Correspondence

(W

Published Online

on July 10, 2024

S0140-6736(24)01169-3

This online publication has been

corrected. The corrected version

first appeared at thelancet.com

July 5, 2024 https://doi.org/10.1016/

Counting the dead in Gaza: difficult but essential

By June 19, 2024, 37 396 people had been killed in the Gaza Strip since the attack by Hamas and the Israeli invasion in October, 2023, according to the Gaza Health Ministry, as reported by the UN Office for the Coordination of Humanitarian Affairs.¹ The Ministry's figures have been contested by the Israeli authorities, although they have been accepted as accurate by Israeli intelligence services,² the UN, and WHO. These data are supported by independent analyses, comparing changes in the number of deaths of UN Relief and Works Agency (UNRWA) staff with those reported by the Ministry,³ which found claims of data fabrication implausible.4

Collecting data is becoming increasingly difficult for the Gaza Health Ministry due to the destruction of much of the infrastructure.5 The Ministry has had to augment its usual reporting, based on people dying in its hospitals or brought in dead, with information from reliable media sources and first responders. This change has inevitably degraded the detailed data recorded previously. Consequently, the Gaza Health Ministry now reports separately the number of unidentified bodies among the total death toll. As of May 10, 2024, 30% of the 35 091 deaths were unidentified.1

Some officials and news agencies have used this development, designed to improve data quality, to undermine the veracity of the data. However, the number of reported deaths is likely an underestimate. The nongovernmental organisation Airwars undertakes detailed assessments of incidents in the Gaza Strip and often finds that not all names of identifiable victims are included in the Ministry's list.⁶ Furthermore, the UN estimates that, by Feb 29, 2024, 35% of buildings in the Gaza Strip had been destroyed,⁵ so the number of bodies still buried in the rubble is likely substantial, with estimates of more than 10 000.⁷

Armed conflicts have indirect health implications beyond the direct harm from violence. Even if the conflict ends immediately, there will continue to be many indirect deaths in the coming months and years from causes such as reproductive, communicable, and non-communicable diseases. The total death toll is expected to be large given the intensity of this conflict; destroyed health-care infrastructure; severe shortages of food, water, and shelter; the population's inability to flee to safe places; and the loss of funding to UNRWA, one of the very few humanitarian organisations still active in the Gaza Strip.8

In recent conflicts, such indirect deaths range from three to 15 times the number of direct deaths. Applying a conservative estimate of four indirect deaths per one direct death9 to the 37396 deaths reported, it is not implausible to estimate that up to 186 000 or even more deaths could be attributable to the current conflict in Gaza. Using the 2022 Gaza Strip population estimate of 2375259. this would translate to 7.9% of the total population in the Gaza Strip. A report from Feb 7, 2024, at the time when the direct death toll was 28000, estimated that without a ceasefire there would be between 58260 deaths (without an epidemic or escalation) and 85750 deaths (if both occurred) by Aug 6, 2024.10

An immediate and urgent ceasefire in the Gaza Strip is essential, accompanied by measures to enable the distribution of medical supplies, food, clean water, and other resources for basic human needs. At the same time, there is a need to record the scale and nature of suffering in this conflict. Documenting the true scale is crucial for ensuring historical accountability and acknowledging the full cost of the war. It is also a legal requirement. The interim measures set out by the International Court of Justice in January, 2024, require Israel to "take effective measures to prevent the destruction and ensure the preservation of evidence related to allegations of acts within the scope of ... the Genocide Convention".¹¹ The Gaza Health Ministry is the only organisation counting the dead. Furthermore, these data will be crucial for post-war recovery, restoring infrastructure, and planning humanitarian aid.

MM is a member of the editorial board of the Israel Journal of Health Policy Research and of the International Advisory Committee of the Israel National Institute for Health Policy Research. MM was co-chair of the Institute's 2016 6th International Jerusalem Conference on Health Policy, but writes in a personal capacity. He also collaborates with researchers in Israel, Palestine, and Lebanon. RK and SY declare no competing interests. The authors would like to acknowledge study team members Shofiqul Islam and Safa Noreen for their contribution to collecting and managing the data for this Correspondence.

Editorial note: The Lancet Group takes a neutral position with respect to territorial claims in published text and institutional affiliations.

*Rasha Khatib, Martin McKee, Salim Yusuf

rasha.alkhatib@aah.org

Advocate Aurora Research Institute, Milwaukee, WI 53233, USA (RK); Institute of Community and Public Health , Birzeit University, Birzeit, Palestine (RK); Department of Public Health and Policy, London School of Hygiene & Tropical Medicine, London, UK (MM); The Population Health Research Institute, McMaster University and Hamilton Health Sciences, Hamilton, ON, Canada (SY)

- UN Office for the Coordination of Humanitarian Affairs. Reported impact snapshot. Gaza Strip. June 19, 2024. https://www.ochaopt.org/ content/reported-impact-snapshot-gaza-strip-19-june-2024 (accessed June 21, 2024).
- Prothero M. Israeli Intelligence has deemed Hamas-run health ministry's death toll figures generally accurate. 2024. https://www.vice.com/ en/article/y3w4w7/israeli-intelligence-healthministry-death-toll (accessed May 2, 2024).
- 3 Huynh BQ, Chin ET, Spiegel PB. No evidence of inflated mortality reporting from the Gaza Ministry of Health. Lancet 2024; 403: 23–24.
- 4 Jamaluddine Z, Checchi F, Campbell OMR. Excess mortality in Gaza: Oct 7–26, 2023. Lancet 2023; **402:** 2189–90.
- 5 UNOSAT. UNOSAT Gaza Strip comprehensive building & housing unit damage assessment, March 2024, 2024. https://unosat.org/
- products/3804 (accessed May 2, 2024).
 Airwars. Israel and Gaza. 2024. https://airwars. org/conflict/israel-and-gaza-2023/ (accessed May 3, 2024).



by Feb 29, 2024, the full cost of the war. It is also a legal

- 7 UN Office Geneva. 10 000 people feared buried under the rubble in Gaza. 2024. https://www. ungeneva.org/en/news-media/news/2024/05 /93055/10000-people-feared-buried-underrubble-gaza (accessed May 3, 2024).
- 8 Reuters. More countries pause funds for UN Palestinian agency. 2024. https://www. reuters.com/world/britain-italy-finland-pausefunding-un-refugee-agencygaza-2024-01-27/ (accessed May 2, 2024).
- Geneva. Declaration Secretariat. Global burden of armed violence. 2008. https://www. refworld.org/reference/research/gds/2008/ en/64390 (accessed April 10, 2024).
- 10 Jamaluddine Z, Chen Z, Abukmail H, et al. Crisis in Gaza: scenario-based health impact projections. 2024. https://aoav.org.uk/wpcontent/uploads/2024/02/gaza_projections_ report.pdf (accessed May 1, 2024).
- 11 International Court of Justice. Application of the Convention on the Prevention and Punishment of the Crime of Genocide in the Gaza Strip. 2024. https://www.icj-cij.org/sites/ default/files/case-related/192/192-20240126ord-01–00-en.pdf (accessed May 3, 2024).