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Transitional Care Model

The Transitional Care Model (TCM) provides comprehensive in-hospital planning and home follow-up for chronically ill high-risk older adults hospitalized for common medical and surgical conditions. For the millions of Americans who suffer from multiple chronic conditions and complex therapeutic regimens, TCM emphasizes coordination and continuity of care, prevention and avoidance of complications, and close clinical treatment and management—all accomplished with the active engagement of patients and their family and informal caregivers and in collaboration with the patient's physicians.

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NewCourtland Center for Transitions and Health
University of Pennsylvania School of Nursing
418 Curie Boulevard, Fagin Hall 3rd Floor
Philadelphia, PA 19104

Phone: 215-898-2381
Fax: 215-573-4225
E-mail: NewCourtlandCenter@nursing.upenn.edu

The **Transitional Care Model (TCM)** provides comprehensive in-hospital planning and home follow-up for chronically ill high-risk older adults hospitalized for common medical and surgical conditions. For the millions of Americans who suffer from multiple chronic conditions and complex therapeutic regimens, TCM emphasizes coordination and continuity of care, prevention and avoidance of complications, and close clinical treatment and management—all accomplished with the active engagement of patients and their family and informal caregivers and in collaboration with the patient's physicians.

How is TCM different?

TCM is unique in several ways:

- TCM is a nurse-led, multidisciplinary intervention;
- Under TCM, the patient's home is the primary setting of care;
- TCM emphasizes achieving *longer term* positive outcomes by assuring that patients and their family caregivers have the knowledge and skills to recognize and address health care problems as they arise;
- TCM has been tested and refined for more than 20 years by a multidisciplinary team of clinical scholars and health service researchers from the University of Pennsylvania;
- The scientific base supporting TCM is rigorous and based three completed National Institutes of Health (NIH)-funded randomized controlled clinical trials (RCTs); and
- Results from studies of TCM consistently demonstrate significant improvements in patient safety and health care outcomes, enhancements in quality of life and satisfaction with care, and reductions in overall health care costs.

Because TCM focuses on individualized, multidisciplinary evidence-based clinical protocols that prevent decline and reduce readmission for an extended period (i.e., from the point of admission to, on average, 2 months following discharge), TCM is a perfect complement to primary care provided by regular physicians, telephonic case management programs that do not include home services or disease management programs that focus only on one health conditions.

"At AARP we're very aware of the fact that there's a growing number of us who are aging…. Health care is a big part of our concern. Models like TCM are practical, applied models that can make a difference today."

Jennie Chin Hansen, President-Elect, AARP

1. The Transitional Care Nurse (TCN) as the primary coordinator of care to assure consistency of provider across the entire episode of care;
2. In-hospital assessment, preparation, and development of an evidenced-based plan of care;
3. Regular home visits by the TCN with available, ongoing telephone support (seven days per week) through an average of two months post-discharge;
4. Continuity of medical care between hospital and primary care physicians facilitated by the TCN accompanying patients to first follow-up visits;
5. Comprehensive, holistic focus on each patient's needs including the reason for the primary hospitalization as well as other complicating or coexisting events;
6. Active engagement of patients and their family and informal caregivers including education and support;
7. Emphasis on early identification and response to health care risks and symptoms to achieve *longer term* positive outcomes and avoid adverse and untoward events that lead to readmissions;
8. Multidisciplinary approach that includes the patient, family, informal and formal caregivers are part of a team;
9. Physician-nurse collaboration; and
10. Communication to, between, and among the patient, family and informal caregivers, and health care providers and professionals.

Key Components

Focus on Patient and Caregiver Understanding.

Patients often retain little of what they are taught while hospitalized. A great deal of information is communicated to patients and family members during hospital stays, but often the patient and caregivers are unable to absorb that information because being in the hospital is such a stressful and vulnerable experience. A key element of TCM is the priority on patient and family education both in the hospital and in the transition from hospital to home. For example, in the first post-discharge visit the TCN devotes significant time to reviewing the hospital discharge instructions to ensure that the patient really understands and can execute the plan of care. Emphasis is placed on "translating" information to ensure that each patient really translates what is being communicated.

Helping Patients Manage Health Issues and Prevent Decline.

Recognizing that home follow up under TCM extends one- to three-months, a significant part of the TCN's role is to facilitate each patient's and family caregiver's ability to

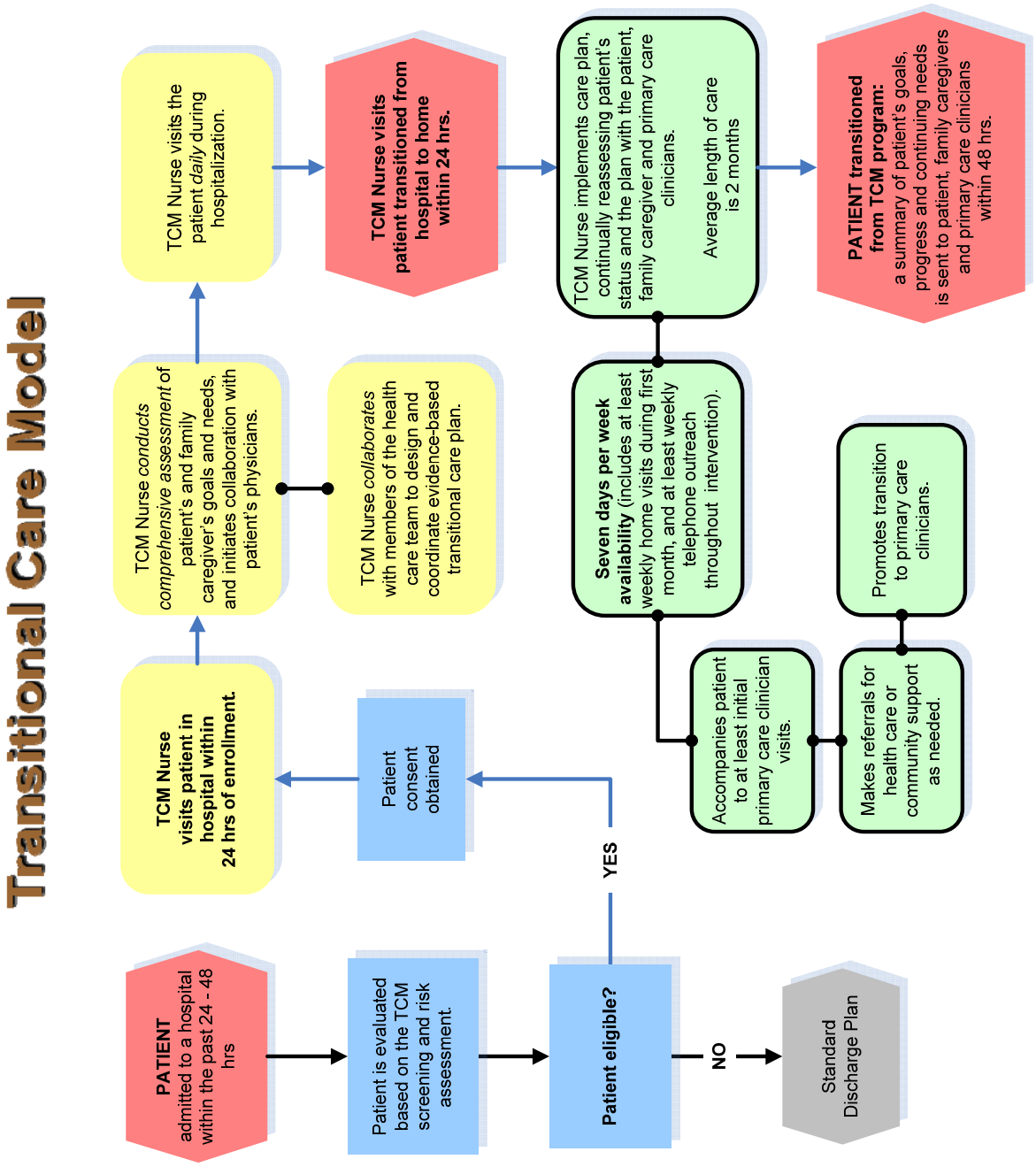
manage his/her care at home. The TCN begins this process at the point of hospital admission, working with each patient and caregiver to identify their goals. Across the next one- to three-months, in the home, the TCN helps patients develop systems for managing their own care effectively and achieving their goals. The TCN works with the patient and family caregivers to develop an individualized, realistic plan of care that includes strategies to reach positive health outcomes *aimed at preventing future acute care events*. A major focal point of the nurse's efforts is to help patients and families develop the knowledge needed to identify and address health problems when they first occur. Each plan is customized and tailored to the individual patient and identifies the resources and level of change that patients and their family caregivers are willing to accept and execute.

Medication Reconciliation and Management.

During the patient's hospitalization, the TCN also reviews the medication plan with all providers, including the hospital pharmacist, to reduce the overall number of medications and eliminate contraindications and unsafe interactions. At hospital admission and the first post-discharge visit, the TCN performs medication reconciliation to assure the correct medications, in the correct doses, are documented in the patient's medical record and present in the home. Patient understanding of changes in medication dosing, brand versus generic names, and adherence with medications is a priority. The TCN instructs the patient about each medication stressing its rationale, schedule, side effects, dose in strength and number, and storage. The TCN assesses the patient's current system for managing medication and obtaining refills, and suggests changes to medication behavior as needed (e.g., obtaining pill planners, 90 day supply ordering). Each patient's ability to afford co-payments is assessed, issues surrounding prescription coverage and formulary restrictions are identified, and suggestions for changes to the medication plan, based on coverage, are discussed with the physicians.

Transitional Care, Not Ongoing Case Management.

The Model is designed to fill an important gap in health care delivery, helping patients make an important transition from the hospital to the home, minimizing declines in health status. The purpose of the evidence-based model is not to provide ongoing care to patients but to optimize patient outcomes throughout and following an acute episode of illness. The major goal of this model is to help the patient and family caregivers develop the knowledge, skills and resources essential to prevent future decline and rehospitalization. At the end of this episode of care, continuity is assured by excellent communication with the primary care providers continuing to follow patients who have made a commitment to their self-management goals. In some cases, the TCN will help facilitate access to palliative care or hospice services, assisted living, or chronic case management, based on the individualized needs of patients and their family caregivers. A transition summary prepared by the TCN is provided to patients and primary care providers who will assume responsibility for continuing care. The patient's goals, progress in meeting these goals and on-going or unresolved issues with the plan of care are addressed in these summaries.


Transitional Care Model
PATIENT admitted to a hospital within the past 24 - 48 hrs
Patient is evaluated based on the TCM screening and risk assessment.
Patient eligible?
NO
Standard Discharge Plan
YES
Patient consent obtained
TCM Nurse visits patient in hospital within 24 hrs of enrollment.
TCM Nurse conducts comprehensive assessment of patient's and family caregiver's goals and needs, and initiates collaboration with patient's physicians.
TCM Nurse collaborates with members of the health care team to design and coordinate evidence-based transitional care plan.
TCM Nurse visits the patient daily during hospitalization.
TCM Nurse visits patient transitioned from hospital to home within 24 hrs.
Seven days per week availability (includes at least weekly home visits during first month, and at least weekly telephone outreach throughout intervention).
Accompanies patient to at least initial primary care clinician visits.
Makes referrals for health care or community support as needed.
Promotes transition to primary care clinicians.
TCM Nurse implements care plan, continually reassessing patient's status and the plan with the patient, family caregiver and primary care clinicians.
Average length of care is 2 months
PATIENT transitioned from TCM program:
a summary of patient's goals, progress and continuing needs is sent to patient, family caregivers and primary care clinicians within 48 hrs.

Transitional Care Model: Screening Criteria and Risk Assessment*

Are the following statements true for the patient:

1. Admitted to hospital *ideally* within the last 24-48 hours
2. 65 years of age or older?
3. English speaking?
4. Reachable by telephone?
5. Alert and cognitively intact? (SPMSQ >6)
6. Documented history primary cardiovascular, respiratory, endocrine, or orthopedic health problem?
7. Does not have end-stage renal disease
8. Does not have primary neurological diagnosis(es)
9. Does not have major psychiatric illness
10. Does not have a primary diagnosis of cancer.
11. Lives within 30 miles of the admitted facility
12. Returning home after discharge (SNF/rehab stay < 3 weeks)

If yes to all of the above, does the patient have two (or more) of the following risk factors:

1. Moderate to severe functional deficits?
2. History of mental/emotional illness?
3. Four or more active co-existing health conditions?
4. Six or more prescribed medications?
5. Two or more hospitalizations within past 6 months?
6. Hospitalization in the past 30 days?
7. Inadequate support system?
8. “Poor” self-rating of health?
9. Documented history of non-adherence to the therapeutic regimen?

*for cognitively intact patients.

Individualized Care

Every patient participating in TCM receives individualized care based on a tested protocol. While the elements of the protocol are standard, the TCN tailors specific interactions and interventions with each patient based on his/her unique circumstances. For example, the protocol dictates the minimum level of in-home telephonic communication between the patient and his/her TCN, but the actual number and length of telephone calls can exceed this protocol based on the patient's individual needs. The standard protocol includes:

In-Hospital Visits with Patients

In the acute inpatient setting within 24 hours of enrollment in the TCM program, the TCN conducts a comprehensive assessment of the patient's health status and defines priority needs and services for the patient and family caregiver(s) throughout the patient's stay. The TCN collaborates with the physicians and other members of the health care team to streamline the plan of care and to design and coordinate inpatient and follow-up care based on the comprehensive assessment and goals identified by the patient.

Home Visits with Patients

The TCN visits each patient in his/her home within 24 to 48 hours of discharge from the hospital. After the initial visit, a minimum of one home visit per week during the first month is made, followed by semi-monthly visits until discharge from the program. The TCN makes telephone contact with the patient, as needed, and in each week an in-person visit is not scheduled. In addition, the nurses are available to the patients and their family/caregivers by telephone from 8am to 8pm Monday through Friday and 8am to noon on weekends, An explicit, personalized plan for emergency care during those hours when the TCN is unavailable. It is important to note that nurses rely on their clinical judgment and each patient's unique circumstances to determine the actual number and nature of contacts.

Nurse Visit with Physician

The TCN accompanies the patient on his/her first visit with the physician post-discharge and on subsequent visits, if needed. During the initial visit, the TCN assures excellent communication related to the plan of care between hospital and primary care providers (PCPs). For example, prior to or during the visit the TCN provides a copy of the discharge instructions as well as the TCN's own summary on the status of the patient and plan of care. The TCN also helps the patient and his/her family caregivers to achieve their visit goals. For example, the TCN assists the patient and family caregiver to generate a list of questions prior to the physician visit so that the patient can get answers to major questions during the visit. The TCN directly facilitates and advocates for the patient with the physician. Immediately following the visit, the nurse also assists patients and family caregivers in understanding the PCP's instructions.

Transition from TCM

At the end of the patient's participation in TCM, the TCN assures continuity of care and ongoing commitment to the patient's self-management goals through communication with the primary care provider who will continue to follow the patient. A transition summary prepared by the TCN is provided to patients and primary care providers. The

patients' goals, progress in meeting these goals and on-going or unresolved issues with the plan of care are addressed in these summaries. In some cases, the TCN will also help facilitate access to palliative care or hospice services, assisted living, or chronic case management, based on the individualized needs of the patient and his/her family caregiver.

Schedule of Visits

Home visits are an essential component of the TCM. The TCN must *see* in order to understand how patients and family/caregivers are managing symptoms, and to determine if the living situation could prove problematic to the patient's health (e.g., the presence of mold in the apartment of a COPD patient; plants that could cause allergies; stressful living conditions).

Safety of the patient in completing activities of daily living (ADLs, including bathing, walking, toileting, etc.) and instrumental activities of daily living (IADLs, including shopping, housework, etc.) is assessed, recommendations for adapting the environment are made, and referral to area senior agencies are completed, if needed.

The following visit schedule is utilized under TCM—Patients are visited:

- In the hospital within 24 hours of enrollment;
- Daily throughout the hospitalization;
- In the home within 24-48 hours of discharge from the hospital;
- At least weekly during the first month;
- At least semi-monthly through the duration of the intervention; and
- Additionally, TCNs:
- Maintain daily telephone availability in order to respond to patients' and caregivers' needs and concerns;
- Provide patients and caregivers with a written plan with instructions and phone numbers of physicians, local hospitals and ambulance services for emergency care; and
- Initiate telephone contact with a patient during any week that a patient is not visited at home. The purposes of these calls range from monitoring patient's health status to reinforcing skill acquisition.

While the proposed schedule defines minimal expectations, TCNs are instructed to use their clinical judgment to determine the frequency (number) and intensity (length) of patient and caregiver visits and telephone contacts.

Preparation for patient contacts may include TCN's consultation with the patient's physician and, for very complex cases members of a multidisciplinary team, to identify strategies to meet patient/caregiver needs.

Transitional Care Nurse (TCN)

The Transitional Care Nurse (TCN) follows participating patients from hospitals into their homes, and using an evidence-based care coordination approach, provides services designed to streamline plans of care and interrupt patterns of frequent acute hospital or emergency department use and health status decline. The TCN collaborates with physicians, nurses, social workers, discharge planners, pharmacists, and other members of the health care team in the implementation of tested protocols with a unique focus on increasing patients' and caregivers' ability to manage their care. Every patient who participates in TCM receives individualized care guided by evidence-based protocols.

The TCN role is very different from a traditional nursing position. It incorporates the skills of a nurse, care manager, and patient advocate and knowledge of evidence-based care, managing complexity, palliative care, active engagement of family caregivers, interdisciplinary team care, theories and strategies for individualized care and behavioral change, quality improvement, and organization, delivery and financing of services across an episode of acute care.

Throughout the implementation of the model, TCNs receive on-going access to clinical nursing experts and each other through weekly clinical case conferencing sessions. A team of multidisciplinary experts, including a physician, pharmacist, social worker, and geropsychiatric nurse specialist, are available as needed to help address complex issues. These sessions provide the TCNs with the opportunity to discuss clinical cases, provide support to one another, and foster mentorship among one another.

"TCM is unique. In my role as a Transitional Care Nurse, I have the ability to develop lasting relationships with my patients, to build trust, to have honest communication, and to assume the role as teacher and facilitator. Unlike other models and settings, I fully understand each patient's goals and strengths. I would not hesitate to recommend TCM to a loved one who might benefit from it."

M. Brian Bixby, MSN, CRNP, CS,
Transitional Care Nurse, Philadelphia, PA

TCN Orientation

It takes, on average, one month to orient a new TCN to the role. TCN orientation encompasses self-paced training modules, case observations and group case summary reviews, and didactic training in the use of the assessment tools and available technology.

The team at Penn has developed a series of web-based training modules that prepare nurses to become TCNs. The core modules are designed in an independent instructional learning format with interactive modules that enable ongoing exchanges with multidisciplinary experts. Two module sets are available—one aimed at transitional care with cognitively intact patients; the other on care for cognitively impaired patients.

In addition to the web-based training modules, the TCN receives training on the clinical information system designed specifically by the Penn team to support clinical operations and standardize patient information.

Transitional Care Clinical Information System

A core element of the Transitional Care Model is the comprehensive patient assessment completed upon admission and again at discharge using valid and reliable instruments. The web-based Clinical Information System (CIS) houses these instruments and provides up-to-the-minute measurement of patient status.

There are tools that measure depression, function, quality of life, social support, cognition, self rated health and satisfaction. In addition, the CIS contains the Omaha System, an American Nurse Association recognized standardized language for documenting patient problems, signs and symptoms, nursing interventions and outcomes (patient knowledge, behavior and severity of symptoms) related to each problem.

Further, the CIS provides links to evidence based guidelines to manage heart failure, diabetes, cognitive impairment, incontinence, and nutrition, among others. Clinicians are able to document barriers and facilitators to care to further explain the relationship of their care to the outcomes. Real time reports provide quality measurement to assure fidelity to the protocols. Medications are documented and the types (home, office, hospital), number of, and length of visits and phone calls are tracked. The CIS houses a description of the complexity of care and supports analyses that examine the relationship between patient problems, nursing interventions and outcomes.

"The thing that struck me about [TCM] was that it made so much sense. It clearly improved the patient and family's care experience. It had evidence…it had been researched. There was science behind it. And the outcomes were terrific. Not only were patients pleased with the Transitional Care Nurse, but it improved quality as we measure it and it also led to lower costs….This is an example of great innovation."

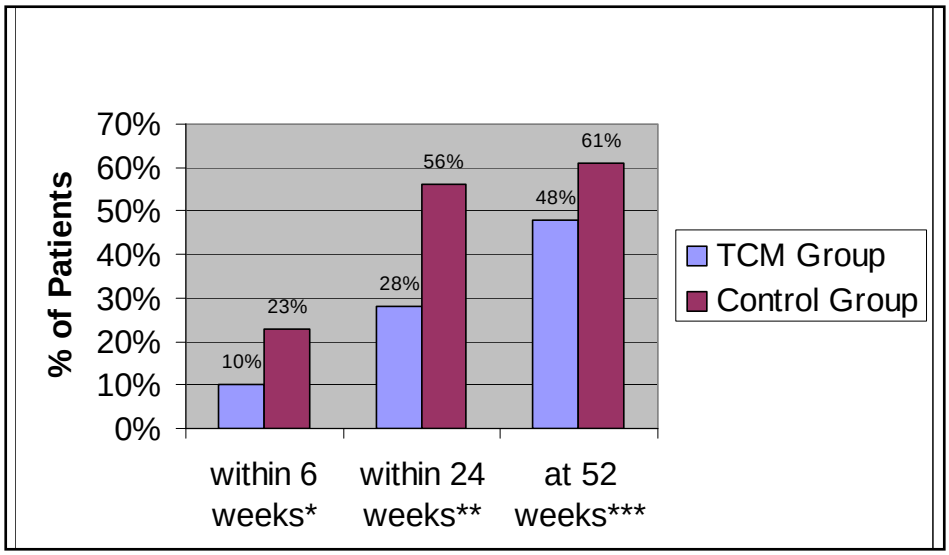
Richard D. Della Penna, MD
Medical Director, Kaiser Permanent Aging Network

Quality, Cost, Value

TCM was developed to (1) address the negative outcomes associated with common breakdowns in care when older adults with complex needs transition from an acute care setting to the home or other care settings and (2) prepare patients and family caregivers to more effectively manage changes in health associated with multiple chronic illness. Across three National Institutes of Health (NIH)-funded randomized controlled clinical trials (RCTs), TMC has achieved significant and sustained outcomes:

- **Avoidance of hospital readmission and emergency room visits for primary and co-existing conditions.** TCM has resulted in fewer rehospitalizations for these patients' primary illnesses as well as their coexisting conditions. Additionally, among those patients who require rehospitalizations, the time between their primary discharge and readmission is longer and the number of inpatient days is generally shorter than expected.

TCM's Impact on Readmission Rates After Index Hospitalization



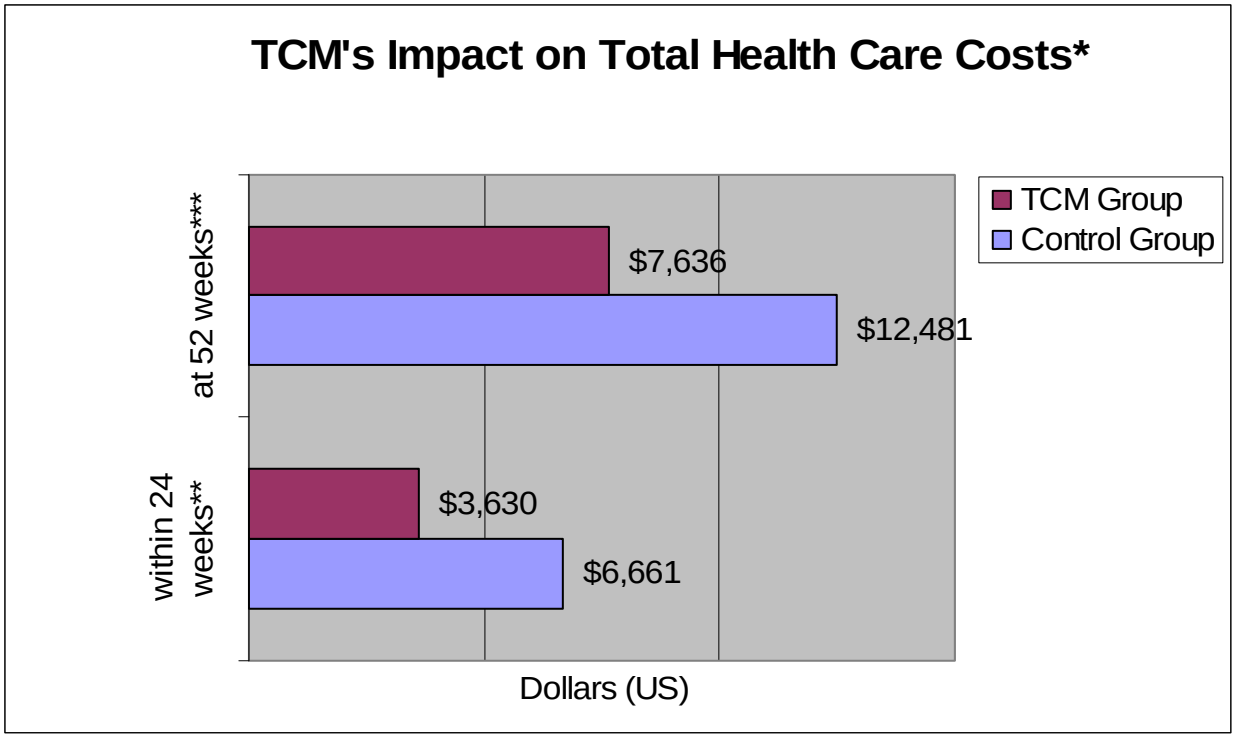
** Naylor M, Brooten D, Jones R, Lavizzo-Mourey R, Mezey M, Pauley M. Comprehensive discharge planning for the hospitalized elderly. Ann Intern Med. 1994;120:999-1006.*

*** Naylor MD, Brooten D, Campbell R, Jacobsen BS, Mezey MD, Pauley MV, Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: a randomized clinical trial. JAMA. 1999;281:613-620.*

**** Naylor MD, Brooten DA, Campell RL, Maislin G, McCauley KM, Schwartz JS. Transitional care of older adults hospitalized with heart failure: a randomized, controlled trial. J Am Geriatr Soc. 2004;52:675-684.*

Quality, Cost, Value

- **Improvements in health outcomes after discharge.** Improvements in physical health, functional status, and quality of life have been reported by patients who received TCM.
- **Enhancement in patient and family caregiver satisfaction.** Overall patient satisfaction has increased among patients receiving TCM. In ongoing studies, TCM also aims to lessen the burden among family members by reducing the demands of caregiving and improving family functioning.
- **Reductions in total (i.e., physician, hospital, and home health) health care costs.** Both total and average reimbursements per patient have been reduced in TCM focused randomized controlled clinical trials.



** Total costs were calculated based on the number of, timing of, and reasons for hospital readmissions, ED visits, unscheduled acute care visits to physicians, and care provided by visiting nurses or TCNs and other healthcare personnel. Excludes patient's medications and out of pocket costs.*

*** Naylor MD, Brooten D, Campbell R, Jacobsen BS, Mezey MD, Pauley MV, Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: a randomized clinical trial. JAMA. 1999;281:613-620.*

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CASE SUMMARY

Patient Description: TL is a 78 year-old African American male with a primary diagnosis of heart failure. TL was admitted to the acute care hospital through the emergency room (ER) after arriving at a routine ophthalmology appointment acutely short of breath from walking three city blocks at a moderate pace.

Presentation: At the time of ER evaluation, the patient was found to be volume overloaded with +3-4 pitting edema (i.e., deep pitting, swelling) to his lower extremities, severe dyspnea, a positive S3 heart sound, and frank jugular venous distention with the head of bed elevated at 90 degrees. The patient stated he was in his usual state of health until approximately one month prior to admission. Since that time, he noted an increased weight gain and decreased exercise tolerance, which he attributed to decreased workload at home and lack of activity due to a seasonal change. He was treated with intravenous diuretics and admitted to the telemetry unit for further evaluation where was diagnosed as having new onset HF with an ejection fraction (EF) of 25 percent. He lives with his wife in a one bedroom apartment in a three-storey urban home. TL is independent in activities of daily living and instrumental activities of daily living. His past medical history includes glaucoma, bilateral cataracts, and colon cancer successfully resected ten years prior to admission.

Trajectories

This patient's case could follow two different outcome trajectories:

Trajectory 1: no TCN intervention

This 78 year old patient returns home with out any visiting nurse or physical therapy services, as he was not considered homebound despite his needs. Before discharge, the nursing staff utilized non-customized pre-printed medication and dietary teaching forms, which did not incorporate TL's individual behaviors, needs, literacy level, or learning style. Discharge teaching was routine with a handoff of learning responsibility to the patient during the acute episode. Mechanisms to reinforce and validate learning were absent. Additionally, because the patient's wife and primary caregiver was often unable to visit the hospital regularly, she was not involved in any of the teaching, support the identification of needs, or develop the plan of care. Furthermore, as a result of caregiver burden, TL's wife neglects her own health concerns and has an unmanaged hypertensive episode.

For TL, who has had experiences with the health care system that have led to distrust, this experience reinforces that distrust and results in low satisfaction with care.

Trajectory 2: TCN intervention

Outcomes of Care

- Mutually developed goals which respect the patient's perspective, incorporate his ability to learn and develop trust for provider team
- Medication adherence
- Dietary adherence
- Medication management appropriate to diagnosis and treatment goals
- Provider team collaboration
- Physical therapy assessment and resumption of ADL's/IADL's
- Reduced medication costs
- Culturally sensitive care
- High patient, caregiver and physician satisfaction with TCM services
- Avoidance of rehospitalizations during 52 weeks of follow-up

(details on the following page)

Trajectory 2: *with TCN intervention*

On TL's enrollment in program, the TCN discusses his challenging case with the attending cardiologist and collaborates to develop a simplified discharge plan. On discharge, the patient is prescribed three medications for heart failure and agrees to adhere to the protocol for one month, reevaluation of need will be made at that point. With the agreement by the patient, and collaboration between him, his caregiver, the TCN, and cardiologist, an appointment to evaluate his progress and medication need is scheduled prior to discharge from the facility. As part of the discharge process, mutually agreed upon goals are developed, which respect the patient's perspective, incorporate his ability to learn and develop trust for the TCN, and demonstrate collaboration between the physicians and other providers. In the end, TL receives 10 home visits and two physician office visits during his enrollment in TCM.

Before this hospitalization, TL was very active maintaining his home, two apartments and a large flower and vegetable garden. In a typical day he climbed two to three flights of stairs up to six times a day often carrying tools. In the summer, he was very active in digging, carting, and planting large plants. Given his degree of symptoms and severity of heart failure, the TCN requests a physical therapy evaluation during hospitalization and insists on an evaluation in TL's home given his prior level of activity. The TCN works with TL to implement the physical therapy plan of care and gradually adds more activity into his routine while closely monitoring for any response. In the end, TL is able to resume his prior level of activity without any onset of symptoms, and he is happily back to gardening at discharge from TCM.

TL's wife reported serving a near perfect diet despite ample evidence of high sodium foods in the kitchen and pantry. As she did all cooking and grocery shopping, the TCN directs teaching related to label reading and dietary principles toward her. This teaching is also repeated to TL stressing basic concepts such as avoiding adding salt at the table, avoiding high sodium food when out of the home, and the need to limit fluid intake to less than two liters a day. While the couple does not eat out frequently, they are able to name several restaurants that they enjoy. To address eating out, the TCN works with TL and his wife to identify favorite items, review selections, and triages for consumption (e.g., labeling food items as to be totally avoided, rarely consumed, or enjoyed in moderation).

Despite minimizing the medication regimen, the TCN and cardiologist are firm about adhering to practice guidelines for heart failure treatment and prescribe a diuretic, beta-blocker, and angiotensin-converting-enzyme (ACE) inhibitor/angiotensin-receptor blocker (ARB). *After discharge from TCM, at 26 and 52 weeks follow-up, TL remains stable without subsequent rehospitalization.*

TL denies his severity of heart failure but is willing, after developing a trusting relationship with the TCN, to follow up with a cardiologist. At twelve months post-enrollment, the patient remains adherent to his treatment plan and is in close follow-up with the cardiologist—due, at least in part, to the TCN's support of a trusting relationship between the patient and his physician. Through this close nursing and medical management, this patient avoids a rehospitalization.

Not only is TL and his wife satisfied with TCM care, but because the TCN helps the patient enroll in a Veteran's Affairs (VA) Clinic, where he receives his medications with minimal out of pocket costs, TL's medication costs are reduced.

Since 1990, Dr. Mary Naylor has led an interdisciplinary program of research designed to improve the quality of care, decrease unnecessary hospitalizations and reduce health care costs for vulnerable community-based elders. To date, Dr. Naylor and her research team have completed three National Institutes of Health funded randomized clinical trials testing the Advanced Practice Nurse Transitional Care Model, an innovative approach to addressing the needs of high risk chronically-ill elders and their caregivers. With the support of The Commonwealth Fund, the Jacob & Valeria Langeloth Foundation, The John A. Hartford Foundation, Inc., California HealthCare Foundation, and the Gordon & Betty Moore Foundation—this research team has partnered with a major insurance organization and health care organizations to promote widespread adoption of this proven model of care coordination.

Mary D. Naylor, PhD, RN, FAAN —the Marian S. Ware Professor in Gerontology and Director of the NewCourtland Center for Transitions and Health. Dr. Naylor is also the National Program Director for the Robert Wood Johnson Foundation program, *Interdisciplinary Nursing Quality Research Initiative* (INQRI). Other research initiatives Dr. Naylor leads at Penn, an ongoing clinical trial funded by the Marian S. Ware Alzheimer Program and the National Institute on Aging expanding testing of the Transitional Care Model with hospitalized cognitively impaired elders and their caregivers. Also, Dr. Naylor and colleagues are examining over time the natural history of changes in health and quality of life among elders newly admitted to long term care settings or services, funded by the National Institute on Aging and the National Institute for Nursing Research. In recognition of her research and leadership, Dr. Naylor has received numerous awards. In 2004, she was the first nurse selected as a McCann Scholar, the only national award by a private foundation that recognizes outstanding mentors in medicine, nursing, and science. In 2005, Dr. Naylor was elected to the National Academy of Sciences, Institute of Medicine.

Kathryn H. Bowles, PhD, RN, FAAN — Associate Professor, leading an interdisciplinary program of research that blends health information technology and the care of the elderly. Her NIH funded work includes the development of a decision support system for post-discharge referral decisions as older adults transition from a hospitalization. She currently leads a randomized clinical trial to test the clinical and cost effectiveness of home telemonitoring of older adults with heart failure. Other interests include the development and use of clinical information systems and standardized nursing languages to collect and describe the contribution of nursing to patient outcomes.

Greg Maislin, MS, MA —Mr. Maislin is the Principal Biostatistician for Biomedical Statistical Consulting, Wynnewood PA (since 1986). BSC is a contract research organization that specializes in supporting randomized clinical trials of medical devices and pharmaceuticals for federal regulatory purposes and in supporting investigator initiated medical research studies at academic centers. Mr. Maislin is Adjunct Assistant Professor of Biostatistics in Medicine at the University of Pennsylvania, School of Medicine where he has served as the Director of the Biostatistics and Subject Recruiting Core of the Center for Sleep and Respiratory Neurobiology since 1990. Maislin is responsible for implementation of all phases of data management, statistical analysis, and the reporting of results from biomedical research studies. His many collaborative research efforts supporting applications of biostatistical methodology are visible through more than 130 authorships and co-authorships in peer reviewed medical journals.

Kathleen McCauley, PhD, RN, BC, FAAN, FAHA —Associate Dean for Academic Programs, an Associate Professor of Cardiovascular Nursing and the Class of 1942 Term Professor at the University of Pennsylvania School of Nursing and a Clinical Specialist in Cardiovascular Nursing at the Hospital of the University of Pennsylvania. She has published widely in various areas of cardiovascular nursing, including an edited book on management of heart failure and has spoken at the local and national level on a variety of topics within the specialty, including strategies to modify the risk profile of women facing heart disease. As Associate Dean for Academic Programs she is responsible for the quality of the undergraduate, master's and doctoral programs in the School of Nursing. She is a Past President of the American Association of Critical Care Nurses (AACN), a Fellow in the American Academy of Nursing and a fellow in the Council on Cardiovascular Nursing of the American Heart Association.

Mark V. Pauly, PhD —the Bendheim Professor at the University of Pennsylvania's Wharton School, as well as a Professor of Health Care Systems, Business and Public Policy, Insurance and Risk Management, and Economics. Dr. Pauly is a former commissioner on the Physician Payment Review Commission and an active member of the Institute of Medicine. One of the nation's leading health economists, Dr. Pauly has made significant contributions to the fields of medical economics and health insurance. His classic study on the economics of moral hazard was the first to point out how health insurance coverage may affect patients' use of medical services. Subsequent work, both theoretical and empirical, has explored the impact of conventional insurance coverage on preventive care, on outpatient care, and on prescription drug use in managed care. He is currently studying the effect of poor health on worker productivity. In addition, he has explored the influences that determine whether insurance coverage is available and, through several cost effectiveness studies, the influence of medical care and health practices on health outcomes and cost. His interests in health policy deal with ways to reduce the number of uninsured people through tax credits for public and private insurance, and appropriate design for Medicare in a budget-constrained environment. Dr. Pauly is a co-editor-in-chief of the International Journal of Health Care Finance and Economics and an associate editor of the Journal of Risk and Uncertainty. He has served on Institute of Medicine panels on public accountability for health insurers under Medicare and on improving the supply of vaccines.

J. Sanford (Sandy) Schwartz, MD —Professor of Medicine and Health Management & Economics, at the School of Medicine and the Wharton School, Senior Fellow at the LDI of Health Econ and Senior Scholar at the Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania. Dr. Schwartz is an internationally recognized expert in assessing the incremental clinical and economic effects and tradeoffs of medical innovations and interventions, adoption and diffusion of medical innovation and medical decision making. He has been involved in this research program since its inception. He also played a key role in facilitating strong collaborative relationships between nurses and physicians in the testing of this model. Dr. Schwartz has served as a consultant for many national and international health organizations, including the Center for Medicare and Medicaid Services, Agency for Healthcare Research and Quality, Centers for Disease Control, National Institutes of Health, Department of Defense, the World Health Organization, National Academy of Sciences, Institute of Medicine, American College of Physicians, Blue Cross and Blue Shield Associations, and The White House. He also has served as a health care consultant to a broad range of pharmaceutical companies, health insurance companies, managed care, and professional societies, non-profit foundations, and state health agencies.