

Original Research

Willingness to pay for community pharmacies-based medication review service: perspectives of private health insurance firms

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Abstract

Background: The medication review service (MRS) is a valuable community pharmacies-based health service to patients, ensuring optimal medication use and reducing medication errors. Nevertheless, it remains limited in scope and empowerment without remuneration for providing the service. **Objective:** This study aimed to assess private health insurance (PHI) and third-party administration (TPA) firms' perspectives regarding the MRS offered by community pharmacies in Jordan and the extent of their willingness to pay for this service. **Method:** The research was an observational, cross-sectional study conducted using a constructed and validated Arabic questionnaire that was distributed electronically to the key health insurance decision-makers (general managers, operational managers, medical network managers, directors, and supervisors) among all the (22) PHI and TPA active firms that are members of the Jordan Insurance Federation (JIF) and licensed under the insurance administration in the Ministry of Industry and Trade. Participants provided their consent electronically before filling out the questionnaire. **Results:** 50 health insurance decision-makers agreed to participate in this study. 48% partially (42%) or completely (6%) heard about the medication review service. Most respondents (n=35, 70%) believed the medication review service is expected to reduce the cost of medications. Furthermore, they believed the service is expected to reduce the cost of the medical bill by ensuring the medication is not repeated within a short time unless advised by the doctor, checking the exact dosage regimen of each drug, and using alternative medicines at lower cost (74%, 64%, and 60%) of respondents respectively. Half of the respondents were eager to remunerate for the medication review service, with the majority willing to pay less than 10 Jordanian Dinars (JODs) per patient. **Conclusion:** Although almost half of the PHI and TPA firms' decision-makers had not heard about the MRS before, achieving eventual cost savings in the reimbursed medication value strongly motivated them to reimburse for the service. Pharmacy and health policymakers are in place to take further steps to empower the service and find common ground with insurance parties to reimburse it for improved medical health insurance services to their beneficiaries with overall cost savings.

Keywords: medication review; pharmaceutical care; healthcare; health service; community pharmacy; health insurance; third-party administration

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INTRODUCTION

With the increasing rates of population age globally and the significant increase in the cost of treatment, It is now vital to have a medication review system that ensures optimal use.¹ This issue is evident among elderly patients with multiple chronic diseases where inappropriate polypharmacy, higher risks of adverse drug reactions, and reduced medication adherence are greatly concerned.^{2,3}

Unlike inpatients subjected to monitoring and follow-up, outpatients' lack of follow-up has negatively affected treatment efficiency. Thus, many community pharmacies in Britain, Australia, and the USA provide services like Medication Therapy Management (MTM), Medication Review Management (MRM), and Medication Review (MR) to bridge the gap created by poor follow-up treatment.⁴

Community pharmacists-led MRS is among the strategies that can be adopted to optimize medication use and improve health outcomes.⁵⁻⁷ It is considered one of the valuable, comprehensive services community pharmacies provide, particularly to patients with chronic diseases. It is globally documented to impact clinical outcomes and positively reduce the cost of treatment.⁸⁻¹⁵

A study showed that community pharmacies that provide the MRM Service without remuneration or carrying the charge of the patient burden are unsatisfactory and might lower the need



for this vital service, which is considered a loss for all parties.¹⁶ A recent study showed that 55.8% of the community pharmacies in Jordan believed that remuneration is considered one of the main barriers to implementing the MR process.¹⁷ Another study showed that patients are willing to pay for pharmaceutical care services provided by community pharmacies in Jordan.¹⁴

On the other hand, locally, regionally, and globally private insurance bodies, including private health insurance (PHI) and Third-Party Administration (TPA) firms, are considered essential parties in health economics.¹⁸⁻²⁴ Part of their contribution is remunerating medications and health care services directly for PHI or indirectly for TPA through a contractual management relationship for insurance and self-insured companies.²⁵⁻²⁸

According to the Jordan Insurance Federation (JIF), the number of subscribers and beneficiaries with medical insurance policies at all insurance companies and self-financing funds managed by TPA reached (807) thousand in 2019. Furthermore, the compensation paid by insurance companies amounted to 161.6 million JODs, and 8 million JODs were paid through self-financing funds managed by TPAs.³⁹ The rest of the population is covered primarily by the Ministry of Health public insurance and the Royal Medical Services.⁴

This study is the first to assess the PHI and TPA firms' perspectives regarding the MRS in Jordan and their willingness to pay for the community pharmacies that provide this service to their insured patients. The study outcomes are valuable to decision-makers in improving primary health outcomes of community pharmacies' services. Furthermore, they provide PHI and TPA firms with a tool to optimize health insurance services while minimizing the burden of unnecessary medications and therapeutic procedures.

METHODS

Study design and settings

This study was observational, cross-sectional research using a specially developed and validated electronic questionnaire. It was emailed to the key decision-makers, including general managers, operational managers, medical network managers, directors, and supervisors among PHI and TPA firms. These firms must be active members of the JIF and licensed for health insurance by the insurance administration under the Ministry of Industry and Trade in Jordan. Data were collected over two months (from August to September 2022).

Ethical approval and informed consent

This study was approved by the Ethics Committee for Scientific Research (ECSR) at Zarqa University in accordance with the requirements for protecting human subjects and the ethical principles related to research studies, approval number (1/4/2022). Informed consent was obtained electronically from all participants involved in the study prior to their participation.

Study Tool Development

The questionnaire was developed based on the research objectives and a literature review.^{4,14,16,20,29,30} It was designed

to be in Arabic to support participants' responses, as Arabic is Jordan's official and mother-tongue language. The research team approached a group of five experts and three clinical pharmacists to participate in the questionnaire validation process. Furthermore, four expert decision-makers (two pharmacists and two non-pharmacists) in the health insurance field were approached during the validation process to ensure that the questions were clear, understandable, and reflected the study's objectives. Then, the updated, refined questionnaire was distributed electronically through emails to the targeted participants.

Sample Size and Sampling Strategy

The study population was PHI and TPA firms that are active and licensed for health insurance by the insurance administration under the Ministry of Industry and Trade in Jordan and are members of the JIF (n=22). According to JIF data, the study team brought a list of these companies with their contact numbers and emails.³⁹ Decision-makers (general managers, operational managers, medical network managers, directors, and supervisors) in these 22 companies were sent the study questionnaire and were invited to participate.

Inclusion and Exclusion Criteria

The study participants were health insurance decision-makers working for PHI and TPA firms that are active and licensed for health insurance by the insurance administration under the Ministry of Industry and Trade in Jordan and are members of the JIF. Other non-listed institutes, such as self-fund initiatives, were initially excluded from the study.

Questionnaire Measures

The electronic questionnaire contained three parts. The first was dedicated to obtaining the socio-demographic characteristics of respondents, and the second was to assess the PHI and TPA firms' perspectives regarding the MRS in Jordan. The third part evaluated their willingness to pay for community pharmacies-based MRS.

Data Analysis

Data collected from the electronic questionnaire were analyzed using the Statistical Package for Social Science software (SPSS), version 25.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (frequency and percentage) were utilized to present the participants' demographics and respondents' perspectives regarding the MRS and their willingness to pay for the service.

RESULTS

Characteristics of the participants

The study included 50 decision-makers from the 22 PHI and TPA firms. (Table 1) illustrates the respondents' socio-demographic characteristics, where the majority were males (66%), with ages ranging from 40 to less than 50 years, and held Bachelor's degrees (76%). Additionally, most of them worked for insurance companies (76%), had more than ten years (76%) of practical experience in the field of health insurance, and were medical approvals directors (36%).



Characteristic	Category	n	%
Gender	o Male	33	66.0
	o Female	17	34.0
Age	o 20 to Less than 30 Years	1	2.0
	o 30 to Less than 40 Years	13	26.0
	o 40 to Less than 50 Years	30	60.0
	o More than 50 Years	6	12.0
Qualification	o Bachelor degree	38	76.0
	o Master degree	9	18.0
	o Ph.D.	1	2.0
	o Other (Diploma)	2	4.0
Company Type	o Insurance company	38	76.0
	o TPA company	12	24.0
Job Title	o The general manager or Deputy general manager	12	24.0
	o Medical approvals director	18	36.0
	o Medical network-manager	13	26.0
	o Medical Claims manager	7	14.0
Practical experience in medical insurance	o Less than five years	4	8.0
	o Five to less than ten years	8	16.0
	o Ten years or more	38	76.0

Perspectives of PHI and TPA firms in Jordan regarding the MRS concept

Table 2 shows the perspectives of PHI and TPA firms in Jordan regarding the MRS concept, where most respondents were those who partially heard about the MRS and those who did not (42% and 44%), respectively.

Most of them (62%) stated that they could define MRS as “a continuous process during the treatment phase through which the medication is reviewed, to improve effectiveness, determine the appropriate medication and dose, and reduce the problems resulting from taking medications.”

Regarding the scope of the MRS, most respondents (70%) agreed that the concept includes all prescription and over-the-counter medicines. Additionally, the results in (Table 2) depicted that PHI and TPA firms can benefit from community pharmacies-based MRS, including (reducing inappropriate and repetitive prescriptions, reducing drug costs, and reducing the number of prescribed medications (74%, 70%, and 60%) of respondents, respectively. Furthermore, (74%) of the respondents believed the MRS is expected to reduce the cost of the medical bill by ensuring the medication is not repeated within a short time unless advised by the doctor, checking the exact dosage regimen of each drug (64%) and using alternative medicines at lower cost (60%).

Perspectives	Category	n	%
s“I have heard of the Medication Review service (MRS) provided by community pharmacies.”	Yes, partially	21	42.0
	Yes, completely	3	6.0
	No, I have never heard of this service before	22	44.0
	I am not sure/I do not know	4	8.0
“The best definition of MRS can be.”	A continuous process during the treatment phase through which the medication is reviewed to improve effectiveness, determine the appropriate medication and the appropriate dose, and reduce the problems resulting from taking medications	31	62.0
	A distinct set of services that improve patient treatment outcomes	5	10.0
	A process carried out by the service provider in giving the appropriate treatment to the patient at the right time while giving the necessary information to improve the effectiveness of medicines	8	16.0
	I am not sure/I do not know	6	12.0
“Regarding the scope of the MRS.”	It is limited to the chronic medications	9	18.0
	It includes only prescription drugs	4	8.0
	It includes prescription and over-the-counter medicines	35	70.0
	The service is provided based on the physician’s prescription	6	12.0
	I am not sure/I do not know	5	10.0
“I believe that thought MRS provided by community pharmacies, insurance/TPA companies can achieve the following” (you can choose more than one answer)	Reduce costs of medications.	35	70.0
	Reduce inappropriate and repetitive prescriptions.	37	74.0
	Reduce hospitalization.	22	44.0
	Reduce the number of prescribed medications.	30	60.0
	Reduce deaths among the beneficiaries	8	16.0
	I do not believe there will be any benefit from this service	4	8.0



"The MRS is expected to reduce the cost of the medical bill by" (you can choose more than one answer)	Checking the exact dosage regimen of each medication	32	64.0
	Raising awareness about ways to store and keep medicine safe for subsequent use	17	34.0
	Ensuring that the medication is not repeated within a short time unless advised by the doctor	37	74.0
	Using alternative medicines at a lower cost	30	60.0
"From your point of view, the target group of patients to provide the MRS are:" (you can choose more than one answer)	Patients whose medication regimen has changed three or more times in the past 12 months	28	56.0
	Patients who have two or more chronic disorders	35	70.0
	Patients taking three or more chronic medications	36	72.0
	Patients with recurrent chronic medications from more than one prescriber (treated by more than one physician's specialty)	35	70.0
	Patients with an average total monthly medications bill cost exceeding 50 Jordanian dinars	17	34.0
"It is preferable for the MRS to be repeated for each targeted beneficiary."	Once a month	12	24.0
	Every three months	16	32.0
	Every six months	19	38.0
	Once a year	3	6.0

Regarding the targeted patients of the MRS, respondents almost equally believed that patients receiving three or more chronic medications, patients suffering from two or more chronic diseases, and patients using chronic medicines from more than one prescriber are the primary targets of the MRS (72%, 70%, and 70%) respectively. Most respondents (38%) preferred to perform the MRS every six months for each targeted beneficiary.

Perspectives of PHI and TPA Firms in Jordan Regarding Medications Costs

Table 3 portrays the interests of PHI and TPA firms in medication costs. Most participants (82%) stated that they always conduct systematic periodic studies on the cost of drugs as a part of the total treatment bill, and (68%) of them always conduct systematic periodic studies regarding the percentage of waste

in medicines bills. Additionally, (44%) believed the cost of medicines represents (35%) to less than (45%) of the total beneficiary treatment bill, and (46%) of them believed that wastage in medications constitutes (10%) to less than (20%) of the total medical bill of the beneficiary.

The Willingness of PHI and TPA Firms in Jordan to Pay for the MRS

As shown in Table 4, half of the respondents indicated that PHI and TPA firms are willing to pay for community pharmacies that conduct the MRS. 42% preferred to pay the MRS-providing pharmacy a fixed amount per beneficiary case, and the reasonable value to remunerate for each patient receiving the MRS is less than 10 JODs (74% of respondents).

Perspectives	Category	n	%
"We conduct periodic studies on the costs of medicines as a part of the total treatment bill for the insured beneficiaries:"	Always	41	82.0
	Sometimes	7	14.0
	Rarely	2	4.0
"We conduct periodic studies on the percentage of waste in medications' bills:"	Always	34	68.0
	Sometimes	11	22.0
	Rarely	5	10.0
"The cost of medicines from the total cost of the beneficiary treatment bill represents:"	less than 25%	4	8.0
	25% to less than 35%	16	32.0
	35% to less than 45%	22	44.0
	45% or more	8	16.0
"We believe that the medication bill waste constitutes% of the total medical bill."	less than 10%	10	20.0
	10% to less than 20%	23	46.0
	20% to less than 30%	11	22.0
	30% or more	5	10.0
	I do not think there is any waste in the medication bills	1	2.0



Table 4. The willingness of PHI and TPA firms in Jordan to pay for the MRS (n=50)

WTP for the MRS		n	%
“Do you think that insurance companies/ TPA are willing to pay or pay a fee to community pharmacies in return for providing the MRS to the insured patients:”	Yes	25	50.0
	No	25	50.0
“From your point of view, the most appropriate method of payment for the MRS is”	A contractual value between the company and the pharmacy providing the service	11	22.0
	A fixed amount per beneficiary is paid to the service-providing pharmacy.	21	42.0
	Others (Percentage of prescription savings)	18	36.0
“From your point of view, the most reasonable amount that insurance companies/TPA can accept to pay to the pharmacy for each case is:”	Less than 10 JODs / case	37	74.0
	10-14 JODs / case	11	22.0
	15-19 JODs / case	1	2.0
	20 JODs or more / case	1	2.0

DISCUSSION

It was documented that community pharmacists do not systematically provide the MRS in Jordan and that the lack of a cost-effective remuneration for the service provision was one of the significant barriers.¹⁷ Whereas a previous study focused on patients’ willingness to pay for the MRS.¹⁴ This research is the first to investigate private health insurance perspectives regarding community pharmacies-based MRS and the extent of their willingness to pay for this service in Jordan.

The study’s findings showed that PHI and TPA firms in Jordan were greatly concerned with the total cost amount they reimburse for medications, as 82% of them conduct systematic periodic studies on the costs of medicines as part of the entire treatment bill of the beneficiaries.

Additionally, 76% of them stated that the cost of drugs constituted 25% to 44% of the beneficiaries’ medical accounts, and 98% believed that waste in the reimbursed medicines existed in various degrees from the total beneficiaries’ medical bills. These results represent the extent of the medication cost problem that PHI and TPA firms are trying to control.

Contrary to what community pharmacists believed in a previous study, this research revealed that although almost half of the decision-makers among PHI and TPA firms had not heard about the MRS before, achieving eventual cost savings in the reimbursed medication value constituted a strong motive for them to reimburse for the service.¹⁷ Explicitly, 70% believed that MRS could reduce medication costs in general, 74% believed in its ability to reduce unnecessarily or repeat prescriptions, and 60% thought the service could reduce the number of prescribed medications. Therefore, essential repercussions on cost reduction provided significant room for PHI and TPA firms in Jordan for their willingness to pay community pharmacies for the MRS.

These findings were consistent with a study that revealed that insurance companies support community pharmacies’ role in providing the MMRS as the service positively impacted the beneficiaries’ health and had implications on cost savings.³¹ Additionally, two studies indicated that the MRS reduced the

number of hospital admissions and directly affected the cost-saving of medication bills.^{32,33} However, a study concluded that the effect of MRS intervention on healthcare resources was insignificant, which contradicts these studies.³⁴

Insurance parties are not the only bodies that believe in the willingness to pay for the MRS. According to a Jordanian study, payment for the service could be provided by the government, the patient, or both.³⁰ Hong et al. showed that patients were willing to pay for the service at \$45 due to the significant improvement in their health.³⁵

The findings of this study showed that PHI and TPA firms are willing to pay community pharmacies with less than 10 JODs (almost 7.08\$) per case, which is not a judgment of whether this amount is cost-effective for the community pharmacies in providing the MRS. However, other studies indicated that patients are willing to pay 10\$, on average, in the USA, 12\$ in Australia, and 21\$ in Canada, respectively, for each service.³⁶⁻³⁸ Differences in the paid amount across countries depend on each country’s economic and health policies. Thus, deciding whether the revealed paid amount is cost-effective for community pharmacies is an area of future investigation.

Following the previous study, the results of this study provide a valuable building block in a future multi-stakeholder joint development of the community pharmacies-based MRS in Jordan.¹⁷

There is also a need to promote awareness of PHI and TPA firms regarding the service’s significant impact on optimizing their medical and health insurance services to beneficiaries while achieving substantial cost savings.

Study Strengths and Limitations

It is expected to be the first study to assess the MRS from the views of PHI and TPA companies and their willingness to pay for this service in Jordan. Especially since paying for the service is one of the obstacles to its implementation. Therefore, results from this study pave the way for building the capacity for future comprehensive development and implementation of the community pharmacies-based MRS. Thus, significantly improving health outcomes of pharmaceutical care services



provided by community pharmacies and medical insurance services offered by insurance parties. However, the study questionnaire was distributed electronically according to the requirements of the targeted companies, which affected the speed and follow-up of data collection. Additionally, the generalizability of the study findings is limited to the number of respondents and the nature of the study design. Future improvements for such research could involve structured joint meetings with targeted decision-makers among PHI and TPA firms assuring a proper understanding of the study objectives and relevance.

Implications for Future Research

Investigating the PHI and TPA firms' barriers to the MRS implementation and what amount constitutes a cost-effective remuneration are areas of future research interest to whoever is concerned with developing the provision of community pharmacies-based pharmaceutical and health care services in Jordan.

Conclusions

The study revealed that half of PHI and TPA firms in Jordan were eager to pay for MRS conducted by community pharmacies in Jordan. Doing so could be a patient-centered strategy to optimize their medical and health insurance services while containing the reimbursed costs. Additionally, the study's findings enlighten policy and decision-makers to take additional steps to empower the systematic provision of MRS among the community pharmacies in Jordan.

Abbreviations

JODs, Jordanian dinars; JIF, Jordan Insurance Federation; MIT, Ministry of Industry and Trade; MR, medication review; MRM, medication review management; MRS, medication review service; MTM, medication therapy management; PHI, private health insurance; TPA, third-party administration.

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CONFLICTS OF INTEREST

The authors declare that they have no competing or conflicts of interest

ETHICAL CONCERNS

This study was approved by the Ethics Committee for Scientific Research (ECSR) at Zarqa University in accordance with the requirements for protecting human subjects and the ethical principles related to research studies, approval number (1/4/2022). Informed consent was obtained electronically from all participants involved in the study prior to their participation.

DATA SHARING STATEMENT

The data presented in this study are available from the corresponding author upon reasonable request.

AUTHOR'S CONTRIBUTIONS

Conceptualization: Mohammad Abu Assab, Deema Jaber, Tareq L. Mukattash, and Heba Almathani; **Data curation and Formal analysis:** Fares Albahar, Hamza Alhamad, Heba Almathani, and Hanadi Abu Assab. **Investigation:** Deema Jaber, Fares Albahar, Hamza Alhamad, Tareq L. Mukattash, Heba Almathani, and Hanadi Abu Assab; **Methodology:** Mohammad Abu Assab, Deema Jaber, Fares Albahar, Hamza Alhamad, Tareq L. Mukattash, Heba Almathani, and Hanadi Abu Assab; **Project administration:** Mohammad Abu Assab and Tareq L. Mukattash; **Resources:** Fares Albahar and Hamza Alhamad; **Software:** Deema Jaber, Heba Almathani, and Hanadi Abu Assab; **Supervision:** Fares Albahar, Hamza Alhamad, and Tareq L. Mukattash; **Validation:** Deema Jaber, Hamza Alhamad, Tareq L. Mukattash, and Hanadi Abu Assab; **Visualization:** Fares Albahar and Hanadi Abu Assab; **Writing – original draft:** Deema Jaber, Fares Albahar, Hamza Alhamad, Tareq L. Mukattash, Heba Almathani, and Hanadi Abu Assab; **Writing – review & editing:** Deema Jaber, Fares Albahar, Hamza Alhamad, Tareq L. Mukattash, Heba Almathani, and Hanadi Abu Assab.

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