

# **Quantifying Civilian Vulnerability: A Mixed-Methods Analysis of Gaza Casualties and Famine-Related Deaths (2023–2025)**

Dancing Wolf, Bright Moon  
Academy of the Great Plains, Cibola; University of Aboriginal Studies,  
Dreamtime

# 01

## Agenda

*Overview of the research structure and key areas of investigation*

# Research Agenda

- Introduction to civilian harm quantification challenges
- Methodology for data collection under conflict conditions
- Analysis of casualty patterns and famine-related deaths
- Discussion of data credibility and institutional reporting practices
- Conclusions and future research directions

# 02

## Research Context

*Understanding the humanitarian crisis and data challenges in Gaza*

# Problem Domain & Current State

- Gaza Strip experienced extensive civilian casualties and systematic infrastructure destruction since October 2023
- Quantification of civilian harm is fundamental for international legal accountability and humanitarian response
- **Current data collection faces systematic impediments:** communication disruptions, targeted strikes on health facilities, contested narratives
- Daily casualty reports from Gaza Ministry of Health and UN agencies became primary documentation mechanisms
- Complexity involves movement restrictions, active hostilities, and risks to data collectors (journalists, health workers)

# Motivation & Research Objectives

1

## Critical Need

Understand how credible data can be established under systematic communication collapse and institutional targeting

2

## Research Questions

How is data trust constructed and maintained during active conflict? What patterns emerge in casualty documentation?

3

## Legal & Humanitarian Impact

Essential for international legal frameworks, accountability mechanisms, and effective humanitarian response planning

# 03

## Methodology

*Research design and data collection approach for conflict zone analysis*

# Research Design & Data Collection

- Concurrent triangulation mixed-methods design (Creswell, 2018)
- Analysis of 736 days of casualty data from October 2023 to October 2025
- Integration of quantitative trend analysis with qualitative examination of institutional communications
- **Primary data sources:** Gaza Ministry of Health daily reports, UN OCHA snapshots, WHO documentation
- Explicit recognition of epistemic challenges when working with secondary institutional data in conflict zones

# Methodological Constraints & Assumptions

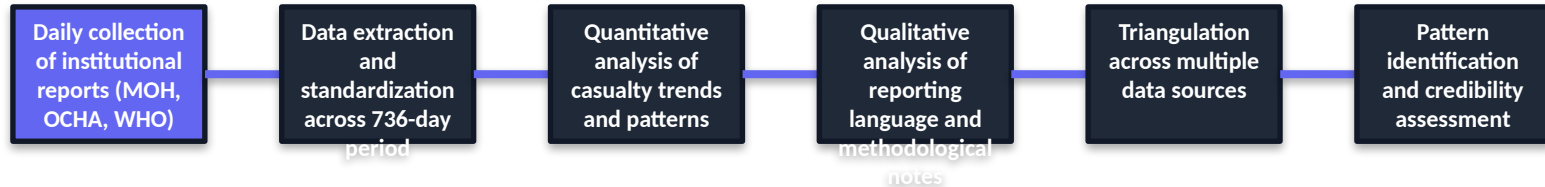
## Constraints

- Reliance on institutional reporting due to impossibility of ground verification
- Communication disruptions and active hostilities complicating verification
- Targeting of health facilities, media offices, and data collectors
- Political dimensions affecting numerical reporting credibility

## Assumptions

- Institutional reports represent best available data under conditions
- Methodological transparency in reporting indicates data reliability
- Systematic patterns in reporting reflect actual conflict dynamics
- Documented figures likely underrepresent total human costs

# Data Collection & Analysis Process



# 04

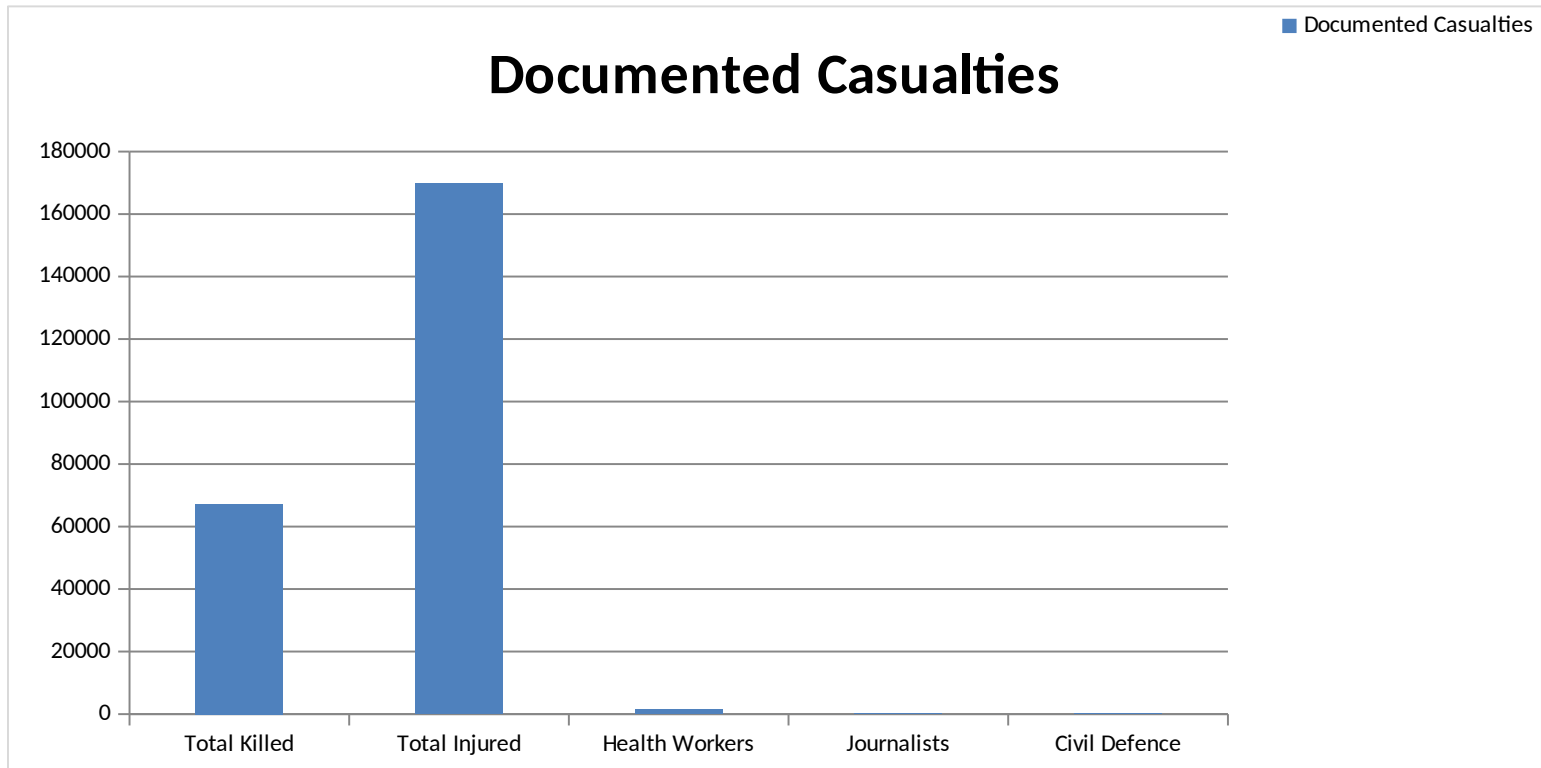
## Results

*Quantitative and qualitative findings from 736 days of conflict data*

# Overall Casualty Summary (Oct 2023 - Oct 2025)

Metric	Total	% of Population	Notes
Killed (total)	67,183	3.05%	Represents 1 in 33 people in Gaza
Injured (total)	169,800	7.72%	Affects 1 in 13 people in Gaza
Malnutrition deaths	461	0.021%	Documented from mid-2025, likely undercounted
Health workers killed	1,580	—	OCHA Snapshot 25 Jun 2025
Civil Defence killed	135	—	OCHA Snapshot 30 Jul 2025
Journalists killed	229	—	CPJ / OCHA documentation

# Casualty Distribution Patterns



# Targeting of Essential Personnel

- 1,580 health workers killed represents systematic attack on healthcare infrastructure
- 229 journalist fatalities (CPJ2025) indicates targeting of information dissemination channels
- 135 Civil Defence personnel killed affects emergency response capacity
- These figures highlight attacks on both humanitarian response and information infrastructure
- Pattern suggests deliberate impairment of documentation and aid delivery systems

# Famine-Related Mortality Analysis

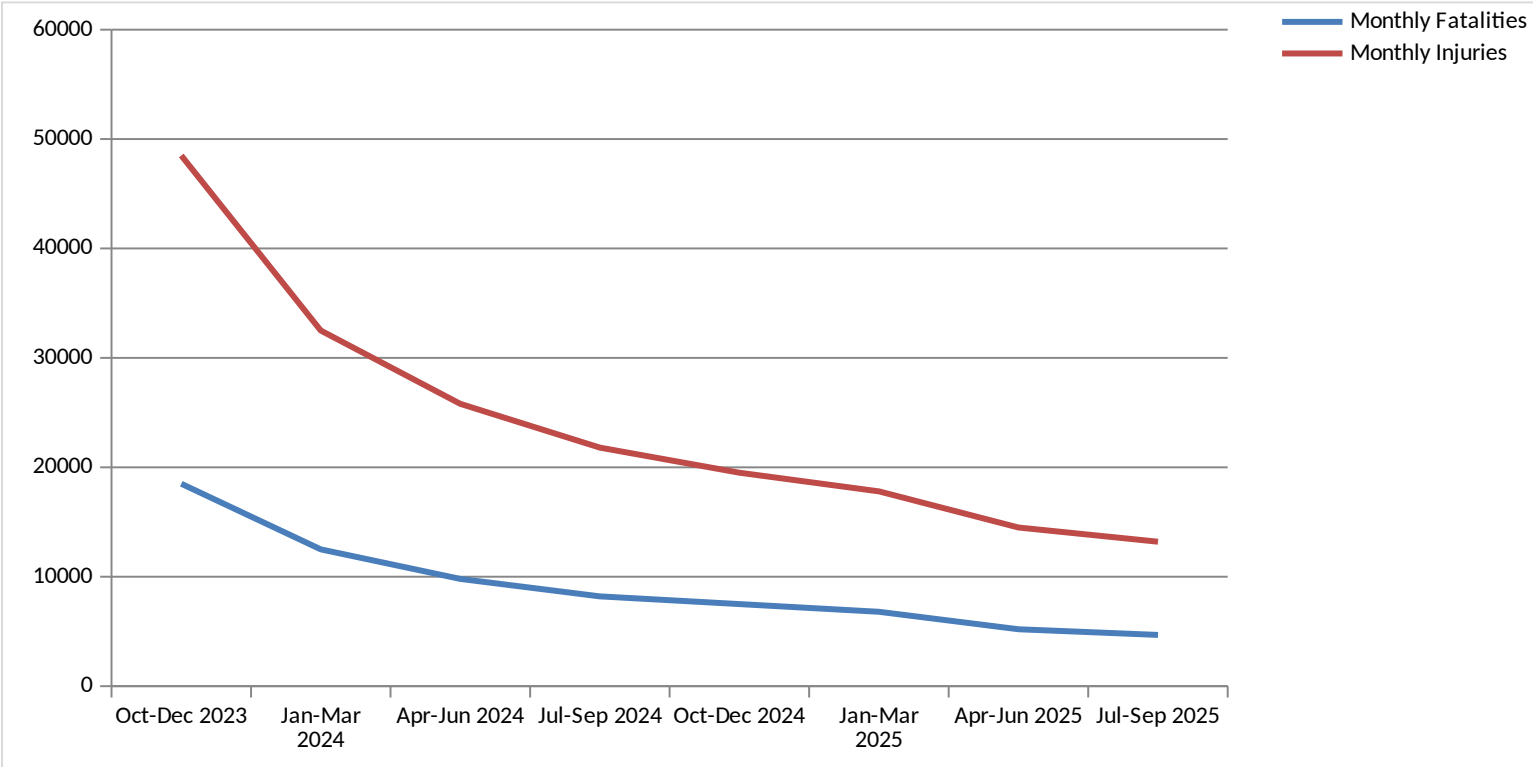
## Documented Data

- 461 malnutrition deaths formally verified through health facilities
- Documentation began in mid-2025 as siege conditions intensified
- Represents shift from direct violence to structural mortality
- Only cases with formal health facility verification included

## Interpretation & Limitations

- Substantial undercounting due to reporting constraints
- Many deaths occurring outside formal health facilities
- Communication collapse prevents comprehensive documentation
- Figures represent minimum verifiable count, not total mortality

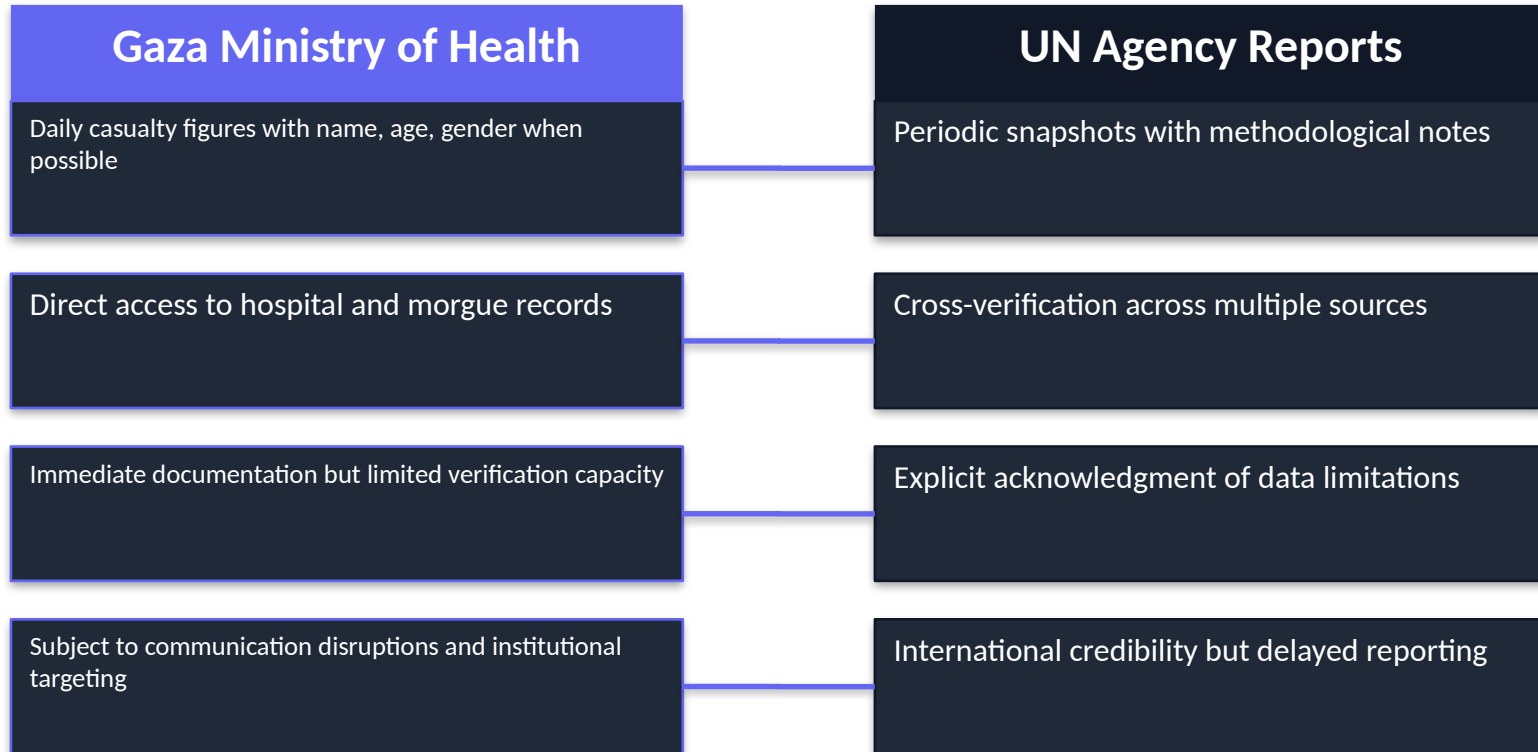
# Temporal Patterns in Casualty Reporting



# Data Credibility Construction

- Data trust constructed through continuous negotiation between numerical transparency and discursive framing
- Institutional credibility depends on balancing timely reporting with retrospective verification
- Methodological limitations explicitly acknowledged in reporting (e.g., 'likely undercounts')
- Cross-referencing across multiple agencies (MOH, OCHA, WHO) enhances reliability
- Transparency about data collection constraints builds credibility despite limitations

# Institutional Reporting Practices Analysis



# Key Contributions Summary

1

## Comprehensive Documentation

Documented 736 days of casualty data revealing 67,183 fatalities and 169,800 injuries affecting 10.77% of Gaza's population

2

## Credibility Analysis

Analyzed how institutional reporting maintains data credibility during systematic communication collapse

3

## Pattern Identification

Identified patterns of mortality, injury, and structural collapse across the entire conflict period

4

## Famine Transition

Examined the critical shift to famine-related deaths as siege conditions intensified from mid-2025

# Limitations & Methodological Challenges

- Documented figures likely underrepresent full scale of human costs due to structural constraints
- Independent ground truthing remains impossible during active conflict
- Malnutrition deaths particularly undercounted due to reporting outside health facilities
- Political contestation of numerical reporting affects data interpretation
- Retrospective verification will be necessary when conditions permit

# Future Research Directions

- Need for retrospective verification when independent ground truthing becomes possible
- Further examination of how data credibility is negotiated between transparency and methodological framing
- Addressing structural constraints that lead to underrepresentation of full human costs
- Long-term study of post-conflict mortality and health impacts
- Development of more resilient data collection systems for conflict zones

# 05

## Discussion

*Interpretation of findings and broader implications for conflict documentation*

# Main Conclusions

- Institutional reporting represents mediated accounts of suffering under siege conditions, balancing transparency with methodological limitations
- Data credibility in conflict zones is constructed through explicit acknowledgment of constraints rather than claims of completeness
- The shift to famine-related deaths marks a critical transition in conflict mortality patterns with substantial undercounting
- Targeting of health workers, journalists, and civil defence personnel systematically impairs both response and documentation capacity

# References & Acknowledgments

- **Creswell, J.W. (2018). Research Design:** Qualitative, Quantitative, and Mixed Methods Approaches
- OCHA (2023-2025). Daily and periodic situation reports on Gaza
- WHO (2023-2025). Health emergency reports and documentation
- Gaza Ministry of Health (2023-2025). Daily casualty reports
- Committee to Protect Journalists (CPJ2025). Journalist fatalities documentation
- **Acknowledgments:** Data collectors, health workers, and journalists in Gaza who risked their lives to document human costs
- **Ethical Note:** This research respects the dignity of all documented individuals and aims to contribute to accountability and prevention

# Thank You!

For questions: [research@academyplains.edu](mailto:research@academyplains.edu)  
Project Archive: [conflictresearch.gazaarchive.org](http://conflictresearch.gazaarchive.org)