Complementary Telephone Strategies to Improve Postdischarge Communication

Stephanie Rennke, MD, Sumana Kesh, MD, Naama Neeman, MSc, Niraj L. Sehgal, MD, MPH
Division of Hospital Medicine, University of California, San Francisco.

Adverse events after hospital discharge are common and often preventable, representing a vulnerable time for patients. Hospitals are challenged to provide patients with a communication safety net postdischarge compared with ambulatory practices. Dedicated transitional care programs have tried to address this gap, focusing on specific diagnoses or selected high-risk populations, such as older adults. However, adoption of communication strategies targeting all discharged patients is still lacking despite its potential to prevent adverse events and reduce readmissions.

THE TALE OF TWO TELEPHONE STRATEGIES
We developed and implemented 2 telephone-based improvement initiatives—a Patient Hotline and a Nurse-Initiated Follow-up Call—to address perceived gaps in care after discharge. The 6-month pilot was conducted for patients discharged from our non-teaching medical service at the University of California, San Francisco Medical Center at Mount Zion in 2010. Our service operates a 26-bed unit with 3.5 discharges daily. Non–English-speaking patients, forensic patients, and patients discharged to skilled nursing facilities were not part of the programs.

PATIENT HOTLINE
We developed a patient-driven telephone triage system that responds to patient concerns in a timely manner. On the day of discharge, patients were provided a preprinted card that included the name of their discharging hospitalist and instructions to call a designated “patient hotline” number with any questions or concerns between 8 AM and 5 PM daily. Patient calls were received by our trained unit clerks who were provided with a triage manual. According to the question or concern, unit clerks contacted the appropriate provider (eg, hospitalist, clinical pharmacist, or case manager) to speak with the patient the same day (Figure). Unit clerks used a tracking log to record each call, including the patient’s information, the nature of the questions, and the provider they contacted to speak with the patient. After a discussion with the patient, each provider updated the tracking log, categorized the patient issue, and documented the call in the medical record when appropriate.

NURSE-INITIATED FOLLOW-UP CALLS
In addition to the Patient Hotline, we began nurse-initiated follow-up calls to patients within 72 hours of discharge. The nurse followed a standard script that addressed patient understanding of discharge instructions, knowledge of follow-up appointments, ability to fill prescriptions, and receipt of home care services and equipment. The electronic discharge summary completed on the day of discharge was available to the nurse during the call to address questions and reinforce discharge instructions for each patient. To resolve remaining issues, the nurse contacted outpatient clinics and providers, case managers, hospitalists, and home care agencies on the basis of a predefined algorithm (Figure).

FINDINGS
Of 286 patients discharged during the pilot program, 37 (13%) contacted the Patient Hotline, 134 (47%) were reached by a nurse as part of a follow-up call, and 25 (9%) participated in both initiatives. On the basis of the nurse and unit clerks’ estimations, the nurse follow-up phone call took an average of 20 minutes, whereas a conversation with a unit clerk via the Patient Hotline averaged 5 minutes. The
nurse-initiated follow-up calls were longer because of the standard script used and the frequent need for further investigation (eg, reviewing medical record or contacting another provider).

Patients who used the hotline service called with questions any time within a few hours to 14 days after discharge. The specific problems reported were broadly characterized into the following categories: 1) medication-related issues (43%), including inability to obtain medications, difficulties with instructions, medication-related side effects, and inability to pay for medications; 2) clinical questions (35%), mostly related to new or worsening symptoms; 3) questions regarding follow-up tests and appointments (8%); and 4) home care issues (5%), such as questions about when home care services should be initiated.

**Table Comparing Two Postdischarge Patient Communication Strategies**

<table>
<thead>
<tr>
<th></th>
<th>Patient Hotline</th>
<th>Nurse-Initiated Follow-up Call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>13% of discharged patients called the hotline</td>
<td>47% of discharged patients successfully contacted by a nurse</td>
</tr>
<tr>
<td>Estimated cost</td>
<td>$0.26 per patient discharged*</td>
<td>$8.50 per patient discharged†</td>
</tr>
<tr>
<td>Most frequent issue</td>
<td>Medication management, Management of symptoms, Follow-up tests and appointments, Home care issues</td>
<td>Discharge and medication instructions, Home care issues, Management of symptoms, Follow-up tests and appointments</td>
</tr>
<tr>
<td>identified</td>
<td></td>
<td>Provides active follow-up of patients generated by a nurse</td>
</tr>
<tr>
<td>Summary of benefits</td>
<td>Available to patients for more than a single intervention at any time after discharge, Provides active and real-time management of unexpected outcomes, treatment failures, or medication side effects, Low cost and easy to implement</td>
<td>Identifies unrecognized needs (eg, misunderstanding of discharge instructions or review of test results pending at discharge), Opportunity to confirm understanding and counsel patients on the discharge plan, Greater cost and resource use</td>
</tr>
<tr>
<td>Potential drawbacks</td>
<td>System depends on patients to initiate a call, May fail to identify unrecognized postdischarge needs</td>
<td>Intervention occurs only at time of call rather than when patient may need it most later</td>
</tr>
</tbody>
</table>

*Calculation: \[\frac{134 \text{ (No. of patients the nurse reached)}}{286 \text{ (total number of discharged patients)}} \times \frac{20 \text{ (min average call time)}}{3} + \frac{106 \text{ (No. of additional patients the nurse attempted to reach)}}{286} \times \frac{2 \times 60 \text{ (2-min average call time)}}{50.41 \text{ (Registered Nurse hourly rate)}}\] divided by 286 (= total number of discharged patients).

†Calculation: \[\frac{37 \text{ (No. of patients who used the hotline service)}}{286} \times \frac{5 \text{ (min average call time)}}{24.07 \text{ (clerk hourly rate)}}\] divided by 286 (= total number of discharged patients).
care services begin, problems with equipment, or new equipment needs. Four patients (11%) required immediate medical attention and were directly referred to the emergency department or urgent care clinic.

For the follow-up calls, a nurse called 240 patients (84%), reaching 134 patients (47%) and intervening on 33 patients (14%). The most common interventions included providing additional discharge and medication instructions (18%), helping to obtain home services or equipment (15%), addressing ongoing or new symptoms after discharge (9%), and helping to obtain timely follow-up appointments (6%).

The estimated cost of the Patient Hotline service was $0.26 per patient discharged, and the estimated cost of the nurse follow-up call was $8.50 per patient discharged. Detailed cost calculations are noted in the Table.

**DISCUSSION**

We describe 2 initiatives to improve communication with patients after hospital discharge. Although the Patient Hotline and Nurse-Initiated Follow-Up Calls captured similar patient issues, the interventions appear more complementary than redundant as outlined in the Table.

The Patient Hotline provided patients with an accessible mechanism to ask questions after discharge. Because the hotline was patient-triggered, we were surprised by the low use, particularly given the issues uncovered during the nurse-initiated follow-up calls. This may reflect patient preferences because it is possible they contacted their primary care providers rather than the hotline service. The nurse follow-up calls provided a richer dialogue with patients given the use of standard scripts and active screening for problems. It seemed clear that both telephone strategies provided a process to potentially prevent unnecessary urgent care or emergency department visits, while also identifying opportunities for providers and hospital systems to evaluate and improve existing transitional care initiatives.

On the basis of our pilot program, we have increased our emphasis on predischarge patient education, focusing on frequent issues identified, such as medication counseling and tests pending at discharge. A key factor to success in our initiatives was leveraging existing resources, which had the unanticipated benefit of further engaging unit clerks and the entire geographically organized service into postdischarge care.

**CONCLUSIONS**

Reducing adverse events after hospital discharge, particularly readmissions, continues to generate significant national attention. Providing patients with a communication safety net postdischarge may serve as a critical element for successful programs. Our telephone-based initiatives provide complementary strategies to address patient needs during a vulnerable time. If properly embedded within broader transitional care efforts, they offer cost-effective, easy to implement, and patient-centered solutions.

**References**