BALANCING THE BOOKS:
MANAGING REVENUE

John Osborn, M.Sc.
Operations Administrator
Mayo Clinic

OBJECTIVES

Describe strategies for improving financial performance of trauma centers

STRATEGIES FOR FINANCIAL HEALTH

- Managing Revenue
  - Trauma Team Activation Charges
  - Optimized Daily Billing
- Managing Cost
- Managing Reimbursement

TRAUMA TEAM ACTIVATION FEES

- Trauma Response Fees – 2002 (National Uniform Billing Committee)
- Bill for extraordinary costs and continuous readiness for trauma care services
  - Intensive level of care/evaluation increases hospital expenses
  - 24/7 multi-specialty surgical coverage is difficult to attain and costly
  - ED levels of service charges do not cover the cost burden of trauma care

TRAUMA ACTIVATION FEES

Trauma Response Fee – UB92: 68x

- **Used only by bona fide Trauma centers**
  - Verified by the American College of Surgeons Committee on Trauma
  - Designated by State or local authorities authorized by law to do so
- **Used only for identified trauma patients**
  - Meets accepted pre-hospital or inter-hospital criteria
  - Results in a trauma team activation at any level
  - Includes predominantly single system injury requiring initial trauma team evaluation
  - Must be identified prior to arrival
- **Billing code (68x) assigned for different Trauma Responses**
  - 681 = Level I
  - 682 = Level II
  - 683 = Level III
  - 684 = Level IV
  - 685 = Level V and beyond
  - Level may be upgraded after arrival

The Journal of TRAUMA® *Injury, Infection, and Critical Care*

Maximizing Reimbursement From Trauma Response Fees (UB-92: 68X) – Lessons Learned from a Hospital Comparison

John B. Fortune, MD, Christopher Wohltmann, MD, Brenda Margold, RN, Charles D. Callahan, PhD, and John Sutyak, MD

HOSPITAL A

- Bedside nurses responsible for identification and billing of charge after one educational course on Trauma Readiness billing
- Activation Fee
  - Level 1 - $2000
  - Level 2 - $1750

HOSPITAL B

- 2 FTE nurse billing clerks responsible for billing; attended national billing conference
- Billing forms altered to include Trauma Readiness charge; audits performed;
- Activation Fee
  - Level 1 - $2978
  - Level 2 - $2533

J Trauma. 2005; 58:482-486

Table 2 Eligibility and Charge Rates

	Total	Hospital A	Hospital B
Declared trauma patients	871	379	492
Eligible patients for TAF	625	246	379
Eligible patients charged TAF	433	72	361
% eligible patients charged	69.3	29.3	95.2

Table 4 Revenue

	Total	Hospital A	Hospital B
Trauma response charges ($)	1,111,882	130,750	981,132
Revenue on charges ($)	319,300	41,300	278,564
Revenue/charge ratio (%)	28.7	31.6	28.3

J Trauma. 2005; 58:482-486

TRAUMA ACTIVATION FEES

Center Level	Full Activation	Partial Activation	Evaluation
I	$5,000-9,500	$3,500-5,000	$1,200-2,100
II	$1,000-7,500	$2,400-4,250	$1,800-6,100
III+	$3,500-9,500	$2,750-7,750	$1,000-5,000

Medicare will reimburse **only** if a critical care code (99291) is billed in the Emergency Department on the same day as the 68X code

Fakhry et al, J. Trauma, 2009; 67: 1352-1358 / Trauma Center Association of America

KEY POINTS

- Trauma patient identification = reimbursement
- Appropriate determination of cost of providing trauma care = coverage of the cost of providing care
- Billing the Trauma Activation Fee to eligible patients will produce appropriate revenues
- Each facility can set its TAF at a level suitable to cover on-call and on-duty costs

TRAUMA DAILY BILLING

- Daily evaluation & management (E&M) codes are widely under-billed
- Daily E&M cannot be billed for *operative* trauma patients inside the global surgical period – typically 90 days
- But daily management ***non-operative*** trauma patients should be billed

The devil is in the details: Maximizing revenue for daily trauma care

Stephen L. Barnes, MD, Bryce R. H. Robinson, MD, J. Taliesin Richards, MHA, Cindy E. Zimmerman, CPC, Tim A. Pritts, MD, PhD, Betty J. Tsuei, MD, Karyn L. Butler, MD, Peter C. Muskat, MD, Kenneth Davis Jr, MD, *and* Jay A. Johannigman, MD, *Cincinnati, Ohio*

- Implemented standardized daily progress note
- Designed to maximize efficiency yet guide appropriate coding
- Billing Compliance team engaged from outset of project

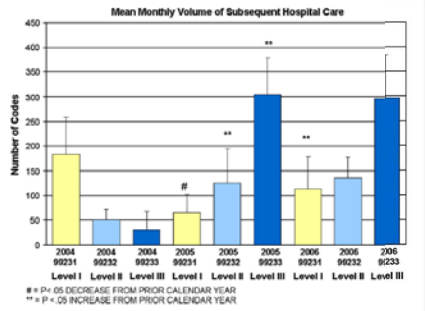

Fig 1. Mean monthly subsequent hospital care volume.

Surgery 2008; 144: 670-6

Table II. Annual work relative value units (wRVUs), billed revenue, collected revenue, collection rate (% collect), percent change (%Δ), and average SHC revenue per admission

	ANNUAL SHC, wRVU, and revenue generation 2004–2006							
	wRVUs	*% Δ*	*$'s billed*	*% Δ*	*$'s collect*	*% Δ*	*% collect*	*$ per admit*
2004	2413.42		306,480		112,608		36	91.85
2005	7633.72*	216%	1,133,457*	270%	380,422*	238%	34	362.31
2006	7957.95	4.2%	1,163,186	2.6%	412,003	8.3%	35	362.04

*$P < .05$ increase from prior calendar year.

Surgery 2008; 144: 670-6

Impact of standardized trauma documentation to the hospital's bottom line

Stephen L. Barnes, MD, Matt Waterman, MHA, David MacIntyre, DO, Jeff Coughenour, MD, *and* James Kessel, MD, *Columbia, MO*

- Incorporated NP/PA providers and consolidated to single surgical group
- Revised and further standardized inpatient documentation

Surgery 2010; 146: 793-8

Table I. University inpatient trauma patient (UITP): volume, revenue and payer distribution, FY 2008 and FY 2009

	No.	*%Δ*	*Net income ($)*	*%Δ*	*Per admit revenue ($)*	*%Δ*	*Collection rate (%)*	*Government (%)*	*Private (%)*	*Self (%)*
FY 2008	1,147		5,953,473		5,190.47		34.8	45	46	9
FY 2009	1,002	–12	7,406,233	+24	7,391.45	+42	37.5	44	46	10

FY, Fiscal year; *No.,* number of UITP admissions; *%Δ,* percent change; *admit,* admission.

Table II. Patient characteristics, mechanism, ISS, LOS, and CMI

	Avg age (y)	*ISS*	*%Δ*	*Blunt (%)*	*Penetrating (%)*	*MVC (%)*	*Avg CMI*	*%Δ*	*LOS (d)*	*%Δ*
FY 2008	42	10.49		94	6	50	3.1318		7.68	
FY 2009	43	11.73*	+11.82	93	7	48	3.3142	+5.82	5.49*	–28.5
Program	44	12.75*	+21.54	94	6	49	3.6256*	+15.8	5.02*	–34.6

*$P < .05$.

ISS, Injury severity score; *LOS,* length of stay; *CMI,* case mix index; *avg,* average; *%Δ,* percent change; *MVC,* motor vehicle collision; *FY,* fiscal year.

Table III. University inpatient trauma patient (UITP) charges, payment, and cost comparison, FY 2008 and FY 2009

	UITP admits	*Trauma service admit (%)*	*Avg hospital charges per UITP admit ($)*	*%Δ*	*Avg hospital payments per UITP admit ($)*	*%Δ*	*Avg hospital costs per UITP admit ($)*	*%Δ*
FY 08	1,147	94	86,771		30,189		24,999	
FY 09	1,002	97	93,641	8	35,105	16	27,714	11

FY, Fiscal year; *admit,* admission; *avg,* average; *%Δ,* percent change.

Surgery 2010; 146: 793-8

KEY POINTS

- Non-operative trauma management can be billed daily
- Standardized documentation increases efficiency as well as accuracy of charge capture
- Use of house staff, NP/PA providers can provide more complete documentation enabling billing at higher CPT levels (brief < intermediate < comprehensive)

Decreased Length of Stay and Cost Savings for Injured Observation Status Patients: Lessons Learned in a Level I Trauma Center

Melissa Thorson, MS, APRN, CCNS
Jonathan Gipson, MD, FACS
Paul James, MHA
Barb Curran, MA
Patty Reicks, RN, CNRN, TCRN
Michaela West, MD, PhD, FACS

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North Memorial Health: Level I Trauma Center

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NMHH Challenge 2013

- OBSR Length of Stay (LOS) was too long
  - 46 hours overall
  - Outlier: medical patients
  - Injured patient LOS for OBSR class of patient was also >24hours
- Provider Groups/Services were issued a challenge to decrease OBSR hours to < 25.

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Inpatient admission vs. observation status (OBSR)

- Inpatient status:
  - a complex medical decision based on a physician's judgment of severity of illness/injury and need for medically necessary hospital care. Criteria can be used as a tool.
- Observation status: outpatient status
- The 2 midnight rule (10/2013)
  - Inpatient admission is defined as ≥ 2 midnights
- Updated in 1/2016 (CMS 1633-F)
  - Approve on a case by case basis when admitting physician's medical record documentation signifies medical necessity despite not being greater than 2 midnights. Also allows for an unforeseen circumstance that may allow for an earlier discharge than expected.

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Inpatient admission vs. observation status (OBSR)

- Administrative/business and clinical challenge to safely and appropriately manage OBSR pts.
  - Important to get patient status right from the time of admission
  - Maximize revenue, efficiency,
  - Minimize expenses (cost)
  - Reduce the out of pocket expense to the patient
  - Minimize complications
  - Avoid readmission

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2013 Review of NMHH Trauma OBSR Patients

- 347 OBSR pts in 2013
  - 13.2% of all trauma registry pts
  - LOS was 33.0 ± 1.4 hr (mean ± SEM)
  - Frequently admitted to other services than the Trauma Service (Ortho, Plastics, Medicine)
- Subgroup of 140 geriatric (> 65 y/o) OBSR pts
  - 40.4% all OBSR pts
  - LOS was 48.2 ± 2.7 hr (mean ± SEM)

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Business Plan

- Issued a challenge by NMHH administration
- Convened a multidisciplinary team
- Undertook a comprehensive analysis of problem
  - Input from physicians, nursing, administration, and ancillary services.
    - Injury trends
      - Often isolated
    - Factors delaying discharge
      - Patients not primarily admitted to trauma service
      - Patients needing an operation
      - Patients needing a consultation from a specialty service
      - Patients needing therapies
  - Rigorously tracked OBSR pts

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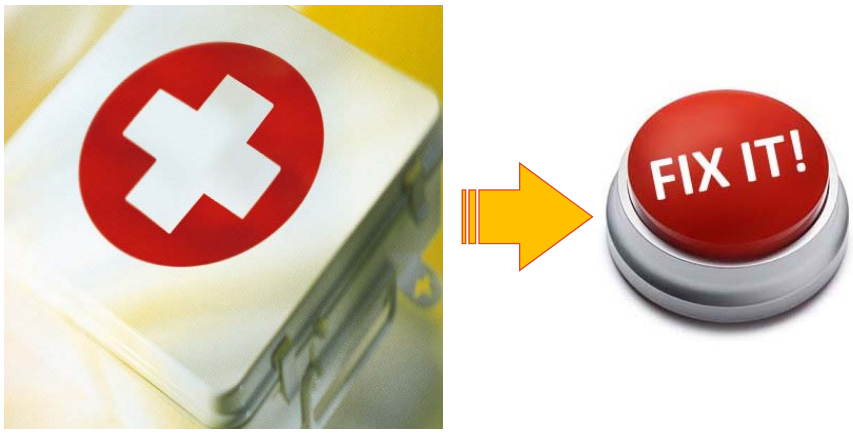
Business Plan



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Business Plan

- Vertically integrated care-associated processes and resources
- Start Small & Set an Example!
  - Added patient class to daily lists
  - Geographical, prioritized rounds
  - Asked for priority scheduling in PT/OT/ST
  - Increased trauma service involvement
  - Move non-essential treatments to post discharge
  - Increased RN awareness of patient status and goals for discharge
  - Created a discharge from PACU process
  - Developed diagnosis specific OBSR order sets

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Business Plan- Continued

- Additional system level changes:
  - First tried to cohort patients on part of one med surg unit
  - Opened an ED provider led OBSR unit with a select population
  - Established a physically separate OBSR care unit (2017)

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2013 Major Cost Centers Trauma OBSR Pts

	Total	Trauma Specialty Care 6NW	Operating Room	Emergency Room	Womens & Childrens - 3NW	Orth/Joint Replc Ctr - A7	Pharmacy
Salaries Nursing Variable	332,915	94,711	12,660	39,665	37,306	33,132	-
Salaries Tech Variable	63,857	807	6,241	8,367	232	252	6,027
Pharm Rehab Salary; IHS GL Exp	12,841	-	-	-	-	-	-
Salaries Other Variable	3,457	-	-	-	-	-	-
Salaries Temp Variable	5,393	2,499	802	57	17	10	-
Benefits Variable	151,385	32,202	7,712	12,496	12,684	11,265	6,223
Supplies Medical Variable	96,882	10,653	40,849	6,057	1,182	1,670	1,909
Pharmacy Expense Variable	2,400	3	16	21	2	0	-
Drug Variable	32,966	-	-	-	-	-	32,966
Supplies Non-Med Variable	3,340	773	(105)	382	309	285	572
Other Pur Svcs Variable	454	-	1	6	-	-	9
Rentals Variable	11,151	-	3,128	31	60	-	131
Pur Scv Contract Labor Variable	3,667	-	-	-	-	-	-
TOTAL Variable Cost	720,707	141,649	71,305	67,082	51,791	46,613	47,835

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2013 Major Cost Centers Trauma OBSR Pts

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19.5% 9.3% 6.3%

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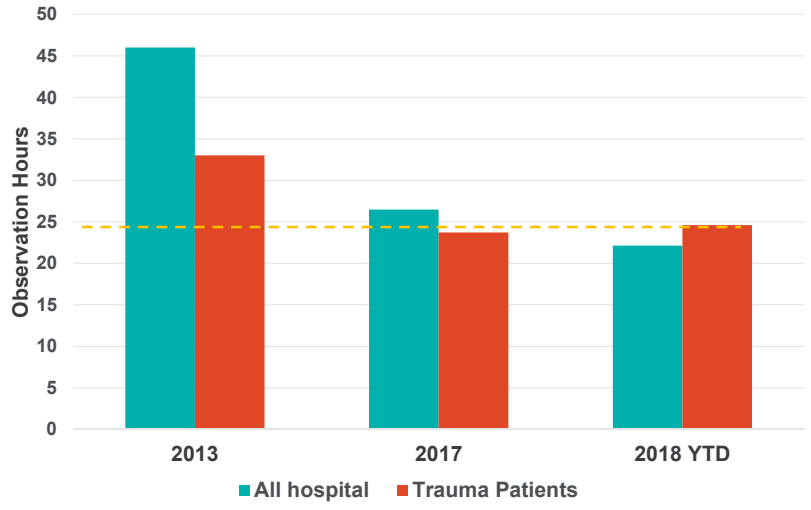
OBSR hours 2013-2018



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Variable Costs (adjusted for inflation) 2013-2017 (partial)

Summary Analysis of yearly Variable Costs					
Observation Study					
Date of Report: 4/5/2018; Author: PJJ					
Actual data:					
	2013	**2014**	**2015**	**2016**	**2017**
Count:	345	709	679	579	565
Charges:	4,873,087	9,714,698	9,170,335	7,582,244	
Payments:	1,330,526	2,888,908	2,660,877	2,257,062	
Variable Costs:	720,707	1,476,005	1,452,689	1,135,560	1,097,737
Contribution:	609,819	1,412,903	1,208,187	1,121,501	
Reported Cost/ Customer:	2,089	2,082	2,139	1,961	1,943
Contribution/ Customer:	1,768	1,993	1,779	1,937	

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Variable Costs (adjusted for inflation) 2013-2017 (partial)

Inflation adjusted:					
	2013	**2014**	**2015**	**2016**	**2017**
Count:	345	709	679	579	565
Reported Variable Costs:	720,707	1,476,005	1,452,689	1,135,560	1,097,737
Adjusted Variable Costs:	805,773	1,611,699	1,545,591	1,164,063	1,097,737
Adjusted Cost/ Customer:	2,336	2,273	2,276	2,010	1,943
% reduction (-) or increase () in adjusted dollars:		-2.7%	0.1%	-11.7%	-3.4%

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2017 Major Cost Centers Trauma OBSR Pts

	TOTAL	Observation Unit	Operating Room	Trauma Specialty Care 6NW	Emergency Room	Pharmacy
EB Nursing Variable	100,298	69,010	-	18,072	525	-
EB Nursing Procedure Variable	528,209	299,746	37,192	52,669	40,875	-
EB Nursing Triage Variable	55	-	-	-	-	-
EB Nursing LPN & MA Variable	79	-	-	-	-	-
EB Technical Staff Variable	124,646	8,987	26,930	970	9,011	13,870
EB Therapist Variable	31,116	-	-	-	-	-
EB Other Patient Care Variable	3,251	-	-	-	683	-
EB Other Admin Variable	318	117	4	92	29	22
Temp Salary Expense Variable	15,138	4,419	2,092	2,021	552	-
Supplies Non Medical Variable	2,361	1,082	15	274	522	1
Drug Expense Variable	162,675	17,131	95,473	5,595	5,673	2,417
Drug Cost Variable	37,974	-	-	-	-	37,974
Pur Scvs Variable	12,667	(41)	1	(20	69	68
Rentals Variable	22,234	4,131	8,490	711	63	2,656
Other Exp Variable	56,714	14,091	9,554	5,963	4,010	4,907
TOTAL Variable Cost	1,097,735	418,673	179,753	86,349	62,012	61,914

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38.2% 7.8% 5.7%

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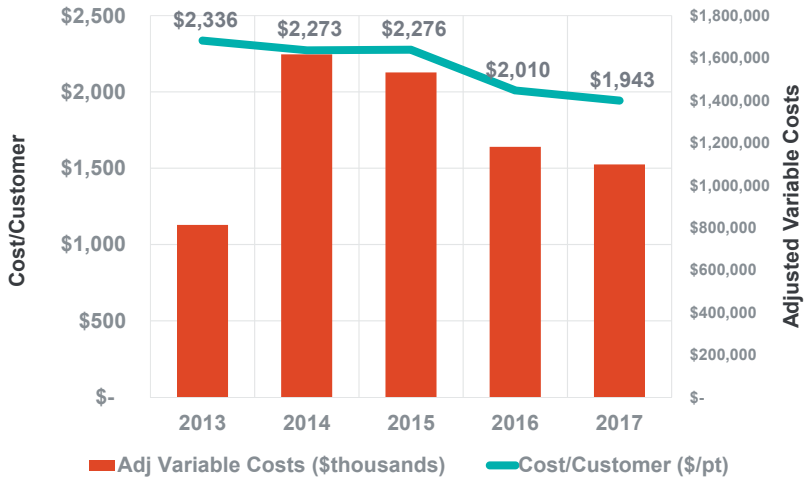
Financial Impact in Trauma OBSR cases (2013-17)



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Impact of Trauma OBSR Business Plan

- Decreased LOS and generated cost savings
- Additional benefits
  - Improved oversight by trauma service of injured patients and better continuity of care
  - Improved caregiver satisfaction
  - Decreased resource utilization

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Trauma OBSR Business Plan: Continued Challenges

- A significant share of geriatric OBSR pts continue to have LOS >24 hr
  - Next steps will attempt to further address this demographic
- Efforts continue to increase OBSR unit utilization
  - 22.4% OBSR pts in 2016 in dedicated OBSR unit
  - 42% OBSR pts in 2017 in dedicated OBSR unit
  - Additional condition specific order sets
  - Ongoing education on status management
  - Strengthen partnerships with Utilization Management and physician leaders

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What We Learned

- Major changes in results require significant changes to the existing system
  - Substantial progress to achieving our goals of decreased OBSR LOS were not seen until we completely changed the system
  - Development of a specialized OBSR unit with input from all stakeholders

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Every System is Perfectly Designed to Get the Results it Gets

Paul Batalden IHI

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BALANCING THE BOOKS: INCREASING REVENUE OR DECREASING COSTS

UT THE UNIVERSITY OF TENNESSEE MEDICAL CENTER
Wisdom for Your Life.

UTILIZING STUDENTS TO MAXIMIZE SERVICE DELIVERY AND ENHANCE PROGRAMS

- Elizabeth Waters, BSSW, MSSW, LAPSW
- Trauma Survivors Network Development Coordinator
- Emergency & Trauma Center
- University of Tennessee Medical Center

UT THE UNIVERSITY OF TENNESSEE MEDICAL CENTER
Wisdom for Your Life.

OBJECTIVES

1. Utilize students to support staff in program service delivery
2. Operate programs at low to no cost through providing student internships

UT THE UNIVERSITY OF TENNESSEE MEDICAL CENTER
Wisdom for Your Life.

ABOUT US

The University of Tennessee Medical Center

- Academic Medical Center
- Licensed 625 beds
- 148 ICU beds (23 of those Trauma ICU)
- Level I Adult Trauma Center (21 county region)
- State Designated and ACS Verified
- Annual trauma volume over 5,800
- Annual trauma admission almost 4,000
- 10 Trauma Surgeons with general surgery residency
- AHA/TJC Certified Comprehensive Stroke Center

ABOUT US CONT.

Trauma Survivors Network (TSN)

TSN was developed by the American Trauma Society (ATS)
It has five main components:

1. Handbook for patients & family
2. 2nd Trauma Program for providers
3. Website for information & social networking
4. Peer visitor programs for mentoring
5. Support groups and NextSteps program for learning self-management skills

BACKGROUND

- UT Medical Center's TSN program started in January 2016 with 2 PT Coordinators.
  - Therese Zaltash, with a background in Child and Family Studies with a clinical focus
  - Elizabeth Waters, with a background in Social Work with an administrative focus

REASON FOR IMPROVEMENT/ NEED FOR CHANGE

- A new program that was growing fast, TSN
- The initial phases of new initiatives
  - Screening Brief Intervention and Referral to Treatment (SBIRT)
  - Geriatric Trauma Service (GTS)
  - PTSD Screens

BUSINESS PLAN

How we made it work:

1. Staff
2. Partnership
3. Students
4. Supervision
5. Success!!!

BUSINESS PLAN CONT.

1. Look to your staff to see if they are active alumni of a local college or university.
2. Have a staff person dedicated to being an instructor/ supervisor for the student(s).
3. Team members as task instructors
4. Communication with different departments

BUSINESS PLAN CONT.

Memorandum of Understanding (MOU) covers mutual responsibilities, hospital responsibilities and general agreement.

SOCIAL WORK

BUSINESS PLAN CONT.

- Going on a treasure hunt:
  - Other field instructors
  - Hospital process for non-clinical students
  - Memorandum of Understanding

SOCIAL WORK STUDENTS

Program	Semester	# of Days	Hours
BSSW	Summer	2 days/week	12 hours
BSSW	Fall/ Spring	2 days/ week	16 hours
MSSW 1st Year (foundation)	Fall/ Spring	2 days/ week	16 hours
MSSW 2nd year (concentration)	Fall/ Spring	3 days/ week	24 hours

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Wisdom for Your Life.

ORIENTATION, SHADOWING AND INDEPENDENCE

THE UNIVERSITY OF TENNESSEE MEDICAL CENTER
Wisdom for Your Life.

RESULTS

In Tennessee…

- Master level social worker hourly salary averages $27-$33
- Bachelors level social worker hourly salary averages $23-$30

Utilizing social work students over the past year was a savings averaging **$81,000** with the potential of **$91,000** with another MSSW student who started this spring.

THE IMPACT

- Fast expansion of the TSN program
- Co-facilitation of support groups
- Quarterly newsletter with TSN highlights and updates
- Maintaining the Trauma Services bulletin board
- Resources, resources, resources
- Research on issues and data collection on trauma patients
- Brief Interventions
- Resource and referral information
- Participation in documentation
- GTS registry creation and maintenance
- Rounding for programs

LESSON'S LEARNED

- You have to have a dedicated staff not only for the growth of trauma programs but the learning experience of students.
- Students come with their own set of issues just like a staff person.
- Working within the constraints of hospital and school policy.

FINAL THOUGHTS

- More than a volunteer
- Mutual benefit for the Trauma Center and the student
- Different educational backgrounds

QUESTIONS

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