

TECHNICAL BRIEF

How the Commodity Landscape for Hypertensive Disorders of Pregnancy in Ghana Impacts Care for Mothers



Introduction

The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project enhances the health care experience in communities through transformative supply chain solutions. GHSC-PSM purchases and delivers health commodities, strengthens national supply chain systems, and provides global supply chain leadership to ensure lifesaving health supplies reach those in need, when they need them.

In Ghana, GHSC-PSM works closely with the Ministry of Health (MOH) and the Ghana Health Service (GHS) to ensure continuous availability of quality-assured maternal, newborn, and child health (MNCH) commodities. In 2021 and 2022, GHSC-PSM carried out a study to examine the medicines used to manage hypertension in pregnancy. Hypertensive disorders of pregnancy (HDP), including pre-eclampsia, eclampsia, gestational hypertension, and chronic hypertension, increase the risk of adverse fetal, neonatal, and maternal health outcomes.

GHSC-PSM and GHS conducted a desk review of existing HDP medicine data and policies in 2021. The desk review provided a glimpse into the HDP landscape, but also revealed a gap in supply chain and programmatic data, preventing a thorough understanding of the management of medicines for HDP and product availability at the point of care. Thus, they expanded the scope to include further data collection and subsequent analysis to inform these gaps. The full study aimed to increase understanding of how HDP medicines are prescribed in Ghana's public sector and identify bottlenecks that affect the availability of these medicines. The study also laid out a set of recommendations that should be implemented to ensure these medicines are properly incorporated into national policies and readily available for pregnant people.



Objectives

In addition to its primary purpose, the study examined:

- ✓ Data relative to case management and prescriber behavior to hypertension in pregnancy management in Ghana.
- ✓ The availability of medicines for the management of HDP in Ghana's health service delivery points.
- ✓ Care provider behaviors, practices, and preferences for HDP medicines.



Photo credit: GHSC-PSM



Methodology

The study used a mixed-method approach to collect quantitative and qualitative data on the management and use of medicines for HDP in selected health facilities, the regional medical stores (RMSs), and regional health administrations to understand the key factors affecting management, availability, and use of these medicines. The country was divided into three zones: coastal belt, middle belt, and northern belt. The partners used Ghana's Standard Treatment Guidelines (2017) and the desk review to develop a list of tracer medicines for the study.

Sampling approach:

- ✓ Purposive selection of two regions per zone based on the density of health facilities.
- ✓ Random selection of an allocated number of districts per region based on the number of districts in each selected region.
- ✓ Random sampling of health centers, polyclinics, and hospitals to achieve the sample allocation per region.
- ✓ Convenience sampling of one Community Health Planning and Services (CHPS) compound in districts with sampled facilities.
- ✓ Only public sector facilities were assessed to ensure alignment with study objectives.

In total, the study team collected data from **135 sites comprising 25 hospitals, five polyclinics, 60 health centers, and 45 CHPS compounds**. The RMSs and regional health administrations in the selected regions were also included in the list of entities assessed.

Survey results covered **10 areas**: product management, product availability, adherence to standard inventory management practices, capacity building for staff in stock management and HDP-related areas, pricing, product quality, prescriber preferences, client feedback on product access, as well as challenges and opportunities impacting the supply chain for HDP medicines.



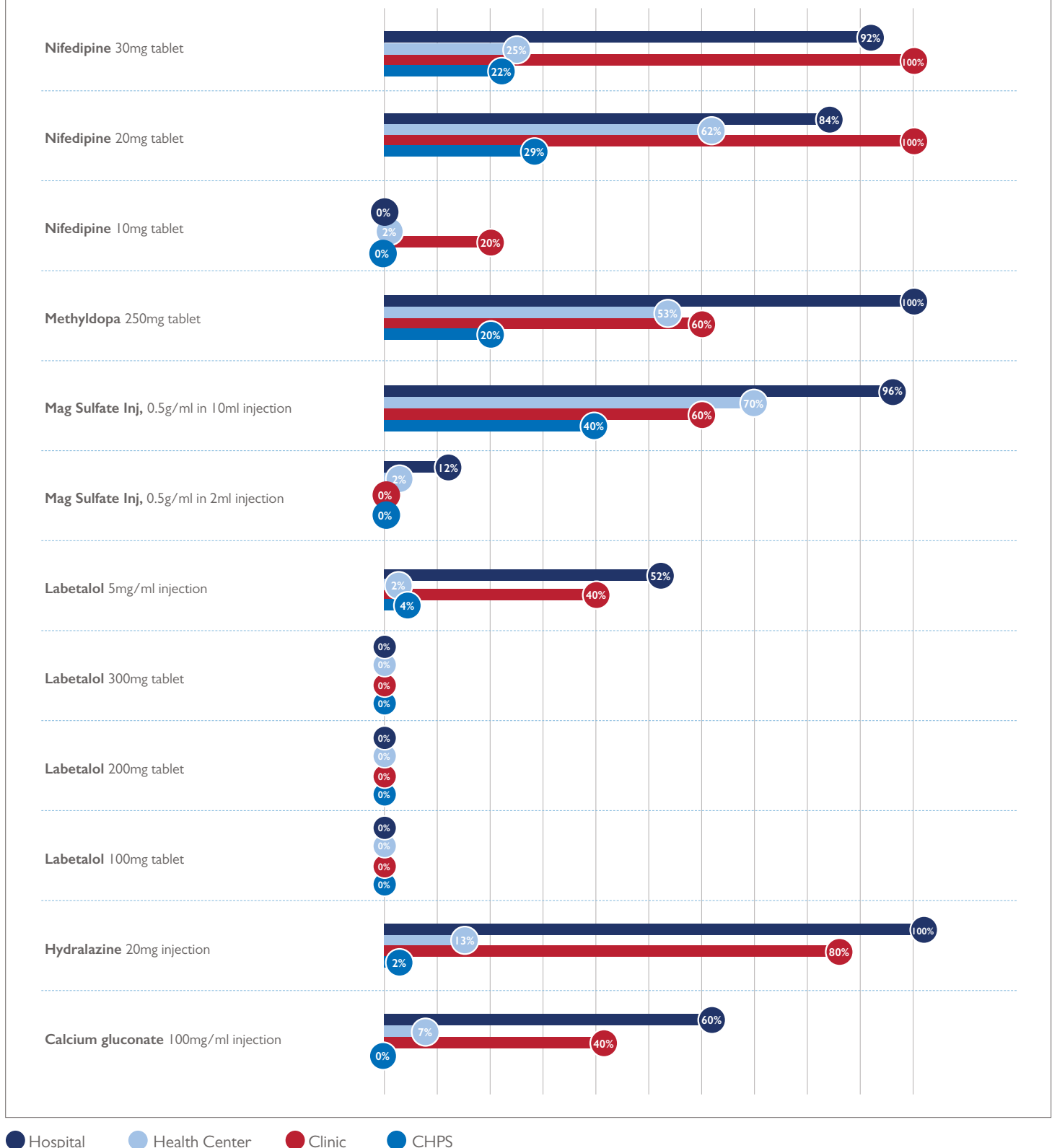
Photo credit: GHSC-PSM

Results

Product management.

The study showed that lower-level facilities (CHPS and health centers) generally manage a smaller range of medicines for HDP compared to polyclinics and hospitals. A significant number of facilities were not managing nifedipine, methyldopa, and magnesium sulfate injection even though they are within their level of care. Management of calcium gluconate injection was 0 percent and 7 percent in CHPS and health centers, respectively. Labetalol oral tablets were not being managed across all facility types due to availability of alternative formulations.

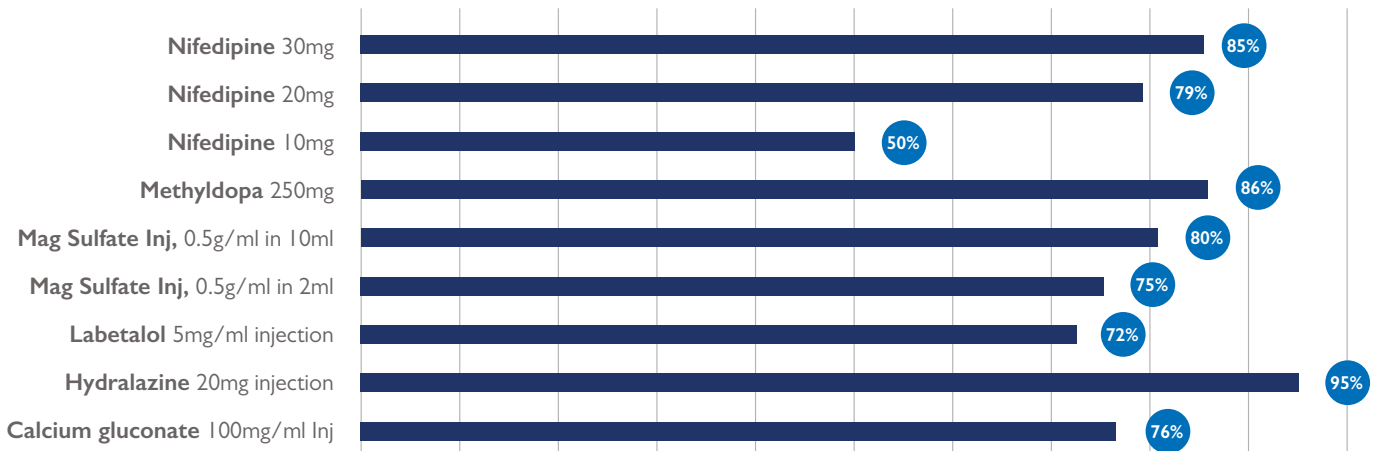
Figure 1: Percentage of health facilities that manage medicines for HDP



Product availability.

Availability of medicines for the management of HDP ranged between 72 percent and 95 percent except for nifedipine 10mg, which was 50 percent. The main reason for reported stockouts in the three months before the survey was non-availability at the supply point. This was corroborated by RMS results, which showed 0–33 percent availability for eight out of 12 medicines assessed. Other factors that contributed to stockouts at service delivery points include medicine rationing and inadequate funds to procure medicines. Generally, health facilities tend to procure from the private sector when HDP medicines are not available at the RMS.

Figure 2: Availability of HDP medicines in health facilities



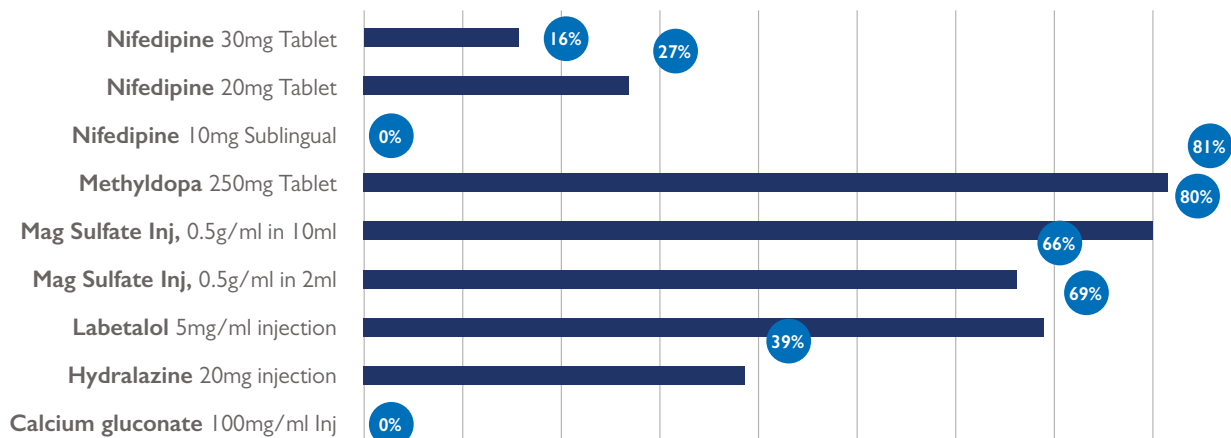
In the key informant interviews, respondents reported payment delays, MOH framework contract (FWC) structure, and macro-economic dynamics, such as price instability and inadequate storage space, are some of the **key factors that impact medicine availability** at RMSs and subsequent supply to health facilities. Despite the huge potential benefits, [FWC implementation has been impacted](#) in several ways. First, funding has been inadequate at the regional level, mainly due to National Health Insurance Authority (NHIA) delayed payments. Second, the macro-economic dynamics at the time of this study (high inflation and high exchange rate) increased the cost of pharmaceuticals beyond levels that can be contained under the FWC price list.

The median selling price for six out of nine HDP medicines assessed in the health facilities were equal to the National Health Insurance Scheme (NHIS) reimbursement prices, and three of the medicines had prices higher than NHIS prices.

Product registration.

In all, about 50 percent of the top three brands of medicines for the management of HDP were registered at the time of the survey.

Figure 3: Registration status among top 3 brands of HDP medicines



Staff capacity.

Although the availability of inventory tools for HDP medicines ranged between 50 percent and 95 percent, these were often not updated and records on them did not reflect current happenings at the facility. Only 40 percent of commodity managers reportedly received logistics management training. GHS can use this data to target facilities that have not been trained as well as those having challenges with medicine availability and management with capacity-building initiatives.

Prescriber behaviors.

For all facility types (CHPS, health centers, polyclinics, and hospitals), the nifedipine sustained release tablet was selected as the most preferred anti-hypertensive medication for pregnant people instead of methyldopa. In the management of severe hypertension, 34 percent of hospitals cited private sources as their main source of supply, while 56 percent sourced labetalol 5 mg/ml from the private sector, which reinforces the need for the RMS to strengthen its capacity to meet the needs of these hospitals.

Client behaviors.

Feedback from HDP clients seeking health care indicated the single most important factor that influences access to HDP medicines is availability of medication at supply point, which accounted for 56 percent of responses. The next most important factor (24 percent) was coverage under the NHIS.

Furthermore, 70 percent of clients said they obtained their HDP medicines from the public health sector as compared to 15 percent for private pharmacies and 15 percent for private health facilities.

Figure 4: **Single most important factor influencing access to HDP medicines**

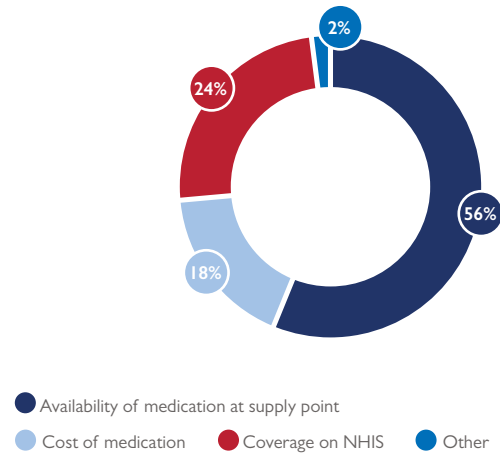
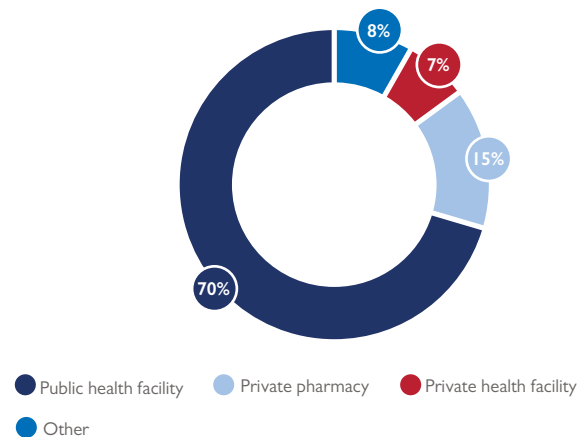


Figure 5: **Source of HDP medicines for clients**



Recommendations



Reduce NHIS restrictions: MOH/GHS can help improve the number of lower-level facilities managing required HDP medicines for their level of care by revising regulations that prevent the stocking of some HDP medicines within the CHPS and health centers despite the availability of qualified personnel at post.

Resolve NHIA payment delays: Resolving the payment delays to facilities from the NHIA for services rendered is at the heart of improving funding for procuring the supply of medicines for the management of HDP and other essential commodities. Without a steady flow of funds, facilities impair the revolving funds for purchase and supply, which makes RMSs unable to obtain supplies to make commodities available.

Revitalize the implementation of FWC: The MOH should account for inflation and currency depreciation within the award of FWCs to ensure revenue stability. Awarding the supply of HDP medicines to MOH-approved suppliers is an important step in product quality assurance.

Rethink the role of the private sector: The private sector plays a key role in sustaining the supply of HDP medicines at the health facilities, particularly in instances when the RMS are out of stock or are facing supply challenges. Whereas the RMS permit health facilities to procure from the open market when they are out of stock, it may be useful to restrict the source of HDP medicines from pre-qualified vendors to minimize the effect of over-pricing and sale of unregistered products.

Review product management policy for calcium gluconate injection: MOH and GHS should assess and review the categories of health facilities that are allowed to manage calcium gluconate injection—an antidote for magnesium sulfate toxicity. This will ensure that all facilities that manage magnesium sulfate injection have the means to swiftly administer calcium gluconate injection to prevent missed opportunities for saving lives.

Review and align product management policies with NHIA reimbursement policy: MOH, GHS, and NHIA should review and align the National Essential Medicines List (NEML) with NHIA medicine reimbursement policy. This will ensure that facilities that manage medicines based on their level of care (e.g., nifedipine oral preparation in facilities with midwives) are duly reimbursed by the NHIA after dispensing to clients.

Improve regulation: The study identified that some brands of HDP medicines found in the health facilities were unregistered. This is a potential risk for the entry of sub-standard products and must be prioritized for immediate action.

Address human resource gaps: Whether in service delivery or supply chain management, the effect of inadequate human resource capacity in terms of competence and adequacy of numbers is deleterious to performance. We identified these gaps to be more pronounced at the CHPS and health centers.

Improve dissemination and uptake of treatment protocols and guidelines: There are recommendations, changes, and updates in the Standard Treatment Guidelines, the NEML, and the protocol for managing HDP that are not implemented. We encourage the role of continuous development programs, such as mandatory annual online training courses, to increase awareness and use of updated treatment protocols.

Encourage good supply chain management practices: Stock records should be regularly updated and measures should be taken to submit accurate data from health facilities to the RMS to enhance planning for commodity stocking and supply. The RMS should aim at stocking at the required quantities, since more than 75 percent of facilities depend on them as the main source for product supply. Training for facilities should emphasize the importance of good logistics management practices for product quality, particularly products that are stored.



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