



Pharmaceutical Supply Chain Management in Subdistrict Health Promoting Hospitals under Decentralization: A Qualitative Study Using the Supply Chain Operations Reference Digital Standard (SCOR-DS) Model

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Abstract

Subdistrict Health Promoting Hospitals (SHPHs) play a vital role in primary health care delivery in Thailand. However, following decentralization to Provincial Administrative Organizations (PAOs), pharmaceutical supply chain management (PSCM) remains inadequately structured. This qualitative study aimed to explore current PSCM processes and their associated problems in SHPHs. Data were collected through semi-structured interviews with six purposively selected key informants involved in PSCM. The interviews were audio-recorded, transcribed verbatim, and analyzed using qualitative content analysis. The findings revealed fragmented information systems and duplicative operational processes throughout the pharmaceutical supply chain. Within the Orchestrate process, coordination relied primarily on provincial-level collaboration with network node hospitals for formulary decision-making and medicine procurement. Planning practices were heterogeneous, encompassing zero-stock policies and shared service zones among nearby SHPHs, with forecasting predominantly informed by historical prescribing data and manual planning tools. The Source process relied heavily on network node hospitals through paper-based and informal communication channels, resulting in medicine requisition lead times of approximately 15 days. In the Transform process, non-integrated systems that duplicated inventory storage and required parallel data entry increased staff workload and caused operational delays. The Fulfill process was limited by workforce shortages and unclear roles, increasing the risk of medication errors. The Return process involved sending near-expiry medicines back to network node hospitals to reduce pharmaceutical waste. Overall, these findings highlight the need for an integrated, real-time information system to enhance coordination, improve operational efficiency, and strengthen medication safety in PSCM at the primary care level.

Keywords: *pharmaceutical supply chain management, SCOR-DS Model, subdistrict health promoting hospitals, primary health care*