

MIDOCEAN UNIVERSITY
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Research Title

Community Pharmacists' Perceptions of Workplace Key Performance Indicators in Saudi Arabia: Developing a Preliminary Donabedian-Based Framework

Prepared by: Basmah Qasim Ali Wasili

Supervised by: Dr. Faisal Abdulhmid Mohammed

Dr. Fayez Ali Jarad

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www.midocean.edu.km

Comoros Address: (Headquarters) Midocean University, 8764+GH9 Matelec Street, BP 684 Moroni, RP
98123 Moroni, Comoros

1. Introduction:

The role of community pharmacists has increasingly evolved from simply dispensing medications to becoming accessible healthcare providers who contribute to medication safety, chronic disease management, patient counseling, health promotion, and preventive healthcare services. This expanded role necessitates performance evaluation systems that assess not only operational efficiency but also the quality, safety, and outcomes of patient-centered pharmaceutical care.

In many community pharmacy settings, pharmacist performance is primarily evaluated through operational key performance indicators (KPIs), such as prescription volume, dispensing time, sales performance, productivity, and task completion. Although these indicators are important for monitoring workflow and organizational efficiency, they may not adequately reflect pharmacists' clinical contributions, medication-safety activities, quality of counseling, chronic disease support, or patient-centered services.

Saudi Arabia's Vision 2030 and the Health Sector Transformation Program emphasize primary healthcare, value-based care, service quality, prevention, and patient-centered outcomes. Community pharmacists are well positioned to support these priorities because of their accessibility and their potential role in improving medication use, promoting treatment adherence, identifying medication-related problems, and referring patients when appropriate. Therefore, the indicators used to evaluate pharmacists should reflect these expanding professional responsibilities.

Previous research has largely focused on pharmacist performance in hospital and government healthcare settings, particularly in relation to medication safety, prescription review, detection of medication errors, and identification of contraindications. In contrast, performance measurement in community pharmacies is often more strongly linked to operational and commercial indicators, including sales, prescription volume, and productivity. This may result in an incomplete representation of community pharmacists' professional performance, particularly in relation to counseling, medication safety, chronic disease support, health education, and patient-centered care.

Therefore, this study examines the current key performance indicators (KPIs) used to evaluate community pharmacists in Saudi Arabia and proposes a practical framework based on the Donabedian structure–process–outcome model. The study will explore pharmacists’ views regarding the relevance, clarity, fairness, and adequacy of current evaluation tools through a structured survey. It will also propose a broader and more balanced set of performance indicators that integrates operational performance with pharmaceutical-care quality, medication safety, and patient-centered outcomes. In doing so, the study aims to provide an initial evidence-informed framework for evaluating community pharmacists’ performance more comprehensively within the Saudi community pharmacy context.

2. Problem Statement:

Despite the expanding professional role of community pharmacists, workplace key performance indicator (KPI) systems may continue to focus predominantly on prescription volume, sales performance, dispensing speed, and productivity. This creates a potential mismatch between the professional contributions expected from pharmacists—such as patient counseling, medication-safety interventions, chronic disease support, health education, and patient-centered services—and the activities formally measured through workplace performance systems.

Recent evidence indicates that quality in community pharmacy practice is multidimensional and should include structure, process, and outcome dimensions rather than operational productivity alone (Hindi et al., 2024; de Souza et al., 2024). In Saudi Arabia, available evidence documents the growth of the community pharmacy sector and increasing expectations for pharmacists to contribute to broader healthcare services. However, there remains limited evidence regarding whether the KPIs used by community pharmacy organizations adequately capture these professional contributions or whether pharmacists perceive such indicators as relevant, clear, fair, and feasible.

Accordingly, the research problem is the lack of local evidence on the adequacy and balance of KPI systems used to evaluate community pharmacists in Saudi Arabia. Specifically, it remains unclear whether current workplace KPIs sufficiently

reflect pharmaceutical-care quality, medication safety, clinical support, and patient-centered outcomes alongside operational and commercial performance. This study addresses this gap by examining pharmacists' perceptions of current KPI systems and proposing an initial Donabedian-based framework for more balanced performance measurement in Saudi community pharmacies.

3. Significance of the Study:

Scientific Significance: This study extends performance-measurement literature by applying the Donabedian structure–process–outcome model to community pharmacy practice. It addresses a local evidence gap by examining whether existing KPIs reflect operational, professional, and patient-centred dimensions of pharmacist performance.

Practical Significance: The study provides community pharmacy organizations with a concise, evidence-informed set of proposed indicators that can be considered as an initial guide for performance measurement. It may help managers recognize counselling, medication safety, clinical support, and patient-centred activities alongside operational efficiency.

Policy Significance: The findings may support quality measurement and primary-care transformation aligned with Saudi Vision 2030 by offering a practical starting point for future KPI development and service-quality improvement.

4. Research Objectives:

Overall Research Aim:

To evaluate the current Key Performance Indicators used in community pharmacies and propose a practical Donabedian-based KPI framework that better reflects the professional performance of community pharmacists in Saudi Arabia.

Main Objective 1:

To assess the nature and adequacy of current KPIs used to evaluate community pharmacists in Saudi Arabia.

1. To identify the operational KPIs currently used in community pharmacies.
2. To examine the extent to which current KPIs reflect pharmacists' daily professional responsibilities.
3. To assess pharmacists' perceptions of the relevance, clarity, and fairness of current KPI systems.
4. To examine pharmacists' perceptions of the alignment between current KPIs and the expanding role of community pharmacists in primary healthcare.

Main Objective 2

To examine the extent to which current KPIs capture pharmaceutical-care quality and patient-centred performance.

1. To assess whether current KPIs capture patient counselling and health education activities.
2. To assess whether current KPIs capture medication-safety activities and the prevention of medication-related problems.
3. To assess whether current KPIs capture clinical and patient-centred pharmacy services, including medication review, chronic disease support, and referral activities.
4. To identify pharmaceutical-care and patient-centred performance dimensions that are insufficiently represented in current KPI systems.

Main Objective 3:

To propose a practical Donabedian-based KPI framework for community pharmacists in Saudi Arabia.

1. To identify relevant structure indicators related to staffing, training, digital systems, and access to professional resources.
2. To identify relevant process indicators related to counselling, medication review, clinical interventions, and medication-safety activities.
3. To identify feasible outcome indicators related to patient satisfaction, medication adherence, service quality, and reported medication-related problems.
4. To organize the proposed indicators into a practical framework that can be used as an initial guide for community pharmacy performance measurement.
5. To assess pharmacists' views regarding the relevance, clarity, and feasibility of the proposed indicators for routine use.

5. Research Questions:

Main Research Question 1:

What is the nature and adequacy of the current Key Performance Indicators (KPIs) used to evaluate community pharmacists in Saudi Arabia?

1. What operational KPIs are currently used in community pharmacies to evaluate pharmacists' performance?
2. To what extent do current KPIs reflect pharmacists' daily professional responsibilities?
3. How do community pharmacists perceive the relevance, clarity, and fairness of the current KPI systems?
4. Are current KPIs perceived to be aligned with the evolving role of community pharmacists within primary healthcare services?

Main Research Question 2:

To what extent do current KPIs capture the quality dimensions of pharmaceutical care provided by community pharmacists?

1. To what extent do current KPIs measure patient counselling and health education activities?
2. To what extent do current KPIs measure medication-safety activities, such as identifying medication-related problems and preventing dispensing errors?
3. To what extent do current KPIs measure clinical and patient-centred services, including medication review, chronic disease support, and referral activities?
4. Which pharmaceutical-care and patient-centred performance dimensions are insufficiently represented in the current KPI systems?

Main Research Question 3:

What Donabedian-based KPI framework can be proposed for community pharmacists in Saudi Arabia?

1. Which structure indicators are relevant to supporting effective community pharmacy practice?
2. Which process indicators are appropriate for measuring pharmaceutical-care

delivery and medication-safety activities?

3. Which outcome indicators are feasible for assessing patient-centred care and service quality in community pharmacies?

4. Which proposed indicators are perceived by community pharmacists as relevant, clear, and feasible for routine use?

6. Research Hypotheses / Study Assumptions:

This study is an applied descriptive cross-sectional study guided primarily by research questions rather than causal hypotheses. It does not aim to test cause-and-effect relationships between variables; instead, it aims to describe the current use of key performance indicators (KPIs) in community pharmacies and examine pharmacists' perceptions of their relevance, clarity, fairness, adequacy, and feasibility.

The study assumes that community pharmacists are able to report their experiences with workplace KPI systems and provide informed views regarding the extent to which current indicators reflect operational performance, pharmaceutical-care activities, medication safety, and patient-centered services. It also assumes that the proposed Donabedian-based indicators can be assessed by pharmacists in terms of their relevance and feasibility for routine use.

Accordingly, the study will use descriptive statistical analyses, including frequencies, percentages, means, and standard deviations, to summarize participants' responses. Internal consistency of multi-item scales will be assessed using Cronbach's alpha. The results will be used to identify perceived gaps in current KPI systems and to support the development of an initial practical framework for balanced performance measurement in Saudi community pharmacies.

7. Previous Studies:

1. Schafheutle, E. I., Moss, A. A., Hindi, A. M. K., Gibson, J., Lovatt, E., Robinson, K., and Jacobs, S. (2025)

Schafheutle et al. (2025) explored stakeholder perspectives on the implementation of the Pharmacy Quality Scheme in England and examined whether pay-for-performance

approaches can improve quality in community pharmacy. The study used a mixed-methods design, combining qualitative and quantitative evidence from stakeholders involved in the scheme.

The findings indicated that quality schemes can encourage service improvement; however, their implementation may be affected by workload, administrative burden, the selection of indicators, and the perceived relevance of performance criteria. The study is relevant to the present research because it demonstrates that performance indicators influence pharmacists' behaviour and organizational priorities, rather than merely measuring performance.

However, the study was conducted within the English national incentive context and did not examine workplace KPIs in Saudi community pharmacies. It also did not assess pharmacists' perceptions of whether organizational KPIs are clear, fair, feasible, or sufficiently balanced between operational and professional care activities.

2. Jakobsen, A. H., Sato, N., Chen, T. F., and Fujita, K. (2025)

Jakobsen et al. (2025) developed quality indicators for community pharmacy practice using a multi-phase process involving the identification, definition, and selection of potential indicators through consensus methods. The study demonstrated the importance of developing indicators that are clear, relevant, feasible, and acceptable to stakeholders.

This study is directly relevant because it provides a recent example of community-pharmacy quality-indicator development. It supports the need for indicators that extend beyond dispensing volume and financial productivity to include professional services and quality of care.

Nevertheless, the study was conducted in a non-Saudi setting and relied on expert consensus. It did not investigate the experiences of practising community pharmacists with existing workplace KPI systems. The current study addresses this gap by examining pharmacists' perceptions of current KPIs in Saudi Arabia and proposing an initial context-sensitive framework.

3. Reis, L., and Gregório, J. (2024)

Reis and Gregório (2024) reviewed outcome performance measures for professional pharmacy services. Their narrative review highlighted the importance of indicators related to patient satisfaction, medication adherence, medication-related outcomes, and the value of pharmacy services.

The study supports the inclusion of outcome indicators in the present research because it demonstrates that pharmacy performance should not be assessed solely through service volume or financial productivity. It also provides a basis for considering patient-centred outcomes within a Donabedian-based framework.

However, the review did not focus specifically on community pharmacy workplaces in Saudi Arabia, and it did not identify which outcome indicators are feasible for routine use by Saudi community pharmacists. The present study therefore examines pharmacists' views regarding the relevance and feasibility of proposed outcome indicators.

4. Hindi, A. M. K., Campbell, S., Jacobs, S., and Schafheutle, E. I. (2024)

Hindi et al. (2024) conducted a systematic review to develop an international quality framework for community pharmacy. The review identified several dimensions of quality, including person-centred care, access, safety, competence, environment, and integration with other healthcare services.

This study provides a strong conceptual foundation for the present research because it confirms that community pharmacy quality is multidimensional and cannot be reduced to prescription volume, dispensing speed, or sales performance. Its findings support the use of the Donabedian structure–process–outcome model to organize proposed indicators.

The limitation relevant to the current study is that the framework was developed from international literature and did not assess the Saudi workplace context or pharmacists' views regarding the clarity, fairness, and feasibility of current KPIs.

5. de Souza, J. F. F., Fernandes, B. D., Rotta, I., Visacri, M. B., and de Mendonça Lima, T. (2024)

de Souza et al. (2024) conducted a systematic review of key performance indicators used in pharmaceutical services. The review found substantial variation in the types of indicators used, the methods used to develop them, and the quality of supporting evidence. It concluded that the standardization of pharmacy KPIs remains limited.

This study is highly relevant because it provides evidence that KPI selection should be systematic and based on professional, organizational, and patient-centred priorities. It supports the present study's aim of examining whether existing workplace KPIs adequately reflect the full scope of community pharmacists' roles.

However, the review addressed pharmaceutical services broadly and did not focus on Saudi community pharmacies or on pharmacists' perceptions of the adequacy, fairness, clarity, and feasibility of workplace KPI systems.

6. Magedanz, L., Silva, H. L., Galato, D., and Fernandez-Llimos, F. (2024)

Magedanz et al. (2024) systematically reviewed clinical pharmacy KPIs developed for hospital inpatient settings. The review found that many KPI-development studies had limited evidence support, insufficient pilot testing, and inadequate involvement of relevant stakeholders.

Although the study focused on hospital practice, it is relevant because it highlights the methodological challenges of developing valid and feasible pharmacy performance indicators. It supports the decision to position the present study as an initial, evidence-informed framework rather than a fully validated national KPI system.

Its main limitation for the present research is that hospital inpatient KPIs cannot be directly transferred to community pharmacy settings. Therefore, the current study focuses specifically on indicators that community pharmacists in Saudi Arabia consider relevant and feasible for routine use.

7. Alzahrani, A. M., Felix, H. C., Alzhrani, A. A., Alharbi, K. K., Arbaein, T. J., Shahzad, M. W., and Monshi, S. S. (2024)

Alzahrani et al. (2024) assessed patient satisfaction with community pharmacy services and the Wasfaty system in Saudi Arabia. The study used a quantitative design to examine patients' experiences of pharmacy services.

The findings support the inclusion of patient satisfaction and perceived service quality as outcome indicators within the proposed framework. This is important because patient satisfaction reflects the acceptability and perceived quality of community pharmacy services.

However, the study focused on patients' experiences rather than pharmacists' workplace performance systems. It did not investigate whether patient-centred outcomes are incorporated into pharmacists' KPIs or whether pharmacists consider such measures feasible for routine performance evaluation.

8. Alrasheedy, A. A. (2023)

Alrasheedy (2023) conducted a 16-year retrospective study of community pharmacy growth, workforce capacity, and pharmacy density in Saudi Arabia. The study

documented substantial expansion in the community pharmacy sector and identified regional variation in workforce capacity.

The study is relevant because staffing and workforce capacity are important structural conditions that may influence pharmacists' ability to provide safe and patient-centred services. These factors can be incorporated into the structure dimension of the Donabedian framework.

However, the study assessed sector-level infrastructure rather than individual pharmacist performance. It did not examine workplace KPI systems or determine whether current performance measures balance structure, process, and outcome dimensions.

Analytical Synthesis of Previous Studies:

The reviewed studies indicate that community pharmacy performance should be assessed through multiple dimensions rather than operational measures alone. International evidence emphasizes patient-centred care, medication safety, professional competence, access, service processes, and patient outcomes. At the same time, studies of KPI development show that indicators must be relevant, feasible, clearly defined, and supported by stakeholder involvement.

Saudi evidence confirms the growth of the community pharmacy sector and the importance of patient satisfaction and service quality. However, there remains limited empirical evidence regarding the KPIs used by community pharmacy organizations to evaluate individual pharmacists. In particular, there is limited evidence on whether these KPIs adequately represent counselling, medication-safety activities, chronic disease support, clinical interventions, and patient-centred outcomes.

Accordingly, the present study addresses a practical local gap by examining pharmacists' perceptions of current workplace KPIs and proposing an initial Donabedian-based framework that balances operational performance with structure, process, and outcome indicators.

8. Research Gap:

The reviewed literature shows that quality measurement in pharmacy practice has become an important topic internationally and locally. Recent studies have examined pharmacy quality indicators, pharmaceutical-care indicators, pay-for-performance

schemes, medication safety, patient satisfaction, and the transformation of community pharmacy services. However, several important gaps remain.

First, many previous studies address quality indicators or KPIs at a broad service or healthcare-system level, while fewer studies examine the actual workplace KPIs used by community pharmacy organizations to evaluate individual pharmacists. This is important because workplace indicators may influence pharmacists' daily priorities. If KPIs focus mainly on prescription volume, sales, dispensing speed, or productivity, then professional activities such as patient counselling, medication review, medication-safety interventions, documentation, referral, and health education may be under-recognized.

Second, several international studies provide useful quality frameworks, but their findings cannot be directly transferred to Saudi Arabia without considering the local context. Community pharmacy practice in Saudi Arabia is influenced by Vision 2030, the Health Sector Transformation Program, Wasfaty, private-sector pharmacy chains, Saudization policies, digital transformation, staffing patterns, and the expanding role of pharmacists in primary healthcare. Therefore, a Saudi-focused study is needed to examine whether current KPI systems reflect the realities of community pharmacy practice.

Third, the literature increasingly emphasizes patient-centred and outcome-based performance measurement. However, outcome indicators such as patient satisfaction, medication adherence, medication-related problems, and service quality can be difficult to measure in routine community pharmacy settings. This creates a gap between ideal performance measurement models and what can realistically be implemented in busy community pharmacies.

Fourth, some studies focus on hospital clinical pharmacy KPIs, national quality schemes, or expert consensus methods. Although these approaches are valuable, they may not reflect the everyday experience of community pharmacists working in retail or chain pharmacy settings. There is therefore a need for a practical cross-sectional study that captures pharmacists' perceptions without requiring a lengthy Delphi process, direct patient follow-up, or access to confidential organizational performance data.

Fifth, Saudi studies have examined community pharmacy growth, patient satisfaction, public attitudes, pharmaceutical-care readiness, and the strategic role of community pharmacies under Vision 2030. However, there is limited empirical evidence on whether practising community pharmacists perceive current KPI systems as relevant, clear, fair, adequate, and feasible. There is also limited evidence on which structure, process, and outcome indicators pharmacists consider suitable for routine use.

Accordingly, the present study addresses this gap by evaluating current KPIs from the perspective of practising community pharmacists in Saudi Arabia and proposing an initial Donabedian-based framework. The proposed framework will organize indicators into structure, process, and outcome dimensions. Structure indicators may include staffing, training, digital systems, access to clinical references, and privacy for counselling. Process indicators may include patient counselling, medication review, identification of medication-related problems, documentation of interventions, referral activities, and medication-safety practices. Outcome indicators may include patient satisfaction, adherence support, reduction of medication-related problems, service quality, and perceived patient benefit.

The distinctive contribution of this study is its practical and context-sensitive focus. It does not aim to develop a fully validated national KPI system or conduct a national policy evaluation. Instead, it provides an initial evidence-informed framework that is feasible for a master's research project and suitable as a starting point for future research, organizational improvement, and more balanced performance measurement in Saudi community pharmacies.

9. Theoretical Foundations of the Study:

This study is guided by the Donabedian Model, a widely used framework for evaluating healthcare quality through three connected dimensions: structure, process, and outcome. The model is appropriate because it allows performance indicators to move beyond productivity alone and to reflect the conditions that enable care, the professional activities delivered, and the results experienced by patients.

Structure refers to the resources and organizational conditions that support community pharmacy practice. In this study, structure indicators may include pharmacist staffing, workload, training opportunities, access to clinical references, digital systems, privacy for counselling, and availability of standard operating procedures. These conditions influence whether pharmacists can deliver safe and patient-centred services.

Process refers to what pharmacists do in daily practice. Proposed process indicators include patient counselling, medication review, identification of medication-related problems, documentation of interventions, referral to other healthcare professionals, health education, and medication-safety practices. These indicators are particularly relevant because they reflect the professional contribution of pharmacists that may not

be visible in sales or dispensing-volume measures.

Outcome refers to the results of pharmacy services. For this initial framework, feasible outcome indicators may include perceived patient satisfaction, service quality, support for adherence, reported medication-related problems, and perceived patient benefit. The study does not seek to establish causal effects or collect long-term clinical outcomes; rather, it identifies outcomes that pharmacists consider meaningful and feasible for routine measurement.

The Donabedian Model will therefore be used as an organizing framework, not as a complex validation system. Current KPIs and proposed indicators will be classified into structure, process, and outcome categories. This supports a practical framework that is aligned with the study objectives and feasible within the time limits of a master's research project.

10. Methodology and Research Methods:

This study will use an applied descriptive cross-sectional design with a quantitative approach. Data will be collected through an online self-administered questionnaire distributed to licensed community pharmacists practising in Saudi Arabia. The questionnaire will examine the current key performance indicators (KPIs) used in community pharmacy settings, pharmacists' perceptions of their relevance, clarity, fairness, adequacy, and feasibility, and the extent to which these indicators reflect pharmaceutical-care quality, medication safety, and patient-centred services.

The study will also present participants with a preliminary list of proposed indicators based on the Donabedian structure–process–outcome model. Participants will be asked to rate the relevance and feasibility of these indicators for routine use in community pharmacy practice. Findings from the literature review and survey responses will be used to develop an initial practical Donabedian-based KPI framework. The study is designed to provide an evidence-informed preliminary framework and does not aim to develop or validate a complete national performance-management system.

Implementation Steps:

1. Conduct a review of recent literature on community pharmacy quality, pharmaceutical-care indicators, medication safety, and KPI systems.
2. Develop a structured online questionnaire and a preliminary list of structure, process, and outcome indicators based on the Donabedian Model and relevant literature.

3. Submit the questionnaire to three to five academic or pharmacy-practice experts to assess content relevance, clarity, and appropriateness. Revise the questionnaire according to their feedback.
4. Conduct a pilot test with approximately 10–15 community pharmacists to assess clarity, wording, completion time, and technical usability of the online questionnaire.
5. Distribute the final questionnaire electronically to eligible community pharmacists in Saudi Arabia through professional networks, pharmacy organizations, and relevant online platforms.
6. Analyze the collected data using descriptive statistics and internal consistency testing. Rank the proposed indicators according to pharmacists' ratings of relevance and feasibility.
7. Develop and present the final preliminary Donabedian-based KPI framework as a practical recommendation for more balanced performance measurement in Saudi community pharmacies.

11. Study Population and Sample:

The study population will consist of licensed pharmacists currently practising in community pharmacies in Saudi Arabia. Eligible participants must have at least six months of experience working in a community pharmacy setting to ensure that they have sufficient exposure to workplace performance evaluation systems and routine pharmacy services.

A non-probability convenience sampling method will be used because the study aims to obtain exploratory perceptions from practising community pharmacists within the time and resource limits of a master's research project. Participants will be recruited through professional networks, pharmacy organizations, social media platforms, and online pharmacist groups.

The target sample will include approximately 120–200 completed responses. This sample size is considered feasible for descriptive cross-sectional analysis and sufficient to provide an initial overview of pharmacists' perceptions regarding current KPI systems and proposed performance indicators.

Pharmacy interns, non-practising pharmacists, pharmacists working exclusively in hospital, primary-care, or other non-community pharmacy settings, and individuals who do not provide informed consent will be excluded from the study.

12. Study Instrument:

Data will be collected using a structured online questionnaire developed on the basis of relevant literature, previous studies, and the Donabedian structure–process–outcome model. The questionnaire will be designed to assess current workplace key performance indicators (KPIs), pharmacists' perceptions of these indicators, and the relevance and feasibility of proposed indicators for community pharmacy practice in Saudi Arabia.

The questionnaire will consist of four sections. The first section will collect demographic and professional information, including age group, gender, years of community pharmacy experience, type of pharmacy, geographic region, and employment position. The second section will assess the current KPIs used in participants' workplaces, including their clarity, relevance, fairness, and alignment with pharmacists' professional responsibilities. The third section will examine the extent to which current KPIs capture pharmaceutical-care activities, including patient counselling, medication safety, medication review, clinical services, chronic disease support, and patient-centred care. The fourth section will present a preliminary list of proposed structure, process, and outcome indicators based on the Donabedian Model. Participants will rate each proposed indicator according to its relevance and feasibility for routine use.

Most questionnaire items will be measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree for perception statements, and from 1 = not relevant/not feasible to 5 = highly relevant/highly feasible for proposed indicators. The questionnaire is expected to contain approximately 48–54 items: around 6 demographic and workplace items, 12 items on current KPI use and perceptions, 12 items on the coverage of pharmaceutical-care activities, and 18–24 proposed indicators.

The questionnaire will be prepared in English and translated into Arabic when required. Where an Arabic version is used, it will be reviewed for linguistic clarity and equivalence before distribution. Content validity will be assessed by three to five academic or pharmacy-practice experts, who will evaluate the relevance, clarity, and appropriateness of the items. The questionnaire will then be pilot-tested with approximately 10–15 community pharmacists to assess clarity, completion time, and technical usability. Internal consistency reliability for multi-item scales will be

evaluated using Cronbach's alpha, with a value of 0.70 or higher considered acceptable.

13. Statistical Analysis Methods :

Data will be analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequencies, percentages, means, and standard deviations, will be used to summarize participants' demographic and professional characteristics, the current key performance indicators (KPIs) used in community pharmacy settings, and pharmacists' perceptions of the relevance, clarity, fairness, adequacy, and feasibility of these indicators.

The internal consistency reliability of multi-item perception scales will be assessed using Cronbach's alpha. A Cronbach's alpha value of 0.70 or higher will be considered acceptable. Mean scores will be calculated for each proposed indicator according to two dimensions: relevance and feasibility. Proposed indicators with a mean score of 3.5 or above on both relevance and feasibility will be retained as preliminary priorities in the proposed KPI framework.

Where the number of participants in each group is sufficient, independent-samples t-tests will be used to compare mean perception scores between two groups, such as pharmacists working in chain pharmacies and those working in independent pharmacies. One-way analysis of variance (ANOVA) will be used to compare mean scores across three or more groups, such as years of experience, geographic regions, or employment positions. A p-value of less than 0.05 will be considered statistically significant.

Missing responses will be reported, and each item will be analysed using the available valid responses. If open-ended questions are included, responses will be reviewed and summarized through simple thematic grouping. Finally, the proposed KPI framework will be presented descriptively according to the structure, process, and outcome dimensions of the Donabedian Model.

14. Study Boundaries:

Human boundary: Licensed pharmacists currently working in community pharmacies in Saudi Arabia who participate voluntarily in the online survey.

Spatial boundary: Community pharmacies across Saudi Arabia.

Temporal boundary: Data collection will take place during the 2026 academic year.

Methodological boundary: The study relies on self-reported perceptions and proposes an initial KPI framework; it will not test the framework's long-term impact on patient outcomes or organizational performance.

15. Ethical Considerations:

Ethical approval will be sought from the relevant university research ethics committee before data collection. Participation will be voluntary and based on electronic informed consent provided before access to the questionnaire.

Participants will be informed of the study purpose, procedures, expected completion time, potential minimal risks, and their right to withdraw before submitting the questionnaire without penalty. No names, personal identifiers, employer identifiers, or confidential organizational KPI data will be collected. Data will be stored securely, accessed only by the researcher and supervisor, and reported in aggregate form.

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