Article

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Posted Date: 25 February 2026

doi: 10.20944/preprints202602.1514.v1

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Abstract

The Common Illness (CI) service in Thailand integrates drug stores into the Universal Health Coverage (UHC) scheme to expand primary care access and reduce hospital congestion. Drug stores provide assessment, treatment, and follow-up for 32 minor ailments under guidelines. This study reviews CI implementation, service delivery models, and monitoring mechanisms, and proposes a patient journey framework to identify system gaps. This study adopted a multi-method design, combining a scoping review with qualitative in-depth interviews. The scoping review followed Arksey and O'Malley's framework, refined by Levac and Khalil. We searched peer-reviewed and grey literature in Thai and English (2022–2025) in PubMed, Scopus, ThaiJO, and sources from the NHSO, Ministry of Public Health, and Pharmacy Council. We extracted data and synthesized findings. To map the patient journey, we conducted in-depth interviews with patients seeking care for common illnesses. CI care now covers 32 common illnesses using standardized procedures for eligibility checking, assessment, dispensing, counselling, and three-day follow-up. Drug stores provide fast, convenient community access, reducing unnecessary hospital visits. Implementation varies across provinces, with monitoring primarily using reimbursement data and limited indicators on service quality, patient outcomes, or equity. Patients and pharmacists' welcome CI services, noting shorter waiting times, lower travel costs, and reduced hospital crowding. However, patients sometimes misunderstand entitlements and expect unnecessary medicines, while pharmacists face digital system problems and payment delays. Pharmacists emphasize honest practice for program sustainability and recommend wider insurance coverage, stronger management and referral systems, and more reliable digital infrastructure to support CI services under UHC.

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 doi:10.20944/preprints202602.1514.v1

1. Introduction

Over the past decade, drug stores have increasingly been recognized as accessible and trusted points of primary healthcare in Thailand. For many people with minor illnesses, drug stores are the first point of contact because they are close to home, convenient, and have shorter waiting times than hospital outpatient departments. National survey data show that about 27% of Thais with common illnesses practice self-care by purchasing medicines directly from drug stores rather than consulting physicians [1]. This pattern highlights the growing contribution of drug stores to outpatient care and their potential role in strengthening primary healthcare delivery.

In 2022, the NHSO in collaboration with the Pharmacy Council of Thailand, introduced the CI care service under the UHC scheme. The initiative initially covered 16 groups of minor ailments and later expanded to 32, including fever, cough, diarrhea, dysmenorrhea, dental pain, and minor skin infections. The program enables patients to receive free consultations and treatment at accredited drug stores nationwide, irrespective of their registered primary care provider. This policy aims to enhance access to primary care, reduce congestion in hospitals, and strengthen the role of drug stores as front-line healthcare providers [2]. Despite this potential, implementation of the CI care service has faced several challenges. Previous initiatives linking hospitals and drug stores, such as medicine refilling for chronic conditions, reported mixed outcomes because of weak referral systems, inconsistent reimbursement procedures, and limited data integration between providers. For CI care, key issues include low public awareness, variation in service quality, unclear communication of pharmacists' roles, and insufficient monitoring and evaluation mechanisms. These problems may hinder continuity of care and make it difficult to generate reliable evidence on service performance at the national level [2,3].

Patient journey mapping provides a framework to examine how individuals seek and experience care across different service points [4]. Applied to CI care, it helps describe how patients move through the UHC scheme, from symptom recognition to contact with drug stores and, when needed, referral to hospitals. To date, no study has systematically reviewed secondary evidence on CI care implementation and combined it with empirical patient and provider experiences to describe the CI patient journey in drug stores.

This study therefore conducts a scoping review to map the implementation of the CI care program under Thailand's UHC scheme and complements this with in-depth interviews with patients and pharmacists in selected provinces. It synthesizes existing evidence on policy frameworks, service delivery models, and monitoring mechanisms, and links these with the reported patient journey in drug stores. The findings aim to identify system gaps, support the development of evidence-based service guidelines, and inform policy refinement to strengthen the integration of drug-store-based primary care within the UHC scheme.

2. Materials and Methods

2.1. Study Design

This study used multi-methods qualitative design. The first component was a scoping review of policy and research documents on the CI care program under the UHC scheme. The second component was a qualitative study using in-depth interviews and patient journey mapping with patients and pharmacists in six provinces in Thailand.

2.2. Scoping Review

2.2.1. Information Sources and Search Strategy

The scoping review followed Arksey and O'Malley's six-stage framework, with adaptations from the Joanna Briggs Institute [5,6]. Academic publications, policy documents, research reports, and grey literature related to CI care under the UHC scheme were included. Sources covered policy

 doi:10.20944/preprints202602.1514.v1

papers, operational manuals, evaluation summaries and official circulars from the NHSO, the Ministry of Public Health (MOPH) and the Pharmacy Council of Thailand, as well as provincial implementation reports. The search covered January 2022–April 2025 in Thai and English. Electronic databases included PubMed, Scopus, Google Scholar, Thai Journals Online (ThaiJO) and the NHSO Knowledge Hub. Manual searches used government repositories and institutional websites of MOPH, NHSO and the Pharmacy Council. Search terms combined: ("Common Illness" OR "CI care" OR "minor ailment") AND ("drug store" OR "community pharmacy") AND ("Universal Health Coverage" OR "UHC scheme") AND ("Thailand"). Reference lists of documents included were also screened. Records were managed in Microsoft Excel.

2.2.2. Eligibility Criteria and Study Selection

Documents were eligible if they described implementation, service delivery, financing or policy mechanisms of the CI care program, or closely related pharmacy-based primary care under the UHC scheme and were published between January 2022 and December 2025 in Thai or English. Documents focusing only on drug efficacy, non-UHC or private pharmacy services, duplicate NHSO publications or reports lacking methodological or contextual detail were excluded.

Duplicates were removed from Excel. One reviewer screened titles and abstracts. Two reviewers then assessed full texts against the inclusion criteria and resolved disagreements by discussion. All included documents were cross-checked with official NHSO and Pharmacy Council records. The PRISMA diagram presenting the inclusion process is presented in Figure S1. Supplementary Material 1

2.2.3. Data Extraction and Analysis

Each document was read in full. Key findings were summarized in a structured extraction matrix and presented in Table 1 to show common patterns, differences and implementation lessons across provinces and institutions. Extracted data were organized into six analytical domains: (1) Policy Framework and Implementation Context; (2) Service Delivery Models and Operational Processes; (3) Monitoring and Evaluation (M&E) Mechanisms; (4) Key Challenges and Barriers; (5) Lessons and Recommendations and (6) Insights for Conceptual Patient Journey Mapping. Data were analyzed using descriptive content analysis. Information from academic, policy and grey literature was grouped by domain. The analysis identified recurring themes and links between policy design, operational practice and monitoring. The conceptual patient journey was synthesized from this evidence to show how patients access, receive and complete CI care at drug stores under the UHC scheme.

Table 1. Indicated the characteristics of included articles.

No.	Author/year	Country / Setting	Study Design	Population
1	Kridsadadanudej Wongwejwiwat et al 2025 [7]	Thailand (13 regions)	Thailand (13 regions)	Thailand (13 regions)
2	Sunnee Lertsinudom et al (2025) [8]	Thailand (Songkhla, Nonthaburi, Bangkok, Roi Et, Chiang Mai, Phayao, Khon Kaen, Chonburi, Rayong, Nakhon Ratchasima, Buriram)	Qualitative study (in-depth interviews and focus groups)	13 pharmacists who participated in the project through face-to-face interviews and two rounds of focus groups with 17 new informants from all health regions.
3	Parun Rutjanathamrong et al (2023) [9]	Thailand (Songkhla, Udon Thani, Ranong, Nan, Ayutthaya, Rayong, Prachuap Khiri Khan, Uthai Thani)	Retrospective analytical study (secondary data)	Group 1: Hospital OPD/ER patients with 16 minor illness groups; Group 2: One tertiary and two secondary hospitals; Group 3: Pilot pharmacies and pharmacists; Group 4: Pharmacies serving chronic patients;

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				Group 5: Four pharmacies in 4 provinces (Chonburi, Nakhon Pathom, Lopburi, Songkhla) for drug cost data collection.
4	Nilawan Upakdee et al (2025)[10]	Thailand	Descriptive study (secondary data from NHSO and AMED Care platform)	Patients who received CI services covering 16 groups of minor illnesses. Participating pharmacies were accredited quality pharmacies registered as NHSO contracting units.
5	Piyaridee Chaisangmongkol et al (2024) [11]	Thailand (Nakhon Sawan)	Participatory Action Research (PAR)	11 pharmacists working at drug stores and patients seeking treatment for five conditions (fever, sore throat, runny nose, cough, diarrhoea).
6	Piyaridee Chaisangmongkol et al (2024) [12]	Thailand (Nakhon Sawan)	Research & Development, Mixed methods (in-depth interviews, focus groups, questionnaires)	30 Village Health Volunteers (VHVs) from in-depth interviews and focus groups; 98 VHVs in Nakhon Sawan Municipality completed structured questionnaires.
7	Sunnee Lertsinudom et al (2024) [13]	Thailand (13 health regions, 26 pharmacies)	Mixed-methods study (in-depth interviews, focus groups, survey)	CI patients nationwide (secondary data from AMED-CARE) and patients from 26 pharmacies in 13 regions.
8	Parun Rutjanathamrong et al (2024) [14]	Thailand (Songkhla, Udon Thani, Ranong, Nan, Ayutthaya, Rayong, Prachuap Khiri Khan, Uthai Thani)	Retrospective secondary research	Patients who received services for 16 minor illness groups in 8 hospitals.
9	Tuangrat Phodha et al (2025)[15]	Thailand / Drugstores and Hospital Outpatient Departments in 6 provinces/areas: angkok and surrounding areas, Chiang Mai, Udon Thani, Sukhothai, Sa Kaeo, and Yala	Qualitative research (in-depth interviews, focus groups, survey)	8 informants (patients and pharmacists) for in-depth interviews; 477 patients with minor ailments for expectation/satisfaction surveys. Phase 3 (Policy Recommendations): 25 experts and stakeholders for meetings

2.3. Qualitative Interviews

2.3.1. Setting and Design

The qualitative component used patient journey mapping to explore how people seek and receive care for common illnesses at drug stores and hospital outpatient departments. The study was conducted from July to December 2024 in six provinces: Bangkok, Chiang Mai, Udon Thani, Sukhothai, Sa Kaeo and Yala. Provinces were selected to reflect variation in population density, healthcare access and the number of CI drug stores participating. In-depth, semi-structured interviews were conducted with service users and pharmacists, followed by patient journey mapping.

2.3.2. Participants and Data Collection

Participants were divided into two groups: Service users aged ≥20 years who sought CI care at a drug store or hospital outpatient department in one of the six provinces; Licensed pharmacists or pharmacy owners working at CI drug stores. Purposive sampling identified participants with direct CI experience, and snowball sampling was used where referrals added new perspectives. Each province included one hospital (community or general) and two CI drug stores. From each hospital

 doi:10.20944/preprints202602.1514.v1

outpatient department, two patients were recruited, and two patients from each drug store, plus at least one pharmacist. In total, 48 participants were interviewed. Face-to-face interviews took place in private areas at hospitals or drug stores and lasted about 30–60 minutes. With permission, interviews were audio-recorded and supplemented by field notes. The interview guide covered reasons for choosing a drug store or hospital, steps in seeking care, perceptions of service quality and convenience, understanding of CI entitlements under the UHC scheme, and suggestions to improve services.

2.3.3. Patient Journey Mapping

After the interviews, the research team used selected transcripts to construct patient journey maps. Each map described the sequence from symptom recognition and choice of care setting to first contact, consultation, medicine dispensing, follow-up and, where relevant, referral to hospital care. Pharmacists and some patients reviewed the maps to confirm that they reflected real pathways and touchpoints. The mapping process highlighted key stages, pain points and differences between CI care at drug stores and hospital outpatient care.

2.3.4. Data Analysis for Interviews

Interview recordings were transcribed verbatim in Thai. The team used content analysis in six steps: (1) reading all transcripts to gain an overall understanding; (2) coding sentences and phrases that described experiences, decisions or problems along the pathway; (3) grouping similar codes into categories (e.g. access, process, communication, follow-up, perceived outcomes); (4) refining categories into broader themes that linked patient and pharmacist views; (5) comparing these themes and journey maps with the six domains from the scoping review; and (6) summarizing the qualitative results in narrative form and using them to refine the conceptual CI patient journey under the UHC scheme.

2.4. Results

2.4.1. Search Results

A total of 13 documents were identified through electronic and manual searches. After removing duplicates and screening for relevance, 9 documents were retained for full-text review. Of these, nine documents met the inclusion criteria and were included in the final synthesis. The included materials comprised research articles (n=6), full research reports (n=3), and one original article addressing operational, economic, and behavioral aspects of the CI care program under the UHC scheme. Figure 1 presents the document selection process.

Studies Characteristics

The nine included documents comprised of academic research, operational studies, and policy reports published between 2017 and 2025. As summarized in Table 1, they covered diverse aspects of the Common Illness (CI) care program, including service delivery, cost evaluation, behavioral insights, and policy development. Most adopted qualitative, mixed-methods, or economic evaluation designs, reflecting the program formative phase. Their objectives spanned operational workflows, reimbursement models, community engagement, and health literacy. Common data sources included the A-MED Care platform, NHSO databases, and stakeholder interviews. Several studies used cost-of-illness or activity-based costing to assess efficiency. Collectively, these works portray how CI services have evolved within Thailand's primary healthcare system.

2.4.2. Synthesis of Findings

Policy Framework and Implementation Context

 doi:10.20944/preprints202602.1514.v1

All nine documents examined the Common Illness (CI) program as a service under the UHC, jointly run by the NHSO and the Pharmacy Council, with participation limited to accredited "quality pharmacies" [7,8,10,13,14] (Table S2) Supplementary Material 2. In the national evaluation, 1,067 CI pharmacies in 71 provinces served 270,839 clients; 62.78% were women and 21.08% were aged over 60 years[13]. Nakhon Sawan, used as an intervention site for health-literacy development among village health volunteers (VHVs), was noted as one of the health regions with the lowest CI pharmacy density, with only 14 CI pharmacies (8.14% of all pharmacies) [12].

The payment method across studies was a flat rate of 180 THB per visit, regardless of symptom group or case complexity [8,10,13,14]. One payment analysis showed that this single rate did not reflect variation in drug costs and service use: in 2023 constipation/haemorrhoids had the highest mean drug cost per visit (60.25 THB), whereas dysmenorrhea had the lowest mean drug cost in 2024 (18.84 THB) [10]. The same study reported that, in the first six months of fiscal year 2024, total expenditure under the flat-rate model exceeded a fee-schedule scenario (drug cost + 90 THB service fee) by 65,135,616 THB [10].

Service Delivery Models and Operational Processes

Internationally, common-illness schemes delivered through community pharmacies tend to follow a similar pharmacist-led minor-ailment clinic model, in which pharmacists act as first-contact providers for self-limiting conditions. In Thailand, this model is operationalised through the CI service provided in accredited quality pharmacies [15]. A qualitative study with 14 community pharmacists described a common core workflow: eligibility verification via UHC entitlement and ID authentication, detailed history taking according to the CI symptom list (initially 16, later 32 groups), data entry into A-MED, counselling and dispensing, three-day follow-up, and claim submission [7]. Follow-up was mainly by telephone (85.7%) and LINE messaging (42.9%), although up to 40% of patients could not be reached; some pharmacies therefore used QR codes or appointment cards to improve follow-up [7]. Operational practices beyond the core steps varied. Some pharmacies proactively explained the CI scheme, recorded additional risk factors or comorbidities using in-house forms, and documented follow-up outcomes systematically, while others did not [7,10]. Herbal-substitution PAR in Nakhon Sawan showed that stand-alone pharmacies adopted promoted herbal products (e.g. Andrographis paniculata, Ya Chanthalila, Ya Ha-Rak, Ya Prasap Phlai, Ya Lueng Pit Samut) more extensively than chain pharmacies [11]. The mixed-methods national evaluation found that the most frequent CI conditions were fever/cough/sore throat (34.49%), joint or muscle pain (19.84%) and skin rashes (10.90%) [13]. Symptom severity scores (NRS) declined from a mean of 5.69 before the visit to 1.35 after the visit; 49.31% reported complete recovery and 40.44% reported partial improvement [13]. Pharmacies dispensed an average of 2.25 medicines per visit [13]. The referral rate to physicians for persistent or worsening symptoms was 1.57% [13].

2.4.3. Monitoring and Evaluation Mechanisms

Across documents, A-MED CARE PHARMA was the main information system used for registration, recording symptoms and medicines, and documenting follow-up outcomes. Under the CI scheme, the NHSO reimburses 180 THB per CI visit, covering assessment, medicines, counselling and follow-up, with a limit of one CI visit per person per day. Anti-fraud controls include client photographs attached to claims, A-MED documentation and stock updates, and pharmacists are expected to record follow-up for every case[15]. Pharmacists were required to follow up within 72 hours and record the outcome, although documentation of follow-up in A-MED or in local forms was inconsistent [7,8,10,11,13]. Some pharmacies developed their own paper or electronic forms to capture comorbidities and allergies not available in the standard A-MED fields [7,10].

The national evaluation used A-MED data to monitor utilisation, clinical outcomes and potential abuse. It reported 270,839 clients with CI visits and used NRS scores to assess symptom change[13]. For fraud surveillance, the study screened for "shopping around" (more than two visits per week),

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which was found in only one case, and for "false claims" defined as more than 30 patients served by one pharmacist per day, which was not detected[13].

Economic evaluations used NHSO hospital claims (ICD-10) and A-MED data to identify 16 CI symptom groups and calculate direct medical, non-medical and indirect costs from hospital and pharmacy perspectives[7,14]. These costing databases are not M&E systems per se but provide key parameters for policy decisions on resource allocation and payment design [9,10,14].

Key challenges and barriers

Technical problems were recurring. In the qualitative pharmacist study, 71.4% reported A-MED glitches, slow log-ins and unstable performance; there was also confusion over rules after the symptom list expanded from 12 to 32 groups [7]. The national evaluation confirmed that Authen and A-MED sometimes malfunctioned or were difficult to install on specific operating systems such as Mac OS[13]. Key concerns therefore included unstable payment systems, frequent Authen/A-MED failures, lack of formal referral links with hospitals, inconsistent communication between the NHSO and the Pharmacy Council, patient misunderstandings about entitlements and medicine choice, difficulty reaching patients by phone, and a limited reimbursable drug list [15].

Financial and workload issues were highlighted. Pharmacists reported claim delays of 1–3 months, which affected the cash flow of small pharmacies. (1) The breakeven analysis estimated an average total cost of 263.9 ± 86.9 THB per CI visit, higher than the 180 THB flat rate; labour cost of pharmacists accounted for more than 50% of total cost, with a mean of 86.2 ± 40.0 THB for activities from history taking to follow-up[13]. The breakeven volume was 282 cases per month (about 9.4 per day), while baseline volume at Nakhon Sawan municipal CI pharmacies was 85.88 UHC clients per month per pharmacy—well below this threshold. [12,13]

Public awareness was low. VHVs in Nakhon Sawan initially did not know about CI benefits, had rarely seen scheme signage, and believed UHC could be used only at government facilities [12]. In the national survey, 50.34% of clients heard about the service from the pharmacy and 29.03% through word of mouth, indicating reliance on local communication rather than structured campaigns [13].

Rational use of medicines remained a concern. Herbal-substitution PAR documented persistent use of combination drugs and pharmacists' limited confidence in replacing conventional medicines with herbal products [11]. National data showed that antibiotic use in diarrhea reached 37.35%, exceeding the recommended threshold of 20%, and carbocysteine was prescribed for 30.65% of children under two years. [13] Patients also sometimes expected antibiotics, requested extra medicines or stockpiled drugs [11,13].

Several studies noted methodological and data limitations relevant to policy. Convenience sampling at pharmacies may have introduced selection bias in cost comparisons between CPs and PCUs[16]. Cost-saving analyses did not include referral costs, capital costs or full labour costs at pharmacies, which may have under- or over-estimated savings [9,10,14]. Data completeness in A-MED and NHSO databases was limited by inconsistent data entry, especially for multiple symptoms and follow-up results [7,10,13] .

2.4.4. Lessons and Recommendations

Across documents, there was a consistent call for more structured service standards and M&E. Pharmacists recommended standard operating procedures (SOPs) and digital templates to clearly distinguish mandatory from optional steps in CI service delivery, aiming to reduce variation between pharmacies. They also proposed a more stable digital infrastructure, including a technical helpdesk and automatic system updates for A-MED [7,8,13]. Payment analyses suggested that the flat 180 THB rate should be reviewed. One report proposed risk- or complexity-adjusted reimbursement that considers age, sex, comorbidities and number of minor-illness episodes per year, and recommended setting limits on the number of reimbursable visits per person per year to prevent over-utilisation[10]. Another study indicated that, from a societal perspective, managing 16 CI conditions at pharmacies produced substantial savings—each reimbursed THB or USD at pharmacies generated additional

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system-wide savings, though exact magnitudes depend on level of hospital comparator and costing assumptions [9,14,16]. These results support the strategic use of CI pharmacies to reduce hospital burden and improve efficiency, while also pointing to the need for more precise costing [9,10,14,16]. The herbal-substitution study recommended comprehensive training for pharmacists on indications, efficacy and safety of herbal products and development of decision-support tools and knowledge-management materials (e.g. posters, one-page summaries)[11]. The VHV literacy intervention showed that strengthening VHV knowledge and providing first-hand experience (e.g. herbal-coupon use) could increase access to CI services: after the intervention, utilisation among UHC clients in the municipal intervention zone increased by 149.67%, compared with 13.21% in the non-intervention area; VHV literacy scores increased by 4.48 points and attitudes towards CI access improved by 7.51 points [12]. This suggests that VHVs can function as effective navigators for the CI pathway[12]. The national evaluation recommended expanding entitlement to Social Security and Civil Servant schemes, improving AMED performance, strengthening referral links with hospitals and primary care units, ensuring more timely reimbursement (e.g. payments every 15 days), enforcing quality standards at CI pharmacies, and limiting unnecessary repeat visits [12,13]. Priority actions, when these findings are taken together, are to build formal referral and data links, issue a national CI service manual and extend coverage to other schemes, improve claim speed, transparency and real-time tracking (with possible co-payment), strengthen public communication and enhance governance through transparent audit and sanctions. Long-term sustainability depends on trust, integrity, robust payment systems and harmonised practice standards[15].

2.4.5. Insights for Conceptual Patient Journey Mapping

Synthesized across studies, the typical CI patient journey in pharmacies begins with self-recognition of minor symptoms, followed by self-care or informal advice; many clients then choose a nearby CI pharmacy because of convenience and shorter waiting time compared with hospitals [12,13]. In areas with trained VHVs, patients often learn about CI services through VHVs' word-of-mouth communication and receive guidance on eligibility and symptoms covered [12,13]. At the pharmacy, patients authenticate their UHC entitlement, undergo structured history taking and symptom assessment, and receive counselling and medicines, usually within a few minutes [8,12,13]. Pharmacists provide information on warning signs and lifestyle modification and schedule or initiate follow-up within 72 hours via telephone or LINE [8,11,13]. Only a small proportion around 1.57% in the national evaluation—are referred to hospital care when symptoms do not improve or when red-flag signs appear[13]. Economic studies contrasted this pharmacy-based journey with the hospital pathway, where patients must travel to hospital, register, wait in queues, see at least one nurse and a physician, and then receive medicines from a hospital pharmacist [9,14]. Time cost for hospital visits was 1.83–6.56 times higher than for pharmacy visits, and direct and indirect costs were consistently higher at hospital level [9,14]. Survey data indicate that CI users report higher intention to return to and to recommend CI pharmacies than hospitals, reflecting perceived value beyond shorter waiting times and lower travel costs. At the same time, expectations for thorough history taking remain higher for hospitals, highlighting quality gaps in pharmacy assessment; patient journey mapping helps visualize these decision points and identify where CI processes need to be strengthened. Together, these findings depict CI pharmacies as first-contact providers that can offer rapid, local and relatively cost-efficient care for minor ailments, while revealing weak points in data recording, rational medicine use and systemic linkage with hospital services that need to be addressed in future M&E and policy design[15].

In-depth interviews with patients and pharmacists in four provinces showed that people chose CI drug stores because they were close to home, easy to access, and less crowded than hospitals. Patients described a simple journey: recognition of minor symptoms, direct visit to a nearby drug store, brief consultation with a pharmacist, receipt of medicines under the UHC scheme, and follow-up by telephone or messaging. Most patients reported high satisfaction with convenience, waiting time, and cost and stated that they would return to CI drug stores for similar problems. Pharmacists

 doi:10.20944/preprints202602.1514.v1

reported that the CI program helped them manage minor illnesses in the community and reduced hospital workload but also increased documentation and follow-up tasks. They raised concerns about patients limited understanding of CI entitlements, technical failures of digital systems, and the gap between service costs and the flat reimbursement rate. Both patients and pharmacists stressed that clear communication and honest claiming were essential to maintain trust in the program. Participants suggested stronger public communication, expansion of CI coverage to other insurance schemes, more stable digital infrastructure, and clearer referral links with hospitals to support a safer and more coherent CI patient journey under the UHC scheme.

3. Discussion

Our study is a scoping review of the CI care program under the UHC scheme. The review analyzed nine studies to examine policy implementation, service delivery, monitoring systems, and outcomes. The findings show that the CI program expanded access to primary care through drug stores and reduced unnecessary hospital visits. Drug stores function as first-contact providers for minor illnesses. Pharmacists checked patient eligibility, assessed symptoms, dispensed medicines, provided counselling, and conducted follow-up. Most patients recovered or improved, and only a small proportion required referral to hospitals. These findings confirm that CI drug stores increased accessibility to primary care.

Implementation varied across provinces. Local administration, digital capacity, and staff readiness influenced how drug stores organized services and communicated with patients. The fixed payment of 180 THB per visit did not match the average total cost of about 260 THB per case. This gap reduced motivation among some drug stores, especially small ones. The evidence supports a revision of the payment model so that reimbursement reflects service complexity, workload, and medicine costs. Monitoring and evaluation remained limited. The A-MED CARE PHARMA system recorded basic data on visits, diagnoses, and medicines but did not capture enough information on quality of care, patient outcomes, or equity. Follow-up records were incomplete in many sites. The current system cannot fully show whether CI services deliver safe, effective, and fair care. A national M&E framework with clear indicators and regular feedback is needed to improve data quality and accountability. Public awareness of CI entitlements remained low. Many people did not know that they could use UHC benefits at drug stores and still believed that UHC applied only to government hospitals. VHVs helped fill this gap. Studies in Nakhon Sawan showed that VHVs improved knowledge, directed patients to CI drug stores, and increased service use [12]. This role suggests that VHVs can act as navigators in the CI pathway. Rational use of medicines was still a concern. Antibiotic and mucolytic use exceeded recommended levels in some symptom groups, and patients sometimes requested unnecessary or extra medicines [11]. These patterns show that both public expectations and prescribing practices need attention. Pharmacists reported that honest practice and strict adherence to clinical rules are essential to maintain public trust and long-term sustainability of CI services. Economic evaluations showed that CI care at drug stores cost less and saved time compared with hospital visits. Drug stores reduced travel time, waiting time, and indirect costs for patients while easing the workload of hospital outpatient departments. From a system perspective, shifting suitable minor ailments to drug stores can improve efficiency if payment and monitoring systems are well designed. Taken together, these findings point to several policy directions. Payment reform should adjust the flat rate to better reflect real costs and case complexity. A national M&E framework should track service volume, quality, outcomes, and equity with reliable data from A-MED and related systems. Training and support for pharmacists and VHVs should focus on rational medicine use, communication about entitlements, and early identification of red-flag symptoms. Policy options also include extending CI coverage to other insurance schemes and building stronger referral and data links between drug stores and hospitals. Strengthening digital infrastructure, speeding up reimbursement, and supporting honest, rule-based practice will be critical to improve quality, efficiency, and sustainability of CI care under the UHC scheme.

 doi:10.20944/preprints202602.1514.v1

4. Conclusions

This: mixed-methods study identified key strengths and weaknesses of the CI care program under the UHC scheme. The program improved access to primary care, reduced hospital congestion, and supported local health systems through drug stores. However, it faced clear gaps in financing, data quality, and monitoring systems. Evidence from the scoping review and interviews suggests three policy priorities. First, revise the payment model so that reimbursement reflects real service costs and pharmacist workload. Second, establish a national M&E framework to track performance, quality, equity, and outcomes. Third, strengthen the capacity of pharmacists and VHVs to provide safe, continuous care and to communicate CI entitlements clearly to patients. Improving these components will enhance service quality, efficiency, and sustainability of CI care under Thailand's UHC scheme.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org.

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Funding/Support: This research was granted by the Health Systems Research Institute (67-178).

Institutional Review Board Statement: This study obtained ethics approval from the Institute for the Development of Human Research Protections (IHRP), letter head IHRP 129/2567.

Conflict: of Interest Disclosures: The authors declare that they have no competing interests.

Acknowledgments: This publication fulfils a part of the degree of Doctor of Philosophy Program (Pharmaceutical and Health Sciences), Faculty of Pharmacy, Thammasat University, Thailand. The successful completion of this study was made possible through the generous cooperation of pharmacist; and research coordinators across all six study provinces, including Bangkok, Chiang Mai, Udon Thani, Sukhothai, Sa Kaeo and Yala. We are grateful to all key informants who participated in this study for their valuable insights and contributions to this research.

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