Performance Improvement & Patient Safety in a (newly designated) Level III Trauma Center

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Michigan Trauma Coalition

May 19, 2022

DMC

Huron Valley-Sinai Hospital

A COMMUNITY BUILT ON CARE

Tenet Mission, Vision and Values

MISSION

To provide quality, compassionate care in the communities we serve.

VISION

To consistently deliver the right care, in the right place, at the right time and to be a premier organization to work, where patient care and saving lives remain our focus.

VALUES

At Tenet Healthcare, our actions and behaviors define who we are, what we stand for and what we CARE about:

- Compassion and respect for others and each other, supporting our communities and advocating for our patients
- Acting with integrity and the highest ethical standards — always
- Results delivered through accountability and transparency
- Embracing inclusiveness for all people in our workplace and in the communities we serve

The Detroit Medical Center

Who we are…

Tenet-DMC Hospitals

- Children's Hospital of Michigan
- Detroit Receiving Hospital
- Rehabilitation Institute of Michigan
- Sinai-Grace Hospital
- Huron Valley-Sinai Hospital
- Harper Hutzel Hospital, Inc.:
    - Harper University Hospital
    - Heart Hospital
    - Hutzel Women's Hospital
    - Kresge Eye Institute

Huron Valley-Sinai Hospital

Who we are…

- 158 Bed Community Hospital
- 28 Bed Emergency Department

- Established in 1986 by the community

- 857 Employees

- 6,694 Total Discharges in 2020
- 442 Trauma Cases in 2020
- 470 Trauma Cases in 2021

Huron Valley-Sinai Hospital

Who we serve…

We serve the communities of:

- Commerce
- Hartland
- Highland
- Milford
- Novi
- Walled Lake
- Waterford
- West Bloomfield
- White Lake
- Wixom

Trauma Demographics

Who we serve…

Top Injuries:

1. Falls (Over age 65 majority)
2. MVC
3. “Other” Blunt Trauma

Injury Prevention:

Geriatric Falls Education, Community CPR, Stop The Bleed, Educator/School Staff

Trauma Services at HVSH

Our Trauma Team consists of:

- Trauma Medical Director
- Trauma Program Manager
- Trauma Registrar
- Multidisciplinary Peer Review Committee
  - Emergency Medicine
  - Orthopedics
  - Neurosurgery
  - Critical Care
  - Anesthesia
  - Trauma Surgery
  - Ad Hoc Internal Medicine and Pediatrics

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Our Trauma Story

A Community Built On Care

Trauma Services Timeline

Official Trauma Application December 2017

Our first site visit in November 2019 resulted in 4 type 2 deficiencies:

- CD 2-17
- CD 5-16
- CD 16-4
- CD 16-2

Additionally, we received recommendations from our surveyors to strengthen our program.

1. Developed admission policy ✓
2. Improved physician documentation for timing of care ✓
3. Decreased surgeon response times ✓
4. Connected with our sister DMC facilities for PI support ✓
5. Developed FAST MOD ✓

Deficiency	Action Plan	Supporting Documents
CD 2-17, Type II – "For level I, II, III and IV trauma centers, a trauma medical director and trauma program manager knowledgeable and involved in trauma care must work together with guidance from the trauma peer review committee to identify events, develop corrective action plans, and ensure methods of monitoring, reevaluation, and benchmarking." **Recommendation:** Collaborate on the development of a mechanism and process to identify opportunities for improvement.	-Updated multidisciplinary trauma peer review committee form to include PIPS monitoring. -Installed a new registry (DIv5 NTRACS) May 1st that captures monitoring and has benchmarking capabilities -TMD established corrective action plan with surgeons based on committee review -Process implementation based on identified gaps	Peer Review form Social Work consult Head CT MOD and order
CD 5-16, Type II – "Trauma surgeon response time to other levels of TTA, and for back-up call response, should be determined and monitored. Variances should be documented and reviewed for reason for delay, opportunities for improvement and correction actions." **Recommendation:** Consider decreasing the trauma surgeon response time for level 2 activations and continue to monitor through the PI process.	-Revised TTA policy -Continue PI review of all TTA -Decreased response time for TC2 to 2 hours and TC3 to 8 hours	Updated Trauma Team Activation Criteria policy
CD 16-4, Type II – "Trauma programs should seek to reduce unnecessary variation in the care they provide. To achieve this goal, a trauma program must use clinical practice guidelines, protocols, and algorithms derived from EB validation resources." **Recommendation:** Develop clinical protocols to maintain consistency.	-Networked with Tenet Healthcare/DMC to review best practices for admission guidelines -Created an admission MOD for consistency -Continued provider education regarding surgical/trauma admits versus NSA to medicine, with trauma being primary service	Admit Criteria and MOD
CD 16-2, Type II – "Problem resolution, outcome improvements, and assurance of safety ("loop closure") must be readily identifiable through methods of monitoring, reevaluation, benchmarking, and documentation." **Recommendation:** Develop a robust and effective performance improvement program that identifies areas of opportunity, implements action plans that address the identified gaps and follow-up (loop closure) to ensure resolution. Issues should be tracked and trended to ensure full resolution.	-With the new registry purchase, the PIPS monitoring dramatically improved for loop closure -Able to document corrective action as well as dates for PI tracking -Primary review is done daily, secondary review weekly PRN and tertiary review monthly	
The Trauma Service does not have a defined admission policy.	-Established guidelines & admission MOD February 2020	Admission MOD
There is inconsistent documentation for physician response times and progress notes.	-Weekly Trauma education for EM physicians -As a system, the Trauma H&P was updated to include times for all DMC facilities -Included Chief of Staff on timely response from consultants	Trauma H&P
The center has a 12-hour trauma surgeon response time for level II activations.	-Decreased to 2 hours	TTA Policy
Alcohol screening for admitted patients is dependent on BAC versus a screening tool.	-Continued this practice as we further investigated other facilities locally utilize the same method -Additionally, all patients are screened for ETOH and substance use in triage & in admission form -Social work is consulted for all patients who test positive or screen positive at triage or on the inpatient	
The facility belongs to a multiple hospital system that has trauma experience and expertise currently not fully utilized.	-Utilizes TPM's at sister facilities for support informally as needs arise -Purchased the same registry as our sister facilities -Connected with the Tenet Trauma Network and meet monthly with market TPM's -Elicits feedback from DRH TMD on quality assurance/PI -Hired surgeon from Sinai-Grace as TMD	
The facility does not have a policy or practice guideline describing the use of alternative imaging modalities such as FAST in circumstances in which axial imaging of injured patients is not immediately available.	-Created a FAST exam MOD based off of Detroit Receiving Hospital MOD -Rolled out to EM providers February 2020	FAST MOD

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CD 2-17
Type II Deficiency

Recommendation: Collaborate on the development of a mechanism and process to identify opportunities for improvement.

Multidisciplinary Committee

Tools & Resources

Huron Valley-Sinai Hospital
Department of Surgery
Trauma Services

MULTIDISCIPLINARY PEER REVIEW WORKSHEET

Date of Review:

Reason for review	Patient Name	FIN
Age/Gender	DOS/TOA	Injuries/Dx
PMH:		

Clinical Summary

PI Audit Filters:

Determination of Contributing Factors

Patient/Disease-related: ☐ Progression of injury ☐ Exacerbation of pre-existing co-morbidity ☐ Other

Provider-related: ☐ Delay in diagnosis ☐ Error in diagnosis ☐ Error in judgment or Interpretation ☐ Error in technique ☐ Non-compliance with policy/protocol

System-related: ☐ Lack of resources ☐ Lack of or inadequate protocol ☐ System inadequacy

Not applicable: ☐ Cannot be determined: ☐

Findings/Judgment

☐	NA/acceptable	No deficiency identified (Management appropriate; event due to patient's illness or unavoidable outcome.)
☐	Acceptable w/reservations	Opportunity for improvement. (Minor error or complication with no disability, or treatment change caused by physician/other healthcare professional's omission or commission.)
☐	Unacceptable	Deficiency in care. (No disability but requiring major treatment change; i.e. surgery or ICU stay, caused by physicians other healthcare professional's omission or commission.)
☐	Deferred for further review	Deficiency in care. (Permanent disability, injury or death caused by physician/other healthcare professional's omission or commission.)

Improvement Actions and Timeline

☐ Refer for additional expert review (name/committee) _____
☐ None necessary ☐ Counseling
☐ Educational activity ☐ Privilege/credentialing
☐ Data-gathering for trending ☐ Resource enhancement
☐ Develop guideline/protocol
☐ Timeline for actions: _____

Preventability

☐ Preventable ☐ Not applicable
☐ Unpreventable ☐ Cannot be determined

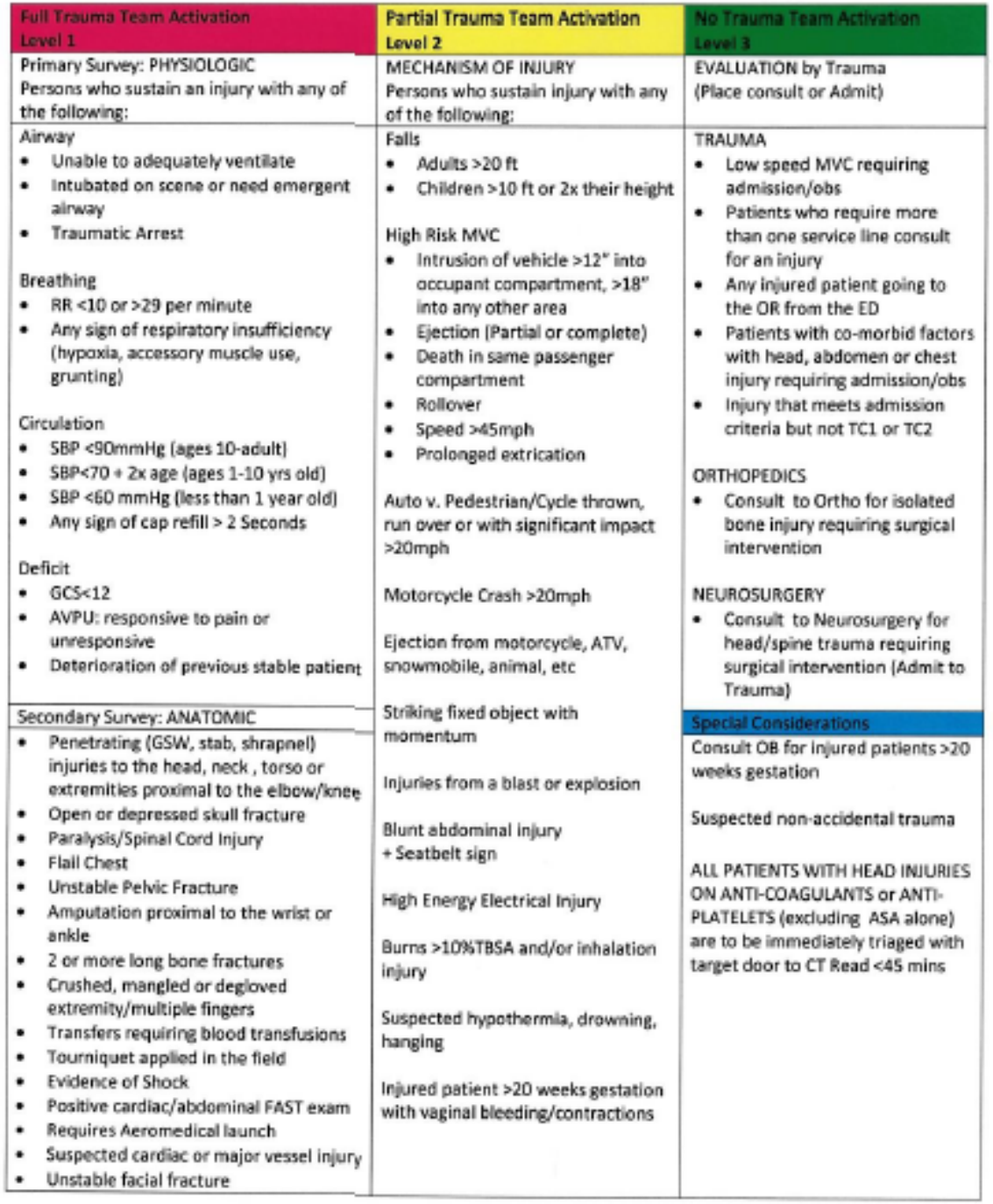
Mortality ☐ With opportunity ☐ Without opportunity ☐ N/A

Reviewer Signature: _____ **Date:** _____

PIPS Monitoring:

_____
_____
_____
_____

TTA Policy



Full Trauma Team Activation Level 1	Partial Trauma Team Activation Level 2	No Trauma Team Activation Level 3
Primary Survey: PHYSIOLOGIC Persons who sustain an injury with any of the following:	MECHANISM OF INJURY Persons who sustain injury with any of the following:	EVALUATION by Trauma (Place consult or Admit)
Airway • Unable to adequately ventilate • Intubated on scene or need emergent airway • Traumatic Arrest Breathing • RR <10 or >29 per minute • Any sign of respiratory insufficiency (hypoxia, accessory muscle use, grunting) Circulation • SBP <90mmHg (ages 10-adult) • SBP<70 + 2x age (ages 1-10 yrs old) • SBP <60 mmHg (less than 1 year old) • Any sign of cap refill > 2 Seconds Deficit • GCS<12 • AVPU: responsive to pain or unresponsive • Deterioration of previous stable patient	Falls • Adults >20 ft • Children >10 ft or 2x their height High Risk MVC • Intrusion of vehicle >12" into occupant compartment, >18" into any other area • Ejection (Partial or complete) • Death in same passenger compartment • Rollover • Speed >45mph • Prolonged extrication Auto v. Pedestrian/Cycle thrown, run over or with significant impact >20mph Motorcycle Crash >20mph Ejection from motorcycle, ATV, snowmobile, animal, etc Striking fixed object with momentum Injuries from a blast or explosion Blunt abdominal injury + Seatbelt sign High Energy Electrical Injury Burns >10%TBSA and/or inhalation injury Suspected hypothermia, drowning, hanging Injured patient >20 weeks gestation with vaginal bleeding/contractions	TRAUMA • Low speed MVC requiring admission/obs • Patients who require more than one service line consult for an injury • Any injured patient going to the OR from the ED • Patients with co-morbid factors with head, abdomen or chest injury requiring admission/obs • Injury that meets admission criteria but not TC1 or TC2 ORTHOPEDICS • Consult to Ortho for isolated bone injury requiring surgical intervention NEUROSURGERY • Consult to Neurosurgery for head/spine trauma requiring surgical intervention (Admit to Trauma)
Secondary Survey: ANATOMIC • Penetrating (GSW, stab, shrapnel) injuries to the head, neck , torso or extremities proximal to the elbow/knee • Open or depressed skull fracture • Paralysis/Spinal Cord Injury • Flail Chest • Unstable Pelvic Fracture • Amputation proximal to the wrist or ankle • 2 or more long bone fractures • Crushed, mangled or degloved extremity/multiple fingers • Transfers requiring blood transfusions • Tourniquet applied in the field • Evidence of Shock • Positive cardiac/abdominal FAST exam • Requires Aeromedical launch • Suspected cardiac or major vessel injury • Unstable facial fracture		Special Considerations Consult OB for injured patients >20 weeks gestation Suspected non-accidental trauma ALL PATIENTS WITH HEAD INJURIES ON ANTI-COAGULANTS or ANTI-PLATELETS (excluding ASA alone) are to be immediately triaged with target door to CT Read <45 mins

Trauma Services

Because we are overachievers…

Welcomed a new Trauma Medical Director and expanded trauma surgeons on-call

Strengthened our relationship with EMS

- Applied for and was granted Provisional Trauma Status by OCMCA Feb 2020
- Supported EMS with education during pandemic
- Volunteered ED physicians in medical directorships and support roles

Increased surgical residency program to 24/7

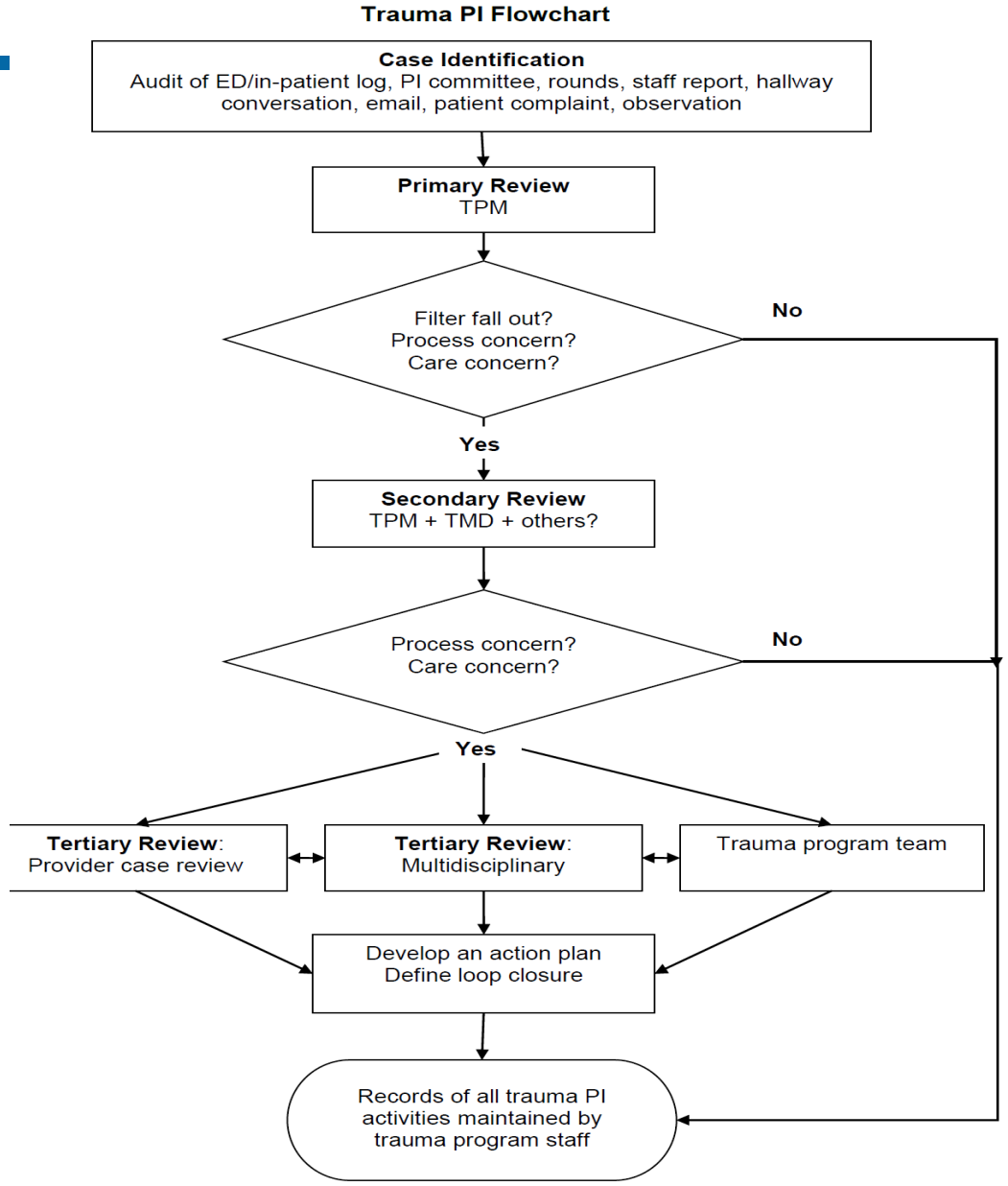
Expanded Neurosurgery program

Purchased new trauma registry to mirror DMC facilities with access to ESO

Dedicated Trauma Registrar

Developed a leading practice MOD for “Falls on Thinners”

Performance Improvement & Patient Safety



PI Initiative: Falls on Thinners

- Ground level falls
- Geriatric population
- Anticoagulant use

- PIPS Action Plans
- FOT MOD

A few nuggets from our journey

"Just the two of us"

- Registrar identification & abstraction:

  The lifeblood of your PIPS
- Audit filters are your friend!
- Focus on what matters to YOUR community ☺
- Being a squeaky wheel is really necessary
- Reports don't lie (Junk in is junk out)
- Trauma is a team sport
- Asking for help is the best thing you can do
- Don't close the loop unless it's *really* closed
- PIPS is continuous

Registry#: _____

Triage Time _____ FIN# 38000_____ ISS: _____

Arrival Date | Arrival Time | MRN# | RM# _____

DEMOGRAPH

Name: First Last

Gender: M F | Race: W B A H I O Decl | DOB: / / | AGE:

Zip Code: | Insurance: Medicaid BCBS HA Commercial No-Fault Auto

INJURY

Injury Date: Time: | Location of Incident:

Blunt Burn Penetrating

Details of Injury: MVC MCC Fall Bike Assault Burn Penetrating GSW Sports

Driver Passenger Pedestrian Extrication Y N Time: | Seatbelt Front Airbag Side Airbag Carseat Helmet None

PREHOSPITAL

EMS: | Run#: | Missing Incomplete

Date: Dispatch: Enroute: On Scene: At Pt: Depart: Hosp. Arrival:

Condition: Alert Verbal Pain Unresponsive | CPR: Y N

Airway: RA NC Bag/Mask Oral ETT Nasal ETT EOA Cricо Trach | IV Fluids: None Attempted Amount: | C Collar Closest Hosp Hosp of Choice

Time of vitals: Pulse: Resp: BP: / O2 Sat:

GCS: Eye Verb Motor | Qualifier: Legit. Intub. Sedated

Drugs Given Enroute:

ED ADMISSION

Arrived From: Scene Home NH Jail Other: | Condition: Alert Verbal Pain Unresp.

Transport Mode: ALS BLS POV Police Walk Other:

TTA Level: I II III Time: | ED Disch. Date: Time:

Surgeon _____ Arrived: _____

Surg.Res. _____ Arrived: _____

NSX _____ Arrived: _____

Ortho _____ Arrived: _____

ED _____ Arrived: _____

Anesth. Y N _____ Arrived: _____

ED ASSES 1

Time of vitals: Temp: Pulse: BP: / Resp: O2 Sat:

GCS: Eye Verb Motor | Qualifier: Legit. Intub. Sedated

Airway: RA NC Bag/Mask Oral ETT Nasal ETT | CPR: Y N

ETOH: Not Tested | Drug Screen: Amph Barb Benzo Cannab Cocaine Not Tested Opiates Tricyc Negative | COVID + _

HCT: INR:

ED ASSES 2

CT: Head Neg Pos Time: | Chest Neg Pos Time:

To CT Abd. Neg Pos Time: | C-Spine Neg Pos Time:

: Pelvis Neg Pos Time: | FAST Neg Pos Time:

ED Dispo: | Transfer Accept Phys: | Admitting Phys:

HEIGHT: CM

WEIGHT: KG

CONSULT

Physician/Service	Date	Comments

DIAGNOSIS

1.
2.
3.
4.
5.

COMORBIDITIES

HTN: Meds:_____ COPD Diabetes Mellitis Dementia CHF CVA Anticoag Therapy ETOH Disorder Current Smoker MI PAD Mental/Personality Disorder Adv Directive Limiting Care Funct. Dependent Health Status Cirrhosis Disseminated CA ADD/ADHD Substance Abuse

OPERATIONS/PROCEDURES

ER	Date	Time	Physician

OR	Date	Start/Stop Time	Physician

COMPLICATION

AKI Acute Resp. Distress Synd. Cardiac Arrest w/CPR Deep Surg. Site Infection DVT Extremity Compartment Syndrome MI Pulmonary Embolism Stroke/CVA Unplanned Intub. Osteomyelitis Unplanned Return to OR Unplanned Admission To ICU Severe Sepsis CAUTI CLABSI Ventilator Assoc. Pneumonia (VAP) Alcohol Withdrawl Syndrome

OUTCOME

NOTES

PEDS: INS: _____

PEDS: PCP: _____

DMC n Valley-Sinai Hospital

PT NAME:		PI TRACKING ISSUES:
	1) STAT XRAY>120*	5) ED LOS>4* = 4:41
	2) EMS UKNOWN/MSG RUNSHEET	6)
	3) + PE ON 5/4	7)
	4) MSG PHTR	8)

FIN#	REGISTRY ID#

DATE OPENED:	5/10/22	Loop Closed:

Level of Review:	☐ Primary _____ ☐ Secondary _____ ☐ Tertiary _____	Comment:

CONTRIBUTING FACTORS:

PROVIDER:	☐	Error in Mgmt	MORTALITY: ☐	Anatomical Diagnosis
	☐	Error in technique	☐	DNR order
	☐	Delayed treatment	☐	DOA or DOS
	☐	Missed diagnosis	☐	Survival probability
	☐	Deviation from protocol	☐	Withdrawl of Life support
SYSTEM:	☐	Communication deficiency	MORBIDITY: ☐	Comorbidity
	☐	Communication failure	☐	Disease related
	☐	Departmental Deficiency	☐	Other Pre-existing condition
	☐	Departmental failure	☐	Patient behavior or refusal
	☐	Equipment or supply deficiency		
	☐	Equipment failure		
DETERMINATION:	☐	System related	OFI status: ☐	Acceptable
	☐	Disease related	☐	Acceptable with Reservatioins
	☐	Provider related	☐	Unacceptable

CORRECTIVE ACTION:	☐	No action items taken	☐	Discussion with individual
	☐	Education offering	☐	Refer to peer review committee
	☐	Policy or practice Guideline: Develop	☐	Referral to prehospital
	☐	Policy or practice guideline: Revise	☐	Referral to physician/provider
	☐	Referral to dept head	☐	Referral to trauma systems committee
	☐	External review	☐	Track and trend for further reporting
	☐	Disciplinary action	☐	Other
	☐	Administrative action	☐	Unknown

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A Happy Ending

Going from an F to an A+

Round 2

August 2021

MDHHS invited HVSH to be a pilot site for virtual survey

Surveyors are a BLESSING

Achieving OPTIMAL care requires TRANSPARENCY

And the survey shows…

State of Michigan Level III Trauma Designation

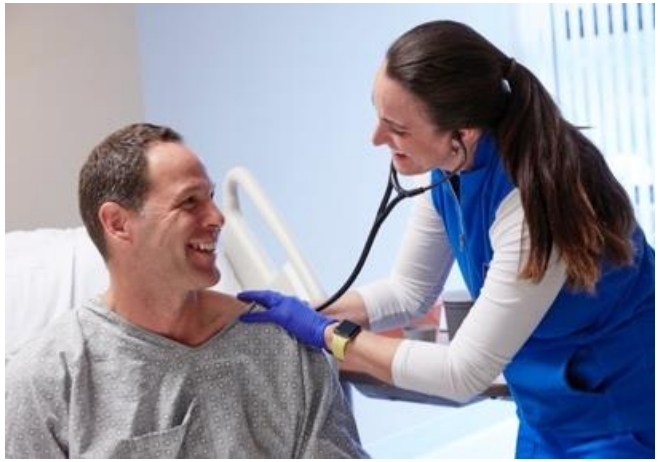
The Michigan Department of Health and Human Services (MDHHS) would like to congratulate DMC Huron Valley-Sinai Hospital on its verification and designation as a Level III trauma facility for a period of three years, expiring on August 10, 2024. The Designation Subcommittee (trauma content experts) and MDHHS have carefully reviewed the verification documents, designation application and Level III site visit report documenting the site visit conducted on August 10, 2021.

MDHHS recognizes this important achievement and the integral part DMC Huron Valley-Sinai Hospital has in building a regionalized, coordinated and accountable trauma system in Michigan.

Sincerely,

Eileen Worden

Eileen Worden
State Trauma Manager
Bureau of EMS, Trauma and Preparedness
Michigan Department of Health and Human Services





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THANK YOU!

Any Questions?

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