

## Care Transitions: “Time to Come Home”

Shailendra Prasad, MBBS, MPH  
Jill M. Klingner, RN, PhD  
Ira Moscovice, PhD  
University of Minnesota

March 2011

Support for this paper was provided by the Office of Rural Health Policy, Health Resources and Services Administration, PHS Grant #U1CRH03717-03-00.

**Table of Contents**

EXECUTIVE SUMMARY ..... ii

INTRODUCTION..... 1

METHODS..... 1

CARE TRANSITIONS ..... 2

RURAL CHALLENGES..... 3

THE NEED FOR QUALITY MEASURES FOR CARE TRANSITIONS..... 5

CLOSING THE DISCHARGE LOOP – TRANSITION BACK TO THE COMMUNITY ..... 6

FUTURE DIRECTIONS AND CHALLENGES .....10

## EXECUTIVE SUMMARY

Medical care, in many instances, requires a series of transitions across the care spectrum. Care coordination across such transitions is fraught with difficulty particularly with patients from rural areas. These transitions pose challenges that may interfere with seamless provision of care. There is a need to look at these transitions and ways to improve them. We look at one important component of care coordination, transition from inpatient care back to the community.

**Purpose:** To identify potential problem areas in such transitions and to identify relevant quality measures. Special emphasis is placed on communications from larger referral hospitals back to rural residents and their rural primary care physicians.

**Methods:** This paper looks at the current literature that reviews patterns of care transitions and the challenges in them. We examine care transitions from the inpatient discharge back to the community. A national advisory committee provided input to a final set of recommendations.

**Results:** We propose the development of a tool that measures care coordination on hospital discharge. The purpose of such a tool would be to monitor quality in care-transitions and help identify problem areas that could lead to adverse events including unplanned readmissions. We identify the domains of measurement of quality of hospital discharge and the future challenges in the implementation of this measurement.

## INTRODUCTION

The current model of health care delivery can be looked at as a series of encounters between patients and health care providers. This has necessitated continuity of care and coordination of care along the continuum. Continuity of care has been defined as “Care over time by a single individual or team of health care professionals and the effective and timely communication of health information.”<sup>1</sup> Transfer of a patient along a continuum of care involves multiple points where the care transition can be impacted. These points involve preparation of the patient and the caregiver, care plan communication, medication information and reconciliation, laboratory and imaging information, patient transportation, and the availability and effective transmission of advance directives and patient directives.<sup>2-7</sup> Breakdown along these points of communication leads to greater use of hospital, emergency, post-acute and ambulatory services.<sup>2,8</sup> Review of sentinel events reported to the Joint Commission indicates that issues involving communication, continuity of care and care planning were cited as a root cause for more than 80% of reports. Physicians generally do not get formalized training in communications and medical schools by-and-large do a poor job in communication training<sup>9-10</sup> with only about 8% of medical schools teaching how to handoff patients in a formal didactic session.<sup>11</sup> The majority of physician handoffs are learned behavior from other colleagues. Care coordination looks at communications beyond what occurs between physicians.

Effective care transitions require appropriate patient preparation, a uniform plan of care for health professionals and adequate training of clinicians in transitional care.<sup>2</sup> These steps would also help in effective care coordination between primary care providers, their patients and other professionals along the continuum of care. The importance of this issue is reflected in the renewed interest in care coordination with a specific focus on the Patient Centered Medical Home (PCMH).<sup>12</sup>

In this paper we report our work on a study that examines transfer communications. This study expands earlier work on developing quality measures for rural patients whose care is transferred from emergency departments.<sup>13</sup> In the current study, special emphasis is placed on communications from larger referral hospitals back to rural residents and their rural primary care physicians. We suggest ways of measuring the quality of care coordination on discharge from the hospital.

## METHODS

The current paper has the following components:

- First, we describe the characteristics of patient interactions with physicians and the areas where care transitions occur.
- We then discuss the various care transition situations as they pertain to rural residents and the challenges the rural environment presents.
- Finally, we describe major components of a tool to measure the quality of the discharge process and transition back into the community. This is based on the background of a

literature review along with the input of an advisory panel (Appendix 1) comprised of clinicians experienced in hospital to rural primary care provider communication channels, challenges and solutions.

## **CARE TRANSITIONS**

Complexity of care coordination increases with the number of providers and different types of providers involved in a patient's care as well as the number of times a patient moves between providers. The patient who has gone through the care process will likely have new sets of challenges in integrating back to the community due to the changed functioning status of the patient, the spillover effect of the patient's current health on his or her social functioning and altered health care needs. These factors are further influenced in rural areas by provider supply limitations and distance from tertiary hospitals. To understand the challenges involved in the transition of care back to the community, it is important to consider the care continuum and then examine the areas where a potential exists for problems to occur.

The patient continuum of care follows the following 4 steps (modified from Mueller and MacKinney, 2006).<sup>14</sup> The rural environment provides specific issues for each step.

### **Step 1 – Pre-Illness**

This is the stage when primary prevention is necessary. Contact with the medical field may be by way of community outreach activities and personal behavior.

### **Step 2 – Outpatient Care**

- a) First Contact Care – While first contact care is one of the basic tenets of primary care,<sup>15</sup> in many situations first contact care is delivered on an emergent basis. The supply of primary care physicians is inversely related to the volume of Emergency Department (ED) visits, with greater availability of physicians associated with fewer ED visits.<sup>16</sup> While this association is seen in both urban and rural areas, increased distance to hospitals in rural areas may lead to increased utilization of non-physicians for primary care.<sup>16</sup>
- b) Some 'first contact care' is transitioned to further longitudinal contact with primary care or referral to 'routine specialty care', while other patients end up hospitalized.<sup>14</sup>
- c) 'Extended primary care' involves care given at home and at skilled nursing facilities (SNF) not originating from an inpatient stay. The primary care provider would arrange for this and coordinate care. In these three aspects of outpatient care, the primary care provider also may help in surrogate decision making in treatment choices and end-of-life discussions.

### **Step 3 – Inpatient Care**

This is further divided into inpatient care in a rural hospital (non-CAH), a Critical Access Hospital or a tertiary hospital. Care in a tertiary care hospital tends to involve multiple procedures, testing and providers.

### **Step 4 – Post-hospitalization Care**

Post-hospitalization care includes rehabilitative services, long-term care (NH) and continued contact with primary care that provide longitudinal, coordinated delivery of medical care.<sup>17</sup> There may be an overlap of this step with the ‘extended primary care’ mentioned above. This step requires care planning between patient, caregivers and providers. Without a clear division of labor and responsibility for the scheduling and provision of care in this step, the patient’s care can become more complex than necessary leading to health deterioration and/or increased utilization.

## **RURAL CHALLENGES**

Transitions across the care continuum have varied challenges that pose threats ranging from minor inconveniences to major health effects on patients. While challenges to care transitions occur in all environments, the rural context presents added complexities which are described below.

### **Health Care Systems**

Health care institutions are complex organizations and can be a challenge to negotiate. Lack of familiarity with the health care system, affordability concerns<sup>18</sup> and complexities of decision making in the setting of grave medical illnesses are important considerations. From a rural primary care provider’s viewpoint, the factors related to this include the challenge of coordinating care from a distance and the complexity involved with dealing with unfamiliar systems.<sup>14</sup> A tertiary hospital provider is also unlikely to know of all the provisions of health care available in the patient’s place of residence. This is exacerbated by not involving the patient in care coordination.<sup>19</sup>

### **Distance from Home**

While primary care may be delivered close to a patient’s home, aspects of the care continuum may be delivered at a considerable distance.<sup>20</sup> If post-hospitalization follow-up is required with multiple providers distant from rural areas over a few days, transport and coordination will further be affected.<sup>21</sup>

## **Physician Communication**

Physician communication tends to be issue based and to the point while nurses are traditionally taught to be more descriptive in their communications.<sup>21</sup> This may pose problems when communication occurs across disciplines or between clinical professionals and lay patients or caregivers. Hierarchical differences have traditionally existed between specialties in medicine and between primary care physicians and specialists. Communication failures often arise from status differences as well as concerns with hierarchy and with interpersonal power and conflict communications.<sup>21</sup>

Physicians, particularly in high stress situations, tend to communicate in what is called synchronous method of communication where multiple communications are taking place simultaneously. This involves a great deal of oral communication, is fraught with problems including missed information, poor sequence of information transfer, wrong information and lack of recall or verification.<sup>22</sup>

While protocol driven, documented modes of communication are desirable, these tend to be used for individual disease processes usually within a single health system. If the rural primary care doctor uses multiple sites for tertiary care it is likely that these protocols will also be varied and unfamiliar to the provider. It is also possible that the primary care provider will not be familiar with the specialist who is taking care of the patient and this may further complicate communications.

## **Decreased Length-of-Stay**

Decreased lengths of inpatient stay have lead to procedures and further workup to be done in the post-discharge outpatient setting. This tends to increase the complexity of care coordination and can also lead to increased travel to tertiary care centers far away from rural patients.

## **Insurance Factors**

While the above schema considers the transition of patients across a continuum it is important to recognize the extensive literature that shows that lack of health insurance has substantial repercussions on both access to health care and health status.<sup>16,23</sup> Compared to the insured, the uninsured are less likely to visit a physician, have a usual source of care, be admitted to a hospital; are more likely to receive hospital outpatient or emergency room care, to have unmet medical needs; and have lower annual medical expenditures and higher mortality.<sup>16,23-28</sup> Rural residents are more likely to be uninsured or underinsured than their urban counterparts.<sup>29</sup> For uninsured patients, coordination of care may be less likely to occur and medical care may be limited to occasional episodic care.

## THE NEED FOR QUALITY MEASURES FOR CARE TRANSITIONS

Care transitions can be occasions where a significant threat to patient safety occurs.<sup>30</sup> Our research team has developed quality measures that look at transfers into hospitals from EDs.<sup>13</sup> These measures and tools were developed to guide the adaptation of emergency room quality measures, to make these measures relevant and useful in the rural environment, and to provide rural hospitals with a more consistent way to measure and improve the quality and safety of the emergency care they deliver.

The measures were derived from existing quality indicator and performance measurement systems (e.g., those developed by JCAHO, AHRQ, National Quality Forum, CMS, and four rural-oriented performance measurement systems), with attention to high priority areas (e.g., emergency room stabilization and transfer) not currently being systematically reviewed. The new measures were developed based upon a review of the quality measurement literature and consultation with experts in the field. These measures were vetted by three expert panels as well as expert consultation. The National Quality Forum has reviewed the measures with their membership. After several public comment periods, they have endorsed them for national quality improvement use.

Inter-hospital transfers have also been suggested as a potential area for developing measures of rural hospital quality.<sup>31</sup> The next step in effective care transition is “closing the loop” – the transition from inpatient care back to the community (either home health or to primary care).<sup>32</sup>

*Consider this hypothetical scenario. A patient who had been hospitalized in a tertiary hospital for congestive heart failure is discharged and has further worsening of his symptoms over the next few days. He presents to his primary care providers' office in his rural area of residence. Unfortunately, the provider has no information about the hospital course and current medications of the patient. The patient is admitted to the local community hospital. His records from the tertiary hospital are obtained but do not include a discharge summary. The patient undergoes a series of tests and has a prolonged, complicated stay including in the intensive care unit. The discharge summary from his original hospitalization finally arrives and the patient was noted to be taking his original set of medications and the new ones that were prescribed. The patient's condition improves but he is left with a new set of deficits.*

If the primary care provider had the information regarding the changed medications, prompt treatment change would have possibly significantly affected the further course described above. This would then be a missed opportunity for a timely intervention.

*Consider another scenario where a patient is discharged home, after an inpatient stay for a stroke, with a discharge summary and instructions to the primary care provider. He is started on a new medication with instructions to change the medication dosage based on tests. The primary care provider arranges for the tests to be done and prompt dosage adjustments are made to ensure continued good health of the patient.*



As illustrated in the examples above, threats and opportunities to patient safety are present in care transitions from inpatient to community settings. The above discussion addresses the important communication requirements for the rural primary care physician who is office-based.

### **CLOSING THE DISCHARGE LOOP – TRANSITION BACK TO THE COMMUNITY**

As in other areas of care transition, the transition from the inpatient setting back home is an important one and is a potential area of concern. This transition via a discharge mechanism includes two components: the process of discharge including patient education and the discharge summary itself, meant to convey important medical information about the patient to another clinician.

#### **Discharge Process**

The process usually starts as a disposition plan on admission to the hospital. However, this is a process that looks at decreasing length of stay as a primary issue and is from the viewpoint of the institution. The discharge process should be considered in the following two mutually dependent aspects.

- a. In its ideal form, it would involve the primary care physician (when identified) and become an ongoing information sharing exercise<sup>33</sup> between the primary care provider and the inpatient team of health professionals. This information sharing would potentially lead to a more appropriate interaction between specialists and the primary care physician. This modality has been utilized when niche marketing of services is provided to rural areas. Recent work suggests that the primary care provider is involved less than 13% of the time in this process.<sup>32</sup>
- b. The patient's readiness for discharge is not always gauged in the discharge process. Involving the patient in discharge planning would improve satisfaction with the episode of care.<sup>34</sup> It would also facilitate the tying up of loose ends (e.g., need for follow-up testing) while discharging patients with unresolved medical issues and ensure better scheduling of follow-up outpatient procedures and appointments.<sup>35</sup>

#### **Discharge Summary**

With the recognition of the need for better transition of patients across the continuum of care, the American Society of Testing and Materials (ASTM), American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), Massachusetts Medical Society and the Health Information and Management Systems Society (HIMSS) developed the Continuity of Care Record (CCR) (ASTM, 2008). CCR has been developed in the standard data interchange language XML and is a useful quick summary in an emergency situation. While this is an excellent step in supporting the continuity of care, its primary use is to provide a snapshot view of a patient's

medical background. Substituting this for a comprehensive assessment of the transition of care is not practical and would lead to the CCR itself being unwieldy.

The discharge summary should be a dynamic link between care providers in the transition of care and also a resource for the patient to refer to when necessary. Studies have shown that there is an increased risk of readmission without a discharge summary.<sup>36</sup> The literature also suggests that discharge summaries were available during follow-up visits only 12-34% of time,<sup>32,37</sup> affect the quality of care in approximately 25% of visits<sup>32</sup> and have been recommended to be part of the quality measures in heart failure management.<sup>38</sup>

Based on this background, a discharge summary should have the following components.

- *Administrative data* – This would include the dates of admission and discharge. It would mention details of the follow-up appointments recommended/scheduled (e.g., dates, provider name and location of follow-up) and the reason for these follow-ups. Follow-up needs including involvement of other agencies and personnel should be described. Name and contact information for the responsible hospital physician should be included.<sup>32</sup>
- *Medical data/technical component* – This would include the diagnosis, the hospital course, the procedures done, abnormal lab results and the status of the patient on discharge. Recommendations of any consultants should also be included.
- *Medications* – This is one area with the most potential for errors to occur in quality of care after discharges.<sup>39</sup> This should be treated as a medication reconciliation with any change or additions of medications from admission being mentioned with a comparison of the admit medications and discharge medications.
- *Patient information* – Information that is given to the patient should be summarized. Indications that the patient/patient's family was involved in the discussions are highly desirable.

The above sections deal with the content of the discharge summary. There is also a need to make the discharge summary an effective communication tool in patient transition.<sup>40</sup> The following aspects are suggested to make the discharge summary effective.

- *Dissemination* – This is a major issue with some studies showing that discharge summaries are present in approximately 15% of the follow-up visits.<sup>32,37</sup> Availability of the discharge summary during follow-up visits also could decrease the risk of hospital readmission.<sup>36</sup> One way to ameliorate this problem is to send the discharge summary or an interim version of it with the patient at the time of discharge.

- *Timeliness* – Effective dissemination needs to be timely. The Joint Commission (2008) requires that discharge summaries be completed within 30 days of hospital discharge. This is significantly more time than the current standards for a hospital history and physician which have to be on the patient’s charge in 24 hours.<sup>41</sup> We recommend that the discharge summary be sent to the primary care physician by fax or electronically within 24 hours of the patient’s discharge.
- *Conciseness* – Discharge summaries can be too long with not enough emphasis being placed on salient points. Some studies have recommended summaries that are less than two pages in length.<sup>40</sup> We recommend that the less than two-page summaries should be for a complicated hospital course. Pertinent medical data should be less than one page.
- *Well organized* – Layout of the discharge summary should promote easy readability with a structured layout and clear subheadings.<sup>32</sup>
- *Common format* – There have been attempts to develop a discharge communiqué that is web-based as a means of quick dissemination of information.<sup>42-47</sup> Unfortunately, due to proprietary reasons, linkages between different medical informatics systems are not seamless in the U.S.<sup>32</sup> This is more likely to be an issue for a rural provider as there may be a reliance on specialty care that involves more than one health system. A common format that would be easily identified by all providers regardless of the health system or type of electronic medical record used would help.

Discharge information must contain enough information to enable the next responsible parties to continue the plan of care. For those patients not transitioned directly to facility-based care with medical supervision, information at discharge should be conveyed immediately to the patient and caregiver in person, and in written form to other professional clinicians. The plan of care may include medication administration, wound care, patient assessment, and test and appointment management. The communication of these elements to patients and caregivers is often split between various hospital staff including several physicians, nurses, and medical secretaries. What is said, heard, remembered and carried out is often mismatched.

### **Discharge Quality Measurement**

Discharge process quality measurement should look at the effectiveness of the communication and the satisfaction of the parties concerned. Effectiveness can be measured in terms of the timeliness of the discharge summary, the content, and patient/caregiver understanding of the elements of the discharge summary. As mentioned above, we recommend that a discharge summary be sent to the primary care physician’s office within 24 hours of discharge. Timeliness can be measured by the percentage of discharge summaries that are sent within this time frame.

The measurement of content would look at the inclusion of the components mentioned above in the discharge summary (i.e., administrative data, medical data, medications and patient

instructions). This should be combined with assessments of patient/caregiver understanding of the elements of the discharge summary. This is to ensure that effective communications occurs across language, educational and cultural barriers.

Assessment of understanding may be done at the time of discharge, in a follow-up phone call, or by written survey. This also can be combined with a satisfaction survey of the patient/caregiver which includes their involvement in the transfer process.<sup>2</sup> Assessment at or near discharge has the added benefit of providing an opportunity to clarify or continue education of the patient and caregiver to prevent adverse events.

The effectiveness measures discussed above should be completed at the hospital level and would be an objective reflection of the discharge process. The domains of measurement of quality in discharge processes are summarized in Table 1.

**Table 1**  
**Domains of Measurement of Quality of the Hospital Discharge Process**

<p>1) Discharge Process Measures</p> <ul style="list-style-type: none"> <li>(a) Provider to provider communication <ul style="list-style-type: none"> <li>Quality</li> <li>Timeliness</li> <li>Ongoing nature—if inpatient stay is prolonged, weekly updates</li> </ul> </li> <li>(b) Provider to patient communication <ul style="list-style-type: none"> <li>Patient readiness to transition to post-acute care setting</li> <li>Documentation of patient understanding of plan</li> </ul> </li> </ul> <p>2) Discharge Summary Measures</p> <ul style="list-style-type: none"> <li>(a) Administrative data—Name, particulars and contact information</li> <li>(b) Timeliness—Received by primary provider within 24 hours or interim summary on patient discharge</li> <li>(c) Medication reconciliation <ul style="list-style-type: none"> <li>Comparison of admission medications and discharge medications</li> <li>Documentation of patient/caregiver comprehension of any changes</li> </ul> </li> <li>(d) Conciseness – length of page or &lt;2 pages if prolonged stay</li> <li>(e) Details of technical aspects of hospitalization <ul style="list-style-type: none"> <li>All procedures</li> <li>Summary of tests</li> <li>List of all providers in care and their role</li> </ul> </li> <li>(f) Clear structure of care plan properly described <ul style="list-style-type: none"> <li>Follow-up plan/providers</li> <li>Possible complications and how to react</li> <li>List of contact persons/places in case of emergency</li> </ul> </li> </ul>
--

## **FUTURE DIRECTIONS AND CHALLENGES**

The next necessary step in measuring quality of the discharge process is to develop and field test tools that assess the transition 'back home.' Our literature review did not find a tool that measures quality of the discharge process. These tools need to be field tested in various settings including small rural hospitals and larger tertiary hospitals. The field test would also be a way of gauging the usability and relevance of the tool and could include studies of patient and provider satisfaction with the use of the tools. A tool that measures the quality of the discharge process will need to include the quality measures described above. The challenge is to balance objective measures of effectiveness with subjective satisfaction measures.

Measuring quality is not without its burdens. In most hospitals there are more than 300 external reporting requirements, along with other internal reporting requirements.<sup>48</sup> Adding more quality measures would be an extra burden to hospital-based physicians and other providers/staff. However, measuring the quality of the discharge process is an important aspect of improving care to patients while decreasing unnecessary complications.

With the transition of medical records to electronic platforms, dissemination of the discharge summary requirements should be feasible. The content and desired elements should be structured so they can be abstracted from electronic medical records. This would ensure a quick turnaround time for effective dissemination of the discharge summary. The American Recovery and Reinvestment Act of 2009 authorized the Centers for Medicare and Medicaid Services (CMS) to provide for reimbursement for physicians and hospital providers who are becoming "meaningful users" of electronic health record systems. Some of the criteria for "meaningful use" will include elements of care coordination.<sup>49</sup>

Once a tool is field tested, there could be further challenges in its acceptance and widespread use. As with any new requirement, buy-in by key stakeholders is important to ensure proper use and benefit. The key stakeholders in this process will be hospital-based and primary care providers as well as patients. Their involvement early in the process and their feedback from satisfaction surveys should help inform and shape this process.

Implementation of the above measures could be integrated into current hospital quality activities (e.g., adding these measures to Hospital Compare). Current Joint Commission requirements look at the process of admission, transition within and quality of care in hospitals. Addressing the discharge process as a Joint Commission required activity would improve care transitions into the community. Similar to requirements of timeliness of admission history and physicals, the various components of the discharge process could be used to ensure their timely implementation.

## REFERENCES

1. Committee on the Future of Primary Care, Institute of Medicine. *Primary Care: America's Health in a New Era*. Washington, DC: National Academy Press, 1996.
2. Coleman EA. Falling through the cracks: challenges and opportunities for improving transitional care for persons with continuous complex care needs. *J Am Geriatr Soc*. 2003;51:549-555.
3. Committee on Quality of Health Care in America, Institute of Medicine. Improving the 21st-century health care system. In: *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press, 2001:39-60.
4. Gittell JH, Fairfield KM, Bierbaum B, et al. Impact of relational coordination on quality of care, postoperative pain and functioning, and length of stay: a nine-hospital study of surgical patients. *Med Care*. 2000;38:807-819.
5. Weaver FM, Perloff L, Waters T. Patients' and caregivers' transition from hospital to home: needs and recommendations. *Home Health Care Serv Q*. 1998;17:27-48.
6. Ghush HF, Teasdale TA, Jordan D. Continuity of do-not resuscitate orders between hospital and nursing home settings. *J Am Geriatr Soc*. 1997;45:465-469.
7. Morrison RS, Olson E, Mertz KR, et al. The inaccessibility of advance directives on transfer from ambulatory to acute care settings. *JAMA*. 1995;27:478-482.
8. Murtaugh CM, Litke A. Transitions through post-acute and long-term care settings: patterns of use and outcomes for a national cohort of elders. *Med Care*. 2002;40:227-236.
9. Makoul G. Essential elements of communication in medical encounters: the Kalamazoo consensus statement. *Acad Med*. 2001;76:390-393.
10. Novack DH, Volk G, Drossman DA, et al. Medical interviewing and interpersonal skills teaching in US medical schools. Progress, problems, and promise. *JAMA*. 1993;269:2101-2105.
11. Solet DJ, Norvell JM, Rutan GH, et al. Lost in translation: challenges and opportunities in physician-to-physician communication during patient handoffs. *Acad Med*. 2005;80:1094-1099.
12. McAllister JW, Presler E, Cooley WC. Practice-based care coordination: a medical home essential. *Pediatrics*. 2007;130:e723-e733.
13. Klingner J, Moscovice I. Rural Hospital Emergency Department Quality Reports: Aggregate Data Report. <http://flexmonitoring.org/documents/FlexDataSummaryReport3.pdf> Accessed May 15, 2010.
14. Mueller KJ, MacKinney AC. Care across the continuum: access to health care services in rural America. *J Rural Health*. 2006;22:43-49.
15. Starfield B. Is primary care essential? *Lancet*. 1994;344:1129-1133.
16. Gresenz CR, Rogowski J, Escarce JJ. Health care markets, the safety net, and utilization of care among the uninsured. *Health Serv Res*. 2007;42:239-264.
17. Starfield B. William Pickles Lecture. Primary and specialty care interfaces: the imperative of disease continuity. *Br J Gen Pract*. 2003;53:723-729.
18. Harju BL, Wuensch KL, Kuhl EA, et al. Comparison of rural and urban residents' implicit and explicit attitudes related to seeking medical care. *J Rural Health*. 2006;22:359-363.
19. Coleman EA, Berenson RA. Lost in transition: challenges and opportunities for improving the quality of transitional care. *Ann Intern Med*. 2004;141:533-536.
20. Probst JC, Laditka SB, Wang JY, et al. Effects of residence and race on burden of travel for care: cross-sectional analysis of the 2001 US National Household Travel Survey. *BMC Health Serv Res*. 2007;7:1-13.

21. Sutcliffe KM, Lewton E, Rosenthal MM. Communication failures: an insidious contributor of medical mishaps. *Acad Med*. 2004;79:186-194.
22. Coiera E, Tombs V. Communication behaviours in a hospital setting. *BMJ*. 1998;316:673-676.
23. Lurie N, Ward NB, Shapiro MF, et al. Termination from Medi-Cal – does it affect health? *N Engl J Med*. 1984;311:480-484.
24. Hadley J. Sicker and poorer – the consequences of being uninsured: a review of the research on the relationship between health insurance, medical care use, health, work, and income. *Med Care Res Rev*. 2003;60:3S-75S.
25. Hafner-Eaton C. Physician utilization disparities between the uninsured and insured. Comparisons of the chronically ill, acutely ill, and well nonelderly populations. *JAMA*. 1993;269:787-792.
26. Young GJ, Cohen BB. Inequities in hospital care, the Massachusetts experience. *Inquiry*. 1991;28:255-262.
27. Spillman BC. The impact of being uninsured on utilization of basic health care services. *Inquiry*. 1992;29:457-466.
28. Cunningham PJ, Kemper P. Ability to obtain medical care for the uninsured: how much does it vary across communities? *JAMA*. 1998;280:921-927.
29. Southwest Rural Health Research Center, Texas A&M University. *Rural Healthy People 2010*. Volume 2. College Station, TX: Texas A&M University, 2010.
30. Clancy CM. Care transitions: a threat and an opportunity for patient safety. *Am J Med Qual*. 2006;21:415-417.
31. Wakefield DS, Ward M, Miller T, et al. Intensive care unit utilization and interhospital transfers as potential indicators of rural hospital quality. *J Rural Health*. 2004;20:394-400.
32. Kripalani S, LeFevre F, Phillips CO. Deficits in communication and information transfer between hospital-based and primary care physicians: implications for patient safety and continuity of care. *JAMA*. 2007;297:831-841.
33. Lee RG, Garvin T. Moving from information transfer to information exchange in health and health care. *Soc Sci Med*. 2003;56:449-464.
34. Weiss ME, Piacentine LB. Psychometric properties of the readiness for hospital discharge scale. *J Nurs Meas*. 2006;14:163-180.
35. Moore C, McGinn T, Halm E. Tying up loose ends: discharging patients with unresolved medical issues. *Arch Intern Med*. 2007;167:1305-1311.
36. van Walraven C, Seth R, Austin PC, et al. Effect of discharge summary availability during post-discharge visits on hospital readmission. *J Gen Intern Med*. 2002;17:186-192.
37. van Walraven C, Seth R, Laupacis A. Dissemination of discharge summaries. Not reaching follow-up physicians. *Can Fam Physician*. 2002;48:737-742.
38. VanSuch M, Naessens JM, Stroebe RJ, et al. Effect of discharge instructions of readmission of hospitalized patients with heart failure: do all of the Joint Commission on Accreditation of Healthcare Organizations heart failure core measures reflect better care. *Qual Saf Health Care*. 2006;15:414-417.
39. Forster AJ, Murff HJ, Peterson JF, et al. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Ann Intern Med*. 2003;138:161-167.
40. van Walraven C, Rokosh E. What is necessary for high-quality discharge summaries. *Am J Med Qual*. 1999;14:160-169.
41. Joint Commission Resources. Joint Commission Requirements – Hospitals. <http://www.jcrinc.com/Joint-Commission-Requirements/Hospitals/>. Accessed February 22, 2008.

42. Briggs B. Web portal speeds discharge process: a Florida hospital uses a web portal to automate patient data exchange with extended care facilities. *Health Data Manag.* 2005;13:126.
43. Collier EJ, Harrington C. Discharge planning, nursing home placement, and the internet. *Nurs Outlook.* 2005;53:95-103.
44. Kannry J, Moore C, Karson T. Discharge communique: use of a workflow byproduct to generate an interim discharge summary. *AMIA Annual Symposium Proceedings/AMIA Symposium*, 2003:341-345.
45. Mankita S. Social work practice and the internet: part 2—online discharge planning and telemedicine. *Continuum Soc Soc Work Leadersh Health Care.* 2000;20:10-13.
46. Quan S, Tsai O. Signing on to sign out, part 2: describing the success of a web-based patient sign-out application and how it will serve as a platform for an electronic discharge summary program. *Healthc Q.* 2007;10:120-124.
47. Reponen J, Marttila E, Paajanen H, et al. Extending a multimedia medical record to a regional service with electronic referral and discharge letters. *J Telemed Telecare.* 2004;10:81-83.
48. Anderson KM, Sinclair S. Easing the burden of quality measures reports. *Hosp Health Netw.* <http://www.hhnmag.com>. Available online August 15, 2006.
49. Health Information Technology. *Health Information Technology and the Stimulus Package.* <http://healthit.hhs.gov/server.pt>. Accessed August 11, 2009.



**Appendix I**

**Transfer Communications Expert Panel Members**

**Kim A. Bateman, MD**

Manti Family Clinic  
VP for Medical Affairs  
HealthInsight  
Salt Lake City, UT

**Thomas Dean, MD**

Jerauld County Clinic  
Wessington Springs, SD

**Diane Deters, RN, MS**

St. Cloud Hospital Trauma Services  
and Emergency Trauma Center  
St. Cloud, MN

**Kirby Watson Peden, MD**

Pioneer Medical Practice  
Big Timber, MT

**Dwayne Rydell Tillman, RN, BS, MBA/HCM**

Director, Clinical Outcomes Management  
Highland Community Hospital  
Picayune, MS

**Barbara Unger, RN, BS, F.A.A.C.V.P.R.**

Minneapolis Heart Institute/  
Abbott Northwestern Hospital  
Minneapolis, MN