

Status of Maternal and Child Health Registries in Low and Middle Income Countries: A Systematic Review of Literature

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BACKGROUND

- Low and middle income countries with high mortality rates often have weak healthcare and health information systems with inadequate data.
- Absence of reliable maternal and child health data impedes the implementation and monitoring of necessary policies and programs.
- There is universal agreement that better reproductive, maternal and newborn health data is needed.
- The use of registries can improve maternal and child health data collection systems.
- **Health registries** represent a systematic approach to monitor a wide range of health events and provide opportunities for public health surveillance, healthcare service delivery and research.



STUDY OBJECTIVE

To **review** the status of research reported from **maternal and child health registries in low and middle income countries**, to inform future implementation strategies for electronic maternal and child health registries.

DEFINING REGISTRIES

An **electronic registry for maternal and child health** is an electronic organized system for the collection, storage, retrieval, analysis, and dissemination of information on health determinants and outcomes for individual persons, focusing on maternal and child health, with the purpose of supporting health care provision, public health surveillance, and research.

METHOD

A systematic review was conducted, including a search of the following databases: PubMed/Medline, EMBASE, ISI Web of Science and Cochrane Library. The search included publications from 1993 – 2014 using medical subject heading terms indicative of reproductive, maternal, newborn and child health registries in Palestine territories and the 75 Commission on Information and Accountability for Women's and Children's Health (CoIA) countries, which account for more than 98% of maternal and child deaths.

- The search generated 3520 results, of which abstract content was screened using our inclusion criteria -:
 - **Thematic area:** reproductive, maternal, child and newborn health
 - **Data collection:** any use/description of longitudinal systematic data collection of individual persons. This can include use for case-control, nested case-control, cross-sectional, DHSS survey data etc. Secondary data collection from an existing registry
 - **Setting:** 75 CoIA countries including Palestine
- 40 relevant articles were identified for the full text screening, of which 23 were included for data extraction.
- Data extraction included findings on: registry purpose, format, theme, scale, scope, sustainability and capacity.
- The search strategy was conducted by one reviewer in consultation with a librarian and data screening and extraction was conducted in co-operation with a second independent reviewer.

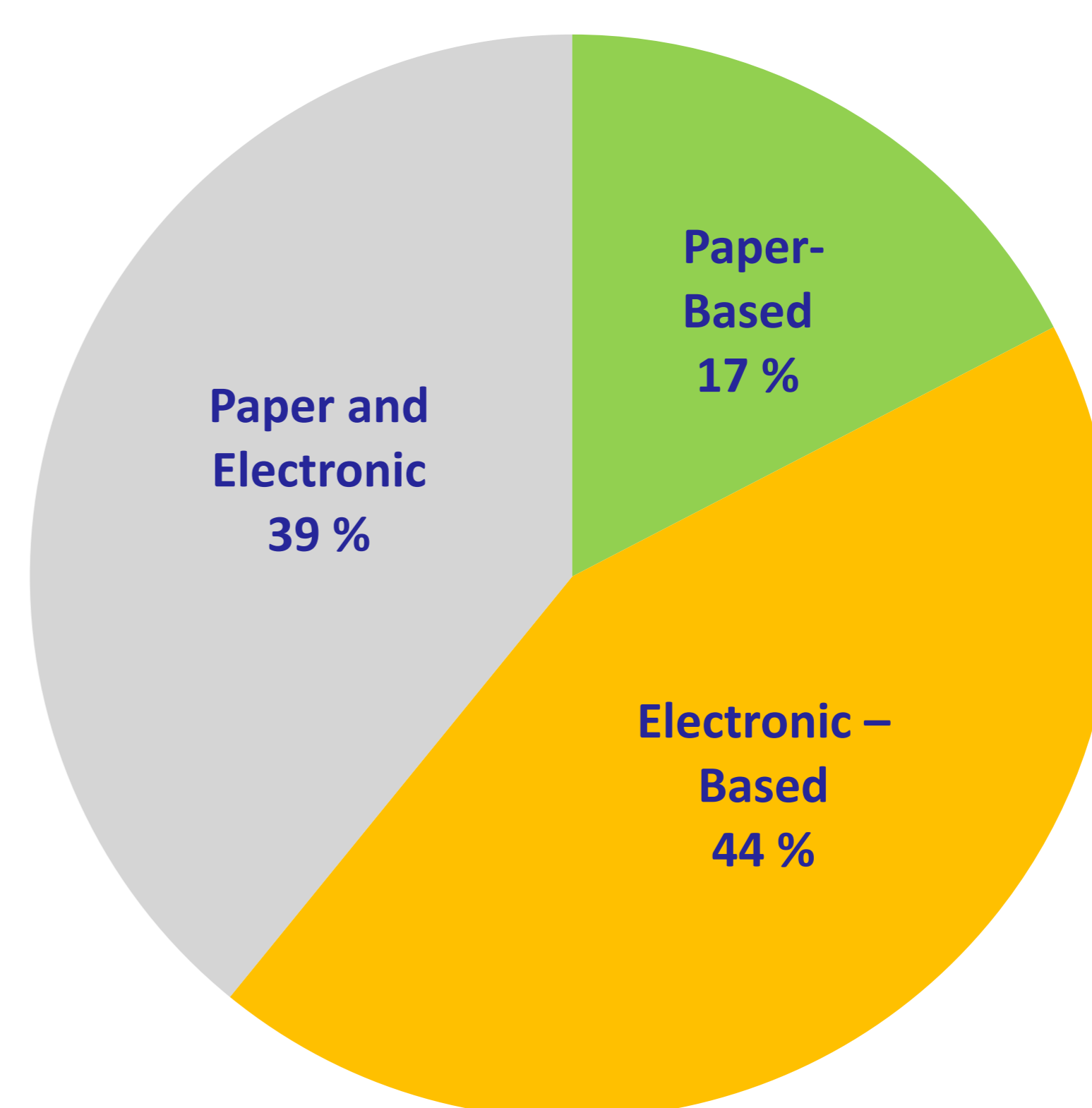
PRELIMINARY RESULTS

- **Purpose:** 80% of the findings showed that the primary purposes of the maternal and child health registries in low and middle income countries were developed to collect accurate data on pregnancies and their outcomes.
- **Format:** Of the 23 publications 17% reported using paper based data collection systems for reproductive health, 44% electronic, and 39% using both paper and electronic.
- **Scale:** Two thirds of the registries identified were implemented on a community or district level vs population based.
- **Sustainability:** The findings showed 17 out of the 23 studies from registries were designed for research with a limited time period and not for sustainable population based registration.
- **Data Privacy and Security:** Only 3 of the 23 studies mentioned having some form of data privacy and security for the registry system. The data privacy and security reported was related to ethics approval for research, and password protection for electronic systems.

Publications Referencing Reproductive Health Registries in LMICs

Publications referencing reproductive health registries in respective countries	Number of publications
Dem. Republic of the Congo (1), Guinea –Bissau (1), Kenya(1), Mozambique(1), Nigeria(1), Rwanda (1), Senegal (1), South Africa(1), Tanzania (1) and Zambia(2)	11 publications
Vietnam (1) and China (1)	3 publications
India (2) and Indonesia (1)	3 publications
Egypt (1) and Pakistan (2)	2 publications
Brazil (2), Guatemala (1) and Peru (1)	4 publications
	<i>23 total publications</i>

Format of Reproductive Health Registries in LMICs in Research



CONCLUSION

- Few studies using maternal and child health registries in low and middle income countries were identified.
- Electronic registries in low and middle income countries are primarily designed for research with a limited time period, not sustainable population based.
- However, a few publications illustrate the potential for implementing electronic maternal and child health registries in low and middle income countries.