

2014 Gage Awards

Reference #	7490456
Status	Complete
Name of hospital or health system	Santa Clara Valley Medical Center
Name of project	Improving Transition in Care from Inpatient to Outpatient with Pharmacy Discharge Counseling amongst Uderserved Patients
CEO name	Rene Santiago
CEO approval	Check here to confirm that your CEO approves of this project being submitted for a 2014 Gage Award
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Within which of the two categories does your application best align?	Quality

1. Provide a brief description of the project. (This section should resemble an abstract for a poster presentation or an abstract for a peer reviewed journal. Include an objective, data sources, study design, findings, and conclusions.)

Readmission after hospital discharge represents an enormous financial burden and is a potentially preventable source of morbidity and mortality. Causes of readmission are myriad but consist primarily of problems with medication adherence and adverse drug events. A county hospital environment where health literacy is typically below average is at particular risk. Santa Clara Valley Medical Center (SCVMC), a 523-bed academic teaching hospital center, represents the second largest county medical facility in California. At SCVMC, we designed a Transition of Care Pharmacy Discharge counseling project to test the impact of education and adherence promotion on health care utilization. High risk hospitalized patients were selected to receive bedside counseling by a clinical pharmacist prior to discharge. Counseling emphasized medication adherence, adverse drug avoidance and medication reconciliation. 48-72 hours after discharge, patients received a phone call by the discharging pharmacist to ascertain patient adherence and screen for medication problems. Over 11 months, 630 counseling sessions occurred. The 30-day readmission rate in the counseled group was 10.2 %. This compares to the control readmission rate of 14.6 % giving an absolute risk reduction of 4.4 % and a number needed to treat of 23. The benefit was most pronounced in patients over the age of 65 and in those who were available for the follow-up phone call. Factoring the cost of the pharmacist, this intervention resulted in a \$245,000 cost savings given the decrease in readmissions. In this era of cost-containment and penalties for readmission by CMS, this potentially represents an important addition to the discharge process for underserved patients.

2. Describe the methods use in this project. Include where, why, and how the project was accomplished.

Inclusion: Adults discharged from a medicine service at Santa Clara Valley Medical Center in San Jose, CA who were on 3 or more disease-modifying medications and were deemed by their health care team to be at high risk for readmission (based on a history of polypharmacy or complex medication regimen, multiple medical co-morbidities, medication non-adherence, frequent admissions, limited health-care literacy, high risk medications, substance abuse or psychiatric co-morbidities). Patient were enrolled Monday through Friday from September 2012 to August 2013

Intervention: Bedside discharge medication counseling and medication reconciliation by a Clinical Pharmacist. Counseling sessions were 15-30 minutes in length and covered: indications for medications, potential ADEs, particular instructions for medications and adherence techniques.

Patient provided with a 'Medication Calendar' that included a visual aid of when different medications should be taken, indication for the medication and any particular instructions/cautions for each medication (attached to section # 5). When possible, medications were brought to the bedside for further demonstration and education. Follow-up phone call by the Clinical Pharmacist for additional counseling at 48-72 hours. Multiple attempts to reach the patient.

Why this intervention: It was postulated that increased patient education about the rationale behind each prescribed medication would increase patient 'buy-in' and result in increased adherence. The medication calendar was meant to be a centralized visual trigger/reminder about what should be taken when along with specific side-effects or drug instructions. The additional medication reconciliation was included to minimize drug-drug interactions and ensure that medications would actually be filled by the patient's insurance plan.

Most occurrences of non-adherence start immediately upon initiation of medication. A high percentage of patients experience adverse drug events upon hospital discharge; most of which occur within days of discharge. The follow-up phone call was included to re-enforce adherence and education and to screen for adverse drug events; thereby changing patients' behaviors from non-adherence to adherence and, as necessary, giving early indication of a medication regimen that would need to be altered before a full blown adverse drug event occurred.

Outcomes:

- 1) 30-day readmission rates compared between the intervention and control group (standard of care hospital discharge without Clinical Pharmacist bedside counseling)
- 2) Outcomes also analyzed by subgroups including: age > 65, housed state (homeless versus housed), discharge diagnosis and insurance type and success of the pharmacist to contact the patient for follow-up phone call
- 3) Patient Satisfaction in a random subset (limited

	number included given limited resources to assess)
3. Describe the results of the project. What data was used to support improvement results?	<p>Demographics: Over the 11 month study period, Clinical Pharmacists conducted 630 discharge counseling sessions on 607 patients (a few patients were admitted more than once and received re-counseling). Patients were predominately English speaking (78% English, 16% Spanish, 2% Vietnamese), age < 65 (80%) and male (60%). 11 % were homeless. There were a variety of insurance plans (27% Medi-Cal, 17% APD [ability to pay—sliding scale depending on financial status], 16% Medicare, 18% no insurance, 11% Valley Care, 2% Private HMO). We were able to deliver medication to bedside for 75% of patients. Only 36% of patients were able to be reached for follow up call.</p> <p>Readmission Rate: 30-day readmission rate amongst counseled patients was 10.2 % as compared to the control rate of 14.6 % for an absolute reduction of 4.4 %. This calculates to one averted readmission for every 23 patients counseled. Over the course of this study that translated to a cost savings of \$245,000. Lower rates of readmission were associated with successful contact for follow-up phone call (7.4 % versus 11.8 %), housed rather than homeless (9.6 % rather than 14.9 %) and age over 65 (4.2 % versus 11.7 %). The highest readmission rates were associated with non-atrial fibrillation arrhythmias, psychiatric diagnoses, and alcohol-related diagnoses (25 %, 20 % and 19.1 % respectively).</p> <p>Satisfaction: A random small sample of patient was assessed (n=21). Patient satisfaction with the service was uniformly positive with over 80 % of respondents rating the service as excellent across a range of measures.</p>
4. Describe what happened as a result of the project. Was the improvement related to the intervention? Can the project be duplicated by other organizations?	<p>The data from this project was presented to the County Executive, Santa Clara Valley Health and Hospital System CEO and the Hospital Medical Director. They approved expansion of the program from pilot to a full-time position with augmentation of the Clinical Pharmacy staffing. We are tracking the ongoing impact and are now expanding to departments outside of Medicine. Thus far, the results have been sustained and the intervention has been extremely well received by physicians, patients and ancillary staff. Additionally, we are expanding the presence of Clinical Pharmacists in our Discharge Clinic (this clinic sees discharged patients who lack a primary care doctor. This represents about 50 % of the Medicine hospital discharges. This group is at particular risk for medication-related issues. Our Transition of Care Pharmacy Counseling Project can be replicated by other institutions. We have shown that it can be successful in high risk patients who are medically underserved with limited resources. Presumably, patients with higher health literacy would benefit as well.</p>

5. Describe how patients, families, and if appropriate, community was included in the work.	<p>Patient feedback played a crucial role in the pre-pilot pilot. We did a screening of patients, calling them a few days after discharge to get qualitative data on their needs and problems with the discharge process. From this information, we determined that medication related issues were almost universal (e.g. difficulty with obtaining medications, taking both pre- and post-hospitalization medications even if they were duplicates, stopping medications for perceived adverse events that were spurious, continuing medications despite actual adverse drug events). One particular intervention that came out of this data was request by the patients for a medication calendar (see attached).</p>
5A. Attachment, if applicable (Applicable attachments include documents created for patients, families, or community members or by them as a result of the project)	SAMPLECALENDAR.docx (33k)
Last Update	2013-12-13 16:59:02
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