

# Short Communication: Principles of Health Data Stewardship in Public Health Epidemiology - A Rapid Overview

GV Fant

Senior Advisor, Global Public Health Sciences, Jodhpur School of Public Health, Rajasthan, India.

Corresponding Author: Dr GV Fant

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## ABSTRACT

This short communication discusses the importance of managing health data to enhance public health outcomes while emphasizing the significance of data privacy and accuracy. It presents guidelines for the handling and utilization of data covering aspects such as data quality, security, privacy, sharing, ethics, governance, transparency, accountability and sustainability. By highlighting the value of high-quality data, we advocate for leveraging Health Information Technology (HIT) solutions, like Electronic Health Records (EHRs), to improve data integrity. Efficient data management supports health initiatives like analyzing disease patterns and designing interventions underscoring its role in decision making and formulating public health strategies.

**Keywords:** Health Data Stewardship; Public Health Epidemiology; Data Quality; Ethical Use; Health Information Technology

## INTRODUCTION

Data stewardship plays a vital role in public health epidemiology -- the application of epidemiology in a public health agency for public health programming [1] -- by ensuring responsible handling of health information to improve public health outcomes while safeguarding privacy and data accuracy. This comprehensive

approach, grounded in various practices, principles, and guidelines, ensures data integrity, confidentiality, and availability, serving as a cornerstone for epidemiological inquiries and public health initiatives.

## Key Principles of Health Data Stewardship

The stewardship of public health epidemiologic data is underscored by core concepts essential for the accurate and ethical utilization of data in epidemiological practices [2,3]:

- 1. Data Quality and Integrity:** Fundamental to epidemiology, data quality and integrity underpin accurate community diagnoses and the assessment of health trends and disease risks, supporting evidence-based public health policymaking.
- 2. Data Security and Privacy:** Essential for maintaining the confidentiality of sensitive health information, data security and privacy protect individual rights while complying with health data use regulations that are crucial for trust from community members.
- 3. Data Sharing and Accessibility:** Facilitates ethical data sharing with authorized entities to advance public health goals, critical for collaborative epidemiological research and the evaluation of health services and interventions.

4. **Ethical Use of Data:** Balances the collective benefits of epidemiological data use with individual rights, emphasizing informed consent and equitable data usage, vital for the ethical foundation of epidemiological studies.
5. **Data Governance:** Establishes comprehensive frameworks for data lifecycle management, aligning stewardship practices with the multifaceted aims of epidemiological research and public health objectives.
6. **Transparency and Accountability:** Ensures public trust through clear communication on data practices, enhancing the accountability of epidemiological research and interventions.
7. **Sustainability and Scalability:** Emphasizes the need for adaptive health data management practices to meet the evolving demands of epidemiological research, ensuring the long-term utility of data in public health.

The necessity for healthcare organizations to deploy HIT solutions that enhance data quality has been underscored by the American Institute for Healthcare Management. High-quality, standardized data are crucial for the rigorous analysis of disease trends, community diagnosis, and the evaluation of public health measures. The AHIMA Data Quality Management Model offers a method to enhance data quality through utilization, collection, storage and analysis processes leveraging electronic health records/electronic medical records (EHRs/EMRs) and other technological advancements [4].

## **DISCUSSION**

When considering the accurate use of health data, it becomes clear that effective health data stewardship goes beyond just following standards. It involves a dedication to promoting transparency, accountability, and sustainability in managing health data [2,3]. These principles play a role in establishing trust with communities by ensuring that the

gathering and utilization of health data respect rights and privacy.

Incorporating health data stewardship principles emphasizes the significance of health data quality and ethical data use in public health epidemiology. In practice, data gathered from individuals eventually becomes part of population datasets utilized for public health purposes. Effective health data management improves the reliability and usefulness of data for public health policies and interventions supporting a range of epidemiological applications, such as studying disease trends, understanding disease burden, and investigating the cause of disease within populations [1; 5-8].

## **CONCLUSION**

Health data management plays a role in ethically and effectively using vast data reserves to shape public health action. The role of health data stewardship in supporting public health applications, such as identifying disease trends and examining public health outcomes within populations, underscores its critical importance in epidemiological practice and discussions. In the field of public health epidemiology, health data stewardship is crucial, for shaping public health initiatives.

### ***Declaration by Authors***

**Ethical Approval:** Not Applicable

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**Biographical Statement:** GV Fant, DSc, PhD, Senior Advisor, Global Public Health Sciences, Jodhpur School of Public Health, Rajasthan, India. Beginning in 1997, Dr. Fant has served as a U.S. civil servant and epidemiologist in Northern Virginia, USA.

## REFERENCES

1. Friis RH, Sellers TA. Epidemiology for public health practice, sixth edition. Burlington, MA: Jones & Bartlett, 2021.
2. Fant GV. Technical review; concepts in managing health databases for developing the public health workforce in resource constrained settings. *Intl J Sci Res Arch.* 2023; 09(02);222-230.
3. Inau E, Sack J, Waltemath D, Zeleke A. Initiatives, concepts, and implementation practices of the findable, accessible, interoperable, and reusable data principles in health data stewardship: scoping review. *J Med Internet Res* 2023;25:e45013.
4. American Institute for Healthcare Management. Healthcare Data Quality [Internet]. Accessed February 29 2024. Available at: [https://www.amihm.org/healthcare\\_data\\_quality/](https://www.amihm.org/healthcare_data_quality/)
5. Tiwari P. Simplifying epidemiology. New Delhi: Jaypee Brothers, 2003.
6. Gordis, L. Epidemiology, fifth edition. Philadelphia, PA: Saunders, 2014.
7. Bonita, R., Beaglehole, R., Kjellström, T. Basic epidemiology, second edition. Geneva: World Health Organization, 2006.
8. Park, K. Principles of epidemiology and Epidemiologic methods In: Park's Textbook of Preventive and Social Medicines, 24th edition. Jabalpur: Banarsidas Bhanot, 2017.

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