

Optimizing the Use of HMIS Data for Health Decision-Making in Nepal: Current Utilization, Challenges, and Opportunities

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ABSTRACT

Health Management Information Systems (HMIS) are crucial in strengthening healthcare systems by providing data to inform policy, program design, and service delivery. In Nepal, HMIS data is collected across various health system levels; however, the extent to which this data is effectively utilized in decision-making still needs to be explored. This viewpoint examines the use of HMIS data within Nepal's health sector and assesses its influence on health policies, resource allocation, and program implementation.

Keywords: Data Utilization; Healthcare Decision-Making ;HMIS

INTRODUCTION

Collecting regular health data through a Routine Health Information System (RHIS) or a Health Management Information System (HMIS) is essential in enabling efficient decision-making processes.¹ RHIS/HMIS data supports various crucial functions within the health system, such as improving client and individual care, managing health units and facilities effectively, and coordinating health programs.^{1,2} To achieve these objectives, capturing precise, reliable, and timely data is essential. This would aid in informed planning, monitoring, and service delivery, enhancing the effectiveness of various health interventions and programs.² Nepal has made steady advancements in enhancing its Health Information System (HIS) by utilizing Information and Communication Technology (ICT) in several domains.³ These include country-wide implementation of the Health Management Information System (HMIS), standardizing surveillance and surveys, establishing National Health Accounts (NHA), and advocating Electronic Health Records (EHRs) for applications in related services such as health logistics.

HISTORY

In 1994, Nepal established the Health Management Information System (HMIS) to gather data from public and private healthcare facilities, assessing the utilization of their services.^{3,4} Since then, the HMIS has expanded its reach and provides data on over 200 indicators encompassing all government health programs. The system has become a vital source of evidence-based information for decision-making in all areas of governance.⁵

HMIS plays a crucial role in decision-making by identifying neglected regions or populations, providing evidence-based policy dialogues, and monitoring health progress at various levels.^{6,1,2} However, in Nepal, its application has been limited to specific domains, and its complete potential to inform a broader audience still needs to be explored. The Integrated Health Information Management Section (IHIMS), which operates under the Management Division of the Department of Health Services under the Federal Ministry of Health and Population, produces annual reports using HMIS data as the primary medium for disseminating information.^{3,4}

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This brief report explores the extent to which HMIS data is used in the health sphere in Nepal and its role in decision-making. Several sources of information, including government-produced documents such as national policies, guidelines, strategic plans, reports, manuals, and other related documents, as well as official websites of governmental and non-governmental organizations, scientific publications, and reports were examined to determine the utilization of HMIS data.

Utilization of HMIS in Nepal for strengthening health system

Table 1. Use of HMIS in Nepal

Activities	
Development of Annual Plans, Budgets, and Strategies	HMIS data is used as evidence to inform the annual work planning and budgeting of all government health programs at the Federal level. The analysis of HMIS data is also essential for developing future strategies and interventions in the health sector. For instance, the Nepal Safe Motherhood and Newborn Health Roadmap 2030 used patterns derived from this data to develop strategies and formulate plans for the next decade.
Monitoring and Progress Tracking	HMIS data plays a significant role in Nepal, primarily for monitoring the Nepal Health Sector Strategy (2015-2020) and reporting on its outcomes framework. The annual health reviews assess progress on critical indicators within this framework at a national level to identify program gaps. ⁶ Government entities at the Federal level use HMIS to track progress against various indicators, including the National Planning Commission's reliance on HMIS data to monitor progress on Sustainable Development Goal 3 related to health and well-being. Furthermore, development partners refer to HMIS to track the performance of their supported or implemented initiatives and projects.
Utilization at the Sub-National Level	Although HMIS is extensively used at the federal level to facilitate planning, monitoring, and decision-making processes, its utilization at the provincial or local levels remains inadequate. However, the online access to HMIS (District Health Information System) offers features that produce tables and create dashboards that are disaggregated for local use, which can aid in context-specific decision-making.

Activities	
Research and Surveys	HMIS data is crucial for designing national surveys and research/studies in Nepal, as it helps in making decisions on sampling strategies. The sampling frame for the Nepal Health Facility Survey, for example, is based on HMIS information. Moreover, HMIS data is a major source of information for producing international estimates of health-related indicators. Additionally, students and academics use HMIS data for research, fulfilling university curricular requirements, and developing dissertations.

Challenges to better use of HMIS for data-driven decision-making ⁵

- Incomplete and irregular reporting from non-public health facilities and late reporting from public health facilities have been identified as major challenges in Nepal's HMIS. This can lead to gaps in data and inaccurate or delayed information on health service utilization, resource availability, and health outcomes. These issues can negatively impact decision-making and planning at all levels of the health system. Efforts are being made to address these challenges through capacity building, data quality assurance, and improved communication and coordination among stakeholders.
- Inconsistent measurement of indicators and discrepancies in estimated vs. actual target populations. This can occur due to variations in data collection methods, definitions, and reporting practices. It is important to ensure that these inconsistencies are identified and addressed to improve the accuracy and reliability of health data.
- The local levels in Nepal currently lack the capacity to effectively produce and utilize HMIS data. Additionally, there is insufficient capacity to advocate for decisions based on this data. As a result, the usefulness of HMIS data in informing decision-making and planning processes at the local level is limited.

Expanding the Utilization of HMIS Data for Improved Healthcare Outcomes in Nepal

While HMIS data is currently utilized in various aspects of healthcare, there is room for expansion. The habit of consistently utilizing evidence for strategic planning and tracking daily progress must be reinforced across all levels of the healthcare system. Several measures can be taken to achieve this, such as: im

- Strengthening the capacity: Strengthening the

capacity for understanding and interpreting data and conducting analysis is crucial because it enables individuals and organizations to make informed decisions based on evidence. In the context of HMIS in Nepal, this means that having the ability to properly interpret and analyze the data can help identify areas for improvement, develop effective strategies, and monitor progress toward health-related goals. By prioritizing budget allocations and implementing targeted activities to enhance these skills, individuals and organizations can use HMIS data to make data-driven decisions that can ultimately improve health outcomes.

- **Strengthening monitoring:** The importance of strengthening monitoring and feedback mechanisms at the facility level is crucial for improving data quality and increasing the use of HMIS data. It enables timely identification and correction of data entry errors, ensuring accuracy and completeness of the data. This in turn enhances credibility and reliability of the data and strengthens confidence in its use for decision-making processes. Additionally, it helps identify data gaps and the need for additional data collection efforts to fill those gaps. Lastly, monitoring and feedback mechanisms provide an opportunity for healthcare workers to understand the relevance and importance of the data they collect, and how it can be used to improve health outcomes in their communities.
- **Support local levels:** Supporting local levels to set up strong and accountable systems for timely and complete reporting covering all health facilities is important. Firstly, it ensures that accurate and comprehensive data is collected and reported, which is essential for effective decision-making and resource allocation. Without complete and timely reporting, there may be information gaps, which can result in incorrect assumptions and ineffective interventions. Secondly, setting up strong and accountable systems can improve the overall quality of health services at the local level. This is because it enables health officials to identify gaps and challenges in service delivery and take corrective measures. By tracking and analyzing data on service delivery, local health officials can identify areas that require improvement, such as increasing staffing levels or improving infrastructure. Lastly, establishing strong reporting systems can help build trust and accountability between health facilities and local authorities. When health facilities report their data in a timely and complete manner, it demonstrates a commitment to transparency and accountability. This can help build trust between health facilities and the local community, as well as between health facilities and higher levels of government.

WAY FORWARD

The HMIS in Nepal has the potential to support data-driven decision-making, but improvements are necessary. While the system is being used for monitoring health programs, designing national surveys, and informing strategies and interventions, there are challenges such as incomplete reporting, inconsistent measurement, and insufficient capacity at the local level. To strengthen the HMIS, there should be adequate human resources and training, improved capacity for data interpretation, and strong reporting systems. Monitoring and feedback mechanisms should also be enhanced to improve data quality and increase the use of HMIS data. In summary, improvements are necessary to fully support data-driven decision-making in the health sector using the HMIS in Nepal.

CONFLICT OF INTEREST

None

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