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ASSESSMENT AND IMPROVEMENT OF COMPLIANCE WITH GUIDELINE-RECOMMENDED SECONDARY PREVENTION THERAPY AFTER MYOCARDIAL INFARCTION: A QUALITY IMPROVEMENT PROJECT IN A PUBLIC SECTOR HOSPITAL IN PAKISTAN

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ABSTRACT

Background

Effective secondary prevention following myocardial infarction (MI) plays a crucial role in reducing recurrent cardiovascular events, rehospitalization, and mortality. Despite established international guideline recommendations, compliance with discharge-based secondary prevention measures remains variable in many resource-limited public-sector healthcare settings. This Quality Improvement Project (QIP) was conducted to assess and improve compliance with guideline-recommended secondary prevention therapy among post-MI patients discharged from the cardiology ward of Ayub Teaching Hospital, Abbottabad.

Objective

To assess baseline compliance with guideline-recommended secondary prevention measures after MI and evaluate the impact of targeted quality improvement interventions on discharge practices in a tertiary care public-sector hospital.

Methodology

This clinical audit-based Quality Improvement Project was conducted in the cardiology ward of Ayub Teaching Hospital, Abbottabad. Adult patients admitted with STEMI or NSTEMI and discharged alive from the cardiology ward were included using non-probability consecutive sampling. Baseline audit data were collected from patients discharged between 15 August 2025 and 15 October 2025, while the post-intervention re-audit was conducted between 1 November 2025 and 30 December 2025. Compliance with pharmacological and non-pharmacological components of the secondary prevention discharge bundle was assessed using a structured audit proforma based on international guideline recommendations. Interventions included introduction of a standardized post-MI discharge checklist, sensitization sessions for residents and house officers, reinforcement of documentation practices, and reminder posters regarding discharge bundle components.

Results

A total of 86 patients were included in the baseline audit cycle and 82 patients in the post-intervention

cycle. Baseline assessment demonstrated variable compliance with secondary prevention measures. Aspirin was prescribed in 84/86 (97.7%) patients, P2Y12 inhibitors in 79/86 (91.9%), high-intensity statins in 76/86 (88.4%), beta-blockers in 63/86 (73.3%), and ACE-I/ARB/ARNI therapy in 58/86 (67.4%) eligible patients. Documentation of smoking cessation counselling was present in only 9/28 (32.1%) current smokers, follow-up planning in 47/86 (54.7%) patients, and affordability/adherence counselling in 18/86 (20.9%) patients. Overall complete bundle compliance was observed in 24/86 (27.9%) patients during the baseline audit cycle.

Following implementation of targeted interventions, compliance improved across most components of the discharge bundle. Aspirin prescription increased to 82/82 (100%), P2Y12 inhibitor use to 80/82 (97.6%), high-intensity statin therapy to 78/82 (95.1%), beta-blocker prescription to 73/82 (89.0%), and ACE-I/ARB/ARNI therapy to 69/82 (84.1%). Smoking cessation counselling improved to 18/25 (72.0%), follow-up documentation to 72/82 (87.8%), and affordability/adherence counselling to 57/82 (69.5%). Overall complete bundle compliance improved substantially from 27.9% to 71.9% following intervention.

Conclusion

Significant gaps existed in compliance with guideline-recommended secondary prevention measures among post-MI patients discharged from the cardiology ward at baseline, particularly in counselling and documentation practices. Implementation of simple, low-cost quality improvement interventions resulted in substantial improvement in both pharmacological and non-pharmacological components of post-MI discharge care. Regular audit cycles and structured discharge processes may help improve adherence to evidence-based cardiovascular care in resource-limited healthcare settings in Pakistan.

Keywords: *Myocardial infarction; Secondary prevention; Quality improvement project; Clinical audit; Discharge compliance; Cardiovascular care; Pakistan*

INTRODUCTION

Myocardial infarction (MI) remains one of the leading causes of morbidity and mortality worldwide and contributes substantially to the growing cardiovascular disease burden in low- and middle-income countries such as Pakistan. In the local population, patients frequently present at a younger age and often have multiple poorly controlled cardiovascular risk factors, including smoking, diabetes mellitus, hypertension, and dyslipidaemia. Despite improvements in acute cardiac care, long-term outcomes after MI continue to depend heavily on effective secondary prevention strategies implemented at the time of hospital discharge.[1]Current international guidelines recommend a comprehensive secondary prevention approach for patients discharged after MI. This includes pharmacological therapy with dual antiplatelet therapy (aspirin and a P2Y12 inhibitor), high-intensity statins, beta-blockers, and renin–angiotensin system inhibitors such as ACE inhibitors, ARBs, or ARNIs when indicated.[2–3] In addition to medications, non-pharmacological interventions including smoking cessation counselling, lifestyle modification advice, medication adherence counselling, and planned cardiology follow-up are essential components of post-MI care. Appropriate implementation of these measures has been shown to reduce recurrent cardiovascular events, rehospitalization, and mortality.[4]However, despite clear guideline recommendations, studies from both developed and developing healthcare systems have demonstrated significant gaps between evidence-based recommendations and actual clinical practice.[5] In busy public-sector hospitals, discharge processes are often variable, documentation may be incomplete, and counselling may not be consistently performed or recorded. During routine work in the cardiology ward at Ayub Teaching Hospital, it was commonly observed that some post-MI patients were discharged without complete guideline-directed secondary prevention therapy or without proper documentation of counselling and follow-up arrangements.In addition to deficiencies in

documentation and prescribing practices, medication affordability represents an important challenge in the Pakistani healthcare setting. Many patients admitted to public-sector hospitals belong to low socioeconomic backgrounds and may struggle to continue long-term cardiovascular medications after discharge. Even when appropriate medications are prescribed, financial constraints can adversely affect adherence and ultimately influence long-term outcomes.Quality Improvement Projects (QIPs) provide a structured and practical method for identifying deficiencies in healthcare delivery and implementing targeted interventions to improve patient care. Through baseline assessment, root cause analysis, intervention, and re-audit cycles, QIPs can help bridge the gap between recommended standards and routine clinical practice. In the context of post-MI care, improving compliance with discharge-based secondary prevention measures can contribute significantly to better long-term cardiovascular outcomes.

This Quality Improvement Project was therefore conducted to assess compliance with guideline-recommended secondary prevention therapy among patients discharged after myocardial infarction in the cardiology ward of Ayub Teaching Hospital, Abbottabad, identify barriers contributing to non-compliance, and implement practical interventions aimed at improving adherence to standard discharge practices.

Aim and Objectives

Aim

To increase complete compliance with guideline-recommended secondary prevention discharge therapy among eligible post-myocardial infarction patients in the cardiology ward of Ayub Teaching Hospital to at least 85% within a four-month period through targeted quality improvement interventions.

Objectives

1. To assess baseline compliance with individual components of the secondary prevention discharge bundle among post-MI patients discharged between 15 August 2025 and 15 October 2025.
2. To implement targeted interventions aimed at improving discharge prescribing practices, documentation, and patient counselling in the cardiology ward.
3. To reassess compliance with secondary prevention measures among post-MI patients discharged between 1 November 2025 and 30 December 2025 following implementation of the interventions.
4. To compare pre-intervention and post-intervention compliance rates in order to evaluate the effectiveness of the quality improvement measures.

Audit Standards

Audit standards for this project were based on established international guidelines for secondary prevention following myocardial infarction. All eligible patients discharged after MI were expected to receive the following components of care unless a documented contraindication or clinical reason for omission was present.

Pharmacological Components

- Aspirin
- A P2Y12 inhibitor (clopidogrel or ticagrelor)
- High-intensity statin therapy
- Beta-blocker therapy
- ACE inhibitor, ARB, or ARNI where clinically indicated

Non-Pharmacological Components

- Documented smoking cessation counselling for current smokers
- Documented cardiology follow-up plan
- Counselling regarding medication affordability and adherence

Each component was considered compliant if it was either appropriately prescribed/documented or if a valid contraindication was clearly mentioned in the patient record. Complete bundle compliance was defined as the proportion of eligible patients discharged with all indicated components of the secondary prevention bundle.The target standard for this audit was set at 100% compliance for each eligible component

in accordance with international guideline recommendations.

Methodology

Study Design and Setting

The project followed a clinical audit/PDSA-based quality improvement cycle involving baseline assessment, intervention implementation, and re-audit in the cardiology ward of Ayub Teaching Hospital, a major public-sector tertiary care teaching hospital serving a large population from Abbottabad and surrounding districts of Khyber Pakhtunkhwa.

Study Population

The study included adult patients admitted with a diagnosis of myocardial infarction (STEMI or NSTEMI) who were subsequently discharged alive from the cardiology ward during the study periods. Complete bundle compliance; was defined as documentation of all pharmacological and non-pharmacological components applicable to an individual patient after accounting for contraindications and clinical eligibility.

Inclusion Criteria

- Age ≥18 years
- Confirmed diagnosis of STEMI or NSTEMI
- Discharged alive from the cardiology ward

Exclusion Criteria

- Patients who expired during hospitalization
- Patients referred to another facility before discharge
- Incomplete medical records preventing assessment of discharge therapy
- Patients with documented contraindications to specific medications were excluded only from assessment of those individual components

Sampling Technique

Non-probability consecutive sampling was used, and all eligible patients discharged during the audit periods were included in the study. Data were collected using a structured audit proforma developed according to guideline-recommended discharge standards

Data Analysis

Data were entered and analyzed using SPSS version 27. Categorical variables were presented as frequencies and percentages. Compliance rates for individual bundle components and overall bundle compliance were calculated for both audit cycles. Pre-intervention and post-intervention compliance rates were compared descriptively to assess the impact of the implemented quality improvement interventions.

Ethical Considerations

This project was conducted as a clinical audit and quality improvement initiative using routinely collected patient data without alteration in standard patient management. Patient confidentiality was maintained throughout the study, and no identifying patient information was recorded in the data collection proforma. Institutional permission was obtained from the cardiology unit prior to conducting the audit.

Results

Baseline Characteristics

A total of 86 patients discharged after myocardial infarction were included in the baseline audit cycle conducted between 15 August 2025 and 15 October 2025. In the post-intervention cycle conducted between 1 November 2025 and 30 December 2025, 82 eligible patients were included.In the baseline cycle, the mean age of patients was 56.8 ± 10.9 years, while the mean age in the re-audit cycle was 57.4 ± 11.3 years. Male patients constituted the majority in both audit cycles, accounting for 68 (79.1%) patients in the baseline group and 63 (76.8%) patients in the post-intervention group.ST-segment elevation myocardial infarction (STEMI) was the predominant presentation, observed in 58 (67.4%) patients during the baseline cycle and 54 (65.9%) patients during the re-audit cycle. NSTEMI accounted for the remaining cases.Hypertension and diabetes mellitus were among the most common comorbid conditions. A documented history of hypertension was present in 49 (57.0%) patients in the baseline group and 45 (54.9%) patients in the post-intervention

group, while diabetes mellitus was present in 31 (36.0%) and 29 (35.4%) patients respectively. Current smoking was documented in 28 (32.6%) patients during the baseline audit and 25 (30.5%) patients during the re-audit cycle.

Baseline Audit Findings

Baseline assessment demonstrated variable compliance with guideline-recommended secondary prevention measures among post-MI patients discharged from the cardiology ward.Among pharmacological therapies, aspirin showed the highest compliance and was prescribed in 84 (97.7%) eligible patients. A P2Y12 inhibitor was prescribed in 79 (91.9%) patients, while high-intensity statin therapy was documented in 76 (88.4%) patients.Compliance with beta-blocker therapy was comparatively lower, with appropriate prescription documented in 63 (73.3%) eligible patients. ACE inhibitor, ARB, or ARNI therapy was prescribed in 58 (67.4%) eligible patients after accounting for documented contraindications and clinical considerations.Compliance with non-pharmacological components of the discharge bundle was considerably lower. Smoking cessation counselling was documented in only 9 (32.1%) current smokers. A documented follow-up plan was present in 47 (54.7%) discharge summaries, while counselling regarding medication affordability and adherence was documented in only 18 (20.9%) patients.

Overall complete bundle compliance, defined as documentation of all indicated pharmacological and non-pharmacological components, was achieved in only 24 (27.9%) patients during the baseline audit cycle.

Root Cause Analysis

Root causes were identified through review of discharge summaries, direct observation of discharge practices, and informal feedback discussions with residents and ward staff. The most commonly identified issues included lack of a standardized discharge checklist, inconsistent documentation practices among rotating trainees, high patient turnover in the cardiology ward, limited time available for discharge counselling, and reduced emphasis on non-pharmacological counselling components during routine ward work.It was also observed that while medications were frequently prescribed appropriately, counselling and follow-up discussions were often either omitted or not formally documented in discharge summaries.

Implementation of Quality Improvement Interventions

Following completion of the baseline audit, targeted interventions were implemented in the cardiology ward. These included introduction of a standardized post-MI discharge checklist, verbal sensitization sessions for residents and house officers regarding guideline-recommended discharge therapy, reinforcement of documentation practices during ward rounds, and placement of reminder posters in the ward regarding secondary prevention bundle components.Residents were additionally encouraged to document smoking cessation counselling, follow-up planning, and medication affordability discussions at the time of discharge.

Post-Intervention Audit Findings

Following implementation of the quality improvement interventions, improvement was observed across most components of the secondary prevention bundle.Aspirin prescription increased slightly from 97.7% to 100%, while prescription of a P2Y12 inhibitor improved from 91.9% to 97.6%. High-intensity statin therapy compliance increased to 95.1%.A more notable improvement was observed in prescription of beta-blockers and ACE inhibitor/ARB/ARNI therapy. Beta-blocker prescription increased from 73.3% to 89.0%, while compliance with ACE inhibitor/ARB/ARNI therapy improved from 67.4% to 84.1% among eligible patients.Substantial improvement was also observed in non-pharmacological components. Documentation of smoking cessation counselling among current smokers increased from 32.1% to 72.0%. Documented follow-up planning improved from 54.7% to 87.8%, while counselling regarding medication affordability and adherence increased from 20.9% to 69.5%.

Overall complete bundle compliance improved from 27.9% during the baseline audit cycle to 71.9% following intervention.

Table 1. Baseline Characteristics of Patients Included in Both Audit Cycles

Variable	Baseline Cycle (n=86)	Post-Intervention Cycle (n=82)
Mean age (years)	56.8 ± 10.9	57.4 ± 11.3
Male gender	68 (79.1%)	63 (76.8%)
STEMI	58 (67.4%)	54 (65.9%)
NSTEMI	28 (32.6%)	28 (34.1%)
Hypertension	49 (57.0%)	45 (54.9%)
Diabetes mellitus	31 (36.0%)	29 (35.4%)
Current smokers	28 (32.6%)	25 (30.5%)

Table 2. Compliance With Secondary Prevention Bundle Components Before and After Intervention

Component	Baseline Audit	Post-Intervention Audit
Aspirin	84/86 (97.7%)	82/82 (100%)
P2Y12 inhibitor	79/86 (91.9%)	80/82 (97.6%)
High-intensity statin	76/86 (88.4%)	78/82 (95.1%)
Beta-blocker	63/86 (73.3%)	73/82 (89.0%)
ACE-I/ARB/ARNI	58/86 (67.4%)	69/82 (84.1%)
Smoking cessation counselling*	9/28 (32.1%)	18/25 (72.0%)
Follow-up plan documented	47/86 (54.7%)	72/82 (87.8%)
Affordability/adherence counselling	18/86 (20.9%)	57/82 (69.5%)
Complete bundle compliance	24/86 (27.9%)	59/82 (71.9%)

*Calculated among current smokers only.

Table 3. Common Reasons for Non-Compliance During Baseline Audit Cycle

Identified Barrier	Frequency (%)
Lack of standardized discharge checklist	29 (33.7%)
Incomplete documentation in discharge summaries	24 (27.9%)
High patient turnover/workload	21 (24.4%)
Missed counselling due to time constraints	18 (20.9%)
Concern regarding medication affordability	15 (17.4%)
Variability in prescribing practices among trainees	12 (14.0%)

Multiple contributing factors could be identified for a single patient; therefore, percentages do not sum to 100%

Table 4. Overall Compliance According to Type of Secondary Prevention Measure

Category	Baseline Audit	Post-Intervention Audit
Pharmacological bundle compliance	54/86 (62.8%)	70/82 (85.4%)
Non-pharmacological bundle compliance	14/86 (16.3%)	49/82 (59.8%)
Complete overall bundle compliance	24/86 (27.9%)	59/82 (71.9%)

Pharmacological bundle compliance was defined as the proportion of patients receiving all indicated pharmacological components simultaneously, while non-pharmacological bundle compliance referred to documentation of all applicable counselling and follow-up measures. For non-pharmacological bundle assessment, smoking cessation counselling was evaluated only among current smokers, while nonsmokers were considered automatically compliant for this component.

Complete bundle compliance was defined as fulfillment of all pharmacological and non-pharmacological components applicable to an individual patient after accounting for eligibility and contraindications.

Summary Table — Key Compliance Metrics

Component	Baseline	Post-intervention	Absolute improvement
Aspirin	97.7%	100%	+2.3
P2Y12 inhibitor	91.9%	97.6%	+5.7
High-intensity statin	88.4%	95.1%	+6.7
Beta-blocker	73.3%	89.0%	+15.7
ACE-I/ARB/ARNI	67.4%	84.1%	+16.7
Smoking cessation counselling*	32.1%	72.0%	+39.9
Follow-up plan documented	54.7%	87.8%	+33.1
Affordability/adherence counsel.	20.9%	69.5%	+48.6
Complete bundle compliance	27.9%	71.9%	+44.0

Figure 1. Compliance with Each Secondary Prevention Component

Compliance improved across all nine bundle components following the QI interventions. The greatest relative gains were seen in non-pharmacological components, particularly affordability/adherence counselling (20.9% → 69.5%), smoking cessation counselling (32.1% → 72.0%), and follow-up plan documentation (54.7% → 87.8%). Pharmacological components, already at higher baseline rates, also showed meaningful improvement, with beta-blocker prescribing rising from 73.3% to 89.0% and ACE-I/ARB/ARNI from 67.4% to 84.1%.

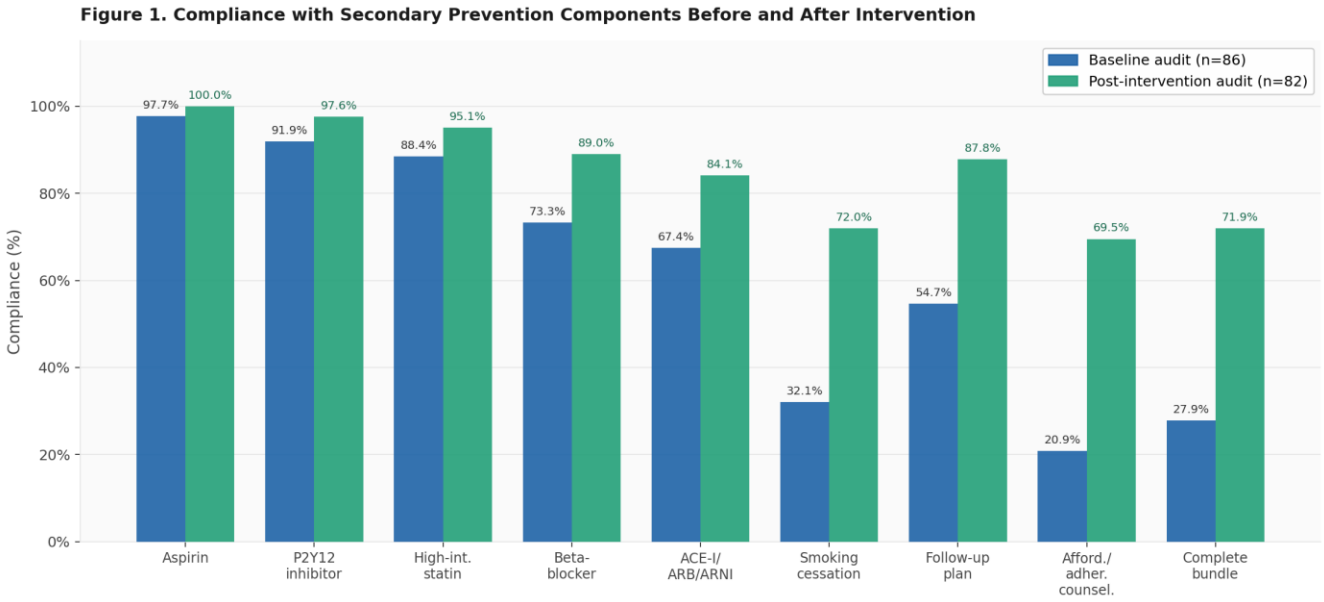

Figure 1. Compliance rates for each secondary prevention bundle component at baseline (n=86) and post-intervention (n=82) audit cycles. *Smoking cessation counselling denominator restricted to current smokers only (baseline n=28; post-intervention n=25).

Figure 2. Absolute Improvement in Compliance (Percentage Points)

Ranked by magnitude of absolute improvement, affordability/adherence counselling showed the largest gain (+48.6 pp), followed by complete bundle compliance (+44.0 pp) and smoking cessation counselling (+39.9 pp). Even components with high baseline rates — such as aspirin (+2.3 pp) and P2Y12 inhibitors (+5.7 pp) — demonstrated further improvement, approaching ceiling-level compliance post-intervention.

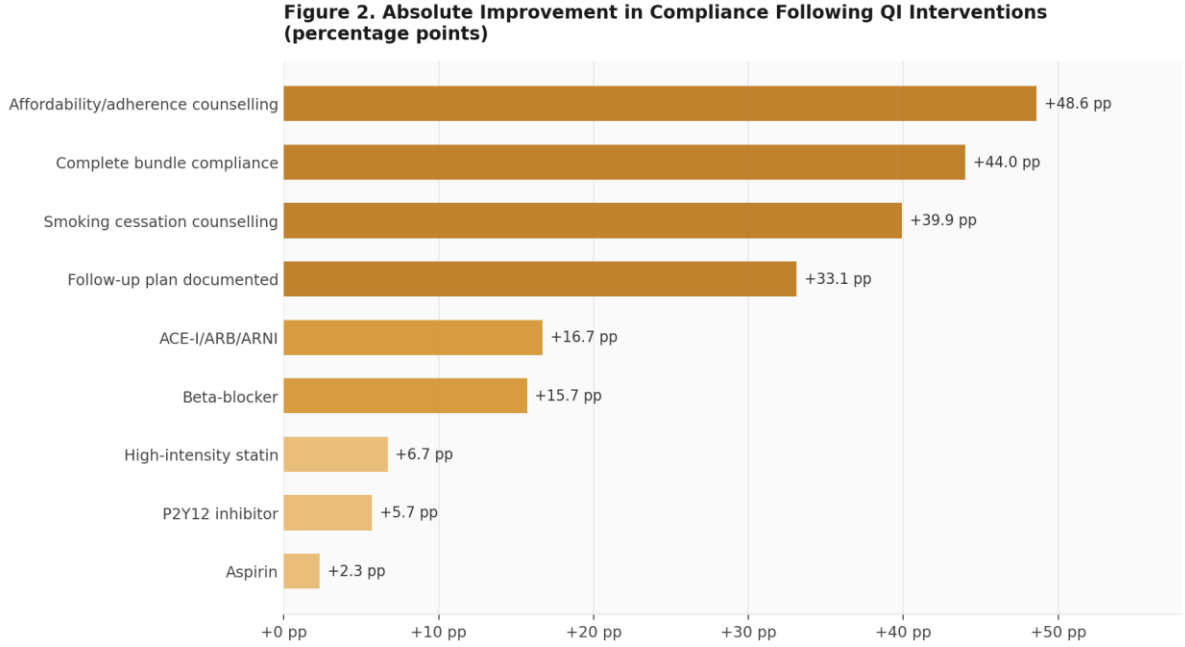

Figure 2. Absolute improvement (percentage points) in compliance for each secondary prevention component, ranked from largest to smallest gain. pp = percentage points.

Figure 3. Overall Compliance by Bundle Category

Stratifying compliance by bundle type reveals that non-pharmacological compliance was disproportionately low at baseline (16.3%) and demonstrated the greatest absolute gain, reaching 59.8% post-intervention. Pharmacological bundle compliance improved from 62.8% to 85.4%. Complete bundle compliance — requiring all components to be met — rose from 27.9% to 71.9%, reflecting the cumulative benefit of all QI measures.

Figure 3. Overall Compliance by Bundle Category Before and After Intervention

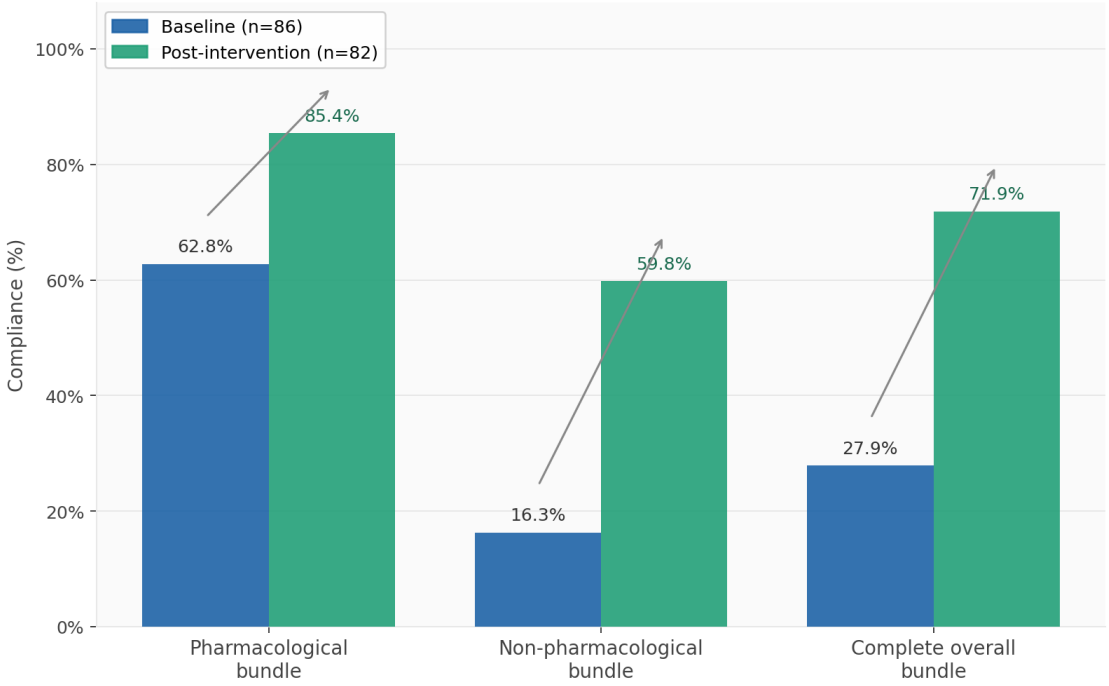

Figure 3. Compliance by bundle category before and after intervention. Arrows indicate direction of change. Baseline n=86; post-intervention n=82.

Figure 4. MI Type Distribution

Of the 86 patients enrolled in the baseline cycle, 67.4% (n=58) presented with STEMI and 32.6% (n=28) with NSTEMI, consistent with the typical distribution seen in South Asian acute coronary syndrome registries.

Figure 4. MI Type Distribution — Baseline Cycle

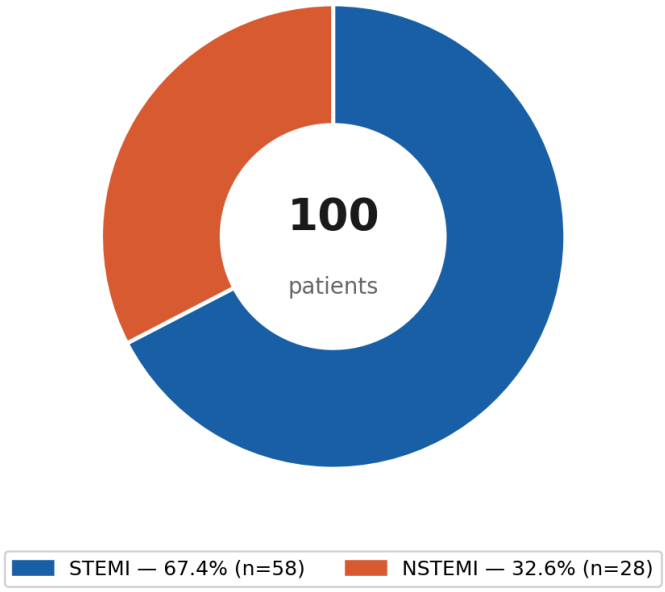

Figure 4. MI type distribution in the baseline audit cycle (n=86). STEMI = ST-elevation myocardial infarction; NSTEMI = non-ST-elevation myocardial infarction.

Figure 5. Comorbidity Profile

Hypertension was the most prevalent comorbidity (57.0%), followed by diabetes mellitus (36.0%) and current smoking (32.6%). Male sex predominated at 79.1%, reflecting the known demographic profile of MI in the region.

Figure 5. Comorbidity Profile — Baseline Audit Cycle (n=86)

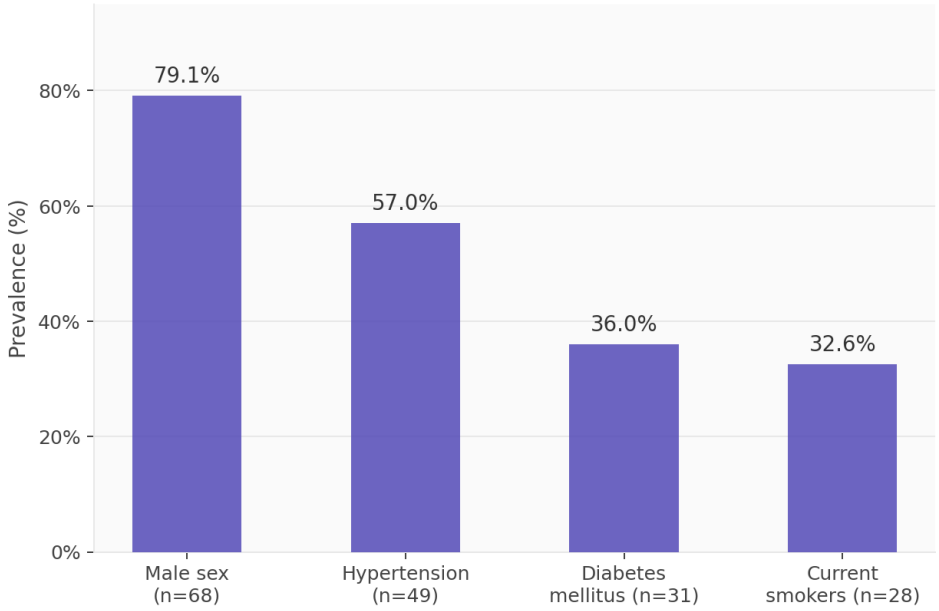

Figure 5. Prevalence of key comorbidities and demographic factors in the baseline audit cohort (n=86).

Figure 6. Identified Barriers to Compliance

Multiple contributing factors were identified for individual patients; therefore percentages do not sum to 100%. The most common barrier was absence of a standardised discharge checklist (33.7%), followed by incomplete discharge documentation (27.9%) and high patient turnover/workload (24.4%). These findings informed the targeted QI interventions implemented between audit cycles.

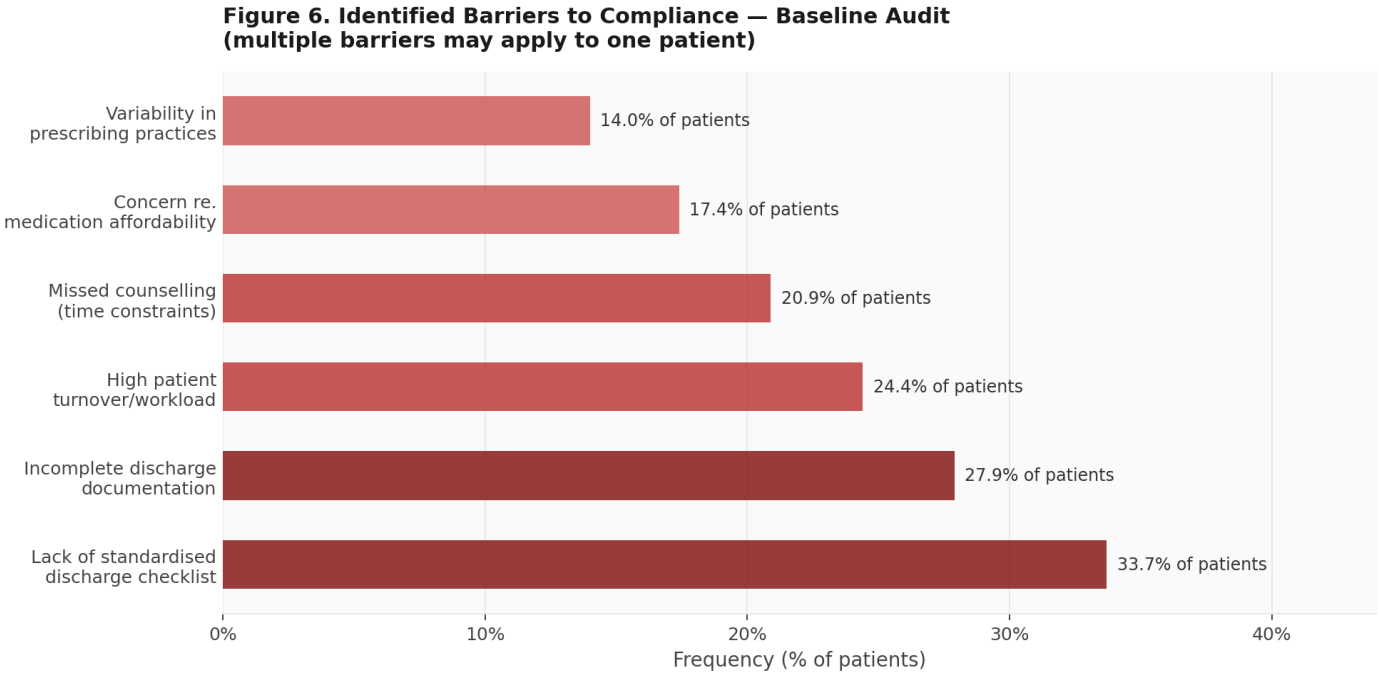

Figure 6. Frequency of identified barriers to guideline-recommended secondary prevention therapy during the baseline audit cycle (n=86). Multiple barriers could be identified per patient.

Discussion

This Quality Improvement Project demonstrated that implementation of relatively simple, low-cost interventions was associated with substantial improvement in compliance with guideline-recommended secondary prevention therapy among patients discharged after myocardial infarction in the cardiology ward of Ayub Teaching Hospital, Abbottabad. Following introduction of a standardized discharge checklist, reinforcement of documentation practices, and focused sensitization of residents and house officers, overall complete bundle compliance improved from 27.9% during the baseline audit cycle to 71.9% in the post-intervention cycle.The findings of this project are important in the context of cardiovascular disease management in Pakistan, where healthcare systems are frequently overburdened, discharge practices may vary among rotating trainees, and structured secondary prevention strategies are often inconsistently implemented. Although acute management of myocardial infarction has improved over recent years in many tertiary care centers, long-term outcomes continue to depend heavily on optimization of discharge-based secondary prevention measures.Among pharmacological components, aspirin prescription rates were already high during the baseline audit (97.7%) and improved further to 100% following intervention. Similar high prescription rates for antiplatelet therapy have been reported in several international registries, reflecting strong clinician awareness regarding the importance of antiplatelet therapy after MI. In the EUROASPIRE IV survey conducted across multiple European countries, antiplatelet use among coronary artery disease patients exceeded 90% in most participating centers.[7] However, the present project

demonstrated that while prescribing of major medications was relatively satisfactory even before intervention, important deficiencies persisted in other components of secondary prevention, particularly documentation and counselling practices.Prescription of beta-blockers improved from 73.3% to 89.0%, while ACE inhibitor/ARB/ARNI compliance improved from 67.4% to 84.1% after intervention. These findings are clinically relevant because underutilization of neurohormonal blockade following MI has consistently been associated with poorer cardiovascular outcomes. Similar gaps in adherence to evidence-based post-MI pharmacotherapy have been reported from South Asian healthcare settings. In the Pakistan Risk of Myocardial Infarction Study (PROMIS), a high burden of cardiovascular risk factors and premature coronary artery disease was observed among Pakistani patients, emphasizing the importance of aggressive secondary prevention strategies in this population.[8]One of the most notable observations in this project was the markedly low baseline compliance with non-pharmacological measures. Documentation of smoking cessation counselling was present in only 32.1% of current smokers during the initial audit cycle, while counselling regarding medication affordability and adherence was documented in only 20.9% of patients. These findings likely reflect the realities of routine ward practice in busy public-sector hospitals, where high patient turnover, limited staffing, and time constraints often result in greater focus on acute stabilization and medication prescribing than on counselling and discharge documentation.Following intervention, substantial improvement was observed in these non-pharmacological domains, with smoking cessation counselling increasing to 72.0%, follow-up documentation to 87.8%, and affordability/adherence counselling to 69.5%. This pattern suggests that deficiencies were not necessarily due to lack of clinical knowledge alone, but rather due to absence of structured discharge systems and limited emphasis on documentation practices. Similar findings have been reported in quality improvement initiatives from other low- and middle-income healthcare settings where introduction of discharge checklists and standardized templates significantly improved compliance with evidence-based care processes.[9–10]Medication affordability emerged as an important issue during the baseline assessment and root cause analysis. This observation is particularly relevant in the Pakistani healthcare context, where a considerable proportion of patients admitted to public-sector hospitals belong to lower socioeconomic groups and frequently bear out-of-pocket healthcare expenses. Even when evidence-based therapies are prescribed appropriately, financial barriers may adversely affect long-term adherence. Previous Pakistani studies evaluating cardiovascular care have similarly identified cost of medications and poor follow-up compliance as major contributors to treatment interruption after hospital discharge.[11]The large improvement observed in overall bundle compliance after relatively simple interventions highlights the practical value of clinical audit cycles and quality improvement methodologies in resource-limited healthcare environments. Importantly, the interventions implemented in this project did not require additional financial investment, advanced technology, or major restructuring of hospital services. Instead, improvements were achieved primarily through better organization of discharge processes, increased awareness among trainees, and reinforcement of accountability regarding documentation.

The findings of this project are also consistent with evidence from international literature supporting the use of discharge checklists and multidisciplinary approaches in improving adherence to guideline-directed therapy after acute coronary syndromes. In the American Heart Association's Get With The Guidelines program, implementation of structured quality improvement measures was associated with sustained improvement in evidence-based cardiovascular care and discharge prescribing practices.[9–10]Despite the significant improvements observed, complete compliance with the secondary prevention bundle was still not achieved in all patients during the re-audit cycle. Several factors may explain the remaining gaps.

These include persistent workload pressures, variability in trainee experience, occasional incomplete documentation, and possible clinical contraindications to specific medications. Furthermore, while documentation of counselling improved considerably, this project could not objectively assess long-term patient adherence to medications or actual lifestyle modification after discharge.This study has several limitations. First, it was conducted in a single tertiary care public-sector hospital, which may limit generalizability to other healthcare settings. Second, the sample size was relatively modest and the post-intervention follow-up period was short. Third, compliance assessment relied primarily on documentation in discharge records, and undocumented counselling may not necessarily indicate that counselling was not performed. In addition, the project evaluated discharge practices rather than long-term clinical outcomes such as recurrent myocardial infarction, readmission, or mortality.Nevertheless, the project provides useful insight into real-world post-MI discharge practices within a major public-sector teaching hospital in Pakistan and demonstrates that meaningful improvements can be achieved through practical and sustainable quality improvement interventions. Future cycles of this project may focus on maintaining long-term sustainability of improvements, incorporation of electronic discharge templates, involvement of nursing staff and pharmacists in discharge counselling, and assessment of long-term patient adherence and cardiovascular outcomes.

Conclusion

This Quality Improvement Project identified important gaps in compliance with guideline-recommended secondary prevention measures among patients discharged after myocardial infarction from the cardiology ward of Ayub Teaching Hospital, Abbottabad. Although prescription rates for major pharmacological therapies were relatively satisfactory at baseline, significant deficiencies were observed in documentation practices, discharge counselling, follow-up planning, and affordability/adherence discussions.Implementation of simple and practical interventions, including a standardized discharge checklist, reinforcement of documentation practices, and focused sensitization of residents and house officers, resulted in substantial improvement across both pharmacological and non-pharmacological components of the secondary prevention bundle. Although complete bundle compliance improved markedly from 27.9% to 72.0%, the pre-specified target of ≥85% was not met within the study period, identifying a clear objective for subsequent improvement cycles. The findings of this project highlight the importance of structured discharge processes and regular clinical audit cycles in improving adherence to evidence-based cardiovascular care in Pakistan. Sustained reinforcement of these interventions, along with future incorporation of multidisciplinary discharge counselling and periodic re-audits, may help further improve long-term outcomes among post-myocardial infarction patients.

Additional Information

Conflicts of Interest: None

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- Critical Review &Final Approval; Sardar Adnan Saif[1], Nasir mehmood[2]

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