Hospital readmission among recently discharged patients is a long-standing and expensive issue. Research shows that an estimated one in seven patients are readmitted within 30 days costing the health care system $41 billion annually. That shouldn’t – and doesn’t have to be – the case.

There is strong evidence that many readmissions can be prevented if quality of care, care coordination, and other factors associated with the initial hospitalization are improved. Both public and private health care payors have used a combination of quality performance measures and/or financial incentives to encourage medical providers to reduce overall and 30-day readmission rates. The Centers for Medicare & Medicaid Services (CMS) even financially penalizes hospitals with higher-than expected readmission rates.

Medication reconciliation programs – which compare pre-, during, and/or post-hospitalization medication regimens, and resolve any discrepancies – have been shown to reduce the occurrence of adverse drug events after discharge. However, the impact of medication reconciliation programs on readmission rates and total health care costs has not been as clearly demonstrated. That means deciding whether to incorporate such programs into patient care initiatives can be a challenge for payors and pharmacy benefit managers (PBMs).
A recent study from the CVS Health Research Institute offers real-world evidence that transition programs based on medication reconciliation that are insurer initiated, have the potential to reduce both admission rates and total cost of care. Our research found that members enrolled in an insurer initiated medication reconciliation program had a 50 percent reduced relative risk of readmission within 30 days – an absolute risk reduction of 11.1 percent.

Why it Matters

The transition from hospital to home is a critical point in patients’ care management. Patients are often dealing with complex, changing care regimens and are vulnerable. In fact, research has shown that following discharge:

- Medication non-adherence is common
- Newly introduced medications can lead to newly experienced side effects
- Members may have difficulty reconciling their own medications and unintentionally take incorrect medications or dosages
- Adverse drug events are associated with up to 66 percent of readmissions, and are often attributable to medication non-adherence.

A Comprehensive Patient View Makes a Difference

First and foremost, these findings indicate that comprehensive, pharmacist-led medication reconciliation programs can prevent readmissions.

Historically, insurers have relied on programs involving individual hospitals and/or providers to improve readmission rates. This approach is challenging, and has mixed results, because unaffiliated hospitals and providers use their own, individual, records systems. That means they do not have a comprehensive view of patients’ demographic, medical, and pharmacy profiles.

However, insurers do have patients’ demographic information and access to their medical and pharmacy utilization, providing a holistic view. Our study findings highlight the advantages of this comprehensive view.

Our insurer initiated program was flexible and effective among patients discharged from numerous, unaffiliated hospitals to the care of both affiliated and non-affiliated outpatient providers.
Identifying Members at Risk

For our study, we used a proprietary algorithm to identify members who were at high risk of readmission following hospital discharge. We then applied multiple additional factors to those members including:

- The member’s age
- Number of medications
- Use of high-risk medications
- Presence of two or more chronic conditions
- History of 30-day readmissions
- Readmission within the past 12 months
- Case worker referral

These factors were used to assign the members to one of two groups.

Determining a Member’s Level of Risk

<table>
<thead>
<tr>
<th>High Risk</th>
<th>Moderate- to High-Risk</th>
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<tbody>
<tr>
<td>Uses 7 or more medications, or</td>
<td>Uses 5 – 6 medications, no other risk factors, or</td>
</tr>
<tr>
<td>Uses 5 or more medications and has other risk factors</td>
<td>Uses 3 – 4 medications and has 1 or more other risk factors</td>
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</table>

Risk Factors

<table>
<thead>
<tr>
<th>High Risk</th>
<th>Moderate- to High-Risk</th>
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<tbody>
<tr>
<td>Congestive heart failure</td>
<td>End-stage renal disease</td>
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<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>Schizophrenia</td>
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<tr>
<td>Asthma</td>
<td>Bipolar disorder</td>
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<tr>
<td>Pneumonia</td>
<td>Dizziness</td>
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<tr>
<td>Diabetes</td>
<td>History of falls</td>
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Targeted Interventions

Eligible members who agreed to participate and were enrolled in our program received targeted interventions. For higher-risk members the program offered in-home consultations with a pharmacist, while moderate- to high-risk members received less costly, telephonic consultations.

For many of these members, the pharmacists had access to their pre-hospitalization medication use as well as all medications filled at or shortly after discharge. Where available, pharmacists also received a copy of the discharge summary medication list. Use of any other medications, including over-the-counter medications and supplements, was collected through member self-reporting.

Ongoing Support

All members received personalized adherence education and coaching, and a personalized care plan, which was shared with their providers. Members were also informed about social support and health services available from their insurer. Pharmacists called providers to clarify and/or simplify dosing regimens, report changes in members’ health status, schedule follow-up appointments and coordinate care between unaffiliated providers.

Medication reconciliation and ongoing telephone support was available to all members for 30 days.

By identifying members most at risk – and in need of intervention – and then targeting those interventions, we were able to help improve outcomes and reduce costs.
Addressing Flawed Site-of-Care Transitions

This research was designed to address one of the key issues our health care system faces: flawed transitions between sites of care. Every day, patients leaving hospitals – to go home, to skilled nursing facilities or to assisted living – face the prospect of failing the transition, and thus, being readmitted. Readmission is associated with real suffering for those individuals, and deterioration in overall health. It also means huge costs for the health care system. Reducing readmissions means reducing suffering, even morbidity, for patients, while also reducing costs of health care.

Many different programs try to address the causes of failed transitions. Our focus was on one major cause: lack of understanding about how to use medications. In hospitals and in skilled nursing facilities, patients are often put on an array of new drugs. This can lead to confusion when they go home or move to assisted living. Frankly, even their families can make mistakes.

So we wanted to provide careful review of the regimen of medications and counseling conducted by experienced pharmacists, when patients were discharged. We found that well-informed patients were half as likely to be re-admitted to an institution. We are now offering this program to insurers, employers and accountable care organizations to help them improve care while helping to reduce costs.

Troy Brennan, MD
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Chief Medical Officer