

- 1 Batista C, Hotez P, Amor JB, et al. The silent and dangerous inequity around access to COVID-19 testing: a call to action. *EClinicalMedicine* 2022; **43**: 101230.
- 2 Our World in Data. Coronavirus (COVID-19) vaccinations. 2023. <https://ourworldindata.org/covid-vaccinations> (accessed Jan 4, 2023).
- 3 Iacobucci G. COVID-19: “grotesque inequity” that only a quarter of paxlovid courses go to poorer countries. *BMJ* 2022; **379**: o2795.
- 4 Clark H, Johnson Sirleaf E. Transforming or tinkering? Inaction lays the groundwork for another pandemic. 2022. https://theindependentpanel.org/wp-content/uploads/2022/05/Transforming-or-tinkering_Report_Final.pdf (accessed Dec 26, 2022).
- 5 Nickerson J, Houston A. A viable vaccine for Ebola’s latest strain is shamefully collecting a decade of dust in Canada. *The Globe and Mail*. Nov 15, 2022. <https://www.theglobeandmail.com/opinion/article-a-viable-vaccine-for-ebolas-latest-strain-is-shamefully-collecting-a/> (accessed Dec 20, 2022).
- 6 Gleeson D. Monkeypox—the next global vaccine equity failure? *The Conversation*. Aug 30, 2022. <https://theconversation.com/monkeypox-the-next-global-vaccine-equity-failure-189045> (accessed Dec 20, 2022).
- 7 Olliaro P, Torrelee E. Global challenges in preparedness and response to epidemic infectious diseases. *Mol Ther* 2022; **30**: 1801–09.
- 8 Open Consultants. External Evaluation of the Access to COVID-19 Tools Accelerator (Act-A). 2022. <https://www.who.int/publications/m/item/external-evaluation-of-the-access-to-covid-19-tools-accelerator-act-a> (accessed Dec 21, 2022).
- 9 Maxmen A. The radical plan for vaccine equity. *Nature* 2022; **607**: 226–33.
- 10 Medicines Patent Pool. COVID-19 mRNA Technology Transfer Hub Programme: parallel initiatives. 2022. <https://medicinespatentpool.org/covid-19/mrna-technology-transfer-hub-programme/parallel-initiatives> (accessed Dec 21, 2022).
- 11 Independent Panel for Pandemic Preparedness and Response. COVID-19: make it the last pandemic. May, 2021. <https://theindependentpanel.org/mainreport/> (accessed Jan 4, 2023).
- 12 Ramchandani R, Kazatchkine M, Liu J, et al. Vaccines, therapeutics, and diagnostics for COVID-19: redesigning systems to improve pandemic response. *BMJ* 2021; **375**: e067488.
- 13 Chavda VP, Yao Q, Vora LK, et al. Fast-track development of vaccines for SARS-CoV-2: the shots that saved the world. *Front Immunol* 2022; **13**: 961198.
- 14 Guy RK, DiPaola RS, Romanelli F, Dutch RE. Rapid repurposing of drugs for COVID-19. *Science* 2020; **368**: 829–30.
- 15 Pecetta S, Finco O, Seubert A. Quantum leap of monoclonal antibody (mAb) discovery and development in the COVID-19 era. *Semin Immunol* 2020; **50**: 101427.
- 16 Xu M, Wang D, Wang H, et al. COVID-19 diagnostic testing: technology perspective. *Clin Transl Med* 2020; **10**: e158.
- 17 Mazzucato M, Torrelee E. How to develop a COVID-19 vaccine for all. Project Syndicate. April, 2020. <https://www.project-syndicate.org/commentary/universal-free-covid19-vaccine-by-mariana-mazzucato-and-els-torrelee-2020-04> (accessed Dec 22, 2022).
- 18 Silverman E. The pandemic exposed global gaps in access to medicines. Can a contentious approach to close them gain traction? *STAT*. Jan 5, 2023. <https://www.statnews.com/pharmalot/2023/01/05/drug-pricing-cancer-voluntary-licensing-hepatitis/> (accessed Jan 8, 2023).
- 19 Médecins Sans Frontières. Voluntary licenses and access to medicines. 2020. <https://msfaccess.org/voluntary-licenses-access-medicines> (accessed Dec 22, 2022).
- 20 Mazzucato M. A collective response to our global challenges: a common good and “market-shaping” approach. UCL Institute for Innovation and Public Purpose, Working Paper (IIPP WP 2023-02). 2023. <https://www.ucl.ac.uk/bartlett/public-purpose/publications/2023/jan/collective-response-our-global-challenges-common-good-and-market-shaping> (accessed Jan 9, 2023).
- 21 WHO. Council on the Economics of Health for All. Governing health innovation for the common good—the WHO Council on the Economics of Health for All—Council brief no. 1. 2021. <https://www.who.int/publications/m/item/governing-health-innovation-for-the-common-good> (accessed Dec 22, 2022).
- 22 Tikkinen KAO, Malekzadeh R, Schlegel M, et al. COVID-19 clinical trials: learning from exceptions in the research chaos. *Nat Med* 2020; **26**: 1671–72.
- 23 Clinton Health Access Initiative. A database of local vaccine manufacturing commitments and tech-transfers. 2022. <https://www.clintonhealthaccess.org/database/a-database-of-local-vaccine-manufacturing-commitments-and-tech-transfers/> (accessed Dec 22, 2022).
- 24 Storeng KT, Stein F, de Bengy Puyvallée A. COVAX and the many meanings of sharing. *BMJ Glob Health* 2021; **6**: e007763.
- 25 Mazzucato M. Rethinking the social contract between the state and business: a new approach to industrial strategy with conditionalities. UCL Institute for Innovation and Public Purpose, Working Paper (IIPP WP 2022-18). 2022. <https://www.ucl.ac.uk/bartlett/public-purpose/wp2022-18> (accessed Dec 22, 2022).
- 26 Fortner R. AstraZeneca’s COVID-19 (mis)adventure and the future of vaccine equity. *BMJ* 2022; **379**: o2592.
- 27 Alston JM, Pardey PG, Rao X. Payoffs to a half century of CGIAR research. *AJAE* 2022; **104**: 502–29.
- 28 Naim K, Pia MG, Kohls A, et al. Pushing the boundaries of open science at CERN: submission to the UNESCO Open Science Consultation. UNESCO. 2020. https://en.unesco.org/sites/default/files/cern-unesco_consultation_jul_15.pdf (accessed Dec 22, 2022).
- 29 Salam E. Texas scientists’ new COVID-19 vaccine is cheaper, easier to make and patent-free. *The Guardian*. Jan 15, 2022. <https://www.theguardian.com/us-news/2022/jan/15/corbevax-covid-vaccine-texas-scientists> (accessed Jan 9, 2023).
- 30 Kremer M. Patent buyouts: a mechanism for encouraging innovation. *QJEcon* 1998; **113**: 1137–67.
- 31 Love J. Buying know-how to scale vaccine manufacturing. Medium. March 20, 2021. <https://jamie-love.medium.com/buying-know-how-to-scale-vaccine-manufacturing-586bdb304a36> (accessed Dec 22, 2022).
- 32 Perekhodoff K, ’t Hoen E, Mara K, et al. A pandemic treaty for equitable global access to medical countermeasures: seven recommendations for sharing intellectual property, know-how and technology. *BMJ Glob Health* 2022; **7**: e009709.
- 33 Liu J, Clark H, Kazatchkine M. Leaders can choose to prevent pandemics. *Nature* 2022; **610**: S37.



Partnering to deliver sustainable children’s surgical care in Kakuma refugee camp

Published Online
June 17, 2022
[https://doi.org/10.1016/S0140-6736\(22\)01105-9](https://doi.org/10.1016/S0140-6736(22)01105-9)

The devastating milestone of 100 million people globally forced to flee their homes because of war, violence, persecution, and discrimination was reached on May 23, 2022.¹ Women and children are disproportionately affected. 42% of forcibly displaced people worldwide are

children.² In Kenya, by September, 2021, 76% of registered refugees and asylum seekers were women and children.³ These women and children have considerable negative health consequences with increased rates of morbidity and mortality compared with non-displaced populations.^{4,5}

Weak health systems exacerbate poor health outcomes among refugees and asylum seekers in many settings. Health systems in conflict and displacement zones typically undergo degradation and fragmentation as a result of violence, insecurity, and loss of human and material resources.⁶ Consequently, these health systems have insufficient infrastructure, equipment, and health-care workers for specialist care, including children's surgical care. Furthermore, the COVID-19 pandemic continues to put a relentless strain on all components of health systems in conflict and displacement zones.

The state of children's surgical care in refugee and displaced populations illustrates the suffering and challenges experienced by children fleeing violence. Globally, 2 billion children, including displaced and refugee children, do not have access to surgical services.⁷ Health conditions affecting refugee children include injuries that need surgical care and disabilities due to violence, malnutrition related to food insecurity driven by climate change, and missed vaccines because of disruption to routine immunisation programmes.⁸⁻¹⁰ There are usually few health-care workers and specialists in refugee camps.⁶ Referral to a tertiary centre is often difficult in these settings. For instance, in Kakuma, in the northwestern Turkana county of Kenya, referral to a tertiary hospital for specialist surgical care takes about 13 h by road, and refugee patients face additional barriers when accessing care, including language and financial barriers.¹¹

Given these challenges, the provision of surgical services and strengthening health systems closest to the people who need them is one way to reduce barriers to health-care access and improve health outcomes among refugee populations. Among the crucial needs for refugee populations is surgical care. Loucas and colleagues evaluated the surgical needs of Syrian and Afghani refugee children and found that the most common surgical condition was trauma from falls, burns, and violence during escape from conflict.⁹ In 2021, Bayrak and colleagues showed that refugee children often present with high-energy traumas and require more complex surgical procedures.¹²

Despite the evidence supporting surgical needs among refugee children, most refugee health interventions focus on antenatal care, basic emergency obstetric and newborn care, immunisation, and malnutrition treatment.⁵ These interventions are important and must continue, but a more comprehensive health



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package that includes surgical care is warranted to better serve the needs of both refugees and children in host countries.

In Kakuma refugee camp, which is located in the Turkana West subcounty of Turkana, the UN Refugee Agency UNHCR, the Turkana Ministry of Health, the non-governmental organisation KidsOR, and the International Rescue Committee (IRC) have adopted a comprehensive approach and included surgical services in the essential health package for refugee and host children, despite key challenges during implementation, including COVID-19-related movement restrictions and delays in receiving equipment and supplies. We are all involved with this project in Kakuma refugee camp. Turkana West has a population of about 506 000 people, including 186 000 refugees, and 60% of the population is younger than 19 years.¹³ We installed a child friendly surgical space with surgical equipment in Kakuma refugee camp in June, 2021, and we implemented intense capacity building of the health workforce. Soon after we began, children in need of surgical care came to the surgical service, some walking from South Sudan often unaccompanied. Some mothers from Turkana brought their children who have lived with debilitating birth defects, walking long distances by foot to reach us in Kakuma. Their children are now back in school after successful surgical procedures.

As we implemented our comprehensive intervention, we focused on local, context-specific solutions

leveraging global, regional, national, and county level policy frameworks and strategies to deliver inclusive, safe, effective, and sustainable children’s surgical care.

This work to provide surgical care to refugee and local children in Kakuma supports the wider health and human rights of these populations. First, children have a right to health. Within the UN Convention on the Rights of the Child, “States recognize the right of the child to the enjoyment of the highest attainable standard of health”.¹⁴ This right often requires access to life-saving surgical care. Second, with regards to the refugee population, the 2016 New York Declaration for Refugees and Migrants and its Comprehensive Refugee Response Framework provided a framework for more cooperation and solidarity with refugees.^{13,15} Regionally, targets in the 2019 Kampala Declaration on Jobs, Livelihoods and Self-reliance for Refugees, Returnees and Host Communities in IGAD Region¹⁶ can only be realised with optimal health outcomes that often require access to surgical care.¹³ Nationally, the 2010 Constitution of Kenya calls for the right to health for every person in Kenya, and at the county level, the Turkana County Integrated Development Plan prioritises health for all and there are efforts to achieve sustainable health financing through the National Health Insurance Fund for both refugee and host children.¹³

As we implemented our intervention, we prioritised partnerships to ensure key perspectives were taken into account, and sustainability was built into the solution. The children’s surgical care delivery project in Kakuma refugee camp is a partnership between KidsOR, UNHCR, IRC, and the Turkana County Ministry of Health. Furthermore, we ensured an inclusive process. The host community shares its space and resources with refugees. Whatever action we took included the host community to promote cohesion and goodwill among diverse communities living together. Several lessons may help others working in similar contexts. Community engagement is a priority to better understand needs and to reach solutions that were context specific and more likely to work. Working with community health workers to reach households, inform them about the availability of surgical services, identify children with surgical conditions, and follow-up with post-surgical cases is an important strategy. Crucially, the importance of investing in capacity building of a permanent health workforce was a key aim that we undertook in

partnership with the County Ministry of Health. This will help ensure services are sustainable over time. Furthermore, this approach can help build trust in the services, strengthen the health system, and promote optimal health outcomes.

Finally, we advocate undertaking rigorous impact assessments using quantitative and qualitative data with baseline assessments, which should be done before the intervention to ensure progress is measured. The dissemination of progress reports to all stakeholders at local, national, regional, and global levels can help foster accountability and trust.

Including surgical services in the essential health package serves the health needs of every child, including refugee and host children, so that they can achieve the highest attainable standard of health. Access to this type of comprehensive care needs to be increased for refugee populations—an important issue to highlight for World Refugee Day on June 20. Today, protracted conflicts and humanitarian crises have become the new norm.¹⁷ Consequently, there needs to be a shift towards more sustainable, longer term, and better coordinated solutions that strengthen health systems to effectively serve both refugee and host populations.^{11,18} Key priorities moving forwards must include: an expansion of community and stakeholder engagement, more and stronger partnerships with better coordination, an increase in comprehensive and integrated services in close partnership with Ministries of Health (including subnational Ministries of Health), and robust impact assessments. Such an approach will ultimately change and strengthen systems to serve the most vulnerable populations.

We were all involved in aspects of the surgical care project in Kakuma refugee camp that is discussed in this Comment. We declare no other competing interests

**Neema Kaseje, Khalid Hassan, Jesse Muriithi, John Burton, Benjamin Weswa, Kefa Ojwando, Collins Chirchir, Stephen Kinara, David Cunningham, Stephen Okelo*
nkaseje@gmail.com

Surgical Systems Research Group, Kisumu, Kenya (NK); London School of Hygiene & Tropical Medicine, London WC1E 7HT, UK (NK); Turkana Ministry of Health, Lodwar County Referral Hospital, Lodwar, Turkana, Kenya (KH, CC); UNHCR Sub Office Kakuma, Kakuma, Turkana, Kenya (JM); UNHCR Kenya, Nairobi, Kenya (JB); International Rescue Committee Kakuma, Kakuma, Turkana, Kenya (BW, KO); International Rescue Committee, Dadaab, Garissa, Kenya (SK); Kids Operating Room, Edinburgh, UK (DC); Kenya Society of Anaesthesiologists, KMA Centre, Nairobi, Kenya (SO)

1 UNHCR. A record 100 million people forcibly displaced worldwide. May 23, 2022. <https://news.un.org/en/story/2022/05/1118772> (accessed June 13, 2022).

- 2 UNHCR. Global trends forced displacement in 2020. 2021. <https://www.unhcr.org/60b638e37/unhcr-global-trends-2020/> (accessed June 13, 2022).
- 3 UNHCR. Kenya: registered refugees and asylum-seekers as of 30 September 2021. 2021. <https://www.unhcr.org/ke/wp-content/uploads/sites/2/2021/11/Kenya-Infographics-30-September-2021.pdf> (accessed June 13, 2022).
- 4 Akseer N, Wright J, Tasic H, et al. Women, children and adolescents in conflict countries: an assessment of inequalities in intervention coverage and survival. *BMJ Global Health* 2020; **5**: e002214.
- 5 Singh NS, Atallahjan A, Ndiaye K, et al. Delivering health interventions to women, children, and adolescents in conflict settings: what have we learned from ten country case studies? *Lancet* 2021; **397**: 533–42.
- 6 Hill PS, Pavignani E, Michael M, Murru M, Beesley ME. The “empty void” is a crowded space: health service provision at the margins of fragile and conflict affected states. *Confl Health* 2014; **8**: 20.
- 7 Mullapudi B, Grabski D, Ameh E, et al. Estimates of number of children and adolescents without access to surgical care. *Bull World Health Organ* 2019; **97**: 254–58.
- 8 WHO Regional Office for Europe. Health of refugee and migrant children. Copenhagen: WHO Regional Office for Europe, 2018. https://www.euro.who.int/__data/assets/pdf_file/0011/388361/tc-health-children-eng.pdf (accessed June 13, 2022).
- 9 Loucas M, Loucas R, Muensterer OJ. Surgical health needs of minor refugees in Germany: a cross-sectional study. *Eur J Pediatr Surg* 2018; **28**: 60–66.
- 10 Brown ME, Grace K, Billing T, Backer D. Considering climate and conflict conditions together to improve interventions that prevent child acute malnutrition. *Lancet Planet Health* 2021; **5**: e654–58.
- 11 Jordan K, Lewis TP, Roberts B. Quality in crisis: a systematic review of the quality of health systems in humanitarian settings. *Confl Health* 2021; **15**: 7.
- 12 Bayrak A, Öztürk V, Koluman A, Ziroğlu N, Duramaz A. Injury characteristics and management of orthopaedic trauma in refugee children. *Int Orthop* 2021; **45**: 649–56.
- 13 UNHCR. KISEDIP. Kalobeyei Integrated Socio-Economic Development Plan in Turkana West. 2018. https://www.unhcr.org/ke/wp-content/uploads/sites/2/2019/05/201905_KISEDIP-Comprehensive-document-1.pdf (accessed June 13, 2022).
- 14 UNICEF. Convention on the Rights of the Child. <https://www.unicef.org/child-rights-convention/convention-text> (accessed June 13, 2022).
- 15 UNHCR. New York Declaration for Refugees and Migrants Comprehensive Refugee Response Framework. <https://www.unhcr.org/uk/new-york-declaration-for-refugees-and-migrants.html> (accessed June 13, 2022).
- 16 UNHCR. Kampala Declaration on Jobs, Livelihoods and Self-reliance for Refugees, Returnees and Host Communities in IGAD Region. March 28, 2019. <https://www.unhcr.org/afr/publications/legal/5c9dd6384/kampala-declaration-on-jobs-livelihoods-self-reliance-for-refugees-returnees.html> (accessed June 13, 2022).
- 17 Spiegel PB. The humanitarian system is not just broke, but broken: recommendations for future humanitarian action. *Lancet* 2017; published online June 8. [https://doi.org/10.1016/S0140-6736\(17\)31278-3](https://doi.org/10.1016/S0140-6736(17)31278-3).
- 18 Landry MD, Giebel C, Cryer TL. Health system strengthening in fragile and conflict-affected states: a call to action. *BMC Health Serv Res* 2021; **21**: 726.

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