Impact of pharmacist-driven transitions of care interventions on post-hospital outcomes among patients with coronary artery disease: a systematic review

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Abstract

Background: Transitions of care (ToC) aim to provide continuity while preventing loss of information that may result in poor outcomes such as hospital readmission. Readmissions not only burden patients, they also increase costs. Given the high prevalence of coronary artery diseases (CAD) in the United States (US), patients with CAD often make up a significant portion of hospital readmissions.

Objective: To conduct a systematic review evaluating the impact of pharmacist-driven ToC interventions on post-hospital outcomes for patients with CAD.

Methods: MEDLINE, Scopus, and CINAHL were searched from database inception through 03/2020 using key words for CAD and pharmacists. Studies were included if they: (1) identified adults with CAD at US hospitals, (2) evaluated pharmacist-driven ToC interventions, and (3) assessed post-discharge outcomes. Outcomes were summarized qualitatively.

Results: Of the 1,612 citations identified, 11 met criteria for inclusion. Pharmacist-driven ToC interventions were multifaceted and frequently included medication reconciliation, medication counseling, post-discharge follow–up and initiatives to improve medication adherence. Hospital readmission and emergency room visits were numerically lower among patients receiving versus not receiving pharmacist-driven interventions, with statistically significant differences observed in one study. Secondary prevention measures and adherence tended to be more favorable in the pharmacist-driven intervention groups.

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Conclusion: Eleven studies of multifaceted, ToC interventions led by pharmacists were identified. Readmissions were numerically lower and secondary prevention measures and adherence were more favorable among patients receiving pharmacist-driven interventions. However, sufficiently powered studies are still required to confirm these benefits.

Keywords

pharmaceutical care; acute coronary syndrome; myocardial Infarction; cardiology; medication therapy management; discharge planning

INTRODUCTION

Transitions of care (ToC) occur when patients move between healthcare systems, care settings or providers.[1] An effective care transition promotes care coordination and continuity, while avoiding miscommunications or loss of information that may result in errors and poor outcomes such as hospital readmissions.[2] Readmissions not only burden patients, they also increase costs. The Centers for Medicare and Medicaid Services (CMS) estimates that one in five Medicare patients discharged from a hospital is readmitted within 30 days, which costs over $26 billion annually.[3] In October 2012, CMS started to reduce Medicare payments to hospitals with excess readmissions through the Hospital Readmission Reduction Program. The program targets hospital-wide all-cause admissions and readmissions for conditions such as acute myocardial infarction, chronic obstructive pulmonary disease, heart failure, pneumonia, coronary artery bypass graft surgery, and total hip and/or knee replacement.[4] Given the high prevalence of coronary artery diseases (CAD) in the United States, patients with CAD often make up a significant portion of these readmissions.[5]

Pharmacist ToC interventions, such as medication review and reconciliation, medication education, outpatient clinic visits, and telephone follow-up, have been shown to reduce hospital readmissions while increasing medication adherence in patients with CAD.[6–16] However, many evaluations of these interventions were conducted at only one institution, thus limiting applicability. As a result, a summary of the totality of the evidence is needed to better understand the role of pharmacist-led t ToC programs in the CAD population. Therefore, we conducted a systematic literature review to evaluate the impact of pharmacist-driven ToC interventions on post-hospital outcomes for patients with CAD.

METHODS

This report is prepared in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.[17] Prior to the start of the systematic review, a protocol was developed and submitted to the Prospective Register of Systematic Reviews (PROSPERO) online repository.

Search strategy and study selection

PubMed, Scopus, and CINAHL were systematically searched from database inception through March 27, 2020. The search strategy was developed by a medical librarian after

discussion with the study team and utilized key words and Medical Subject Headings (MeSH) terms for CAD and pharmacist (Supplementary Table 1). Bibliographic database searches were supplemented with manual searches of the references sections of included articles and meeting abstracts from the American Society of Health-System Pharmacists (ASHP) and the American College of Clinical Pharmacy (ACCP) from 2015-2020.

Identified citations were independently reviewed by two investigators with disagreement resolved by a third investigator. Studies were included if they met the following criteria: (1) included adult patients with CAD (defined as those with acute coronary syndrome [ACS] events, coronary lesions and/or undergoing coronary revascularization procedures) being treated at United States hospitals, (2) evaluated pharmacist-driven interventions aimed at impacting ToC (defined as the discharge and/or follow-up process from an acute care center to an outpatient setting or outside facility), and (3) compared outcomes following hospital discharge in patients with CAD receiving the pharmacist-driven intervention to a control group. Citation screening was performed using an online systematic review management tool.[18]

Data abstraction and synthesis

All data were abstracted by one investigator, with a second investigator verifying data entries. The following data were abstracted from each study: first author's last name, year of publication, sample size, study design, characteristics of the study population, key components of the intervention and duration of follow-up.

Study outcomes were extracted and summarized qualitatively. Outcomes of interest were all-cause and cardiovascular-related hospital readmissions and emergency room (ER) visits. Mortality, CAD secondary prevention measures (e.g., low density lipoprotein [LDL] levels) and medication adherence were also assessed. Outcomes were only included if they were collected within one year of the index hospitalization and were compared among the study intervention and control groups.

The internal validity of each study was assessed using the Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I) tool for cohort studies and the Cochrane Collaboration revised tool to assess risk of bias in randomized trials (RoB-2) for randomized controlled trials (RCTs).[19–20] The following domains were assessed using the ROBINS-I tool: confounding, selection, intervention classification, deviation from intervention, missing data, measurement of outcome, and selection of reported results.[20] Risk of bias could be deemed low, moderate, serious, or critical. For the Cochrane Collaboration RoB-2 tool, the following domains were assessed: randomization process, deviation from intended intervention, missing outcome data, measurement of the outcome, and selection of the reported results.[19] Risk of bias could be deemed low, some concerns, or high.

RESULTS

Of the 1,612 unique citations identified through searching, 1,494 were excluded after title and abstract screening (Figure 1). A total of 107 articles were excluded after full text screening, with the reasons for exclusion displayed in Figure 1. This left 11 articles

evaluating pharmacist-driven interventions aimed at impacting ToC among patients with CAD for inclusion in this systematic review (Table 1).[6–16]

A total of 3,024 patients were included in the 11 studies, with the average age of patients ranging from 54 to 73 years and most were male (range 50-98%; Table 1). Seven studies restricted the population to those with ACS events, while the remaining studies also identified hospitalized patients for inclusion based on the presence of coronary lesions and/or coronary revascularization procedures. Six studies were prospective single-center evaluations comparing data on pharmacist-driven interventions to historical data; while four studies were RCTs and one study utilized a retrospective design.

Key components of the pharmacist-driven ToC interventions can be found in Table 1. Common components of the interventions included pharmacist-provided medication education and counseling (n=10), discharge medication reconciliation (n=8) and post-discharge follow-up phone calls or visits (n=10). Ten interventions specifically assessed and/or addressed barriers to medication adherence through initiatives such as education, assessing medication cost, or providing adherence tools such as pillboxes. The average amount of time spent on the intervention was reported in 3 studies and ranged from 12 to 22 minutes.

Upon validity assessment, studies met the evaluated criteria or were deemed to have low risk of bias across most domains (Supplementary Tables 2 and 3). For the seven cohort studies assessed using the ROBINS-I tool, risk of bias was deemed to be low in all studies in the following domains: intervention classification, deviation from intervention, measurement of outcome, and selection of reported results (Supplementary Table 2). Risk of bias for all studies was rated as high in the domain assessing selection because the studies selected historical rather than concurrent controls. Only one study was deemed to have low risk of bias when confounding was assessed, as this was the only study that attempted to match those receiving the intervention to historical controls based on patient characteristics. As many studies were conducted at single-centers and did not have access to data outside of their institution, most were rated as high risk of bias for the domain assessing missing data. All RCTs evaluated using the Cochrane Collaboration RoB2 tool were deemed to have low risk of bias for the randomization process and selection of the reported results (Supplementary Table 2). The domain assessing deviation from the intended intervention was rated as high risk of bias for all studies, because of concerns that arose due to lack of participant and personnel blinding. Similarly, two of the four studies did not blind outcome assessment, which resulted in concerns that prompted high risk of bias ratings in the domain assessing measurements of outcomes. Lastly, two studies were deemed to have high risk of bias due to missing outcome data.

Reencounter and mortality outcomes among those receiving pharmacist-driven interventions versus control groups are displayed in Table 2. Six studies evaluated all-cause hospital readmissions or ER visits and these events were numerically lower among patients receiving pharmacist-driven interventions in all but one study. Cardiovascular-related encounters were evaluated in three studies and were numerically lower among patients receiving pharmacist interventions in all studies. Mortality was numerically lower among those receiving the

pharmacist intervention in two studies but slightly higher in a third study. Only one study reported statistically significant differences between the groups for the aforementioned outcomes, with significant decreases in 90-day hospital readmission and 30- and 90-day cardiovascular-related readmission observed in those receiving the pharmacist interventions.

Four studies compared secondary prevention measures (i.e., the proportion of patients with an LDL<100mg/dL or meeting blood pressure goals) in patients receiving pharmacist-driven interventions versus control groups (Table 3). The measures tended to be more favorable in those receiving pharmacist-driven interventions, with significant differences observed in two studies.

Medication adherence was compared in four studies (Table 4). Adherence tended to be higher in patients receiving pharmacist-driven interventions when compared to control groups and differences were significant in 8 of the 19 comparisons made.

DISCUSSION

This systematic review included 11 studies evaluating the impact of pharmacist-driven ToC interventions among adults with CAD. All interventions were multifaceted, with most including pharmacist-provided medication education and counseling, discharge medication reconciliation, and post-discharge follow-up phone calls or visits. Re-encounter, mortality, CAD secondary prevention, and medication adherence outcomes tended to be more favorable in those receiving the pharmacist-driven interventions.

Several important gaps exist in the available literature on pharmacist-driven ToC interventions in the CAD population. None of the included studies in this systematic review reported the impact of their interventions on medication errors. A meta-analysis of pharmacist ToC interventions demonstrated that pharmacist-driven interventions reduce medication errors by at least 37%[21]; however, this meta-analysis included studies performed in various clinical settings and patient populations. Individual studies that included patients with CAD or ACS and other diagnoses, such as chronic obstructive pulmonary disease and heart failure, exhibited inconsistent impacts of pharmacist ToC interventions on medication errors.[22–24] Additionally, most of the studies included in this systematic review were underpowered to detect significant differences in important outcomes like mortality and readmissions or did not report these outcomes. Sufficiently powered studies with rigorous designs are needed to evaluate the impact of pharmacist-driven ToC interventions on medication errors, hospital readmissions, and mortality in the CAD population.

Studies have demonstrated the impact of pharmacist-driven interventions on outcomes following ToC in other medical conditions. The most studied cardiovascular condition is heart failure, where improvement in important clinical outcomes, such as readmission[25–29] and all-cause mortality,[25,28,29] have been demonstrated. Additionally, improved medication adherence[28,29] and use of guideline concordant treatment with beta-blockers and angiotensin converting enzyme (ACE) inhibitors/angiotensin receptor blockers (ARB) have also been established with these pharmacist-driven interventions in patients with heart failure.[25,26] Like patients with heart failure, patients with CAD are at high-risk of poor outcomes

following hospitalization if coordination is suboptimal as they transition between care settings. Coordination related to medication therapy is especially important, as improper discontinuation of medication therapy in these individuals increases mortality.[30] For instance, in a study of 1,521 US patients discharged on beta-blockers, statins and aspirin following a myocardial infarction, discontinuation of these medications at one month was associated with over a three-fold increase in one-year mortality (hazard ratio=3.81; 95% confidence interval=1.88-7.72).[30] It is therefore likely that individuals with CAD benefit from coordination of and education about medication therapy performed by pharmacists and other members of the healthcare team following hospital discharge.

The main limitation of our systematic review was the inability to perform a meta-analysis and thus quantitatively combine the results of included studies due to a high amount of heterogeneity across studies. Important differences existed in the design of included studies. Both cohort studies utilizing historic controls and RCTs that randomly allocated individuals to intervention or control groups were identified for inclusion. Even among the cohort studies, notable differences in study design existed. For example, one study was retrospective and utilized matching, while the others had a prospective component and did not attempt to control for differences between groups. Additionally, studies differed in their timing of outcome assessment. For instance, LDL cholesterol was measured anywhere from 6 weeks to 12 months following the index hospital encounter. Lastly, differences existed in how outcomes were defined and captured. For instance, some studies used proportion of days covered from prescription claims data to measure medication adherence, while others relied on patient reported adherence data. Moreover, cardiovascular-related readmissions were defined as any cardiovascular-related readmission in some studies, while others only captured readmissions where revascularization was utilized.

CONCLUSIONS

We identified 11 multifaceted, pharmacist-driven interventions aimed at improving outcomes in ToC for patients with CAD. Outcomes assessing re-encounters, mortality, CAD secondary prevention measures, and medication adherence tended to be more favorable in those receiving the pharmacist-driven interventions. However, most studies were underpowered to detect significant differences in outcomes. Sufficiently powered studies with more rigorous designs are needed to adequately evaluate the impact of pharmacist-driven ToC interventions on medication errors, hospital readmissions, and mortality in the CAD population.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements

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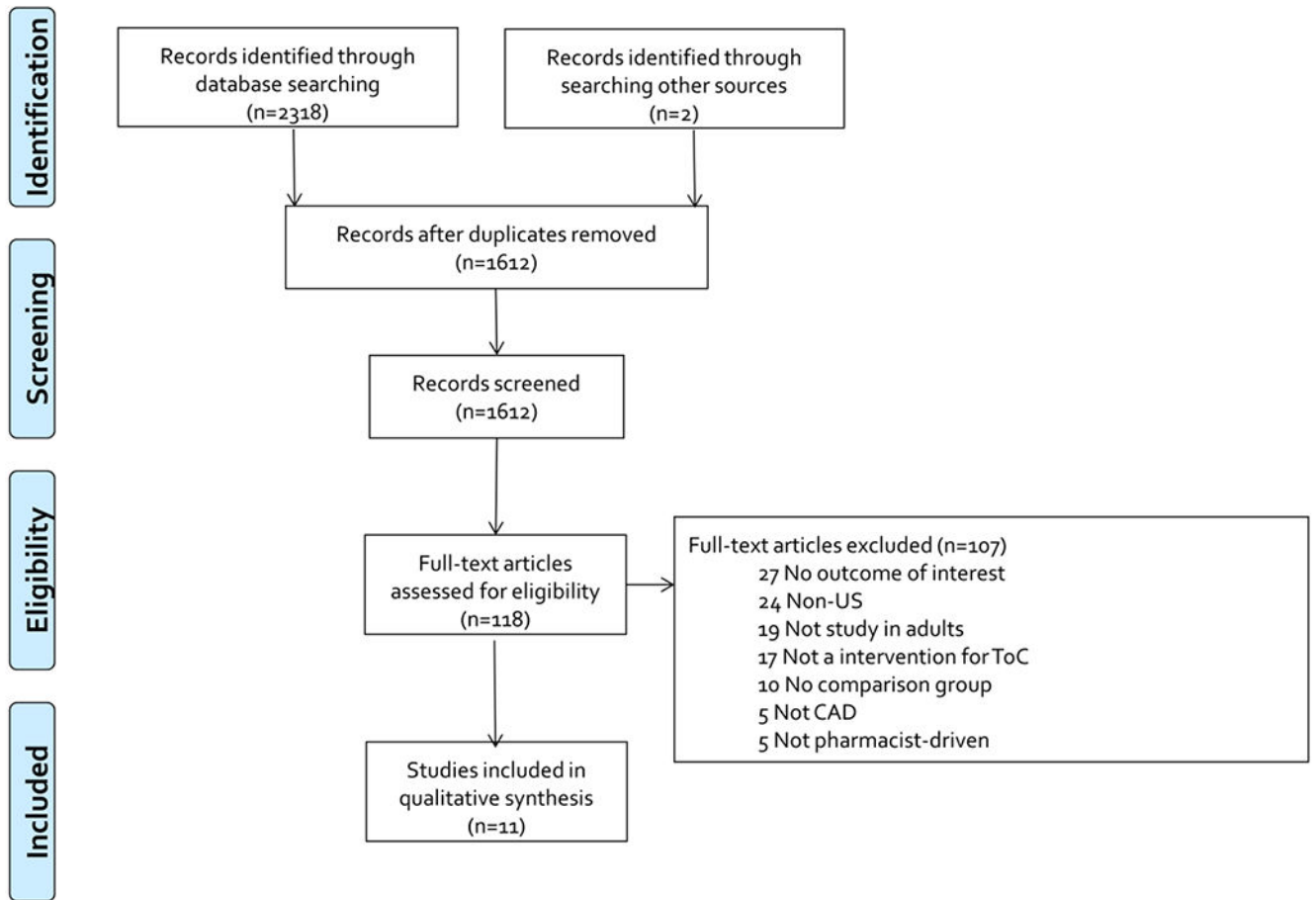
Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Flow Diagram
CAD=coronary artery disease; ToC= transitions of care

Table 1.

Characteristics of included studies evaluating pharmacist-driven interventions

Study N=	Study design	Timing of Study	Study population	Age (y) [mean (SD)]	Male	Key Components of Intervention
Murphy 2019 N=251	Prospective, single-center, comparison to historical institution data	8/2013-6/2015	AMI	64 (12)	54%	Inpatient • High-touch patient education by pharmacy, dietician and providers • Discharge medication reconciliation • Outpatient cardiology visit scheduled in week 1 Outpatient • High-touch service including telephone and in-person follow up from provider, dietician and pharmacist (to assess understanding of and adherence to medications) in week 1 and 3 • Post-discharge pharmacist-led MTM appointment in week 1-2, with optional appointment in week 4
Dempsey 2018 N=4[a]	Prospective, single-center, comparison to historical institution data	9/2015-3/2016	ACS, ≥65 years	73 (10)	64%	Inpatient and outpatient • Pharmacist provided education • Medication history, reconciliation and review • Medication bedside delivery • TOC coaching to encourage patients to take active role in process • Patient Activation Assessment assessing patient self-management • Distribution of adherence tools (e.g., pillboxes) • Review of insurance and cost-saving opportunities • Telephone follow-up 48-72 hours
Gorman 2018 N=300	Retrospective, single-center, comparison to a matched, historical cohort	7/2016-12/2016	ACS	63 (13)	71%	Inpatient • Medication history and reconciliation • Assess insurance, obtain prior authorization, and individualize $P2Y_{12}$ agent selection at discharge • Discharge counseling Outpatient • Telephone follow-up days 3-5 for counseling-related interventions including: ▪ Scheduling follow-up medical visits ▪ Medicine adherence assessment ▪ Side effect management ▪ OTC recommendations ▪ Smoking cessation counseling
Budiman 2016 N=135	Prospective, single-center, comparison to historical institution data	1/2015-4/2015	STEMI with cardiac stents	67 (13)	78%	Inpatient • Reconciliation of prior-to-admission medication list • Assess medication adherence and literacy • Customized discharge medication list • Medication education • Facilitate delivery of discharge medication by resolving patient's insurance issues before discharge • Discharge counseling on lifestyle management including diet, exercise, and smoking cessation Outpatient • Telephone follow-up 48-72 hours and 30 days

Study N=	Study design	Timing of Study	Study population	Age (y) [mean (SD)]	Male	Key Components of Intervention
Gasbarro 2015 N=548	Prospective, single-center, comparison to historical institution data	11/2013 - 1/2014	AMI	62 (14)	66%	Inpatient • Medication education • Medication reconciliation • Medication cost optimization • Laboratory monitoring • Discharge counseling on exercise, moderation of alcohol intake, smoking cessation Outpatient • Telephone follow-up 48 hours
Anderegg 2014 N = 71	Prospective, single-center, comparison to historical institution data	10/2012 - 12/2012	AMI	54 (16)	50%	Inpatient • Admission medication history and reconciliation • Discharge medication reconciliation with pended orders for provider review • Discharge education/counseling and take-home medication calendars
Ho 2014 N=241	Multicenter RCT, allocated to intervention or usual care	7/1/10-3/31/13	Veterans with ACS	64 (9)	98%	Inpatient • Patient education on medications at hospital discharge Outpatient • Medication history, reconciliation, and education by a pharmacist 7-10 days after discharge either in person or over the phone • Medication history, reconciliation, and education by a pharmacist at one month after discharge • Distribution of adherence tools (e.g., pillboxes) • Pharmacist informed PCP or cardiologist about patient treatment to allow for communication • A voice messaging system contacted patients at regularly scheduled intervals about medication reminders and medication refills
Calvert 2012 N=143	Multicenter RCT, allocated to intervention or usual care	7/5/06-7/2/09	ACS, coronary lesion 50%, prior angioplasty, stent or CABG discharged on a statin, beta-blocker and antiplatelet agent	Median (IQR) 63 (54-71)	66%	Inpatient • Pharmacist counseled on the importance of medication adherence and the purpose of each medication and addressed barriers to adherence. • The following were provided: a pocket medication card, a list of tips for remembering to take medications, and a pillbox • Before discharge, pharmacist called community pharmacy that patient fills at to discuss identified medication adherence barriers Outpatient • At discharge, patient's discharge medication regimen, barriers to medication adherence, and contact information of the PCP were faxed to the patient's pharmacy • Letter faxed to patient's PCP about enrollment into medication adherence intervention • Pharmacist called patients 1-2 weeks after discharge to confirm discharge medications were filled • Community pharmacists were reminded to verify the intervention patient's adherence to triple therapy immediately after discharge and at 6, 12, 18, and 24 weeks post discharge and to contact physician about adherence as necessary • Patients were contacted by a pharmacist at 6 months after hospital discharge to assess current medications, pharmacy(s) used, and patient satisfaction
Ma 2010 N=689	Single-center RCT, allocated to intervention or usual care	9/2000-8/2005	Coronary lesion 50%	60 (11)	60%	Inpatient • Initial contact with pharmacist to establish relationship and provide discharge counseling and medication card • Pharmacist provided an educational packet, a dietary goal booklet, and a pillbox

Study N=	Study design	Timing of Study	Study population	Age (y) [mean (SD)]	Male	Key Components of Intervention
						Outpatient • Computer-based tracking system to facilitate follow-up • Pharmacist-delivered telephone counseling to improve adherence at 2 weeks and 1, 3, 6, and 9 months • Pharmacist helped facilitate scheduling of lab work and provided prompts to patient and providers for LDL-C management
Hilleman 2001 N=612	Prospective, single-center, comparison to historical institution data	1/1999-3/1999	AMI, CABG/ PCI or coronary lesion >70% without a history of hypercholesterolemia	67 (10)	66%	Inpatient • Pharmacist tracked patients Outpatient • Pharmacist sent letters and made phone calls to PCP treating patients who were recently discharged from the hospital • Letter or phone call made 2 weeks after discharge for 2 years • Review of lipid profile and recommendations of statin therapy if appropriate
Faulkner 2000 N=30	Single-center RCT, allocated to intervention or usual care	NR	CABG and/or PTCA	64 (12)	53%	Outpatient • Pharmacist called patient weekly for 12 weeks to reinforce importance of medication and assess refills, side effects, overall wellbeing, and reasons for nonadherence • Pill and packet counts at 6 and 12 weeks and phone calls to pharmacies to assess adherence

[a]N represents patients initially admitted for ACS in the intervention group only.

AMI= Acute myocardial infarction; CAD=coronary artery disease; CABG= coronary artery bypass graft; ED= emergency department; IQR=interquartile range; MTM= medication therapy management; PCI=percutaneous coronary intervention; PTCA=percutaneous transluminal coronary angioplasty; RCT=randomized controlled trial; STEMI= ST-segment elevation myocardial infarction; TOC= transitions of care

Table 2.

Reencounter and mortality outcomes across included studies evaluating pharmacist-driven interventions

Study	Outcome	Timing of Outcome Measurement	Results (% Intervention vs % Control)
All-cause encounters			
Murphy 2019	Hospital Readmission	30 d	17.2% vs 11.4%, p=0.25
Murphy 2019	ER Visit	72 hr	4.3% vs 4.3%, p>0.99
Dempsey 2018	Hospital Readmission	30 d	0% vs 9%, p=NR
Gorman 2018	Hospital Readmission	30 d	9.3% vs 14.7%, p=0.16
Gorman 2018	Hospital Readmission	90 d	13.3% vs 24.7%, p=0.01
Budiman 2016	Hospital Readmission	30 d	5% vs 13%, p=0.18
Gasbarro 2015	Hospital Readmission	30 d	6% vs 11.6%, p=NR
Anderegg 2014	Hospital Readmission or ER Visit	30 d	7.3% vs 23.3%, p=0.12
CV-related encounters			
Gorman 2018	Any CV-related Hospital Readmission	30 d	4.7% vs 11.3%, p=0.03
Gorman 2018	Any CV-related Hospital Readmission	90 d	8% vs 16.7%, p=0.02
Budiman 2016	Readmission with PCI	30 d	0% vs 3.2%, p=NR
Budiman 2016	Readmission due to In-stent thrombosis	30 d	0% vs 3.2%, p=NR
Budiman 2016	Readmission due to Restenosis	30 d	0% vs 2.1%, p=NR
Ho 2014	Revascularization	1 yr	11.5% vs 17.6%, p=0.24
Ho 2014	Readmission due to MI	1 yr	6.6% vs 4.2%, p=0.60
Mortality			
Murphy 2019	All-cause	30 d	1.1% vs 2.5%, p=0.66
Budiman 2016	All-cause[a]	30 d	0% vs 8%, p=NR
Ho 2014	All-cause	1 yr	9% vs 7.6%, p=0.86

[a]Only captured during hospital reencounters

CV=cardiovascular; ER=emergency room; MI=myocardial infarction; PCI=percutaneous coronary intervention; NR=not reported

Table 3

Secondary prevention measures across included studies evaluating pharmacist-driven interventions

Study	Timing of Measurement	Results (% Intervention versus % Control)
LDL-C <100 mg/dl		
Ho 2014	1 yr	72% vs 83%, p=0.14
Ma 2010	1 yr	65% vs 60%, p=0.29
Hilleman 2001	6 wk	39% vs. 17%, p<0.05
Hilleman 2001	12 wk	51% vs 17%, p<0.05
Hilleman 2001	24 wk	52% vs 18%, p<0.05
Hilleman 2001	1 yr	54% vs 18%, p<0.05
Faulkner 2000	12 wk	67% vs. 67%, p=NR
Faulkner 2000	1 yr	53% vs. 13%, p<0.05
Blood Pressure Goal [a]		
Ho 2014	1 yr	59% vs 49%, p=0.23

[a] <140/90mmHg or <130/80 mmHg for patients with diabetes/chronic kidney disease

Table 4

Medication adherence across included studies evaluating pharmacist-driven interventions

Study	Adherence Measurement	Timing of Measurement	Results (Intervention versus Control)
Ho 2014	Percent of patients with a PDC >80% based on prescription claims data	1 yr	Statin: 93.2% vs 71.3%, p<0.001 ACEI/ARB: 93.1% vs 81.7%, p =0.03 Clopidogrel: 86.8% vs 70.7%, p=0.03 Beta-blocker: 88.1% vs 84.8%, p= 0.59 Overall (Cardiac Medications): 89.3% vs 73.9%, p=0.003
Calvert 2012	Percent of patients with a PDC >75% based on prescription claims data	6 mo	Beta-blocker: 71% vs 49%, p=0.03 Statin: 58% vs 49%, p=0.34 Overall (Statin/Beta-blocker): 53% vs 38%, p=0.11
Calvert 2012	Percent of patients reporting taking medications as prescribed	6 mo	Aspirin: 100% vs 100%, p=NR Beta-blocker: 90% vs 96%, p=0.50 Statin: 98% vs 98%, p=0.99 Overall (Aspirin/Statin/Beta-blocker): 91% vs 94%, p=0.50
Calvert 2012	Median score on a 4-item Morisky Adherence Scale using a 5-item Likert scale	6 mo	19 vs 19, P = 0.40
Ma 2010	Mean (SD) Continuous multiple-interval[a]	1 yr	Statin: 0.88 (0.3) vs 0.9 (0.3), p=0.51 Beta-blocker: 0.97 (1.1) vs 0.91 (0.4), p=0.56 ACEI: 1.02 (0.8) vs 0.93 (0.3), p=0.25
Faulkner 2000	Average proportion of doses taken based on pill count	6 wk	Statin: 92% vs 89%, p>0.05
Faulkner 2000	Average proportion of doses taken based on pill count	12 wk	Statin: 88% vs 86%, p>0.05
Faulkner 2000	Percent of patients filling 80% or more of their prescriptions based on prescription refill records	1 yr	Statin: 67% vs 33%, p <0.05

[a]Ratio of days' supply obtained to total days between refill records

ACEI= Angiotensin-converting-enzyme inhibitors; PDC=proportion of days covered; SD=standard deviation