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Commentary

Integrating Trauma-Informed Care into the University of Kansas School of Medicine Utilizing the Curriculum, a Student Interest Group, and Community Partnerships

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INTRODUCTION

Trauma is prevalent throughout the general population with a significant impact on morbidity and mortality. An estimated 89% of Americans have experienced a traumatic event, with many people reporting exposure to frequent traumatic events.[1] Individual trauma, such as motor vehicle accidents, causes lasting distress and adverse health effects. Interpersonal trauma encompasses human trafficking, elder abuse, and other events that occur in a relationship between two or more individuals. Collective trauma includes systemic social issues, such as homophobia and racism, that affect a group of people.[2,3] Data show that trauma increases the likelihood of developing chronic illnesses such as bipolar disorder, depression, diabetes, substance use disorder, cancer, cardiovascular disease, and asthma.[4-13] Furthermore, trauma can affect patients' overall healthcare utilization, which can further lead to negative health outcomes.[14] Therefore, trauma on individual, interpersonal, and collective levels is an important social determinant of health.

Despite the high prevalence of trauma, many providers lack trauma-informed care (TIC) training.[15] The TIC framework teaches professionals awareness of trauma and knowledge of its impacts. TIC works on six main principles: safety; trustworthiness and transparency; peer support; collaboration and mutuality; empowerment, voice, and choice; and cultural, historical, and gender issues.[10,11,16-20] Adopting these TIC principles improves patient engagement, treatment adherence, and health outcomes.[21] TIC also helps providers practice better self-care, develop stress management and second-hand trauma management strategies, and improve quality of care for their patients.[3,20] Therefore, due to its improvements in both patient and provider outcomes, TIC should be prioritized in medical practices and education.

Medical students are in the unique leadership position to influence changes on both the educational and clinical levels of the medical school to incorporate TIC.[3] TIC practices must be incorporated throughout the medical school, including the curriculum and student extracurricular activities, to thoroughly educate medical students on the principles of TIC and the effects of trauma. We based our intervention off the "Learn, See, Practice, Prove, Do, and Maintain" approach to learning.[22] A summary of our intervention goals is shown in Figure 1. In this paper, we discuss TIC integration at the University of Kansas School of Medicine (KUSOM) through a novel student-lead initiative, which includes curriculum changes, a TIC student interest group (TICIG), and partnership with the JayDoc Free Clinic in Kansas City, KS.

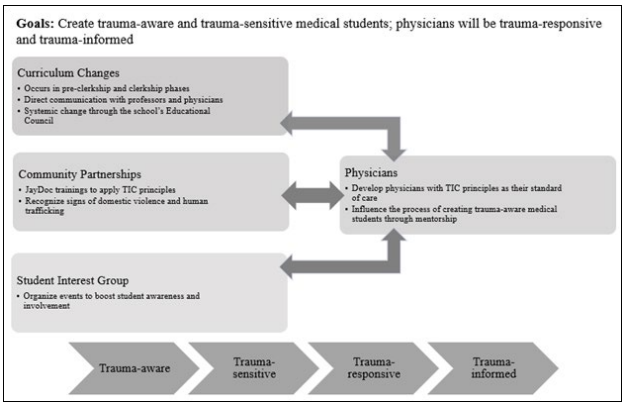

Figure 1. Analysis of approach.

Curriculum Integration

The KUSOM utilizes the unique Active, Competency-based, Excellence-driven (ACE) curriculum. Phase I (years one and two) of the ACE curriculum combines traditional lectures with small group case-based and problem-based learning sessions, anatomy lab, and clinical skills practice. Phase II (years three and four) includes clerkships, with a required rural Kansas rotation. Year three also includes an 'Issues in Clinical Medicine' course that incorporates interprofessional and specialty-specific clinical scenarios/simulations. Both Phases I and II emphasize coaching where students receive personalized feedback from multiple assigned faculty mentors to help students reach their personal and professional goals.[23-27] The overall curriculum follows graduation competencies, which lay the framework for learning objectives tracked in Phase I and II.[23] The Educational Council oversees changes to the curriculum.[23] We based our intervention off the "Learn, See, Practice, Prove, Do, and Maintain" approach to learning.[22] Students learn TIC principles through lectures and JayDoc clinic trainings; see TIC by providers in the clinical skills lab of the Phase I curriculum, clerkships in the Phase II curriculum, and the JayDoc clinic; practice in curriculum sponsored and extracurricular activities; prove TIC competence through standardized assessments incorporating TIC learning objectives;[23] do TIC themselves at the JayDoc clinic and in Phase II; and maintain TIC throughout their careers. Incorporation of TIC principles into the curriculum has been demonstrated to improve TIC knowledge and help maintain student empathy.[24]

First utilizing a top-down/administrative[28,29] approach, we contacted the director of the Phase I curriculum. We gave a 10 minute presentation which included TIC-based learning objectives that could be threaded throughout the existing pre-clerkship curriculum, example slides for assimilation into pre-existing lectures, and a list of lectures that could benefit from TIC. The TIC learning objectives displayed in Table 1 were formulated based on existing ACE curriculum objectives, the TIC principles, and current literature.[20,23,30-32] Due to administrative requirements, these objectives have not yet been presented to the Educational Council, which will lead to official incorporation into the KUSOM curriculum.

Table 1. Trauma informed care learning objectives.

1. Recognize the six key principles of trauma informed care (TIC) and how practicing TIC leads to improved patient communication.
2. Understand the term "trauma informed care," and its relevance in organizational reform for policies and procedures.
3. Distinguish between trauma specific and trauma informed.
4. Identify ways of understanding possible reasons behind an individual's thinking, behavior, and way of relating by using their knowledge of NEAR science.
5. Participants will explore the historical context of TIC and its impact on the development of current medical practices.
6. Define trauma on individual, interpersonal, and societal levels by addressing topics such as systemic oppression, historical and collective trauma, and chronic stress.
7. Recognize the etiology, prevalence, and signs of trauma and how that may influence the patient's values and care preferences.
8. Understand the relationship between social determinants of health and trauma.
9. Recognize how adverse childhood events affect psychological and social development across the lifespan including expected reactions to stress, economic, cultural and gender influences.
10. Understand how a personal history of trauma can impact the patient's ultimate care goals and approach to care.
11. Participants will take an appropriate and sensitive patient history and exam, prioritizing the safety and needs of a patient by selecting techniques and language outlined in TIC guidelines.
12. Describe the medical and psychosocial effects of trauma and how they impact patient care.
13. Practice trauma-informed language and behaviors during all patient interactions, regardless of disclosed history.
14. Students will acknowledge the potentially stressful impacts of healthcare on patients that may elicit a trauma response and utilize TIC to reduce patient discomfort.
15. Recognize how trauma informed care can improve patient experiences, treatment compliance, and outcomes.
16. Integrate community resources and assistance from other professionals to comprehensively address the full needs of the patient including emotional distress and social determinants of health in a timely manner.
17. Acknowledge how the TIC framework is applicable to chronic and acute traumatic events.
18. Define secondary traumatic stress. Describe healthy coping techniques that can be used to prevent and manage secondary traumatic stress.

While waiting for curriculum procedure in the top-down approach, a simultaneous bottom-up/demonstration[28,29,33] approach was deemed necessary. Therefore, we gathered a team of advisors including a clinical nurse coordinator and KUSOM faculty. The advisors acted as liaisons between faculty and students, and as expert resources in their respective fields. Our team reached out to the faculty authors of existing lectures that could benefit from TIC content. When contacting a specific faculty member regarding alterations to their lectures, topic specific resources were included to guide them in their edits. Suggested edits included the addition of new concepts, such as information on adverse childhood experiences, or adding content warnings for distressing images to prevent secondary traumatic stress. Edits emphasized the use of trauma-informed language. Our faculty advisors also worked with the lecturer as needed to incorporate adequate changes. Our combined efforts for the curriculum are displayed in Figure 2.

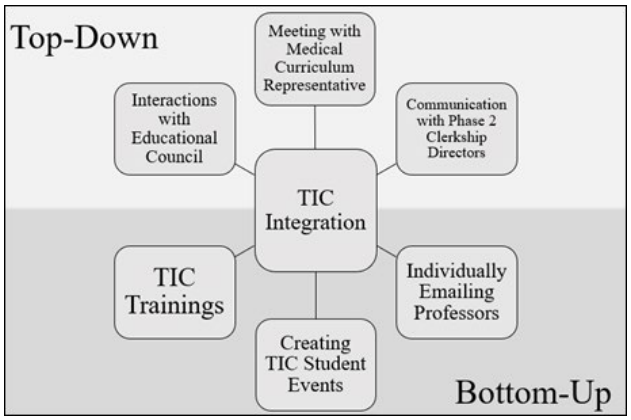

Figure 2. Multifaceted approach.

TIC training is provided for physicians in the University of Kansas Health System, but not students at the KUSOM. Therefore, a knowledge gap is currently present between students graduating from KUSOM and those entering the workforce as residents. To address this, future plans for the integration of TIC include introducing it in the Phase II curriculum and in the clinical skills lab[23] to prepare KUSOM students for residency and their careers as physicians. Official integration will also ensure TIC learning objectives are testable material on Phase I and Phase II exams. Including TIC in both phases of the curriculum will optimize spaced repetition learning and enforce TIC use in clinical practice.[34,35]

Community Partnerships

JayDoc is a KUSOM student-run, free, urgent-care clinic located in Kansas City, KS.[23,36] The clinic offers a variety of specialty services including Women's Health in Pregnancy (WHIP) Night, which prioritizes OB/GYN care for uninsured women.[36] At WHIP Night, patients are screened for intimate partner violence.[34] Domestic violence is a growing problem within the patient community, affecting their health outcomes.[35,37-39] Students were not previously trained in interacting with patients who had experienced trauma. Assisted by our faculty mentors, we trained all first- and second-year student volunteers on TIC principles, recognizing signs of domestic violence and human trafficking, and community resources. Informal survey results showed positive responses to the TIC-focused training. A WHIP Night focused training on trauma-informed pelvic exams[40] also was incorporated. Furthermore, we established a partnership between the JayDoc clinic and local domestic violence shelters to improve access to OB/GYN appointments. At these appointments, a trained sexual assault nurse examiner was present to ensure patients received optimal TIC and provided brief TIC informational sessions for volunteers at the beginning of the clinic session.

TIC Student Interest Group (TICIG)

Medical school student interest groups nurture leadership, influence specialty choices, and build relationships among students, faculty, and the community.[41-45] Several institutions have initiated TIC interest groups and training sessions.[46-49] The bottom-up approach to

curriculum changes necessitated student involvement in TIC practices, leading to the establishment of a student-led TIC interest group (TICIG). TICIG offers additional education on TIC beyond the curriculum, organizing monthly events and an annual TIC Week each fall. Events include lunch lectures, volunteer opportunities, and clinical skills practice. Previous TIC integration efforts lacked emphasis on multiple specialties.[31] TICIG addresses this by offering diverse events, showcasing the relevance of TIC across various specialties.

Before becoming an official KUSOM group, we hosted events like the 2022 TIC Week, emphasizing women's health. The week offered hands-on training in trauma-informed pelvic exams, insights into local trauma survivor resources, awareness of domestic violence and human trafficking signs, and a supply drive for a nearby shelter. KUSOM's approval of TICIG as an official interest group enabled funding for student lunches and event supplies, leading to our inaugural TICIG event in May 2023. Future plans include collaborating with specialty-specific student groups for guest speakers in fields like gastroenterology, cardiology, and gender-affirming care.

TICIG's executive board oversees event organization, curriculum development, and the JayDoc free clinic partnerships. TICIG executive board leaders, in the pre-clerkship phase of the ACE curriculum, have the unique ability to suggest real-time content changes. As they advance through medical school, they continue identifying lectures that would benefit from TIC content and collaborate with faculty authors. Faculty have been supportive, incorporating suggested curriculum alterations promptly. With faculty sponsor assistance, the executive board will actively seek TIC opportunities in the ACE curriculum, creating a self-sustaining model

CONCLUSIONS

Trauma is common and can lead to adverse health effects. Therefore, health care professionals must be educated in recognizing trauma, the effects of trauma, and how to combat initial trauma, re-traumatization, and second-hand trauma. Adopting TIC principles in a hospital setting improves patient engagement, treatment adherence, and health outcomes. Incorporation of TIC principles into the curriculum has been demonstrated to improve TIC knowledge and help maintain student empathy. For TIC to be accepted as the standard of care, it must be reinforced in medical school curriculum, extracurricular student activities, and the hospital system. Our approach to integrating TIC into the KUSOM offers a cyclic repetition style of introduction to TIC principles, strategies for interacting with patients with a traumatic history, and emphasizing a wide range of TIC across medical specialties. Barriers to implementation included a lack of literature regarding the incorporation of learning objectives into the KUSOM curriculum. Furthermore, the need to navigate multiple levels of school administration (reaching out to lecturers, contacting representatives of the Educational Council, etc.) as first-year medical students with few pre-existing connections was daunting. However, faculty contacted by students expressed interest in the mission of TIC and were supportive (changed their language during lecture, facilitated connections with other faculty members, guided students in how to follow the path to the Educational Council, etc.). Future work should include official integration into the KUSOM curriculum to ensure that the "Learn, See, Practice, Prove, Do, and Maintain" model is completed.

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REFERENCES

[1] Kilpatrick DG, Resnick HS, Milanak ME, Miller MW, Keyes KM, Friedman MJ. National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. J Trauma Stress 2013; 26(5):537-547. PMID: 24151000.
[2] Lewis-O'Connor A, Warren A, Lee JV, et al. The state of the science on trauma inquiry. Womens Health (Lond) 2019; 15:1745506519861234. PMID: 31456510.
[3] Grossman S, Cooper Z, Buxton H, et al. Trauma-informed care: Recognizing and resisting re-traumatization in health care. Trauma Surg Acute Care Open 2021; 6(1):e000815. PMID: 34993351.
[4] Huffhines L, Noser A, Patton SR. The link between adverse childhood experiences and diabetes. Curr Diab Rep 2016; 16(6):54. PMID: 27112958.
[5] Korkeila J, Lietzen R, Sillanmäki LH, et al. Childhood adversities and adult-onset asthma: A cohort study. BMJ Open 2012; 2(5):e001625. PMID: 23069774.
[6] Lietzén R, Suominen S, Sillanmäki L, Virtanen P, Virtanen M, Vahtera J. Multiple adverse childhood experiences and asthma onset in adulthood: Role of adulthood risk factors as mediators. J Psychosom Res 2021; 143:110388. PMID: 33639528.
[7] Scott KM, Von Korff M, Alonso J, et al. Childhood adversity, early-onset depressive/anxiety disorders, and adult-onset asthma. Psychosom Med 2008; 70(9):1035-1043. PMID: 18941133.
[8] Pastore A, de Girolamo G, Tafuri S, Tomasicchio A, Margari F. Traumatic experiences in childhood and adolescence: A meta-analysis of prospective studies assessing risk for psychosis. Eur Child Adolesc Psychiatry 2022; 31(2):215-228. PMID: 32577908.
[9] Centers for Disease Control and Prevention. Adverse Childhood Experiences (ACEs). 2023. https://www.cdc.gov/violenceprevention/aces/. Accessed April 26, 2023.
[10] Center for Substance Abuse Treatment (US). Trauma-Informed Care in Behavioral Health Services. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2014. Report No.: (SMA) 14-4816. PMID: 24901203.
[11] Purkey E, Patel R, Phillips SP. Trauma-informed care: Better care for everyone. Can Fam Physician 2018; 64(3):170-172. PMID: 29540379.
[12] Aworska-Andryszewska P, Rybakowski JK. Childhood trauma in mood disorders: Neurobiological mechanisms and implications for treatment. Pharmacol Rep PR 2019; 71(1):112-120. PMID: 30544098.
[13] Barczyk ZA, Foulds JA, Porter RJ, Douglas KM. Childhood trauma and cognitive functioning in mood disorders: A systematic review. Bipolar Disord 2023; 25(4):263-277. PMID: 36949602.
[14] Kartha A, Brower V, Saitz R, Samet JH, Keane TM, Liebschutz J. The impact of trauma exposure and post-traumatic stress disorder on healthcare utilization among primary care patients. Med Care 2008; 46(4):388-393. PMID: 18362818.
[15] Dichter ME, Teitelman A, Klusaritz H, Maurer DM, Cronholm PF, Doubeni CA. Trauma-informed care training in family medicine residency programs results from a CERA survey. Fam Med 2018; 50(8):617-622. PMID: 30215822.
[16] Harris M, Fallot RD. Envisioning a trauma-informed service system: A vital paradigm shift. New Dir Ment Health Serv 2001; (89):3-22. PMID: 11291260.
[17] Roberts SJ, Chandler GE, Kalmakis K. A model for trauma-informed primary care. J Am Assoc Nurse Pract 2019; 31(2):139-144. PMID: 30550391.
[18] Oral R, Ramirez M, Coohey C, et al. Adverse childhood experiences and trauma informed care: The future of health care. Pediatr Res 2016; 79(1-2):227-233. PMID: 26460523.

[19] Substance Abuse and Mental Health Service Administration. Disaster Behavioral Health Information Series Resource Center. 2022. https://www.samhsa.gov/resource/dbhis/trauma-informed-care-fact-sheet. Accessed April 26, 2023.
[20] Substance Abuse and Mental Health Services Administration. SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. https://ncsacw.acf.hhs.gov/userfiles/files/SAMHSA_Trauma.pdf. Accessed April 14, 2024.
[21] Trauma-Informed Care Implementation Resource Center. What is Trauma-Informed Care? 2018. https://www.traumainformedcare.chcs.org/what-is-trauma-informed-care/. Accessed April 26, 2023.
[22] Sawyer T, White M, Zaveri P, et al. Learn, see, practice, prove, do, maintain: An evidence-based pedagogical framework for procedural skill training in medicine. Acad Med 2015; 90(8):1025-1033. PMID: 25881645.
[23] Bonaminio GA, Fontes JD, Doolittle G, Shaw P, Moser S, Robinson M. The University of Kansas School of Medicine. Acad Med 2020; 95(9S A Snapshot of Medical Student Education in the United States and Canada: Reports From 145 Schools):S184-S187. PMID: 33626677.
[24] Jain T, Uppuluri N, Shankar M. Promoting Medical Student Trauma-Informed Care Knowledge and Attitudes through Academic-Community Collaboration. American College of Physicians. April 2023. https://www.acponline.org/membership/medical-students/acp-impact/archive/april-2023/promoting-medical-student-trauma-informed-care-knowledge-and-attitudes-through-academic-community. Accessed May 31, 2023.
[25] Simari RD, Bonaminio G. Building for innovation in medical curriculum: Form and function. Trans Am Clin Climatol Assoc 2020; 131:315-325. PMID: 32675870.
[26] Krupat E, Richards JB, Sullivan AM, Fleenor TJ Jr, Schwartzstein RM. Assessing the effectiveness of case-based collaborative learning via randomized controlled trial. Acad Med 2016; 91(5):723-729. PMID: 26606719.
[27] Levant B, Nguyen E, Villwock JA, Manzardo AM. Greater objective and perceived competence for clinics is associated with reduced stress but no change in impostorism in medical students. OBM Integrative and Complementary Medicine 2023; 08(02):1-18. doi:10.21926/obm.icm.2302018.
[28] Bland CJ, Starnaman S, Wersal L, Moorehead-Rosenberg L, Zonia S, Henry R. Curricular change in medical schools: How to succeed. Acad Med 2000; 75(6):575-594. PMID: 10875502.
[29] Mondal N, Das AC. Overview of curriculum change: A brief discussion. EPRA International Journal of Multidisciplinary Research 2023; 7(3):260-265. doi:10.36713/epra2013.
[30] Burns CJ, Borah L, Terrell SM, James LN, Erkkinen E, Owens L. Trauma-informed care curricula for the health professions: A scoping review of best practices for design, implementation, and evaluation. Acad Med 2023; 98(3):401-409. PMID: 36538661.
[31] Menschner C, Maul A. Key Ingredients for Successful Trauma-Informed Care Implementation. Center For Healthcare Strategies, Inc. April 2016. https://www.samhsa.gov/sites/default/files/programs_campaigns/childrens_mental_health/atc-whitepaper-040616.pdf. Accessed April 14, 2024.
[32] Robey N, Margolies S, Sutherland L, et al. Understanding staff- and system-level contextual factors relevant to trauma-informed care implementation. Psychol Trauma 2021; 13(2):249-257. PMID: 32915041.
[33] Hashmi SS, Saad A, Leps C, et al. A student-led curriculum framework for homeless and vulnerably housed populations. BMC Med Educ 2020; 20(1):232. PMID: 32693793.
[34] Miller E, McCaw B, Humphreys BL, Mitchell C. Integrating intimate partner violence assessment and intervention into healthcare in the United States: A systems approach. J Womens Health (Larchmt) 2015; 24(1):92-99. PMID: 25606823.
[35] Jeanjot I, Barlow P, Rozenberg S. Domestic violence during pregnancy: Survey of patients and healthcare providers. J Womens Health (Larchmt) 2008; 17(4):557-567. PMID: 18447761.
[36] University of Kansas Medical Center. About JayDoc Clinic. 2023. https://www.kumc.edu/school-of-medicine/patient-care/student-run-clinics/jaydoc-free-clinic/about.html. Accessed May 31, 2023.
[37] Kamimura A, Myers K, Ashby J, Trinh HN, Nourian MM, Reel JJ. Women in free clinics: An assessment of health-related quality of life for prevention and health education. J Community Health 2015; 40(4):793-801. PMID: 25708885.
[38] Kansas Coalition Against Sexual and Domestic Violence. 2019. https://www.kcsdv.org/learn-more/statistics/. Accessed May 31, 2023.
[39] Lutgendorf MA. Intimate partner violence and women's health. Obstet Gynecol 2019; 134(3):470-480. PMID: 31403968.
[40] Gorfinkel I, Perlow E, Macdonald S. The trauma-informed genital and gynecologic examination. CMAJ 2021; 193(28):E1090. PMID: 34281967.
[41] Huang D, Childs E, Uppalapati AV, Tai EC, Hirsch AE. Medical student leadership in the student oncology society: Evaluation of a student-run interest group. J Cancer Educ 2022; 37(6):1629-1633. PMID: 33768471.
[42] Sozio SM, Pivert KA, Shah HH, et al. Increasing medical student interest in nephrology. Am J Nephrol 2019; 50(1):4-10. PMID: 31185470.
[43] Hu A. Reflections: Starting an otolaryngology medical student interest group. Otolaryngol Head Neck Surg 2020; 162(2):155-156. PMID: 31684827.
[44] Arshad S, McCombe G, Carberry C, Harrold A, Cullen W. What factors influence medical students to enter a career in general practice? A scoping review. Ir J Med Sci 2021; 190(2):657-665. PMID: 32794065.
[45] Kerr JR, Seaton MB, Zimcik H, McCabe J, Feldman K. The impact of interest: How do family medicine interest groups influence medical students? Can Fam Physician 2008; 54(1):78-79. PMID: 18208961.
[46] The Ohio State University. Find a Student Organization. 2024. https://activities.osu.edu/involvement/student_organizations/find_a_student_org/?i=0c5b53b4-c5fc-4de2-bc0f-e8bc91897c95. Accessed April 10, 2024.
[47] Society of Pediatric Psychology. Medical Traumatic Stress Special Interest Group. 2023. https://pedpsych.org/sigs/medical_traumatic_stress/. Accessed May 31, 2023.
[48] Boston University. Trauma Informed Care Task Force. 2024. https://www.bumc.bu.edu/busm/student-affairs/student-life/student-life-student-life-advocacy-groups/tic-task-force/. Accessed May 31, 2023.
[49] Mansueto Institute for Urban Innovation. Trauma Interest Work Group. 2017. https://miurban.uchicago.edu/our-initiatives/tiwg/. Accessed May 31, 2023.

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