Trauma Transitional Care Coordination

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Trauma transitional care coordination: A mature system at work

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BACKGROUND: We have previously demonstrated effectiveness of a Trauma Transitional Care Coordination (TTCC) Program in reducing 30-day readmission rates for trauma patients most at risk. With program maturation, we achieved improved readmission rates for specific patient populations.

METHODS: TTCC is a nursing driven program that supports patients at high risk for 30-day readmission. The TTCC interventions include calls to patients within 72 hours of discharge, complete medication reconciliation, coordination of medical appointments, and individualized problem solving. Account IDs were used to link TTCC patients with the Health Services Cost Review Commission database to collect data on statewide unplanned 30-day readmissions.

RESULTS: Four hundred seventy-five patients were enrolled in the TTCC program from January 2014 to September 2016. Only 10.5% (n = 50) of TTCC enrollees were privately insured, 54.5% had Medicaid (n = 259), and 13.5% had Medicare (n = 64). Seventy-three percent had Health Services Cost Review Commission severity of injury ratings of 3 or 4 (maximum severity of injury = 4). The most common All Patient Refined Diagnosis Related Groups for participants were: lower-extremity procedures (n = 67, 14%); extensive abdominal/thoracic procedures (n = 40, 8.4%); musculoskeletal procedures (n = 37, 7.8%); complicated tracheostomy and upper extremity procedures (n = 29 each, 6.1%); infectious disease complications (n = 14, 2.9%); major chest/respiratory trauma, major small and large bowel procedures and vascular procedures (n = 13 each, 2.7%). The TTCC participants with lower-extremity injury, complicated tracheostomy, and bowel procedures had 6-point reduction (10% vs. 16%, $p = 0.05$), 11-point reduction (13% vs. 24%, $p = 0.05$), and 16-point reduction (11% vs. 27%, $p = 0.05$) in 30-day readmission rates, respectively, compared to those without TTCC.

CONCLUSION: Targeted outpatient support for high-risk patients can decrease 30-day readmission rates. As our TTCC program matured, we reduced 30-day readmission in patients with lower-extremity injury, complicated tracheostomy and bowel procedures. This represents over one million-dollar savings for the hospital per year through quality-based reimbursement. (*J Trauma Acute Care Surg.* 2018;84: 711–717. Copyright © 2018 American Association for the Surgery of Trauma. All rights reserved.)

LEVEL OF EVIDENCE: Therapeutic/care management, level III.

KEY WORDS: Transitional care coordination; trauma 30-day readmission; trauma health disparity; protecting vulnerable trauma patient.

UNIVERSITY of MARYLAND MEDICAL CENTER

Decreasing Readmissions Rates Using Transitional Care Coordination Model

Michigan Trauma QI Program, May 16, 2018

Rebecca Tyrrell, RN,CCCTM, Erin C. Hall, MD MPH

R Adams Cowley Shock Trauma Center

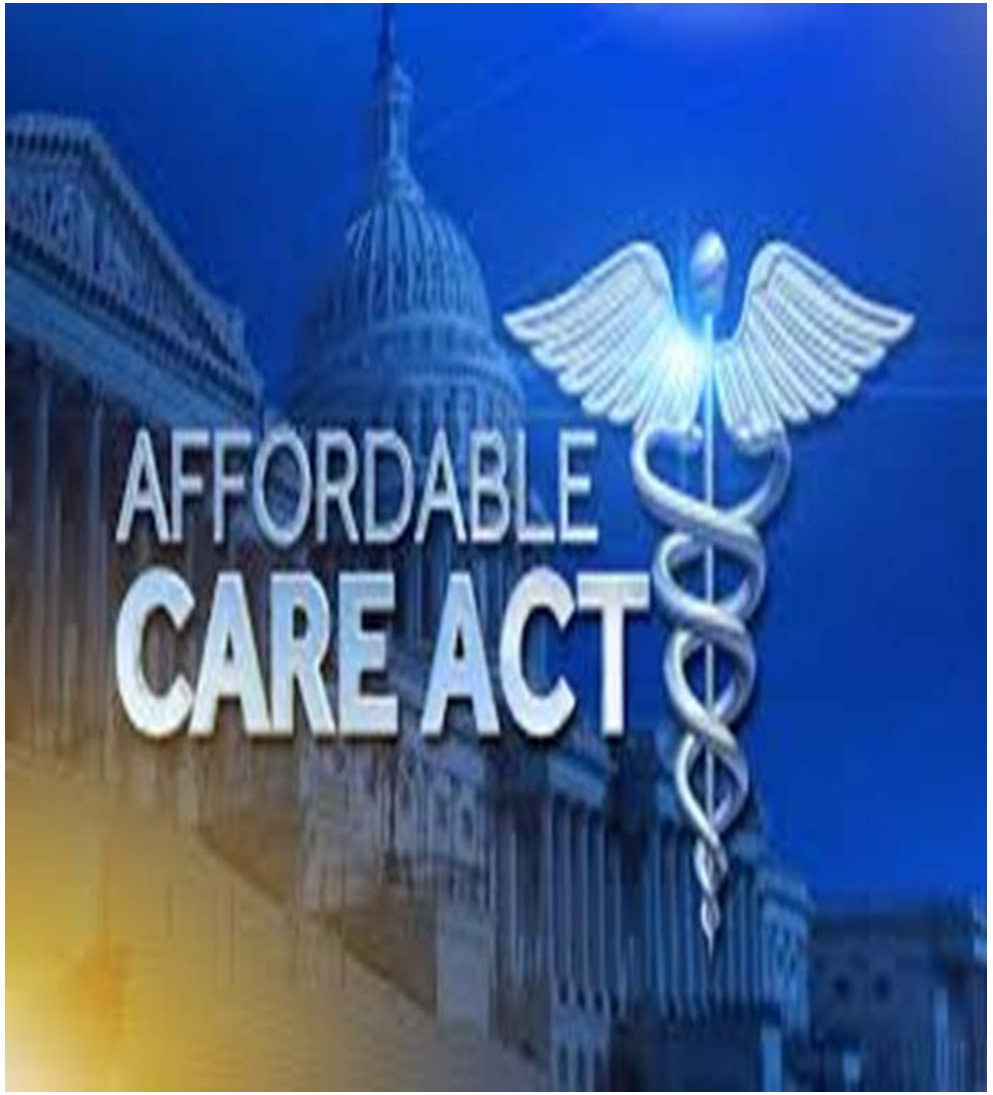
Objectives

At the end of this presentation:

- Describe Transitional Care Coordination (TCC)
- Demonstrate the application of a traditional TCC program on a trauma patient population
- Demonstrate the elements of a Trauma TCC program to improve patient outcomes
- Describe the impact of a Trauma TCC program on reducing readmissions

Significance of a Readmission

- Affordable Care Act 30 day readmission rate
- Quality indicator
- Healthcare costs



Background

Unplanned 30-day readmissions after trauma

- 2-fold increase in 1-year risk of death
- 3-fold increase in per-patient expense

Background

One fourth of annual Medicare expenditures

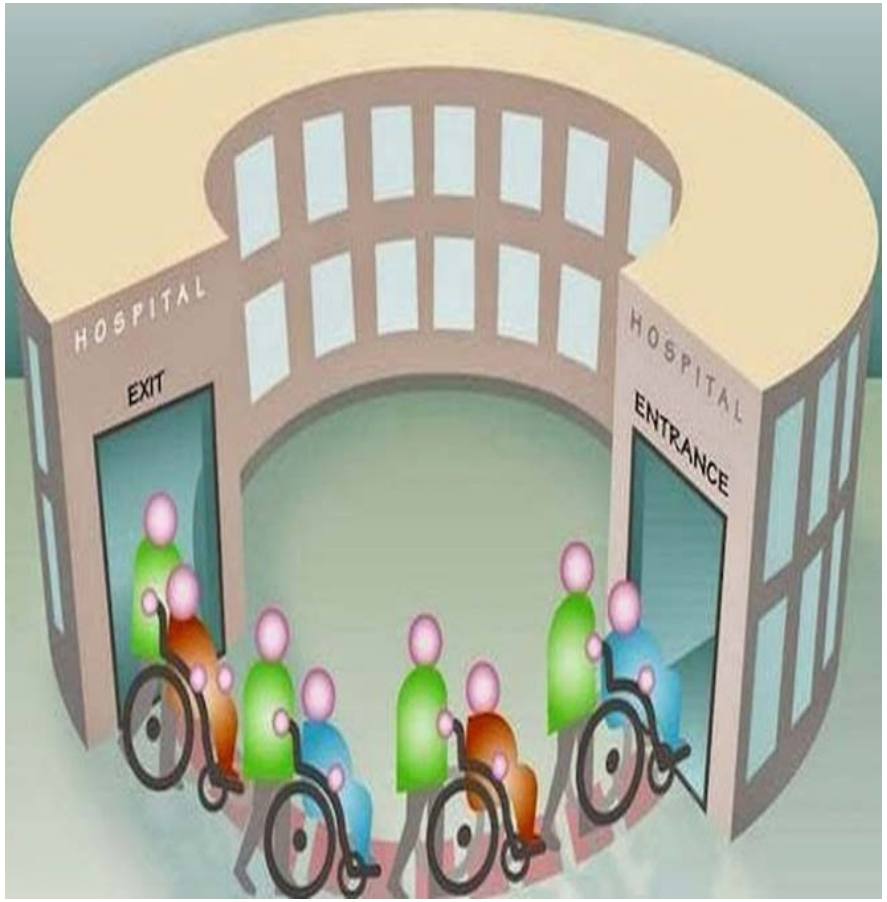
- Hospital Readmission Reduction Program
- Introduced in 2012

Already expanded to

- *Heart attack/failure*
- *Pneumonia*
- *COPD*
- *Hip/knee replacement*
- *CABG*

Shock Trauma Center Readmissions

- 15.1% readmission rate in 2012
- 1 in 7 patients readmitted to the acute care setting
- Opportunity for nursing to improve the quality of recovery and decrease readmissions



Background

Transitional Care Coordination

- Focuses on highly vulnerable, chronically ill patients
- Time-limited
- Emphasis on education of patients and family caregivers

Transitional Care Coordination

Proven effective in reducing 30-day readmission rates in patients with complex medical conditions

In particular:

- *Active care coordination by a nurse*
- *Active medication reconciliation*
- *Communication between PCP and hospital*
- *Home visit*

Transitional Care Coordination

Definition:

“…the ongoing support of patients and their families over time as they navigate care and relationships among more than one provider and/or more than one health care service (Haas,Swan & Haynes,2014, p.3).

Transitional Care Coordination process definition:

“…care coordination and transition management necessitates professional assessment, patient risk identification and stratification, and identification of individual patient needs and preferences…”

(Coleman & Boult,2003,p.556)

The Transitional Care Coordination Model

- Standardized by the American Academy of Ambulatory Care Nurses (AAACN)
- Support along a recovery continuum
- Professional assessment
- Risk stratification for readmission
- Identification of needs and resources

Trauma is increasingly becoming a chronic disease

Trauma is increasingly becoming a chronic disease

Could we design and implement a TRAUMA transitional care coordination program?

Objectives

- Identify trauma patients at high risk for readmission
- Enroll in specially designed Trauma Transitional Care Coordination program

Objectives

Primary Outcome

Reduce 30-day readmission rate

Secondary Outcomes

Trauma clinic follow-up

Primary care provider follow-up

Patient perception of program and ability to care for self

Trauma Transitional Care Coordination

- Meet identified patient prior to discharge
- Call to patient (or caregiver) within 72 hours of discharge to identify barriers to care
- Complete medication reconciliation
- Coordination of medical appointments or home visits
- Individualized problem solving

Methods

Identifying patients at high risk for readmission

Literature review

Expert opinion

- *Nurses*
- *Case managers*
- *Intensivists*
- *Trauma surgeons*

Methods

- Collected information on all 30-day readmissions
- Rate was compared to population, risk-adjusted benchmark for 30-day readmission rate
  - Staudenmayer et al
  - Trauma readmissions linked across California, stratified by injury severity

Methods

- Collected data on completed outpatient trauma and primary care provider appointments

- 10-item exit-questionnaire completed over the phone

Results

“I would not have gotten through without the TTCC program”

What we found

Common themes

- Lack understanding of disease management
- Unable to navigate the health care system
- No knowledge of community resources
- No primary care physician (PCP)

Identified Risk Factors

Social Factors

Any previous readmission

Poor or absent home assistance or home care services

Poor or absent insurance

Medical History

Psychiatric disease

Drug abuse

Multiple co-morbidities without primary care

Trauma Sequelae

Pulmonary embolism without PCP

Vascular injury without PCP

New tracheostomy

New traumatic brain injury

High output fistula

Large, open wounds before definitive closure

“I had so many doctors it was too hard for me to remember everything. TTCC helped me with a system to remember what I needed to do for each doctor and problem”

“TTCC showed me a better way to stretch out my pain meds and made me understand the importance of taking my Coumadin”

Results

260 enrollees between January 2014-September 2015

33.3% uninsured

45.4% current substance abuse

29.1% current psychiatric diagnosis

60% had multiple co-morbidities without a primary care provider

Results

260 enrollees between January 2014-September 2015

Average age = 41 y/o

Mean ISS = 14.6

Mean length of stay = 11 days

53% White

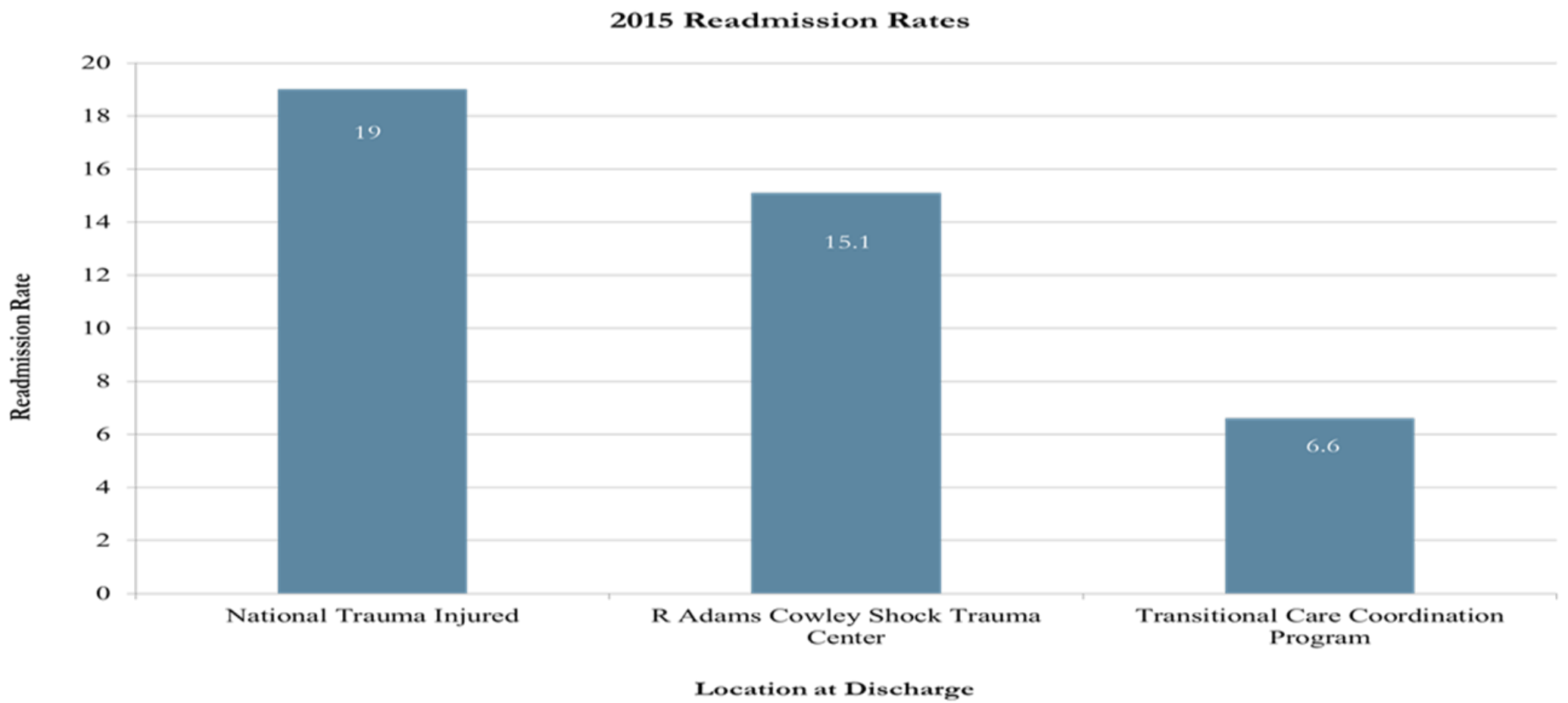
73% Blunt trauma

96.6% Follow-up

Only 9 patients of 260 lost to follow up

“I had 9 doctors I was supposed to follow up with after rehab. TTCC sorted it all out and even doubled up on some of them”

“TTCC showed me how to get transportation help. I don’t know what we would have done.”


2015 Readmission Rates
Readmission Rate
20
18
16
14
12
10
8
6
4
2
0
19
15.1
6.6
National Trauma Injured
R Adams Cowley Shock Trauma Center
Transitional Care Coordination Program
Location at Discharge

Results

- 30-day readmission rate was 6.6% (n=16)
- Population, risk adjusted benchmark = 17%
- p=<0.001

Results

- 16 patients with 30-day readmissions
- 8 Preventable Readmissions

Inadequate culture follow-up (1)

Symptomatic pleural effusion (1)

Incorrect discharge medications (1)

Inappropriate discharge location (5)

Results

74% attended outpatient trauma clinic within 14 days of discharge

44% attended new primary care provider appointments within 30 days of discharge

“I would not be better today if it had not been for the TTCC. She was a tremendous help”

“Sometimes it seemed like it would have been easier to go to the ED, but I did learn how to take care of myself”

Results

- 61.7% completed the exit questionnaire
- All agreed “I feel more prepared and in more control of my new healthcare needs. I am able to take care of myself and my new normal”
- All also agreed
  - *TTCC helped understand medications and how to take them*
  - *TTCC helped sort out multiple appointments*

“I have many problems that I will have for a lifetime I am sure. The TTCC made it so I could handle my issues one at a time. Life isn’t so bad. I can do this.”

Limitations

Comparison population

Variability in reported readmission rates

- *Collection method (single-center vs. population based)*

Risk stratification

- *Injury severity alone*
- *Did not take into account added risk associated with*
  - Previous hospital admissions
  - Increased number of comorbidities
  - Lack of resources
  - Psychiatric history

Potential Financial Impact

University of Maryland Medical Center

- Up to 1% reward or 2% penalty of at risk revenue
- Based on comparison to hospital's previous performance

Posted a loss of $860,116 (based on 2013 readmissions)

Potential Financial Impact

Total yearly budget for TTCC: $310,000

On track to receive $3,000,000 REWARD

Conclusions

- Significantly lower 30-day readmission rates (6.6% vs. 17%)
- Long-term follow-up is feasible
- Better outpatient resource utilization
- High patient satisfaction
- Cost effective

“I felt like I had a fairy godmother looking out for me”

Trauma TCC Process

- Establish patient's recovery goals within 7 days
- Call patient/caregivers 24 to 72 hours after discharge
- Medication review/reconciliation
- Attend follow-up appointments
- Patient preparation for the next 21 days

Days 1 through 7:

- Develop patient and TCC relationship
- Work with patient on goals
- Establish needs and resources
- Transportation
- Insurance
- Ensure accessibility to PCP

Days 8 through 15:

- Integrate community resources
- Assure patient attendance at the follow-up
- Review treatment plan
- Observe for patient activation measures

Days 16 through 30:

- Observe patient's level of self care
- Ensure PCP appointment attended or made
- Address needs and resources
- Review goals
- Prepare for hand-off

Case Review

52 year old male

Moped crash

Found face down, unconscious, shallow respirations

Temperature 38 degrees F

Case Review

Injuries

- Closed head injury, subarachnoid hemorrhage, subdural hematoma
- Complex facial lacerations with facial droop
- Skull, facial, sternum, ribs, left hand, left femur, left tibia and fibula fractures

Hospital Course & Treatment

- Emerged agitated, uncontrollable
- Geodon, sitters
- 9 consulting services
- Future surgeries and procedures planned
- New diagnoses of uncontrolled hypertension and hepatitis C

Case Review

- Financial
- Uninsured
- Employer paid weekly in cash, not documented

Psychosocial Issues

- Lives with mother
- Criminal history
- History of suicide attempts
- History of depression/anxiety
- Court-ordered to take Celexa, has parole officer

Case Review

Medical/Surgical Complexity

- 9 consulting services for follow-up
- Multiple surgeries remaining
- Traumatic brain injury
- Post concussive syndrome
- New diagnoses of hypertension and Hepatitis C

Discharge Preparation

- Reviewed clinical picture with the treatment team
- Met with patient and mother
- Developed patient's needs and resources
- Planned for transfer to inpatient traumatic brain injury rehab

Case Review

- Post Discharge Day #12
- “My mother says I should talk to you”
- TBI rehab planning discharge to home in 2 days
- Briefly discussed tasks for the next week

Case Review

- Phone conversations
- Assessed as being a face to face learner
- Unable to process a lot of information
- Set up nurse visit with TCC

Motivational Interviewing

- Listening
- Observing breathing pattern
- Watching eye movements
- Understanding word choices

Nursing Assessment

- Patient did not know:
- How to call for an appointment
- He had to arrive on time
- How to manage bad news
- How to handle his fear of physical pain

Patient-Identified Recovery Goals

- “Not drink”
- “Get rid of headache pain”
- “Go back to riding the motorcycle”
- “Take Celexa”
- “A better relationship with my son”

Positive Outcomes

- Attended every appointment
- Obtained insurance, transportation
- Patient activation measures/ Goals
- Established a PCP and new psychiatrist
- All surgeries planned and scheduled

Quality Indicators

- No readmission within 30 days
- Not lost to follow-up
- Attended all follow-up appointments
- Attended PCP and psychiatry appointments
- Completed 30 day TCC program

Long term impact

- No unplanned readmissions at 3 months, 6 months
  1 year following injury
- Established relationship with PCP, psychiatrist
- Learned how to navigate the healthcare system
- Understood limitations of insurance benefits

Independence Restored

- Successful return to:
- Part-time work as a cabinet maker
- Driving, legally
- Painting and copper art

Future for Trauma TCC

- Hardwire referral process
- Improve use of technology supporting patients and the TCC program
- Develop a trauma-specific predictive readmission risk tool
- Evaluate trauma patient healthcare literacy pre- and post-program enrollment

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Questions ?

Thank you for your time