likely to die from EBOV infection.

Retrospective Studies on Ebola Virus Disease in West Africa

Sierra Leone, Liberia

2017–2021

Research Partner: Brown University

Publications: (1) [BMC Infectious Diseases](#); (2) [Tropical Medicine & International Health](#); (3) [Clinical Infectious Diseases](#); (4) [The Journal of Nutrition](#); (5) [African Journal of Emergency Medicine](#); (6) [Open Forum Infectious Diseases](#); (7) [Tropical Medicine & International Health](#)

In 2017, International Medical Corps received funding from the NIH to conduct research into the impact of various treatment modalities on patient outcomes during the 2014–2016 EVD outbreak in West Africa. International Medical Corps, in collaboration with Brown University, conducted retrospective cohort studies to examine how interventions, such as multivitamin supplementation, antimalarial treatment, vitamin A supplementation, intravenous fluid (IVF), mass drug administrations (MDAs) of artesunate-amodiaquine (ASAQ) and oral third-generation cephalosporin antibiotic (cefixime) treatment impacted mortality in EVD patients. A study was also conducted to determine the effect of environmental temperature on EVD patients. Data were collected from five ETUs in Sierra Leone and Liberia from 2014 to 2015. It is important to note that there were no previous studies investigating the effects of some of these factors on patient outcomes—these are the first ever reported findings. The studies found that early vitamin A supplementation and early oral antimalarial treatment in an EVD outbreak were

associated with reduced mortality, whereas early oral cefixime may be associated with reduced mortality and warrants further investigation. There was a non-statistically significant decreased risk of mortality in EVD patients exposed to ASAQ as compared with EVD patients not exposed to ASAQ during the MDAs. IVF, a frequent intervention in EVD patients, showed no significant difference in survival. The findings also indicated that an average environmental temperature above 27.4 °C (81.3 °F) during patients' ETU stay is associated with greater risk of death among EVD patients, as the high temperatures exacerbate fluid loss associated with EVD infection. Considering the high mortality in EVD and the increasing frequency of outbreaks, these study findings have important implications for reducing mortality among EVD patients through improved clinical care interventions during future outbreaks.

A Randomized, Controlled Trial of Ebola Virus Disease Therapeutics in the Democratic Republic of the Congo

DRC

2018–2019

Research Partners: PALM Consortium Study Team including the DRC Ministry of Health, Institut National de Recherche Biomédicale, Brown University, Médecins Sans Frontières, Alliance for International Medical Action, National Institute of Allergy and Infectious Diseases, WHO Geneva

Publication: [The New England Journal of Medicine](#)

International Medical Corps was part of the PALM/Pamoja Tulinde Maisha (“Together Save Lives” in the Kiswahili language) Consortium study team that conducted a trial of four investigational therapies for EVD in the DRC, where an outbreak began in August 2018. The four investigational therapies for EVD used in this trial were intravenous administration of the triple monoclonal antibody ZMapp (the control group), the antiviral agent remdesivir, the single monoclonal antibody MAb114 and the triple monoclonal antibody REGN-EB3. Patients of any age who had a positive result for Ebola virus RNA on reverse-transcriptase–polymerase-chain-reaction assay were enrolled and randomly assigned to the four groups in a 1:1:1:1 ratio. A total of 681 patients were enrolled from November 2018 to August 2019, at which time the data and safety monitoring board recommended that patients be assigned only to the MAb114 and REGN-EB3 groups for the remainder of the trial. The recommendation was based on the results of an interim analysis that showed superiority of these groups to ZMapp and remdesivir with respect to mortality. At 28 days, death had occurred in 33.5% of patients in the REGN-EB3 group and 35.1% of patients in the MAb114 group, as compared with 49.7% of patients in the ZMapp group and 53.1% in the Remdesivir group. The findings suggest that both MAb114 and REGN-EB3 were better than ZMapp in reducing deaths from EVD. The trial also found that a shorter duration of symptoms before admission and lower baseline values for viral load and for serum creatinine and aminotransferase levels each correlated with improved survival. The successful conclusion of this very challenging trial showed that it is possible to conduct

scientifically and ethically sound clinical research during disease outbreaks, even in conflict zones, and can help inform the outbreak response.

Incidence of Death, Overall

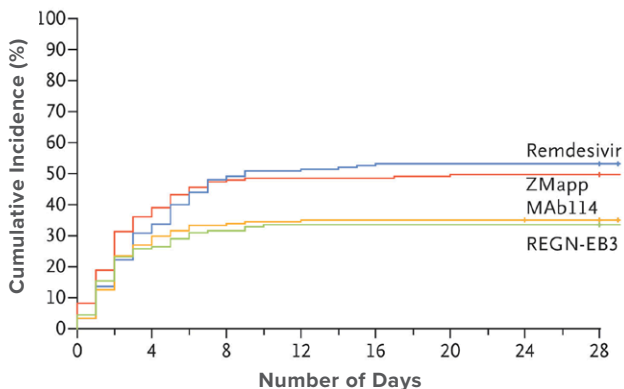


Figure 1: Cumulative incidence of death in Ebola patients randomized to one of four investigational therapies over 28 days. Reprinted from “A Randomized, Controlled Trial of Ebola Virus Disease Therapeutics” by S. Mulangu, L.E. Dodd, et al., 2019, *The New England Journal of Medicine*, 381(24), p.2299. Copyright (2019) by Massachusetts Medical Society.

Ebola Vaccine Uptake and Attitudes among Community Members and Healthcare Workers in North Kivu, Democratic Republic of the Congo

DRC

2021–2023

Research Partners: U.S. Centers for Disease Control and Prevention, Brown University, Expanded Programme on Immunization (Goma, DRC)

Publications: (1) [Frontiers in Public Health](#); (2) [PLOS Global Public Health](#)

The tenth Ebola virus disease outbreak (2018–2020, North Kivu, Ituri, South Kivu) in the DRC was the second largest EVD outbreak in history. During this outbreak, Ebola vaccination was an integral part of the EVD response. However, challenges in gaining community confidence in Ebola vaccination and other preventive measures severely undermined response activities. In March 2021, International Medical Corps, in collaboration with the CDC and Brown University, conducted two cross-sectional surveys to investigate the drivers of and barriers to Ebola vaccine uptake and attitudes among healthcare workers (HCWs) and community members in three health zones (Beni, Butembo and Mabalako). Of the 438 HCWs enrolled in the study, 95.8% reported that they were eligible and offered an Ebola vaccine. Overall uptake of the Ebola vaccine was high among HCWs, but uptake at the first offer was substantially lower, which was associated with mistrust of the vaccine source. Among the 631 community members surveyed, 90.2% reported a high perceived risk of EVD and 71.6% believed that the vaccine could reduce EVD severity. However, 63.7% believed the

vaccine had serious side effects. Among the 474 community members who had been offered vaccination, 83.8% received the vaccine, and 45.3% of those vaccinated received the vaccine after two or more offers. While Ebola vaccine uptake was high among community members, mixed attitudes and vaccine delays were common. Findings from both studies highlight the importance of communicating positive vaccine information to address underlying mistrust of vaccines and reoffering vaccines during Ebola vaccination efforts during future outbreaks.

Retrospective Studies on Ebola Virus Disease in the Democratic Republic of the Congo

DRC

2020–2023

Research Partners: Brown University, University of Massachusetts, University of Georgia, University of Connecticut, Johns Hopkins University

Publications: (1) [Emerging Infectious Diseases Journal](#); (2) [PLOS Neglected Tropical Diseases](#); (3) [Emerging Infectious Diseases Journal](#); (4) [PLOS ONE](#)

From 2020 to 2023, International Medical Corps conducted a series of retrospective cohort studies using data from the DRC to address critical knowledge gaps on different components related to EVD. These studies included: 1. An evaluation of a predictive diagnostic tool—the Pediatric Ebola Risk Score (PERS) which found that Ebola contact status and bleeding were positive predictors of EVD diagnosis, whereas abdominal pain was a negative predictor. This approach could substantially improve the immediate care of children with suspected EVD; 2. An examination of machine learning-derived prognostic models to predict clinical outcomes in children infected with EVD, which found that the novel EVD Prognosis in Children (EPIC) model that incorporates clinical and commonly used biochemical information can be used by clinicians to assess pediatric patients at risk for death. This was the first externally validated model for the prognosis of pediatric EVD using diverse datasets from geographically and temporally separate outbreaks; 3. An assessment of the effect of the live-attenuated recombinant vesicular stomatitis virus-Zaire Ebola virus (rVSV-ZEBOV) vaccine on illness and death among patients who had laboratory-confirmed EVD, which found that both pre- and post-exposure vaccination were associated with a reduction in EVD symptoms and deaths. Vaccinated patients reported fewer EVD-associated symptoms, had reduced time to clearance of viral load and had reduced length of stay at the Ebola treatment center; and 4. An investigation of maternal, fetal and perinatal outcomes during the 2018–2020 Ebola outbreak in the DRC, which found that pregnancy was not associated with increased risk of maternal death but confirmed poor fetal outcomes—this is consistent with reports from the West Africa outbreak and challenges the historical assumption that pregnancy is a risk factor for death from EVD.

COVID-19 VACCINATION & HESITANCY

Our studies on COVID-19 vaccine hesitancy in the DRC, Gaza, Lebanon and Pakistan explored perceptions among refugees, healthcare workers and community members. The findings from these studies were instrumental in addressing existing gaps in service delivery and programming and helped in-country teams design new interventions to better meet the specific needs of different vulnerable groups.

COVID-19 Vaccine Perceptions Among Ebola-Affected Communities in North Kivu, Democratic Republic of the Congo

DRC

2021–2023

Research Partners: Brown University, U.S. Centers for Disease Control and Prevention

Publication: [Vaccines](#)

The COVID-19 vaccination is considered the most effective way to reduce morbidity and mortality from COVID-19. However, the DRC has one of the lowest COVID-19 vaccination rates in the world. In March 2021, International Medical Corps, in collaboration with the CDC and Brown University, conducted a cross-sectional survey to examine the perceptions toward COVID-19 vaccines and identify the factors associated with vaccine intention among 631 community members (CMs) and 438 healthcare workers (HCWs) affected by the 2018–2020 EVD outbreak in North Kivu. The survey found that 81.7% of HCWs and 53.6% of CMs felt at risk of contracting COVID-19; however, vaccine intention was low. In both groups, the perceived risk of contracting COVID-19, general vaccine confidence and male sex were associated with the intention to get vaccinated, with security concerns preventing vaccine access being negatively associated. Among CMs, getting the Ebola vaccine was associated with the intention to get vaccinated. Among HCWs, concerns about new vaccines' safety and side effects, religion's influence on health, security concerns and governmental distrust were negatively associated with vaccine perceptions. These findings suggest the need for enhanced community engagement and communication that address concerns to help improve vaccine perceptions and vaccination decisions, which could facilitate the success of future vaccine campaigns in North Kivu and similar settings.



Variations in COVID-19 Vaccine Attitudes and Acceptance Among Refugees and Lebanese Nationals Pre- and Post-Vaccine Rollout in Lebanon

Lebanon

2021–2022

Research Partner: Ministry of Public Health, Lebanon; Brown University

Publication: [Vaccines](#); [Pending Healthcare workers study–PLOS ONE]

Vaccine hesitancy among displaced populations is associated with inequitable access to services and mistrust of authorities, among other factors. International Medical Corps' Lebanon country team and HQ technical staff conducted a study to evaluate variations in knowledge, attitudes and perceptions toward COVID-19 vaccines and factors associated with vaccine acceptance among refugees and Lebanese nationals accessing 60 International Medical Corps-supported primary healthcare centers (PHCCs) through two cross-sectional surveys during pre-vaccine (February 2021) and post-vaccine (June 2021) rollout. Vaccine acceptance was low among both groups in Survey 1 but higher in Survey 2 in Lebanese nationals versus refugees. Participants reported greater perceived benefits of vaccination, higher perceived COVID-19 susceptibility and lower perceived vaccination barriers in Survey 2 versus Survey 1. Post-vaccine rollout, refugees had lower odds of vaccine acceptance, while older age had greater vaccine acceptance. These findings suggested the need for more focused, dynamic and tailored strategies to promote vaccine acceptance, reduce vaccine hesitancy and ensure vaccine equity for refugees. These findings also helped the Lebanon team with targeting their vaccine communication efforts for improved vaccine coverage in refugees coming to PHCCs. International Medical Corps plans to publish a new article with findings from a similar survey of healthcare workers.

COVID-19 VACCINE ACCEPTANCE

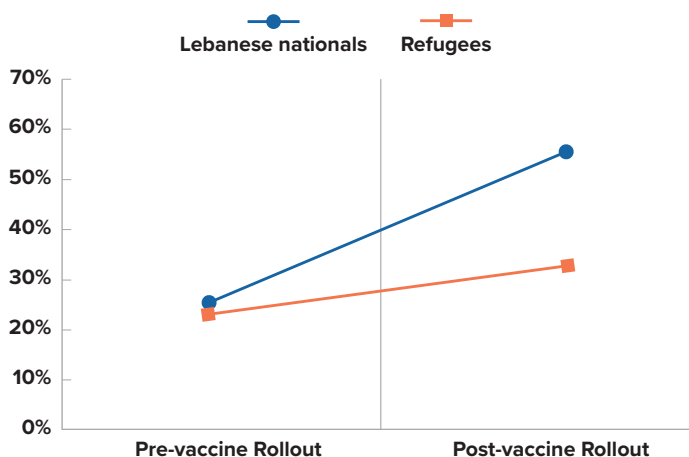


Figure 2: COVID-19 vaccine acceptance during pre- and post-vaccine rollout among refugees and Lebanese nationals

COVID-19 Vaccination in the Gaza Strip: A Cross-Sectional Study of Vaccine Coverage, Hesitancy and Associated Risk Factors among Community Members and Healthcare Workers

Gaza

2021–2023

Publication: [Conflict and Health](#)

In October 2021, International Medical Corps conducted a household survey to assess COVID-19 vaccination, specifically the percentage of the population vaccinated and vaccine hesitant. The study was a collaboration between International Medical Corps' Gaza country office, HQ and a consultant epidemiologist from Al-Azhar University. The study found 49% of adults had received at least one dose of a COVID-19 vaccine, and one-third of adults were vaccine hesitant. Demographic characteristics such as age, gender, education level and source of information on vaccines were statistically linked to people's likelihood of being vaccinated or vaccine hesitant. The survey helped inform International Medical Corps' activities under a USAID-funded project on COVID-19 response, which included community outreach to promote vaccination. The USAID project launched in October 2021 and concluded in April 2023. A follow-up survey on COVID-19 vaccination and vaccine hesitancy was conducted in March 2023. The data are still being analyzed, but preliminary results suggest there has been a moderate increase in vaccine uptake and decline in vaccine hesitancy during the period of the project. International Medical Corps plans to publish a new article with findings from an in-depth analysis of these changes, examining the potential role of the project interventions.



SEXUAL AND REPRODUCTIVE HEALTH

Humanitarian emergencies have devastating consequences on the SRH outcomes for women, girls, adolescents and communities. The decrease in availability of and access to quality SRH information and services increases the risk of sexual violence, unintended pregnancies, unsafe abortions, pregnancy and obstetric complications, and maternal and newborn mortality. Our research on SRH in humanitarian settings aims to generate new evidence on topics where literature is scarce, including midwifery education in under-resourced settings, post-abortion care, the Minimum Initial Service Package (MISP) for reproductive health and adolescents' health-seeking behaviors in humanitarian settings.

Cross-Sectional Mixed-Methods Study on Post-Abortion Care Services in Juba Protection of Civilian Camps and Maban Refugee Camps, South Sudan

South Sudan

2017–2020

Research Partner: [Columbia University](#)

Publications and Briefs: (1) [Global Public Health](#); (2) [Elrha's Research for Health in Humanitarian Crises Programme \(Research Snapshot\)](#); (3) [Barriers and Facilitators of Access to and Use of Post-abortion Care Services \(Research Brief\)](#)

In collaboration with the Reproductive Health Access, Information and Services in Emergencies (RAISE) Initiative at Columbia University, International Medical Corps conducted a mixed-methods study to identify the factors that influence access to, use and provision of post-abortion care (PAC) services at four International Medical Corps-supported facilities in two Protection of Civilian camps in Juba and two Sudanese refugee camps in Maban, South Sudan. The study included focus group discussions, in-depth interviews with post-abortion care clients, health facility assessments, key informant interviews with community leaders and register reviews. The study found that attitudes were generally favorable related to PAC access, including provision of post-abortion contraception, except for those in Maban, who believed a husband's consent was required to access contraceptive services. However, attitudes were mixed towards women who induce abortion, as well as regarding access to induced abortion under certain circumstances. While these findings are specific to the study locations in South Sudan, the recommendations may be relevant for other conflict-affected populations where women and girls experience heightened SRH needs and protection risks.

A Mixed-Methods Study on International Medical Corps-Supported Midwifery Education in South Sudan

2022–2023

Research Partner: Columbia University

Publication: [Frontiers in Global Women's Health](#); Pending (two articles – quantitative study)

South Sudan has one of the highest maternal mortality ratios in the world, with an estimated 789 maternal deaths per 100,000 live births. Investing in midwifery is critical to preventing maternal and newborn deaths. In 2022, International Medical Corps, in collaboration with the RAISE Initiative at Columbia University, conducted a cross-sectional mixed-methods evaluation of International Medical Corps' midwifery education program. Methods used include rapid assessments of three International Medical Corps-supported midwifery schools, quantitative survey of 314 midwife graduates, key informant interviews, in-depth interviews, focus group discussions with female clients of the graduates and clinical practice data. The study found all schools maintained a teacher-to-student ratio of one teacher to 40 students; 90% of graduates found employment within one year of graduation, and 76.4% were currently working as midwives in a clinical capacity; and the most common challenge midwives faced in their work after graduation was inadequate infrastructure, including a lack of supplies followed by insecurity due to unsafe housing and poor accessibility to the health facility. The study identified the following strengths of the existing midwifery education program: well-equipped schools with trained and competent teaching staff, competency-based curriculum and practical skills application, and scholarship support. The study also identified the following areas for strengthening: dependence on donor funding, inadequate mentorship and number of tutors, insufficient practice in some services and conflict-related challenges. The program was perceived to have contributed to the decrease in maternal and newborn morbidity and mortality due to the increase in skilled birth attendant coverage especially in remote regions, as well as the increase in service utilization at health facilities. Continued investment in midwifery education and training is critical to reducing high maternal mortality and morbidity in South Sudan.

Using a Quality Improvement Approach to Improve Maternal and Neonatal Care in North Kivu, Democratic Republic of Congo

DRC

2015–2017

Research Partners: U.S. Centers for Disease Control and Prevention, UNFPA, the DRC Ministry of Health (North Kivu Province), University Research Co., LLC

Publication: [Reproductive Health Matters](#)

Providing quality healthcare services in humanitarian settings is challenging due to population displacement, lack of qualified staff and supervisory oversight, and disruption of supply chains. The MISP was established by the Inter-Agency Working Group for Reproductive Health in Crises (IAWG) as a minimum set of priority activities and high-impact interventions to be undertaken in a coordinated manner by trained staff during the onset of an emergency, with expanded activities over time. This study

explored whether a participatory quality improvement (QI) intervention could be used in a protracted conflict to strengthen the implementation of components of MISP and basic emergency obstetric and neonatal care (BEmONC). A longitudinal quasi-experimental design was used to examine delivery of maternal and newborn care components at 12 health facilities in eastern DRC. Study facilities were split into two groups, with both groups receiving an initial "standard" intervention of clinical training. The "enhanced" intervention group then applied a QI methodology, which involved QI teams in each facility, supported by coaches, testing small changes to improve care. This is one of the first times that this QI methodology has been used in a protracted conflict setting. The enhanced intervention group showed a greater rate of change than the control group for active management of the third stage of labor and essential newborn care (ENC) and achieved 100% ENC coverage at endline. Both groups showed improvements over time following clinical training on BEmONC, ENC and partograph use. This underscores the importance of the clinical care training provided to facility labor and delivery staff prior to the start of the enhanced intervention.

Mixed-Methods Study on the Unique Experiences, Perspectives and Needs of Very Young Adolescents in Humanitarian Settings

Ethiopia

2013–2016

Research Partner: Women's Refugee Commission, Johns Hopkins University

Publications: (1) [Conflict and Health \(Quantitative Study\)](#); (2) [Conflict and Health \(Qualitative Study\)](#)

In 2013, International Medical Corps, the Women's Refugee Commission and Johns Hopkins University conducted a mixed-methods study to explore the unique experiences, perspectives and needs of very young adolescents (VYA) in the Kobe refugee camp in Ethiopia. A cross-sectional survey was conducted to understand the SRH risks and needs among 406 Somali VYA refugees. Additionally, focus group discussions incorporating community mapping and photo elicitation activities were conducted with 10-to-12- and 13-to-14-year-olds, as well as with 15-to-16-year-olds and adults, to consider their perspectives on the SRH needs and risks of VYA. Most VYA reported living with both parents, and a high proportion were currently enrolled in school. They were primarily recent refugees living in the densely populated camp for less than five years. They appeared to have relatively high routine exposure to SRH health information, as well as positive reactions to pubertal changes and the transition to adulthood. Parents appeared to be a key information source for learning about puberty. The study also identified several factors that were found to influence the health and well-being of VYA, including newfound access to education and security, combined with gender divisions and parental communication around early SRH and puberty that remained aligned with traditional Somali culture. Girls were found to face an additional risk of child marriage and early pregnancy, exacerbated since displacement, which significantly limited their ability to access education and achieve future aspirations. This research highlighted the importance of introducing early SRH interventions to reinforce positive behaviors to achieve long-term SRH impacts.



OUR RESEARCH PORTFOLIO

Nutrition

International Medical Corps' nutrition research aims to expand the global knowledge base on what works to improve nutrition programming across humanitarian and development settings. Our body of research includes but is not limited to barrier analysis studies; detection of malnutrition, such as testing new technologies; treatment of malnutrition, including new approaches and investigating risk factors for relapse; understanding drivers of malnutrition and its effects; and evidence on effects of malnutrition on other health outcomes, including severe disease and mortality from COVID-19.

Risk Factors for Hospitalization and Death from COVID-19: A Prospective Cohort Study in South Sudan and Eastern Democratic Republic of the Congo

South Sudan, DRC

2020–2021

Research Partners: Johns Hopkins University, U.S. Centers for Disease Control and Prevention

Publication: [BMJ Open](#)

This study was a collaboration between International Medical Corps, Johns Hopkins University and the CDC to explore the potential role of malnutrition in the severity of COVID-19 outcomes, with a specific objective to assess the risks factors for hospitalization and death. The study was conducted in DRC and South Sudan between November 2020 and July 2021 using data collected from International Medical Corps-supported inpatient facilities as well as outpatient records. The study found respiratory symptoms and chronic disease co-morbidities to be the main risk factors for severe outcomes (hospitalization or death), which is similar to findings from many studies globally. One of the conclusions of the study was that International Medical Corps made successful use of triaging

patients at risk for severe outcomes. While findings related to acute malnutrition were not consistent, patients who were underweight or anemic were more likely to be hospitalized, warranting additional research.

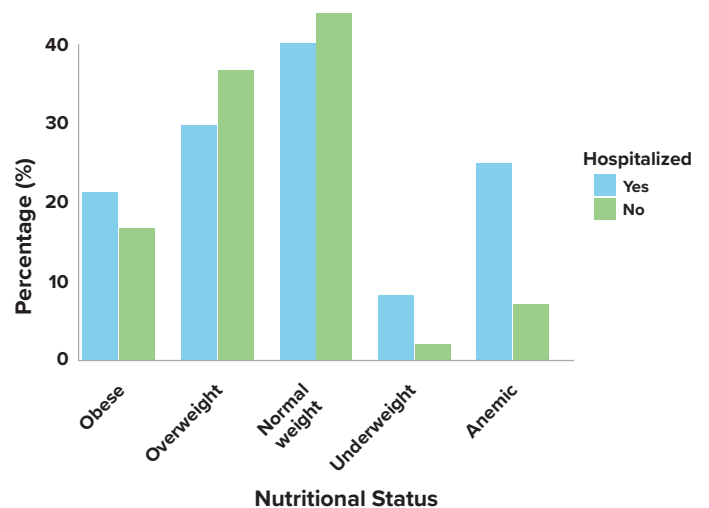


Figure 3: Nutrition characteristics associated with hospitalization

Clinical Progression and Outcomes of Patients Hospitalized with COVID-19 in Humanitarian Settings: A Prospective Cohort Study in South Sudan and Eastern Democratic Republic of the Congo

South Sudan, DRC

2020–2021

Research Partner: Johns Hopkins University

Publication: [PLOS Global Public Health](#)

This study assessed the risk factors for severe disease progression and death among hospitalized patients. The observed hospital mortality proportion was 16.7%, which is comparable to findings from global systematic reviews of COVID-19 inpatient survival. The study revealed that age and diabetes history were the only patient characteristics associated with decreased survival; clinical status indicators associated with decreased survival included fever, low oxygen level, elevated respiratory and pulse rates. Anemia was not associated with increased mortality in this study. To the best of International Medical Corps' knowledge, this is the first study to assess underweight as a COVID-19 risk factor and no significant association with mortality was observed; however, only eight subjects had low BMI (seven survived).

Operational Challenges and Considerations for COVID-19 Research in Humanitarian Settings: A Qualitative Study of a Project in Eastern Democratic Republic of the Congo and South Sudan

DRC, South Sudan

2020–2022

Research Partner: Johns Hopkins University

Publication: [PLOS One](#)

While much research has been conducted globally on the COVID-19 pandemic, relatively few studies have been carried out in complex emergency settings that pose numerous operational challenges. International Medical Corps in collaboration with Johns Hopkins University conducted a qualitative study to explore the barriers and enablers of a COVID-19 cohort study conducted in South Sudan and Eastern DRC to inform future research on COVID-19 and infectious diseases in humanitarian settings. The research team used a case study design embedded within the original prospective cohort study. Qualitative data was collected through four health facility assessments, 28 key informant interviews and a focus group discussion. Data were analyzed using a manual thematic analysis approach and summarized against four primary themes: testing challenges and enablers, perceptions and attitudes towards COVID-19, national health system considerations and study management considerations. Findings suggest most of the challenges affecting the cohort study were not specific to COVID-19 research—while the pandemic exacerbated certain problems, most of the operational challenges have been a feature of previous infectious disease research carried out in complex emergencies. The study also found the factors that facilitated the research included proactive management, data quality oversight procedures and strong collaboration with national

health stakeholders. Future studies could plan mitigation measures that include flexibility in staffing and budgets, strategies to expand testing and early partnerships with local organizations and health authorities.

Accuracy of Fully Automated 3D Imaging System for Child Anthropometry in a Low-Resource Setting: Effectiveness Evaluation in Malakal, South Sudan

South Sudan

2021–2022

Research Partner: Johns Hopkins University

Publication: [JMIR Biomedical Engineering](#)

International Medical Corps and Johns Hopkins University conducted a study to evaluate the accuracy of child stature and mid-upper arm circumference (MUAC) measurements produced by the AutoAnthro 3D imaging system (third generation) developed by Body Surface Translations Inc. AutoAnthro is a mobile application designed to determine a child's nutrition status by using a special camera attached to a smartphone to measure the child's stature and MUAC. The research team tested the application by conducting both manual measurements as well as using AuthoAnthro during a SMART survey and comparing the results. The study of device accuracy was embedded within a two-stage cluster survey carried out by International Medical Corps in Malakal Protection of Civilians site in South Sudan between September and October 2021. Manual measurements were obtained for 539 eligible children, from which scan-derived measurements were successfully processed for 234 children. For height/length, 48.7% of scan derived measurements were higher than manual measurements, or positive, and the 95% limit of agreement was within -23.9 and 22.9 cm. While the software shows promise, further investments in the software algorithms are needed to address issues with scan transmission, extreme field contexts, as well as to revise user interface to enable improved field supervision of scan capture. This technology would potentially have great implications on measurement accuracy and speed, as well as for risk mitigation for COVID-19 transmission, as it allows measurements of children to be carried out while following physical distancing protocols.

Risk Factors Associated with Severe Acute Malnutrition Relapse: A Case-Control Study of Children from Outpatient Treatment Facilities in Sudan

Sudan

2021–2023

Research Partner: University of Khartoum

Publication: Pending

Little is known about the factors that contribute to relapse of severe acute malnutrition (SAM) among children. International Medical Corps and the University of Khartoum conducted a case-control study to identify risk factors associated with relapse among children aged 6–59 months who were discharged after recovering from SAM after receiving treatment in an International Medical Corps-supported

outpatient therapeutic program (OTP) in Sudan. Cases and controls were identified using OTP registers. Relapse cases were defined as children aged 6-59 months admitted to an OTP within three months of being discharged after recovering from a previous SAM episode. Controls were children admitted to the OTP sites who did not relapse within three months. All eligible cases were approached for enrollment, while controls were selected using a combination of random and purposive sampling from a line list. A total of 502 respondents (89 cases and 413 controls) were enrolled in the study. In unadjusted analysis, the odds of relapse were higher among children from households that reported having land access for agricultural use and among households reporting moderate or severe food insecurity. Odds of relapse were lower among refugee children or those who were internally displaced. Other protective factors associated with reduced odds of relapse include caregivers receiving individual counselling on infant and young-child feeding (IYCF), children who were ever breastfed and knowledge of key times for handwashing. In the adjusted model, IYCF counselling and access to farmland were significant. The findings support overall recommendations to prevent relapse by implementing nutrition-specific and nutrition-sensitive interventions, including individual IYCF counselling focusing mainly on breastfeeding.

Assessing Effectiveness of Family MUAC Approach on Community Management of Acute Malnutrition among Children

CAR, DRC, Ethiopia, Mali, Nigeria, Somalia, South Sudan and Yemen

2023 (Ongoing)

Publication: Pending

The family MUAC approach refers to the training of caregivers to screen their child for wasting with MUAC tapes. Using existing primary data from country offices, International Medical Corps is conducting a study to assess the impact of the family MUAC approach on community-based management of acute malnutrition (CMAM) outcomes among children under 5 in International Medical Corps-supported CMAM sites across eight countries: CAR, DRC, Ethiopia, Mali, Nigeria, Somalia, South Sudan and Yemen. Specifically, International Medical Corps aims to assess the excess number of admissions to CMAM programs, excess number of children cured and change in length of stay in the programs. To further investigate potential impact of the family MUAC approach, International Medical Corps will carry out interrupted time series to compare changes in subset of key indicators following implementation of the family MUAC approach, while accounting for long-term trends and seasonality prior to its implementation. In addition, qualitative data will be collected through key informant interviews with relevant International Medical Corps nutrition staff to better understand the operational challenges and opportunities of the family MUAC approach.

Modified Nutrition Causal Analysis Study

Zimbabwe

2021–2022

Research Partner: Action Against Hunger

Publication: Pending

International Medical Corps is a consortium member implementing the Amalima Loko program—a USAID-Bureau for Humanitarian Assistance-funded Resilient Food Security Activity—in Matabeleland North province of Zimbabwe. In efforts to strengthen high impact multi-sectoral nutrition programming in the Amalima Loko program, International Medical Corps conducted a robust and comprehensive nutrition causal analysis (NCA) to examine the underlying causes of undernutrition in Matabeleland North and identify promising pathways to change. The NCA study relied on primary data collection using both qualitative (community inquiry through focus group discussions and key informant interviews) and quantitative (market surveys and 24-hour recalls) methods. The study also examined multi-sectoral secondary data, including multiple-indicator cluster surveys, Zimbabwe Vulnerability Assessment Committee surveys and Amalima Loko project documents. The study identified context-specific factors of undernutrition among women of reproductive age (WRA) and children under five years old (CU5), including risk factors such as socio-cultural norms, beliefs and behaviors that drive poor dietary intake, especially poor animal-source food (ASF) consumption, among WRA and CU5 in the Amalima Loko project areas. The study also proposed nutrition-specific and nutrition-sensitive interventions that can be leveraged to improve availability and consumption of a locally sourced, culturally acceptable nutritious diet among women and young children in the Amalima Loko project areas.

Link NCA Case Study: Abdi District of Ouaddai Region, Chad

Chad

2015–2016

Research Partner: Action Against Hunger

Resource: [USAID Case Study](#)

The Link NCA method, based on the UNICEF conceptual framework on the causes of malnutrition, is a multisectoral, mixed-method approach that draws conclusions from a synthesis of results on nutrition causality. Link NCA relies on qualitative methods that are incorporated throughout the process, and quantitative methods from secondary data, SMART analyses and risk factor surveys. International Medical Corps implemented a Link NCA study over five months between September 2015 and January 2016 to determine the underlying causes and risk factors for undernutrition in the Abdi district. The quantitative methodology was designed to objectively evaluate the prevalence of malnutrition and its risk factors, while the qualitative analysis sought to address questions regarding how or why malnutrition or good nutrition occurs. Both quantitative and qualitative data were then reviewed and triangulated through a participatory process to generate a consensus on undernutrition causality in the Abdi district. Results from the Link NCA study were used to adapt International Medical Corps' already existing sectoral interventions for IYCF activities (an identified major

risk factor) and to develop a larger multisectoral intervention strategy on nutrition security to reduce undernutrition beyond CMAM approaches.

Adolescent Inclusion in the Care Group Approach: the Nigeria Experience

Nigeria

2015–2016

Publication: [Field Exchange](#)

Adolescent girls are a nutritionally vulnerable group due to their nutrient requirements for growth—pregnancy heightens nutrient demands and increases both maternal and child risks. In this qualitative study, International Medical Corps documented the experiences of adolescent girl inclusion in care groups (community-based volunteer educators) in Northern Nigeria, highlighting key learning points (barriers, boosters and best approaches), both for International Medical Corps staff who plan to include adolescents in care groups and for the wider food security/nutrition community working on designing programs to include adolescent girls and meet their unique needs. Drawing from key informant interviews, focus group discussions and a knowledge, attitude and practices survey of adolescent girls in four selected villages, the study revealed that the International Medical Corps care group program contributed to increased knowledge and improved practices among adolescent girls in a) preventing malnutrition by maintaining a healthy nutritional status for themselves and their families, b) preventing illness in their households, and c) seeking health services and facilities when necessary. Community and family (especially husbands) buy-in proved critical to including married adolescent girls in care group activities. Recommendations include development of adolescent-

only sessions, targeting unmarried mothers through home visits, more in-depth support on topics such as pre-conception health and nutrition and identifying new means of targeting girls. The care group approach provides an opportunity to appropriately target adolescents to achieve improved maternal and child health and nutrition.

Developing a Mobile Health App to Manage Acute Malnutrition: A Five-Country Experience

Afghanistan, Chad, Kenya, Mali and Niger

2013–2016

Research Partners: *World Vision, Save the Children*

Publication: [Emergency Nutrition Network](#)

There is strong evidence that mobile device-based (mHealth) apps can improve frontline health workers' ability to apply treatment protocols more effectively and to improve the provision of supply chain management. Between 2013 and 2016, World Vision, Save the Children and International Medical Corps collaborated in the development and pilot of an mHealth app to improve CMAM treatment, reporting, monitoring and supply management in Afghanistan, Chad, Kenya, Mali and Niger. The pilot involved a public-private partnership with a software company, Dimagi. With time, practice and support, health workers accepted the app and reported many benefits for quality case management, although its use remains more time-consuming than the paper-based system. While the pilot found that the mHealth app has great potential, project continuity remains a challenge, given significant hurdles to rollout plans, including security issues limiting on-site training and technical support, complexities in contextualizing country protocols, software bugs, and power and network coverage difficulties.



Nigeria



OUR RESEARCH PORTFOLIO

Mental Health and Psychosocial Support

Our MHPSS research aims to contribute to a nascent but growing evidence base for effective and scalable psychological interventions that can be provided by lay counselors through a task-shifting approach in humanitarian emergency and refugee contexts.

Effectiveness of a Brief Group Behavioral Intervention for Common Mental Disorders in Syrian Refugees in Jordan: A Randomized Controlled Trial

Jordan

2019–2022

Research Partners: University of New South Wales, Vrije Universiteit, STRENGTHS Consortium

Publication: [PLOS Medicine](#)

This study examined the impact of Group Problem Management Plus (gPM+) on the mental health of refugees in a camp, as well as on parenting behavior and children's mental health. Problem Management Plus (PM+) is an evidence-based, scalable psychological intervention that has been proven effective in treating mild to moderate depression, anxiety and

stress. The research team screened adult Syrian refugees in the Azraq refugee camp in Jordan, and subsequently randomized 410 adult refugees who displayed distress and impaired functioning to either five individual sessions of gPM+ or enhanced usual care (EUC). Independent assessments indicated that three months following treatment, refugees who received gPM+ reported significantly less depression but not anxiety, with a moderate effect relative to EUC. gPM+ also led to greater reductions in inconsistent disciplinary parenting, and this was associated with greater reductions in attentional and internalizing problems in refugees' children. These findings suggest that mental health non-specialists can be briefly trained in gPM+, and they can deliver this intervention in a way that can improve the mental health of refugees.

Twelve-Month Follow-up of a Randomized Clinical Trial of a Brief Group Psychological Intervention for Common Mental Disorders in Syrian Refugees in Jordan

Jordan

2019–2022

Research Partners: University of New South Wales, Vrije Universiteit, STRENGTHS Consortium

Publication: [Epidemiology and Psychiatric Sciences, Cambridge University Press](#)

PM+ is an evidence-based, scalable psychological intervention that has been proven effective in treating mild to moderate depression, anxiety and stress in multiple RCTs worldwide, typically in three-month and six-month follow-ups. Of note, however, Group PM+ was only significantly demonstrated to be effective against depression for Syrian refugees in Jordan. The very important finding from this RCT is that unfortunately, the benefits of the intervention are not sustained over longer periods of time. This has important implications for how MHPSS programs support those with common mental health conditions in the long run.

Operational Considerations for Remote MHPSS Programming in Humanitarian Settings: A Case Study of International Medical Corps Programs in Central African Republic, Iraq, Libya, South Sudan and Venezuela

Central African Republic, Iraq, Libya, South Sudan, Venezuela 2021

Resource: [Global Case Study](#)

This case study was developed using primarily qualitative methods combined with a desk review of project records from each country, as well as client case records. Primary data were collected between August and October 2021, through 220 key informant interviews with various stakeholders, including International Medical Corps staff and service providers, community leaders, clients and caregivers. Government restrictions in response to the COVID-19 pandemic and security risks necessitated transitioning to remote programming in each country, though specific adaptations varied by country contexts. Remote service delivery was found to be generally effective and to positively impact client well-being and functioning, but there were contextual challenges in implementing it.





OUR RESEARCH PORTFOLIO

Gender-Based Violence

International Medical Corps is committed to expanding its research portfolio on GBV in emergencies. Our research on child marriage in humanitarian settings has contributed to the evidence base on what works to prevent this harmful practice and has generated new insights on interventions that significantly improve the lives of adolescent girls in protracted crises. Our research on Women's and Girls' Safe Spaces (WGSS) in humanitarian settings led to the development of a global toolkit to strengthen implementation of WGSS across the world.

Child Marriage Among Somali Refugees in Ethiopia

Ethiopia

2016–2021

Research Partners: Women's Refugee Commission, Johns Hopkins University

Publication and Report: (1) [BMC Public Health](#); (2) [Synthesis Report](#)

In 2016, International Medical Corps, in collaboration with the Women's Refugee Commission and Johns Hopkins University, conducted quantitative and qualitative assessments on child marriage among Somali refugees in the Kobe refugee camp in Ethiopia. The research team used a cross-sectional survey to investigate the prevalence of child marriage and factors related

to the practice. The survey included interviews with 603 adult women and 650 adolescent girls and the creation of household rosters with information on 3,319 household members. The study reported low prevalence of child marriage among younger cohorts compared to their older counterparts, and girls who attend school were 66% less likely to experience child marriage compared to those who had never attended school, even after adjusting for other factors. The study also revealed several family characteristics that were strongly associated with child marriage: households with no adult men had more than four times higher risk for child marriage compared to households with adult men, while older girls and those for whom the head of household was unemployed had twice the risk of others.

Evaluation of International Medical Corps' Life Skills Program in Ethiopia

Ethiopia

2016–2021

Research Partners: Women's Refugee Commission, Johns Hopkins University

Report: [Synthesis Report](#)

In 2016, International Medical Corps conducted an evaluation of its life skills program in the Kobe refugee camp in Ethiopia as part of a global research project on child marriage in humanitarian settings. The evaluation of the life skills program used a combination of in-depth interviews with International Medical Corps staff, focus group discussions with caregivers (mothers) and community leaders, and the Stories of Change methodology with adolescent girls to assess participant experiences and explore potential improvements of the life skills program in Kobe camp. From January to December 2018, the life skills program had reached 80 adolescent girls (14 to 19 years old in Kobe camp), along with their mothers and fathers. The program also conducted consultations with community leaders every two months. Mothers and community leader groups who were engaged through the life skills program associated child marriage with violence against adolescent girls and vocally supported the delay of marriage until 18 or older. Respondents also connected child marriage to female genital cutting/mutilation and specific risks of that practice. Both men and women identified household economic insecurity as an important driver for child marriage, linking families' struggles to afford the needs of their female children to the decision to marry them off. Respondents reported multiple positive results of the life skills program: significant improvements in education outcomes for adolescent girls, girls' self-advocacy against child marriage and their ability to mitigate the risk of GBV through increased knowledge of GBV reporting channels in the camp.

Research, Development and Assessment of Women's and Girls' Safe Spaces Toolkit

Ethiopia and Cameroon

2018–2019

Research Partner: International Rescue Committee

Resources: (1) [Pilot and End Line Assessment Findings](#); (2) [Book Chapter](#)

In 2018, International Medical Corps and International Rescue Committee (IRC) jointly carried out formative research to identify requirements and minimum standards for effective delivery of WGSS. The findings from the formative research highlighted the lack of available tools to assess, design, implement, monitor and demonstrate the value of WGSS as a catalyst for transformational change towards women's and girls' equality. Based on the findings from this research, International Medical Corps and IRC developed the Women's and Girls' Safe Space Toolkit (WGSSTK), which was then piloted by IRC teams in Lebanon and Thailand, and International Medical Corps teams in Cameroon and Ethiopia, from December 2018 to April 2019. Following this pilot period, an assessment was conducted with IRC and International Medical Corps staff, women and older adolescent girl beneficiaries from the pilot WGSS spaces, and community members from the areas of implementation. This assessment used mixed-methods approaches to assess the feasibility and acceptability of the pilot WGSSTK in Cameroon, Ethiopia, Thailand and Lebanon. The assessment found that the WGSSTK fills a significant gap in technical guidance for GBV staff implementing WGSS—staff reported that the technical guidance provided in the toolkit has added substance and value and left staff feeling empowered that the work they had been doing was professionalized. The assessment also found that access to and participation in WGSS are dependent on several factors, most importantly that it is a space for women and girls only, and that WGSS provide vital knowledge, resources and services for women and girls.



Cameroon

Images included in this section appear with the consent of all subjects, in line with International Medical Corps' communications guidelines. International Medical Corps is careful to document only less-sensitive elements of GBV programs and does not photograph known survivors of GBV.



Zimbabwe

OUR RESEARCH PORTFOLIO

Water, Sanitation and Hygiene

International Medical Corps is looking forward to conducting more research on WASH in humanitarian settings to identify evidence-based strategies and innovative solutions to improve our interventions on the ground. Our body of research on WASH includes but is not limited to integration of financial activities into the community health clubs (CHC) model to improve sanitation coverage, development and application of a WASH Composite Index in European humanitarian camps and global best practices on the design and management of treatment facilities for future infectious disease outbreaks in resource-limited settings.

Community Health Clubs Improve Latrine Construction Through Savings, Lending and Income-generating Activities

Zimbabwe
2019–2022

Research Partner: Ministry of Health and Child Care

Publication: [Journal of Water, Sanitation and Hygiene for Development](#)

From 2014 to 2020, in the Matabeleland North and South provinces in Zimbabwe, the Amalima program used community health clubs (CHCs) to promote sanitation behavior change, particularly among vulnerable households. International Medical Corps, in partnership with the Ministry of Health and Childcare, conducted a qualitative assessment to identify barriers to,

motivators of and enablers of latrine construction and explore how a CHC model that integrated access to financing and savings might support latrine coverage. The research team conducted 10 focus group discussions with CHC members and 19 in-depth interviews with key informants. The study found that key motivators and enablers of latrine construction included health benefits; the desire to avoid disgust, shame and embarrassment; access to materials and construction; and social support. The barriers included costs, water access, limited leadership support and behavior change resistance. The findings also suggest that financial activities helped CHC members overcome material and construction costs. Thus, integrating financial activities into CHCs may improve sanitation coverage and the study recommends that such add-ons be considered in CHC training programs.

WASH Activities at Two Ebola Treatment Units in Sierra Leone: A Retrospective Cohort Study

Sierra Leone

2014–2018

Research Partner: Brown University

Publication: [PLOS One](#)

Like other infectious disease interventions, Ebola virus disease (EVD) outbreak interventions require efficiently designed and operated treatment facilities to ensure a low risk of nosocomial infection and easy-to-maintain monitoring of WASH/infection prevention control (IPC) practices. International Medical Corps, in collaboration with Brown University, conducted a retrospective cohort study by analyzing WASH/IPC activity data routinely recorded on paper forms or white boards at Ebola treatment units (ETUs) during the outbreak and later merged into a database from two International Medical Corps-run ETUs in Sierra Leone between December 2014 and December 2015. The findings highlight parameters key to designing and maintaining an ETU: high-concentration chlorine solution usage was highly correlated with both daily patient occupancy and high-risk zone staff entries; low-concentration chlorine usage was less well explained by these measures. There is high demand for laundering and disinfecting of personal protective equipment (PPE) daily and approximately one (zero to four) piece of PPE is damaged each day. Even for organizations and individuals with significant humanitarian logistics and supply chain experience, the unique factors involved in managing an ETU during an EVD outbreak require special consideration. The key findings from this study, as well as lessons learned with regards to data collection, will inform the planning, organizing and managing of ETUs in future Ebola or other infectious disease outbreaks. This research provides estimates on the amount of chlorine and personal protective equipment required to manage an ETU during a future Ebola epidemic, based on the anticipated size and staffing of the ETU.

Water, Sanitation and Hygiene (WASH) Index: Development and Application to Measure WASH Service Levels in European Humanitarian Camps

Greece

2016–2020

Research Partner: UNHCR

Publication: [Water Resources Management](#)

In this paper, International Medical Corps highlighted the development and implementation process of a WASH-related composite index. The purpose of the index is to facilitate WASH-related assessments in refugee camps, by capturing and reflecting the actual WASH conditions, and provide the necessary information for efficient program planning and implementation.

In the first phase, data was collected from 12 refugee camps in Greece, and 80 sets of synthetic data were created. In the second and final phase, both the data that were gathered, and the created data were processed to represent individual indicators. The index proved to be a reliable tool for WASH experts, accurately depicting the WASH conditions in the selected camps compared to on-site observations. To this end, the index is a valuable tool for sharing relevant information with various levels of operation, including field teams and donors. It can also be integrated into the monitoring and evaluation process.



Greece



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