A Hospital Discharge Summary Quality Improvement Program Featuring Individual and Team-based Feedback and Academic Detailing

Robert N. Axon, MD, MSCR, Fletcher T. Penney, MD, Thomas R. Kyle, MD, Jane Zapka, ScD, Justin Marsden, BA, Yumin Zhao, PhD, Patrick D. Mauldin, PhD and William P. Moran, MD, MS

Abstract: *Background:* Discharge summaries are an important component of hospital care transitions typically completed by interns in teaching hospitals. However, these documents are often not completed in a timely fashion or do not include pertinent details of hospitalization. This report outlines the development and impact of a curriculum intervention to improve the quality of discharge summaries by interns and residents in Internal Medicine. A previous study demonstrated that a discharge summary curriculum featuring individualized feedback was associated with improved summary quality, but few subsequent studies have described implementation of similar curricula. No information exists on the utility of other strategies such as team-based feedback or academic detailing. *Methods:* Study participants were 96 Internal Medicine intern and resident physicians at an academic medical center-based training program. A comprehensive evidence-based discharge summary quality improvement program was developed and implemented that featured a discharge summary template to facilitate summary preparation, individual feedback, team-based feedback, academic detailing and an objective discharge summary evaluation instrument. *Results:* The discharge summary evaluation instrument had moderate interrater reliability ($\kappa = 0.72$). Discharge summary scores improved from mean score of 70% to 82% ($P = 0.05$). Interns and residents participating in this program also reported increased confidence in producing and critiquing summaries. *Conclusions:* A comprehensive discharge summary curriculum can be feasibly implemented within the context of a residency program. Team-based feedback and academic detailing may serve to reinforce individual feedback and extend program reach.

Key Indexing Terms: Care transitions; Hospital discharge; Discharge summary; Quality improvement. **[Am J Med Sci 2014;347(6):472–477.]**

The hospital discharge is a complex care transition fraught with the potential for errors and complications. Patients report frequent problems after hospital discharge,[1,2] and adverse events related to new or worsening symptoms, medications, or nosocomial infections have been observed to occur in 23% of discharges.[3] Hospital readmission within 30 days of hospital discharge occurs in 19.6% of Medicare-aged patients,[4] and even more frequently among frail elderly, discharged to nursing home settings.[5] Poor provider communication is a major factor leading to many of these potentially preventable events. Accordingly, over 30 healthcare organizations participated in the Transitions of Care Consensus Conference and called for improved linkages between hospital physicians and primary care providers to "create a loop of continuous care and diminish morbidity and mortality at this critical transition point."[6]

The hospital discharge summary is a key document meant to facilitate communication between inpatient and outpatient providers and has the potential to ameliorate the risk for problematic care transitions. Unfortunately, a large body of evidence has documented deficiencies in discharge summary timeliness and quality.[7–9] A recent systematic review found that discharge summaries were available at the time of 1st hospital follow-up only 12% to 34% of the time, and key summary elements such as the hospital course, diagnostic test results and discharge medications were often omitted.[10] In particular, summary elements related to care transitions such as to follow up appointments, tests pending at the time of discharge and patient care instructions were often missing.[8,9]

In academic medical centers, the task of completing the discharge summary is often assigned to the member of the team with the least experience, which likely contributes to the poor overall quality of discharge summaries.[9] In fact, a recent study indicates that resident physicians perceive the need for more formal training about the hospital discharge process including the documentation of discharge plans.[11] Thus, quality improvement efforts designed to increase summary timeliness and quality must focus on intern and resident physicians. A few studies have demonstrated effective strategies to improve summary quality. For example, using a template while dictating discharge summaries was associated with improved quality, as measured by a score assessing the inclusion of key elements, exclusion of unnecessary information, clarity of style and consistency of the document.[12] In addition, Myers et al[13] performed a randomized clinical trial of an intern-focused discharge summary curriculum with and without the provision of individualized feedback on discharge summary performance. They found that individual feedback was associated with significant improvements in summary quality.

However, discharge summary abstraction using an objective scoring instrument as was performed in the earlier study is relatively labor intensive, and it is unclear how feasible or sustainable such a program might be if extended to an entire training program (ie, interns and upper level residents). In addition, little is known regarding how to reinforce lessons

From the Center for Disease Prevention and Health Interventions for Diverse Populations (RNA), Ralph H. Johnson Veterans Affairs Medical Center, Charleston, South Carolina; Division of General Internal Medicine and Geriatrics (RNA, FTP, TRK, JM, YZ, PDM, WPM), Medical University of South Carolina, Charleston, South Carolina; Division of Biostatistics and Epidemiology (JZ), Medical University of South Carolina, Charleston, South Carolina; and South Carolina College of Pharmacy (PDM).

Submitted April 26, 2013; accepted in revised form July 15, 2013.

This study was supported by a grant from the Donald W. Reynolds Foundation entitled "Aging Q³: Quality Education, Quality Care, and Quality of Life" and matching funds provided by the Medical University of South Carolina (MUSC).

The authors have no financial or other conflicts of interest to disclose.

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's Web site (www.amjmedsci.com).

Correspondence: Robert N. Axon, MD, MSCR, Center for Disease Prevention and Health Interventions for Diverse Populations, Ralph H. Johnson Veterans Affairs Medical Center, 135 Rutledge Avenue, MSC 591, Charleston, SC 29425 (E-mail: axon@musc.edu).

learned through a didactic curriculum with individual feedback. The purpose of this program was to develop and implement a comprehensive evidence-based discharge summary quality improvement initiative to improve overall summary timeliness and quality. We hypothesized that combining team-based feedback on discharge summaries provided to inpatient ward teams with a discharge summary curriculum and individual feedback would facilitate program reach and adoption. We describe our experiences and outcomes associated with the implementation of the program.

METHODS

Setting and Participants

Our discharge summary improvement program was developed for internal medicine (IM) interns and upper level residents at the Medical University of South Carolina (MUSC). At the time of program implementation, the IM residency program had a total of 96 residents (35 1st year and 61 upper level) across categorical and combined medicine-pediatrics and medicine-psychiatry programs (Table 1). Trainees rotated on 4 inpatient general IM ward teams, each consisting of 1 attending physician, 1 upper-level resident physician and 2 intern-level physicians. All interns and residents participated in continuity clinic, located adjacent to the hospital. Our institutional review board reviewed this project and categorized it as an institutional review board exempt quality improvement project.

Program Development and Objectives

This program was a subproject of a larger grant initiative funded by the Donald W. Reynolds Foundation called *Aging Q*^{3}, *Quality Education*, *Quality Care*, *Quality of Life*.[14] The Care Transitions focus was 1 of 16 geriatric conditions described by Wenger and Shekelle[15] in the Assessing Care of Vulnerable Elders project. Initially, we convened a multidisciplinary working group composed of IM attending physicians, resident physicians, education specialists, a nurse, a social worker and a clinical pharmacist.

The working group defined specific learning objectives for program participants. These included attitudinal objectives such as appreciating the importance of timely, comprehensive discharge summaries as a tool for preventing care-transition related adverse events in the elderly. Knowledge objectives included knowing local and national policies with respect to timing of discharge summary completion. Participants were also expected to learn the elements of a comprehensive discharge summary and the proper format and style to generate concise readable documents. The primary skills requiring demonstration were the ability to construct a discharge summary reflective of standardized quality criteria and the ability to critique a discharge summary according to these criteria.

TABLE 1. Internal medicine resident characteristics and program reach

Characteristics	Value, n (%)
Total trainees, N	96
Categorical medicine	79 (82)
Medicine-pediatrics	8 (8)
Medicine-psychiatry	9 (9)
Completed pretest	72/95 (75)
Completed posttest	67/96 (70)
Program reach and adoption	
Received individual feedback (interns only)	35/35 (100)
Received team-based feedback[a]	31/37 (84)
Received outpatient academic detailing	80/96 (83)
Proportion with at least 1 teaching contact[b]	90/96 (94)
Proportion with multiple teaching contacts[b]	69/96 (72)
Used template cards[c]	44/67 (66)

[a] Because of the project's 3-month time span, only 37 residents and interns rotated through the inpatient teams for team-based feedback.

[b] There were several teaching contacts (outpatient detailing, team-based feedback, didactic, one-on-one, pocket card and morning reports).

[c] Only 67 residents and interns responded to the posttest question that asked whether or not they used the template card while preparing a discharge summary.

Program Components

The major components of our program were provision of a discharge summary curriculum (including residents' lecture with subsequent on-line availability); dissemination of a discharge summary template card; provision of individual and team-based feedback on discharge summaries and academic detailing in the inpatient and outpatient settings.

Discharge Summary Curriculum

After performing a literature review, our working group prepared an initial 60-minute lecture with accompanying slides that were delivered at program initiation. Lecture topics included Accreditation Council for Graduate Medical Education (ACGME) core competencies (ie, patient care, professionalism and systems-based practice), evidence and practice guidelines for the preparation of discharge summaries, relevant local and national regulations, key components of high-quality summaries and baseline performance data gleaned from preliminary chart abstractions. In addition, we presented this project including its rationale, components and procedures to IM attending physicians and nurses before program initiation. The lecture was 1st delivered to all IM residents in attendance at a "noon conference" seminar. The slides with audio were subsequently made available to all residents as an online resource on the IM residency Web site and the Aging Q^3 Project Web site (http://mcintranet.musc.edu/agingq3/).

Discharge Summary Template Card

Our working group also developed a pocket-sized laminated discharge summary template card to be used by trainees while planning and dictating discharge summaries (Figure 1). The card included 26 items including many elements traditionally associated with discharge summaries and all discharge summary elements required by the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO) and a number of elements found in hospital medicine and geriatric practice guidelines.[6,16] Items were divided into 4 sections including (1) preliminary information, (2) admission information, (3) hospital course and (4) discharge information. We distributed laminated discharge summary template cards to all IM residents and interns and 4th year medical student clerks rotating on general medicine during the intervention period. We left extra cards in clinical areas and in a resident library located in the hospital and frequented by trainees rotating in the hospital.

Individual Discharge Summary Feedback

Starting with a previously published instrument for objective discharge summary assessment, our working group heavily adapted the earlier instrument and scoring rubric for use

Hospital Care & Transitions

Discharge Format

MUSC Discharge Summary Format:

1. Preliminary Information (Spell all names)

a. Patient spelling, MRN, PATCOM
b. Dates of Admission/Discharge
c. Attending Physician, Service (e.g. 'Gen Med Team 3')
d. Person Dictating
e. Referring/Primary Care Provider (Include contact information)

2. Admission Information

j. Chief Complaint on admission
k. HPI (**Brief**, including presenting symptoms and admitting impressions/diagnoses)
l. **Pertinent** PMH/PSH/SHx/FHx
m. Allergies/Reactions
n. Admission Medications (Unless changes noted in discharge med list)
o. Admission Physical Exam (Pertinent findings only)
p. Diagnostic tests (Pertinent test results only, not a complete list; Recite key findings rather than entire reports)
q. Procedures (List major/invasive procedures)
r. Consultations (List services, details to go in the Hosp Course section)

3. Hospital Course

a. (Problem based, formatted in separate concise paragraphs)

4. Discharge Information

a. Discharge Diagnoses (Primary and secondary)
b. Cancer Staging (If applicable)
c. Discharge Medications (Note medications deleted, changed, or added in relation to the admission medication list)
d. Pending laboratory/radiology/pathology tests and/or Required follow up tests
e. Disposition (To home or another facility noting aftercare services such as PT, OT, or infusion therapy)
f. Condition upon discharge (level of consciousness, orientation, limitations in ambulation or ADLs, where applicable)
g. Patient Instructions
   1. Activity
   2. Diet
   3. Other specific patient instructions (Parameters for calling MD, wound care, etc.)
h. Code status at the time of discharge
i. Follow up appointments (Ideal if specific provider, date, time)

MUSC
MEDICAL UNIVERSITY of SOUTH CAROLINA

FIGURE 1. Discharge summary template card.

at our facility.[8] We used an iterative consensus building approach through 5 rounds of development to determine which elements were deemed most important for inclusion in the scoring instrument. Our final version included 16 items, and scores for individual domains were weighted based on perceived importance such that a total discharge summary was calculable, which totaled 100 points (see **Appendix**, **Supplemental Digital Content 1**, http://links.lww.com/MAJ/A57). For feedback purposes, each summary was assigned a letter grade based on the traditional "A, B, C" scale by the working group member scoring the document. Before program initiation, we presented the grading instrument to residency program and hospital leaders to ensure acceptability and buy-in. Finally, we pretested the instrument with multiple sample discharge summaries to ensure

adequate interrater reliability and to ensure the feasibility of chart abstraction. After the study, team members became familiar with the scoring instrument, it took approximately 5 minutes to evaluate each discharge summary.

In addition to the "kick-off" lecture described above, we also held a separate, intern-only, learning experience hosted by 5 IM attending physicians. During this session, each intern reviewed 3 previously graded discharges summaries with 1 attending. Trainees were encouraged to self-reflect on their performance, and together the attending and intern negotiated goals for improvement, which were recorded on a "Prescription for Improvement" card given to the intern at the end of the encounter. Interns not able to attend this coaching session were approached individually by participating attending physicians afterward. In-person attendance, online viewing of lecture materials, intern participation in individual feedback sessions and academic detailing encounters were all documented.

Team-based Feedback

During the 3 months of the initial program, study team members graded 1 randomly selected discharge summary for each of the 4 general medicine teams per week using our standardized discharge summary evaluation instrument. A physician member of the study team then presented a graded summary to each of the attending physicians on the IM ward teams. Both physicians reviewed the summary to establish agreement regarding its deficiencies. The inpatient ward attending then reviewed the discharge summaries with his or her team. A paper card was used to document the team-based feedback encounter. Discharge summaries were subsequently discarded (consistent with Health Information Portability and Accountability Act [HIPAA] regulations). This team-based feedback session took approximately 5 to 10 minutes with each team, 1 day per week.

Academic Detailing

To extend the reach of this educational program, we also designed academic detailing exercises. Academic detailing strategies have been used extensively by pharmaceutical companies and other entities to improve product utilization and/or guideline adherence.[17,18] During the 3-month implementation interval, nurses in our IM outpatient clinic were queued to question patients about recent hospital admissions. Nurses placed printed copies of summaries for patients recently discharged from the hospital on the patients' charts, and these were provided to resident physicians for review. During "sign-out" with the clinic attending, residents were encouraged to evaluate the discharge summary regarding its timeliness and quality. Because it is likely that the inpatient discharging resident was not the same resident seeing the patient in clinic, this allowed residents to review discharge summaries written by their peers. Attending physicians then detailed the resident regarding the key components of high-quality discharge summaries. If a resident had no patients with recent hospitalizations, then nurses provided a sample discharge summary for review and detailing with the clinic attending.

We also offered brief academic detailing encounters to interns and residents in the inpatient setting. Using a case-based format, physicians from our working group gave a series of brief 3- to 5-minute presentations at an established IM morning report conference. These detailing presentations were designed to highlight tips for improving discharge summary quality. For example, in 1 installment, the leader presented an excerpt from an actual discharge summary that did not contain a discharge medication list, and trainees were asked to "diagnose" the problem with that summary. After identifying the problem, 3 subsequent slides outlined the importance of medication reconciliation in care transitions, presented baseline data on resident performance documenting medication lists in discharge summaries and suggested best practices for including medications in discharge summaries.

Program Evaluation

We chose to use the RE-AIM framework of Glasgow et al[19,20] for program planning and evaluation. RE-AIM is an acronym that stands for Reach, Effectiveness, Adoption, Implementation and Maintenance. In addition to objective measures of program effectiveness described in the results section, we measured program reach by tracking the number, type and intensity of teaching contacts with residents. We also measured adoption of discharge summary template usage. In the Discussion section, we describe our experience with implementing and promoting program maintenance.

RESULTS

Table 1 illustrates the characteristics of the residency program and the reach of our intervention. All interns received individual feedback. In addition, 90% (55/61) of upper-level residents received at least 1 teaching contact with an attending physician. Furthermore, 72% (69/96) of interns and residents received multiple teaching contacts allowing for reinforcement of key messages. Over 70% of trainees completed the online pretest and posttest surveys. Posttest results showed that 66% of trainees used a template card while preparing their discharge summary. Over 90% of the discharge summaries were graded by 2 members of the working group (R.N.A. and J.M.). The discharge summary grading instrument had suitable interrater reliability with a κ statistic of 0.72.

Table 2 illustrates objective discharge summary scores for the 35 interns during the 3 months before (total of 103 observations) and during the 3 months after program implementation (104 observations). Based on a traditional letter grade system, average discharge summary scores for interns were in the C range (70.3%) at baseline, but scores improved a letter grade to the B range after curriculum implementation (posttest mean = 82.9%, $P = 0.0001$). Scores for specific discharge summary components improved significantly for 7 of 13 elements. Domain scores for 5 components were unchanged. Scores for discharge diagnoses decreased significantly (1.74 to 1.13, $P < 0.0001$). The proportion of discharge summaries receiving the highest available score increased for most summary domains. In particular, the inclusion of high-quality hospital courses (+21%), discharge medication lists (+37%), patient instructions (+16%) and tests pending at discharge (+40%) all increased.

DISCUSSION

This report outlines our experiences in the design, implementation and evaluation of a comprehensive discharge summary quality improvement program that was associated with significant improvement in the quality of discharge summaries prepared by intern physicians. Our results further support the use of individual feedback as a successful strategy in such programs. We also found that team-based feedback and academic detailing strategies to be feasible and well-tolerated adjunctive strategies in the program. In general, trainees were very receptive. As 1 intern physician commented, "This is really helpful. No one has ever taught me how to do a discharge summary before."

TABLE 2. Average weighted scores and change in the percentage achieving top possible scores for individual discharge summary components before and after program implementation

Discharge summary component	Weighted score range	Pre-implementation mean score (N = 103 rated summaries)	Postimplementation mean score (N = 104 rated summaries)	Change in percent top score, %	P
Admitting information					
Referring provider	0–1	0.87	0.88	−2	0.857
History of present illness	0–2	1.95	1.98	+1	0.25
Pertinent history	0–1	0.98	0.92	−5	0.2422
Allergies	0–2	1.54	1.63	−1	0.0647
Physical examination	0–2	1.21	1.40	+11	0.0542
Ancillary test results	0–2	1.63	1.93	+10	<0.0001
Hospital course	0–3	2.61	2.93	+21	<0.0001
Discharge information					
Discharge diagnoses	0–2	1.74	1.13	−36	<0.0001
Medications	0–3	2.12	2.71	37	<0.0001
Discharge condition	0–1	0.58	0.82	+13	0.0097
Patient discharge instructions	0–1	0.48	0.63	+16	0.0262
Tests pending at discharge	0–1	0.19	0.49	+24	0.0039
Follow-up	0–2	1.30	1.38	+1	0.2097
Overall					
Overall score (rounded to 100%)	0–100	70.2	82.9	—	0.05

N = 35 interns evaluated. *P* values indicate mean postscore vs. prescore differences for each intern using the Wilcoxon signed-rank test.

Our program design and evaluation also sought to consider other key theoretical domains relevant to quality improvement involving the behavioral change of physicians. Specifically, our combination of didactic, one-on-one and team-based encounters enabled broad reach as evidenced by the fact that 94% of interns and residents had at least 1 educational contact, whereas 72% had multiple contacts. In addition, the development and liberal distribution of discharge summary template cards was associated with high rates of reported usage. Sixty-six % (44 of 67) responding to a postprogram survey indicated using the template at least once, which is notable given the prior absence of any such template. Programmatically, these cards have subsequently been adopted by the IM residency program, and they are still distributed to new interns and 4th year IM clerks. During the implementation period, we found that the use of a theoretical framework for program planning and evaluation improved overall implementation success. We were able to engage 100% of intern physicians for individual feedback. In addition, all 12 IM teams on the inpatient general IM inpatient service over 3 months received team-based feedback during program implementation.

As with many quality improvement initiatives, program maintenance has proven to be the most challenging aspect of program success. However, through careful planning and coordination with hospital and residency program leaders, several program components have been extended during the ensuing 3-year period. The discharge summary lecture has been updated and is now included in a broader intern-focused "Intern-101" curriculum delivered in a noon-conference setting early each academic year (ie, August or September). The curriculum has been adapted for 4th year medical students as well. We also modified the discharge summary grading procedure by distributing the grading instrument to interns as "prework" before the scheduled noon-conference lecture with instructions for the interns to print and grade 1 of their discharge summaries before the lecture. Chief medical residents have individual samples on hand to distribute to participants when necessary. During the learning session, interns review their graded discharge summaries with attending physicians and develop mutually negotiated goals for improvement.

Team-based feedback and academic detailing have proven more difficult program elements to sustain. Informal feedback from outpatient attending physicians who provided academic detailing indicates that this exercise was not deemed as relevant in the outpatient setting, and it soon gave way to other teaching priorities. Several inpatient providers have indicated that they continued to use team-based feedback, but the practice has not been consistently applied. Had there been

better structures to promote ongoing grading and distribution of discharge summaries, we may have seen improved maintenance of this strategy. Nevertheless, we found that team-based feedback was feasible and less labor intensive than providing individual feedback. We estimate that it took approximately 2 hours per week to locate and grade 4 discharge summaries and to distribute them to inpatient attending physicians. Summaries could be graded by nonclinical personnel after proper training. Our results indicate that a combination of strategies enabled broad reach. Thus, hospitals or training programs wishing to extend program reach might consider adding academic detailing and/or team-based feedback as additional strategies to their discharge summary improvement efforts.

Our program evaluation has several limitations. First, we were not able to randomize participants to separate intervention and control arms. Instead, we chose a single arm pre-post quasi-experimental design given that our primary focus was on quality improvement. Nevertheless, it is possible that discharge summary scores may have improved by chance or as part of the natural progression of intern maturation. Future research could examine how maturation during internship, or the development of bad habits, may affect discharge summary quality throughout the course of the academic year. Second, though we initially planned to evaluate the impact of team-based feedback on resident physicians as a secondary outcome, we found that upper level residents in our sample dictated too few summaries to perform this analysis. Thus, our program was underpowered to detect a difference between residents receiving team-based feedback and those who did not. Third, because we intentionally engaged in multiple educational strategies, it is likely that there was significant contamination between different upper level resident groups (ie, team-based feedback versus none).

However, despite its limitations, our experiences in implementing this discharge summary quality improvement program were positive and associated with significant improvements in the quality of summaries prepared by interns, the group preparing the vast majority of summary documents at our institution. Care transitions should continue to be an area of intense interest to hospitals and healthcare organizations given the current regulatory environment. We and other groups have argued that accountability in this area should focus on additional metrics beyond hospital readmission rates, and it is possible that discharge summary content and timeliness may become care transitions quality measures in the future.[21,22]

ACKNOWLEDGMENTS

The authors acknowledge the efforts of the faculty at the University of South Carolina, Columbia, and residents and faculty at MUSC.

REFERENCES

1. **Arora VM, Prochaska ML, Farnan JM, et al.** Problems after discharge and understanding of communication with their primary care physicians among hospitalized seniors: a mixed methods study. J Hosp Med 2010;5:385–91.
2. **Moore C, McGinn T, Halm E.** Tying up loose ends: discharging patients with unresolved medical issues. Arch Intern Med 2007;167: 1305–11.
3. **Forster AJ, Clark HD, Menard A, et al.** Adverse events among medical patients after discharge from hospital. CMAJ 2004;170:345–9.
4. **Jencks SF, Williams MV, Coleman EA.** Rehospitalizations among patients in the Medicare fee-for-service program. N Engl J Med 2009; 360:1418–28.
5. **Mor V, Intrator O, Feng Z, et al.** The revolving door of rehospitalization from skilled nursing facilities. Health Aff (Millwood) 2010;29: 57–64.
6. **Snow V, Beck D, Budnitz T, et al.** Transitions of care consensus policy statement: American College of Physicians, Society of General Internal Medicine, Society of Hospital Medicine, American Geriatrics Society, American College of Emergency Physicians, and Society for Academic Emergency Medicine. J Hosp Med 2009;4:364–70.
7. **Callen JL, Alderton M, McIntosh J.** Evaluation of electronic discharge summaries: a comparison of documentation in electronic and handwritten discharge summaries. Int J Med Inform 2008;77:613–20.
8. **Coit MH, Katz JT, McMahon GT.** The effect of workload reduction on the quality of residents' discharge summaries. J Gen Intern Med 2011;26: 28–32.
9. **Kind AJ, Thorpe CT, Sattin JA, et al.** Provider characteristics, clinical-work processes and their relationship to discharge summary quality for sub-acute care patients. J Gen Intern Med 2012;27:78–84.
10. **Kripalani S, LeFevre F, Phillips CO, et al.** Deficits in communication and information transfer between hospital-based and primary care physicians: implications for patient safety and continuity of care. JAMA 2007;297:831–41.
11. **Greysen SR, Schiliro D, Curry L, et al.** "Learning by doing"—resident perspectives on developing competency in high-quality discharge care. J Gen Intern Med 2012;27:1188–94.
12. **Rao P, Andrei A, Fried A, et al.** Assessing quality and efficiency of discharge summaries. Am J Med Qual 2005;20:337–43.
13. **Myers JS, Jaipaul CK, Kogan JR, et al.** Are discharge summaries teachable? The effects of a discharge summary curriculum on the quality of discharge summaries in an internal medicine residency program. Acad Med 2006;81:S5–8. 10.1097/1001.ACM.0000236516.0000263055. 0000236518b.
14. **Moran WP, Zapka J, Iverson PJ, et al.** Aging Q3: an initiative to improve internal medicine residents' geriatrics knowledge, skills, and clinical performance. Acad Med 2012;87:635–42.
15. **Wenger NS, Shekelle PG.** Assessing care of vulnerable elders: ACOVE project overview. Ann Intern Med 2001;135(8 Pt 2):642–6.
16. **Arora VM, McGory ML, Fung CH.** Quality indicators for hospitalization and surgery in vulnerable elders. J Am Geriatr Soc 2007;55(suppl 2):S347–358.
17. **Davis DA, Thomson MA, Oxman AD, et al.** Changing physician performance. A systematic review of the effect of continuing medical education strategies. JAMA 1995;274:700–5.
18. **Siegel D, Lopez J, Meier J, et al.** Academic detailing to improve antihypertensive prescribing patterns. Am J Hypertens 2003;16:508–11.
19. **Glasgow RE, Dickinson P, Fisher L, et al.** Use of RE-AIM to develop a multi-media facilitation tool for the patient-centered medical home. Implement Sci 2011;6:118.
20. **Glasgow RE, Vogt TM, Boles SM.** Evaluating the public health impact of health promotion interventions: the RE-AIM framework. Am J Public Health 1999;89:1322–7.
21. **Axon RN, Williams MV.** Hospital readmission as an accountability measure. JAMA 2011;305:504–5.
22. **Joynt KE, Jha AK.** Thirty-day readmissions—truth and consequences. N Engl J Med 2012;366:1366–9.