Unveiling a Public Health Concern: Identification of Child Trafficking Victims

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Abstract

Child trafficking is a significant public health concern. More than 80% of trafficked victims encounter healthcare professionals during their exploitation. However, it is hard to identify the exact number of victims due to this human rights issue's sensitive and evasive nature. Despite this issue becoming more prominent and healthcare providers being more aware, there is still a gap in translating this evidence into meaningful change in practice. Current evidence was evaluated and synthesized to produce an evidence-based approach to tackling this problem in a pediatric acute care setting. The purpose of this quality improvement project is to improve the identification of child trafficking victims through a multimodal education project and chart audit for the use of an established screening tool. Using the theoretical underpinnings of the Social Cognitive Theory and Rosswurm and Larrabee's Model for Change helped to guide this practice change. Overall, there were improved nurse confidence and knowledge scores and a confirmed identification of a child trafficking patient post-intervention. Formal education and the use of a screening parameter may impact identification rates of child trafficking.

Keywords: child trafficking, human trafficking, identification, nurse, education

Unveiling a Public Health Concern: Identification of Child Trafficking Victims

Each year, there is increased visibility of the underreported and pervasive problem of child trafficking. This public health concern is undetected in part because of a lack of education and identification by healthcare professionals; it is considered an invisible crime. Healthcare professionals require further education and guidance to identify patients at risk for trafficking better as this public health crisis continues to grow.

Problem Statement

Human trafficking is a multifaceted public health and human rights concern that is challenging to identify because of its under-recognition and variability in reporting, which further lend to the barriers to eradicating it (Greenbaum, 2021; Leopardi et al., 2020). Human trafficking is defined as the use of coercion, force, or fraud for the purpose of exploitation (Browne-James et al., 2021; Donahue et al., 2019; Greenbaum, 2021; Thomas-Smith et al., 2020; U. S. Department of Justice [DOJ], 2022). Child trafficking is a further narrowed issue where a person less than 18 years old may be forced into labor or engage in a sex act in exchange for something of perceived value (Greenbaum, 2021; Thomas-Smith et al., 2020). Differing from the broad definition of human trafficking, child trafficking does not require the use of force, fraud, or coercion as defined by law as it relates to sex trafficking (Greenbaum, 2021; Letsie et al., 2021; U. S. DOJ, 2022). These victims may endure violence, neglect, physical abuse, rape, psychological trauma, and more. The severe nature of child trafficking warrants prompt identification and management.

Exact numbers of victims are notoriously difficult to obtain, related to the sensitive nature of this matter and challenges with the self-identification of victims. Despite these barriers, it is estimated that worldwide, nearly 5 million people are afflicted by sexual exploitation, and 160

million children have engaged in child labor (Browne-James et al., 2021; Greenbaum et al., 2022). Contrary to popular belief, child trafficking is not only a foreign issue and does not only afflict immigrants (Leopardi et al., 2020; Thomas-Smith et al., 2020; U. S. DOJ, 2022; U. S. Department of Homeland Security, n.d.). Globally, the United States has been identified as one of the largest markets for trafficking (Leopardi et al., 2020). Studies have shown that up to approximately 88% of potential trafficking victims report having contact with health care while being trafficked with 63% reporting an emergency department or hospital visit (Greenbaum, 2021; Thomas-Smith et al., 2020). One retrospective chart review specific to children reported that 82.5% of victims identified within a health system as at risk of child trafficking. Within one year before the child was identified as at risk for being trafficked, they were seen at a pediatric hospital (Hornor & Sherfield, 2018). The established crux between healthcare professionals and child trafficking victims, coupled with the severe nature of the matter, further warrants intervention.

Purpose and Rationale

This project aims to combat the lack of identification of victims of child trafficking through education for healthcare professionals. Past studies have repeatedly established that most victims of trafficking are seen at least once by a healthcare professional while being trafficked (Bechtel et al., 2022; Greenbaum, 2021). Therefore, education of healthcare professionals on the identification of child trafficking victims is the foundation for further action toward the eradication of child trafficking. The purpose of this project is to educate hospital healthcare professionals to increase their ability to identify red flags and enhance their knowledge to improve the identification of child trafficking victims.

Background and Significance

Child trafficking is a complex issue that demands the attention of healthcare professionals because their ability to impact change. Established in the literature is healthcare professionals' need for further education to identify and manage trafficked children.

Unidentified Child Trafficking Victims

By nature, there is no traditional or typical presentation of child trafficking victims (Greenbaum, 2021). This is a significant barrier for healthcare professionals in the identification of children being trafficked. Additionally, insufficient awareness and training yield poor recognition (Bechtel et al., 2022). Some providers report views of the subject being too sensitive inhibiting their ability to address the situation (Bechtel et al., 2022).

In addition to barriers from the healthcare professionals' perspectives, barriers to victims' disclosure are also challenging. Fear is a central theme for identified barriers of victims to disclosing their situation (Leopardi et al., 2020). Other barriers include young age, inability to speak freely or privately, stigma, shame, or cultural considerations (Leopardi et al., 2020).

Education for Healthcare Professionals

Despite a recent increase in awareness, healthcare professionals still report a lack of knowledge and training (Donahue et al., 2019; Nordstrom, 2022). Education should teach healthcare professionals the barriers to identification and the red flags associated with them (Bechtel et al., 2022; Talbott et al., 2020). Potential red flags include the patient being a runaway or homeless youth, branding or unusual tattoos (names, barcodes, initials), evidence of malnutrition, frequent relocations, drug abuse, or criminal involvement (Donahue et al., 2019; Greenbaum, 2021; Greenbaum et al., 2018; Leopardi et al., 2020).

Improved Identification

Weaved through the inherent challenges of identifying child trafficking lies a faulty system. The lack of collaboration and communication between entities that serve this community remains a huge barrier. As a result, child trafficking is nearly invisible yet remains extremely invasive (Thomas-Smith et al., 2020). The ultimate desired outcome would be the eradication of child trafficking, but that begins with improved identification to further provide resources.

Internal Data

In the southwestern United States lies a complex pediatric health system with a goal to be one of the top five largest pediatric health systems. Within their mission, vision, and values they aim to lead in advanced medical education, invest in emerging tools, set the standards for pediatric healthcare, and advocate for the health and well-being of the children they serve. Despite their desire to lead the way for pediatric medicine, their healthcare professionals have identified deficits in the care of trafficking victims. Staff nurses from multiple departments, including varied levels of leadership, have reported a lack of understanding of the problem of child trafficking and feel they are unable to identify red flags. Although there is a screening tool available at this institution, nurses have reported they were unaware of it and lacked comfort using it. Some nurses have reported that they feel they have cared for a victim of child trafficking but had voiced a lack of support or understanding with escalating care. With this information, it is evident that this health system has room to improve the knowledge and confidence of nurses to identify child trafficking victims.

PICO Question

A review of the literature led to the clinically relevant PICO question: For healthcare workers in an acute care setting who serve human trafficking victims (P), does education with the use of a standardized tool (I) compared to the sole use of a screening tool (C) impact provider

confidence in the identification of child trafficking victims and use of established screening tools (O)?

Search Strategy

An exhaustive literature review was performed in search of the most current evidence to assist in answering the PICO question. Databases searched include PubMed, CINAHL, and PsychINFO. The databases were selected for their medical contributions, breadth of quality evidence, and relevance to human trafficking in a healthcare setting. In addition, grey literature related to policies, laws, current practices, and dissertations was also searched.

Keyword Selection

An exhaustive list of keywords was evaluated prior to searching. Keywords searched include *human trafficking, education, identification,* and *hospital*. Combinations of *human trafficking* with *education* and *identification* were the primarily searched terms. The addition of the keyword *hospital* was added further to narrow the search results to only one database.

Initial and Final Search Yields

The initial search resulted in a total of 221 results across the three databases. PubMed generated the most extensive initial result of 145 using the keywords "*human trafficking*" and *education* which was narrowed to 48 results with the addition of *hospital.* CINAHL was narrowed from 67 to 7 studies with the same search strategy. When keywords were applied to the PsychInfor database search,48 studies resulted and were narrowed to 9 results with the addition of *hospital*. A final total of 68 articles were evaluated based on their title and abstract.

Limitations, Inclusion, and Exclusion Criteria

Studies were excluded if they did not address an education component or a screening component or if they were not primary studies. All searches were filtered only to include peer-

reviewed, English language, and articles published from 2018 to the present; PubMed being the exception because it does not have a filter option for peer-reviewed. Quantitative studies were preferred, but qualitative studies can lend insight into nursing perspectives. Levels of evidence for this population of study are generally lower overall, which could be related to the inability to track their data with rigor. After rapid critical appraisal, a total of 10 studies were selected from these findings, including a systematic review, a prospective, an observational, a quasi-experimental, a retrospective, a descriptive, a cross-sectional, a retrospective pre-post, a qualitative study, and a quality improvement project (See appendix A, Evaluation Tables A1 and A2).

Critical Appraisal and Synthesis of Evidence

The ten studies retained for this review were evaluated using Melynk and Fineout-Overholt (2019) Rapid Critical Appraisal Questions. The studies retained include two systematic reviews (SR), three non-randomized control trials (NRCT), and three qualitative studies. Most of the studies had a level of evidence of V, and the remaining four were level III evidence with one level IV (See Appendix A, Table A1 & Table A2). Despite qualitative studies generally being of lower quality of evidence, these studies were included to better capture clinical expertise and contextual evidence related to human trafficking and current practice standards (See Appendix A, Table A2). A synthesis table was used to further evaluate and synthesize the evidence of the selected articles, providing a gestalt of overarching themes (see Appendix A, Table A3).

The studies selected for evaluation spanned from 2018 to 2022. The samples of each study varied from small to moderate sizes (n=7 to n=481) and had a heterogenous sample of participants with assorted healthcare professionals and victims of human trafficking. All studies were executed in the United States of America, with one exception that extended internationally.

Independent variables were primarily an education intervention, followed by surveys and systematic database research as other interventions used. One study evaluated a document of concern in a retrospective study, and one solely evaluated a screening tool for the identification of human trafficking victims. No predominant measurement or tool was used in the studies; however, most of the studies used more than one. Overall, the consensus of the studies reported a need for a specialized screening tool or a need for further education on human trafficking for healthcare professionals.

Theory Application

A theoretical framework guides the foundation of change and provides a connection between the phenomenon and the behavior to implement change (Melnyk & Fineout-Overholt, 2019). The Social Cognitive Theory (SCT) is founded on personal or cognitive, environmental, and supportive behavioral factors' influence on behavior change (Bandura, 1986). The personal or cognitive components include self-efficacy, outcome expectations, and knowledge. The behavioral factors include intentions, reinforcement, and behavioral skills. The environmental factors are composed of opportunities and barriers, normative beliefs and social support, and observational learning. The Social Cognitive Learning Theory (SCLT) is an adaptation of the SCT and is applicable to this problem (See Appendix B, Figure B1). In application, this theory's cognitive or personal components are the healthcare professionals' confidence and knowledge of child trafficking victims. Furthermore, the environmental factors are the institutional barriers and the staff's beliefs on this topic. Finally, the behavioral factors are the individual's skills in identifying trafficked victims. This theory postulates a higher likelihood of an individual performing a desired behavior based on the interaction and influence of these three components (Health Communication Capacity Collaborative, 2020).

Evidence demonstrates that the lack of exposure and education on human trafficking is a direct correlation to the participant's confidence in the identification and knowledge of trafficked victims (Cole et al., 2018; Donahue et al., 2019; Grag et al., 2021). This evidence parallels the soft internal data obtained. Therefore, the SCLT can be applied to enhance hospital staff's education and confidence in identifying victims at risk of child trafficking to address this public health concern.

Implementation Framework

Implementing evidence into practice is supported using a framework model to guide the change process after evidence is synthesized and theoretical understanding is achieved. The model for change to evidence-based practice by Rosswurm and Larrabee (1999) encourages evidence-based practice change via a six-step process (see Appendix B, Figure B2). This model is founded on theoretical and research literature to inherently integrate clinical expertise, quantitative and qualitative evidence, and contextual evidence into practice change (Melnyk & Fineout-Overholt, 2019; Rosswurm & Larrabee, 1999).

Applying the Rosswurm and Larrabee (1999) model to the presented issue, the first step is identifying the problem and used of stakeholders to recognize the need for practice change. Followed by identifying potential interventions and outcome indicators to further this process. In the next step, the best evidence is synthesized to understand better and assess the feasibility of practice change implementation. The fourth step is the design for practice change, where the proposed change is defined and the need for resources is identified. The actual implementation and pilot study are then put into action, followed by an evaluation of the project and the decision to adapt, adopt, or reject the change being the fifth step. The last step is the integration of the

practice change into standard practice and continuing to monitor the process and outcomes including follow-up with stakeholders.

Methods

This quality improvement project addresses the impact of education on nurses' confidence and knowledge in identifying potential pediatric human trafficking patients and their ability to address these gaps in care. The setting, participants, recruitment, and intervention are addressed herein.

Setting

The quality improvement project took place on a 48-bed acute care unit located in a free-standing Children's Hospital. The acute care unit services pediatric patients involved in traumas, those requiring telemetry monitoring, those who have undergone orthopedic surgical procedures, patients with suicidal ideation, and overflow medication. The diverse conglomerate of patient populations and high volume make this an ideal setting for this project's implementation.

Participants and Recruitment

To enact change within the institution a heterogenous group of healthcare professionals at the service level and higher up assisted with implementing the project. This included the bedside RNs, clinical nurse attendings, clinical nurse educators, clinical supervisors, the unit manager, and social work. The manager of the acute care unit is a primary stakeholder in this project and is supportive of improving practice change.

Participants were registered nurses on the selected pediatric acute care unit. Exclusions are those that were not registered nurses; no patient care technicians (PCTs) or nursing students. Ancillary staff will receive the educational component of the intervention but were unable to participate in the surveys or carry out the practice change because of their scope within the

institution. Recruitment during the days prior to the February monthly staff meetings included social media posts (see Appendix C, Figure C1) on the private acute care unit page and an email.

Intervention and Data Collection

A review of the literature (see Appendix A) and current gaps in practice led to the evaluation question: For nurses in an acute care setting who serve human trafficking patients, does education and the use of an electronic health record (EHR) screening parameter compared to current practice impact nursing knowledge and confidence in the identification of potential human trafficking patients and increase screening of these patients? The educational intervention to address this question involved virtual and in-person learning modalities with case studies supported by evidence (Cole et al., 2018; Donahue et al., 2019; Garg et al., 2021). The project was evaluated by faculty mentors and gained approval through the institution's process. This included initial acceptance, review by the nurse governance council in November 2023, and followed by the quality improvement council in December 2023. The project was determined to be IRB exempt through Arizona State University in January 2024.

The educational sessions provided information pertaining to child trafficking, including the definition, red flags, risk factors, screening, documentation, escalating concern, and resources available. The educational session was presented via a slide format both in-person and virtually spanning approximately 30 minutes. It was implemented in February 2024 during the monthly unit staff meeting. A pre- and post-survey was delivered to nursing staff in attendance to evaluate their confidence and knowledge in the identification of potential victims of child trafficking in alignment with the studies herein analyzed. The pre- and post-surveys were available via QR code and a link immediately before and after the educational session. The surveys included participants' demographical data, their knowledge of human trafficking, confidence in the

identification of potential human trafficking patients, and institutional policy knowledge. Demographic data was be obtained for the participants. Descriptive statistics was used to analyze the demographic data and surveys. Lastly, patient data was requested from the institution for a 30-day period prior to and post-intervention. Data requested included aggregate patient demographics on the unit and the use of the EHR screening parameter. These findings will be evaluated, and the data will be analyzed and then relayed to the institution when made available.

Instrumentation

Valid and reliable instruments are key to implementing change with reproducible and effective results. An instrument is valid when a tool measures the intended item or concept and is determined with statistical significance (Moran et al., 2020). If the instrument repeatedly produces consistent results, it is considered reliable (Moran et al., 2020). Internal consistency is also a factor of reliability (Fain, 2021). When addressing the implementation of an instrument or tool it is essential to ensure that it is valid and reliable which is done with psychometric testing (Fain, 2021). Portions of the "Examining the Revised Pediatric Nurse Practitioner Knowledge and Attitudes Towards Human Trafficking Scale" survey was used to capture nursing knowledge and confidence of human trafficking. Despite this tool not being validated, it is endorsed by the National Association of Pediatric Nurse Practitioners (NAPNAP). Permission of use was retrieved July of 2023. This is the original version, and the second version has yet to be validated. The screening parameter embedded in the institution's EHR is not validated. It asks the healthcare professional if there is concern for abuse and if so, is there concern for human trafficking.

Ethical Considerations

Ethical considerations are integral to the concept of child trafficking and this quality improvement project. Provision three of the American Nurses Association (ANA) code of ethics is the ethical underpinning that guided this project (2015). This provision promotes the nurse's role in the advocation and protection of the patient's rights, health, and safety (ANA, 2015). This ethical principle addresses the concepts of respect for person(s), beneficence, and justice for this project. Respect for persons is a form of autonomy that yields to the participant's freedom for making decisions (ANA, 2015; "What are the", n.d.). The project adhered to the beneficence principle with the intention to identify patients at risk for child trafficking to provide necessary care for these patients. Additionally, no patient data was directly collected by the investigator or co-investigator. Justice is the final principle, and it implores that resources are distributed equally and fairly with consideration and should adhere to existing laws and consider potential conflicts (ANA, 2015; "What are the," n.d.). The project adhered to this principle by consideration of current laws and the future applicability to expanding within the institution ("What are the", n.d.). In alliance with current human trafficking laws, the concept of justice is key to this project.

The protection of participants is essential to this project. No identifiable participant data was obtained and only requested in aggregate form. Informed consent was obtained from the participants on the initial first page of the survey including information on the participant's rights, the intent of the project, the information collected, and confidentiality. It included that by selecting "submit" the participant was providing consent. The risks associated with this project are not greater than risks ordinarily encountered in daily life. The project's methodology was reviewed by faculty mentors, the institution, and Arizona State University IRB.

Results

The chosen method for analysis was descriptive statistics. In total, 38 participants completed the project pre-survey. 32 participants (n=32) completed both the pre-and the post-surveys. This yielded an attrition rate of 15.7%. These six participants were excluded from the data as they only completed the pre-survey. For the pre-survey sample, the majority were females 87% (n=33) and the remaining 13% were male (n=5). Participants in the age group 25-34 years old were the majority 55% (n=21) and the sample predominantly had baccalaureate degrees 84% (n=32). Nurses with 1-3 years of nursing experience (n=12) were also the majority. In the pre-survey, 79% of nurses reported that they felt they had cared for a victim of human trafficking and additionally reported they were not aware of any institutional policy for it. Nurse confidence scores on the pre-survey ranged from 4 to 9, with an average score of 6.32 (M=6.32). The post-survey nurse confidence scores ranged from 8 to 13 with an average score of (9.62 M=9.62). Nurse knowledge scores on the pre-survey ranged from 17 to 27 with the mean composite score of 22.09 (M=22.09). On the post-survey, nurses scored an average of 25.84 (M=25.84) with a range of 20 to 31.

All of the participants reported this education as beneficial to their professional practice. Three common themes arose from their feedback: very informative, great presentation, and that they didn't know there was an institutional pathway for human trafficking. One piece of feedback stood out: "I think this content was really good and informative. I did not know we had an actual pathway here at [institution] for this. I learned a lot from this presentation and feel that I am more equipped to identify and help these patients. You did an amazing job!"

The patient data is still awaiting release from the institution. When further data is released, more information will be provided regarding the nurses' completion of the EHR screening parameter and the patient demographics. Despite challenges with access to patient

data, there was still a positively identified patient by nursing staff who was being trafficked. The identification of the patients was within the 30 days following the educational intervention, demonstrating that this education was beneficial. This information was made knowledgeable by the unit manager and was reportedly because of the education provided by this project. This impactful finding, coupled with nurses' improved confidence and knowledge scores, warrants further expansion to better identify patients at risk for human trafficking.

Discussion

Child trafficking warrants interventions to terminate this egregious public health concern. The devastating effect of this cruel issue alone merits intervention. The prevalence of trafficked persons' encounters with a healthcare professional in a variety of settings during their exploitation further fuels the need to address the issue. Moreover, evidence has established that healthcare professionals demand more education and tools to combat this issue.

Evidence supports improved training and education for healthcare professionals regarding trafficked victims to improve knowledge and confidence (Cole et al., 2018; Donahue et al., 2019; Garg et al., 2021). With this quality improvement project nurse confidence scores rose by 30% (M=6.32 to M=9.62), and their knowledge scores increased by 12% (M=22.09 to M=25.84). These findings closely aligned with prior reported results for similar interventions (Cole et al., 2018, Donahue et al., 2019, Garg et al., 2021). All the participants reported that the educational session benefited their professional practice with overwhelmingly positive feedback. This also aligns with what others have found (Betchel et al., 2022). Findings also aligned with the initial internal data that mostof nurses were not aware of institutional policies and felt like they had carried for a potential human trafficking patient.

Limitations

A number of institutional challenges impacted the time frame of this project. The nurse governance board was reported to have delayed approving the project because of leadership changes and illness. This led to a shift in the timeline for submission to ASU IRB, followed by a delay in implementation. Furthermore, the patient data is still awaiting release by the institution. The co-investigator was not aware of the average timeline for data retrieval.

There were technological challenges in that the pre-and post-survey did not align because of a perceived copy error with the survey system. This was not caught prior to the implementation and impacted the ability to perform thorough data analysis. Additionally, two questions were removed from the data sets because they were only on the pre-test and not on the post-test. These challenges impacted the results of this project and impacted the final data analysis.

Implications for Practice Change

Based on current evidence and results from this project, it is beneficial to provide education to healthcare workers to close the practice gap in the identification of potential human trafficking victims (Betchel et al., 2022; Cole et al., 2018; Dols et al., 2019; Donahue et al., 2019; Garg et al., 2021; Long et al., 2018). Additionally, the evidence overwhelmingly and cohesively identifies that more education and implementation of standardized screening tools for the identification of human trafficking victims is needed. Continued education and implementation of a screening tool should be implemented. With the improved nurse confidence and knowledge scores and a positive identification of the patient, it is recommended that this project be further explored for application in this health system. The outcomes of this project are a cause for the application of formal education and the use of screening parameters spanning the entire hospital system, not just a single acute care unit.

Sustentative Considerations

This project is designed to sustain practice change past initial interventions to adopt true transformation, thus benefiting the national initiatives to combat child trafficking. Use of the model for change to evidence-based practice by Rosswurn and Larrabee (1999) supports this project and the long-term goals of adopted practice change. Within this six-step framework lies a period for the evaluation of project outcomes and supports the iterative process of practice change to allow for its necessary evolution.

The unit nurse manager is integral to this project. She has been identified as a project site champion to ensure adherence to the project's core intentions. She will continue to support this practice change through situational education and interventions and annual education of nursing staff. In addition to this site champion, the Sex Trafficking Committee has set out to enhance current system practices and expand a variation of this project hospital wide. This initial pilot of this project will allow for changes to improve the implementation and address any deficits prior to the expansion. This project and its inherent framework are cost-effective, easily implemented, and require minimal education. The organization will be left with the contents of the educational session, including current policy and the already established EHR screening parameter. This educational session will be formatted to fit within a meeting or easily formatted into an annual LMS module. With improved system processes for the identification of potential victims, the institution will be able to better identify the number of victims that are seen at the hospital. Long term, this project will be expanded system-wide and make a considerable impact to end child trafficking.

To combat the invisible crime of child trafficking this project is inherently iterative based on the design and framework. The site champion is invested to continue the project past the

implementation phase. After the implementation phase, the organization will have lasting effects from the education session extending into long-term benefits.

Conclusions

Child trafficking is a public health concern that is evasive and challenging to combat. Given the fact that evidence demonstrates the intersection of healthcare professionals and trafficked victims, it is imperative that nurses remain confident and knowledgeable to further impact the identification and management of these patients. With the improved nurse confidence and knowledge scores and a positive identification of the patient, it is recommended that this project be further explored for application in this health system. Warranting the need for action, further education and the use of specialized screening tools are essential to enhancing healthcare professionals' ability to close the gap in care for trafficked victims.

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Appendix A

Evaluation Tables

Table A1

Evaluation Table of Quantitative Studies

Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Cole et al. (2018). A theory-based didactic offering physicians a method for learning and teaching others about human trafficking. **Country**: United States of America **Funding**: None disclosed. **Bias**: Potential self-selection bias of participants	cognitivist theory	**Design:** Quasi-experimental, pre- & post-test, non-randomized control trial **Purpose:** To disseminate essential information of HT for frontline ED providers to improve their recognition and provide care for the victims.	*n* = 19 **Demographics:** ED attendings (28%), ED residents (72%) **Setting:** At the Society for Academic Emergency Medicine annual meeting in Indianapolis. **Exclusion:** None reported. **Attrition:** 0%	**IV1:** 50-minute interactive workshop with an introduction, role-play ("train-the-trainer"), and case studies. **DV:** Identification of high risk signs of HT	**Tools:** 4-point Likert Scale **Validity/ Reliability:** Cronbach's alpha of pre- and post-tests used to determine internal consistency	**Statistical Tests Used:** Microsoft Excel was used for all statistics	**DV1:** Improved self-reported perceptions of abilities to identify high risk signs of HT, describe HT, utilize education learning in a clinical setting to care for HT victims ($p <$ 0.001).	**Level of Evidence**: Level III **Strengths**: Clearly identified cognitivist theory to improve learning of participants and address knowledge gaps; merged educational theory and instructional principles to create the educational intervention; internal consistency reported; significant results; reported potential bias. **Weakness**: Small sample size with reportedly only providers interested in HT with a

Key: **ED** Emergency Department, **HT** Human trafficking including domestic minor sex-trafficked youth (DMST) and child sex trafficking (CST) victims, **PPV** Positive predictive value, **NPV** Negative predictive value **DV** Dependent Variable, **IV** Independent Variable,

Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
								predominantly resident sample. Data analysis was not explicit. **Feasibility**: This is feasible and demonstrated the efficacy of education for improved self-perceptions of recognizing and caring for HT victims. **Application**: Clinically applicable to desired setting and theoretically translatable to other health professionals.
Donahue et al., (2019), Educating emergency department staff on the identification and treatment of human trafficking victims. **Country**: United States of America	social cognitive learning theory model	**Design:** Quasi-Experimental with pre- and post-surveys **Purpose:** To educate and increase confidence of ED HCPs with recognition and intervention of HT victims. Additionally, to develop and	*n* = 75 **Demographics:** 66% nursing staff 34% other HCP **Setting:** Two Main Line Health Hospitals in and surrounding Philadelphia **Exclusion:**	**IV1:** Computer based education for staff. **DV1:** Confidence of staff with identifying HT victims **DV2:** Confidence of	**Tools:** Questionnaire Likert-type Scale (0-10; 0 is "not confident" and 10 is "very confident") **Validity/ Reliability:** Perceived low validity and reliability as the tool was a sliding	**Statistical Tests Used:** Descriptive statistics	**DV1:** Staff reported increase in confidence for identification of HT victims from 4/10 to 7/10. **DV2:** Staff reported increase in confidence for treatment of	**Level of Evidence**: Level III **Strengths**: The flowchart guideline in the training module used a government framework, used evidence-based education and intervention.

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
Funding: Not disclosed. **Bias**: No conflicts of interest reported. Potential self-reporting bias within the study acknowledged.		implement and appropriate screening tool for identified victims of HT.	No exclusion criteria specified. **Attrition:** 56 participants (25%)	staff with treatment of HT victims once identified. **Definitions:** Evidence-based online training module defined as a PowerPoint, 2 case studies, and identification and treatment guidelines. ED HCPs include physicians, nurses, registration, ED technicians, advanced practice professionals	scale 0-10, not a true 4 or 5 Likert Scale.		HT victims identified from 4/10 to 8/10.	**Weakness**: No IRB approval but also not indicated, no inclusion or exclusion criteria reported, no disclosures or funding reported. **Feasibility**: There is strong feasibility as this can be duplicated and demonstrated evidence-based education can improve identification and confidence of treatment for victims of HT. **Application**: This is highly appliable to the desired clinical setting.
Ertl et al., (2020), Healthcare needs and utilization patterns of sex-	Health belief model	**Design:** Retrospective study	*n* = 39 **Demographics:**	**IV1:** Identified victims of HT	**Tools:** Chart review	**Statistical Tests Used:** Descriptive statistics	**DV1:** Less than half providers documented	**Level of Evidence**: Level III

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
trafficked youth: Missed opportunities at a children's hospital **Country**: United States of America **Funding**: None **Bias**: Potential racial bias identified with disproportionate black females identified; Potential gender bias as only one male was identified. No conflicts of interest disclosed.		**Purpose:** The purpose of this study was to examine healthcare utilization patterns of HT to establish opportunities for earlier identification extending to five years prior to identification.	Ages 11-17 years old; mean age of 14.6 at time of identification **Setting:** Urban Children's Emergency Department in Washington D.C. Child and Adolescent Protection Centre **Exclusion:** No exclusion criteria identified. **Attrition:** Not applicable.	**DV1:** Provider document concern **Definitions:** Domestic minor sex-trafficked (DMST) youth are HT minors that are involved in sexual acts in exchange for goods or services of perceived value.	Thorough Assault Case Tracking software REDCap software **Validity/ Reliability:** IRB at Children's National Health System approved		concern for trafficking.	**Strengths**: Location is highest per capita of calls to the National Human Trafficking Hotline. **Weakness**: small sample size; reliant of professionals to refer youth at risk versus self-identification; potential racial bias; EMR manually reviewed, single reviewer; reliant on diagnostic codes and patient demographics; single urban academic pediatric healthcare system; Medical encounters at other hospital systems not included; no exclusion criteria identified. **Feasibility**: Feasibility of this study is good, but can be challenging if provider concern is

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
								not already a part of electronic medical record. **Application**: This could be applied to desired clinical setting.
Fraley et al., (2020), Systematic review of human trafficking educational interventions for health care providers. **Country/Regions**: Caribbean, Central Africa, Middle East, and the United States of America **Funding**: None **Bias**: No potential conflicts of interest. Potential for response bias withing the studies reviewed.	conceptual framework of beliefs, attitudes, intensions, and behaviors	**Design:** Systematic review of peer reviewed literature **Purpose:** To synthesize and disseminate current education information surrounding HT and efficacy of implemented interventions.	*n* = 7 **Setting:** Databases searched include CINAHL, MEDLINE, PsychInfo, ERIC **Inclusion:** Peer-reviewed, English language original research studies. **Exclusion:** Studies prior to the year 2000, duplicate articles, no defined group of HCPs, no measurement of effectiveness of intervention	**IV1:** HCPs **DV1:** Effectiveness of HT educational interventions **Definitions:** HCPs include nurses, social workers, and physicians	**Tools:** Downs and Black checklist Independent data extraction followed by conversation among the authors. **Validity/ Reliability:** High internal consistency of the Downs and Black Checklist (Kuder-Richardson 20 test: 0.89)	**Statistical Tests Used:** Systematic Reviews and Meta-Analyses PRISMA Leung and Waters' Psychometric Grading Framework	**DV1:** Education interventions for HCPs can raise awareness and change attitudes surrounding HT. HCPs report desire and need for future training across all studies. Multiphase educational approaches with use of experts enhanced outcomes.	**Level of Evidence**: Level V **Strengths**: Clear methodology and use of validated tools **Weakness**: Did not perform quantitative meta-analysis because of few studies and varied; Nurses were underrepresented; The available articles reviewed were not of the highest-level evidence but what was currently available. **Feasibility**: Lack of high quality

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
								evidence for reproducibility. **Conclusions**: Future testing of educational intervention is needed.
Garg et al., (2021). A human trafficking educational program and point-of-care reference tool for pediatric residents **Country**: United States of America **Funding**: The Department of Justice Office for Victims of Crime provided funding for the point-of-care reference cards. **Bias**: Baseline knowlege and test	Cognitive load theory	**Design:** **Purpose:** To implement and evaluate a survivor-informed educational session for pediatric residents to combat translation gaps of education into clinical settings.	*n* = 59 **Demographics:** 99 eligible pediatrics residents, 59 participated; varied levels of experience. **Setting:** Pediatric residency program at urban children's hospital in Cleveland, Ohio **Exclusion:** Convenience sample of pediatric residents; from February to April 2019. **Attrition:** 2%; one participant did not complete the post-test.	**IV:** Educational session and point of care reference tool **DV1:** Knowledge and skills pertaining to HT identification **DV2:** Self-reported attitudes surrounding HT **Definitions:**	**Tools:** 5-point Likert scale (1 is very uncomfortable/ unlikely, 5 is very comfortable/likely) Pre- & post-test Microsoft power point Point-of-care reference tool **Validity/ Reliability:** No validity/reliability available for these tools	**Statistical Tests Used:** Descriptive statistics Fisher's Exact Test	**DV1:** Residents had an increase in the identification HT patient in the hypothetical case study ($p < 0.001$) **DV2:** Greater than 80% of the residents reported they were comfortable with defining, recognizing, referring, and understanding the health consequences of HT in the pot-test,	**Level of Evidence**: Level III **Strengths**: Curriculum was developed with trauma informed care and expert survivor of HT, anecdotal feedback re-enforced the value of the survivor involved. **Weakness**: Limitations with the pre- and post-tests included incompletion, exact test for pre- and post, timeline for post assessment administration, two items scored poorly

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
taking biases were accounted for.							compared to the pre-test	for both pre- and post-test, **Feasibility**: High feasibility for implementation of educational sessions. **Application**: Good applicability for the desired clinical setting.
Garg et al., (2020). Barriers to the access and utilization of healthcare trafficked youth: A Systematic Review **Country**: United States of America **Funding**: No funding was received. **Bias**: No conflicts of interest or bias reported.	contemporary trauma theory	**Design:** Systematic Review **Purpose:** Examine literature on barriers to HC for HT youth.	*n* = 8 **Demographics:** Databases searched include EBSCO, EBSCO ERIC, Ovid Medline, CINAHL, PubMed, Elsevier, PsychInfo, Web of Science Core Collection **Inclusion/Exclusion:** Studies not written in English, or that did not address victims or survivors of HT were excluded; literature focused on barriers to or problems accessing HC, between Jan. 1,	**IV:** HT victims and survivors **DV1:** IB **DV2:** EB **DV3:** SB **Definitions:** HC includes mental, physical, and reproductive health and dental services. IB- barriers stemming from perceptions or	**Tools:** Microsoft Excel Mixed Methods Appraisal Tool with two independent reviewers **Validity/ Reliability:** Mixed Methods Appraisal Tool is reportedly a valid and reliable tool without quantifiable literature	**Statistical Tests Used:** PRISMA Framework Analysis for thematic identification	**DV1:** IB effects were present for HT victims and survivors extending beyond their time being exploited. **DV2:** Effects of EB were seen only during active exploitation and were a strong barrier to HC **DV3:** SB were the most	**Level of Evidence**: Level V **Strengths**: Two reviewers independently reviewed using the MMAT checklist and if a consensus couldn't be reached a third reviewer was used, all studies advocated for training and education of HT for HCP, **Weakness**: The literature reviewed could have precluded current

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
			1999 – Jan. 30, 2019; any editorials, grey literature or opinion pieces were excluded.	concerns that interfere with seeking care EB- External barriers to care such as physical location, peer influence, or trafficker control SB- specific barriers to HC			significant barrier and persistent throughout all phases of exploitation and specifically higher for youth including gender bias and insensitive staff	evidence and were only qualitative; overall a lack of evidence because of the secondary analysis; all articles except one focused solely on sex trafficking; gender barriers were not appreciated given that most of the literature was predominantly female based. **Feasibility**: The feasibility of this **Application**: The application of this systematic review is appropriate, yet a review of quantitative data would be more appropriate for the desired intervention and clinical setting.
Kaltiso et al., (2018), Evaluation of a screening tool for child sex trafficking among	health belief model	**Design:** Prospective, observational study	*n* = 254 **Demographics:** 10-18 years old	**IV1:** screening tool for HT victims	**Tools:** Chart review Survey/Screening tool	**Statistical Tests Used:** Sample t-tests	**DV1:** 11 (5.4%) CST screened positive. PPV 10.0% (95%	**Level of Evidence**: Level V **Strengths**: Peer-reviewed and

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
patients with high-risk chief complaints in a pediatric emergency department **Country**: United States of America **Funding**: None **Bias**: No conflicts of interest reported.		**Purpose:** The purpose of this study was to apply and evaluate a screening tool in a pediatric emergency department population to identify victims of CST.	Mean age- 15.9 years old **Setting:** Free-standing, inner-city children's hospital **Exclusion:** non-English speaking pts, intellectual disability pts, pts with acute emergency, severe pain, attending physician discretion **Attrition:** No explicitly reported.	**DV1:** identified CST victims **DV2:** non-CST **Definitions:** Child sex trafficking (CST) a minor involved in any sexual act with exchange of anything of perceived value; also classified under an overarching term- HT.	**Validity/ Reliability:** 90.9% (95% confidence interval [CI] = 58.7%–99.8%) sensitivity 53.1% (95% CI = 45.6%–60.4%) specificity	Wilcoxon rank sum tests Chi-square test Fisher's exact test SAS 9.4	CI = 5.0%–17.6%) **DV2:** NPV-99.0% (95% CI = 94.7%–99.9%) CST 5.4% Six-item screen can be used effectively to identify CST victims.	accredited for continuing education. Demonstrated efficacy of a six-item tool for identifying HT victims in an ED. **Weakness**: Convenience sampling; single study site; specific risk factors not identified within study (LGBTQ & prior sexual abuse); small CST patients; independent researcher asking questions versus staff; multiple sources of identification; small CST prevalence decreased sensitivity of the tool; no adjustment for multiple hypothesis testing due to small sample size. **Feasibility**: This is feasible as the

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Citation	Theoretical/ Conceptual Framework	Design/ Method/ Purpose	Sample/Setting	Variables	Measurement/ Instrumentation	Data Analysis	Results/ Findings	Level of Evidence; Application to practice; Generalization
								implementation of a tool with a designated independent researcher is easy to accommodate. Minimal risk or harm with a trauma-informed approach. **Application**: Clinically applicable to desired setting of study.

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Table A2

Evaluation Table Qualitative Studies

Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
Bechtel et al., (2022). Training experiences of emergency department providers in the recognition of child trafficking. **Country**: United States of America **Funding**: No funding disclosed. **Bias**: Potential for selection bias	behavioral-ecological framework of healthcare access and navigation	**Design:** Descriptive, cross-sectional study **Method:** Online survey with email reminder **Purpose:** To evaluate the training experiences of emergency department (ED) staff regarding child trafficking and their attitudes toward educational efforts to provide informed recommendations for improvement in the recognition and evaluation of trafficked children in the ED setting.	**Sample** *n*= 481 **Demographics:** Attending physicians (33%), fellow physicians (2.3%), resident physician (12.2%), medical students (1.4%), APP (5.8%), paramedic/EMT (1.9%), social worker (10.1%), nurse (29.3%), patient care technician (2%), other (2%). **Setting:** Academic hospitals **Exclusion:** Convenience sample, surveys with >10% of responses incomplete	• Attitudes toward HT training • Reported barriers to recognition of HT • Previous training experiences • Reasons for receiving training	**Tools:** 10-point Likert Scale (1 lowest level of confidence, 10 highest level of confidence) **Data Collection:** 25-question survey via Qualtrics Survey Software **Data Dependability:** No discussion of the rigor of data collection was mentioned. Variability in professionals' education and base knowledge was discussed but not factored into the results.	Thematic analysis of open-ended question answers **Statistical Tests Used:** Fisher's Exact Test *t*-test one-way analysis of variance SPSS	• Of the 62% that reported previous training only 13% felt it was adequate • Barriers to education included a lack of awareness of HT and lack of access to available curricula • Providers supported a variety of formats for further education	**Level of Evidence**: Level IV **Strengths**: Multiple academic institutions with a moderate sample size to get a valuable cross-sectional understanding, use of 10-point Likert scale and open-ended questions, quality data analysis, obtained original objectives of the study. **Weakness**: Self-reported nature of the data, lack of a validated instrument to assess the participant's knowledge and skills, respondents were all from academic institutions,

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
								variability in demographics could falsely alter data based on differing levels of education and backgrounds. **Feasibility**: The feasibility of this study is likely. **Application**: Clinically applicable and further indicates need for effective educational interventions of HT.
Dols et al., (2019). Human trafficking victim identification, assessment, and intervention strategies in south Texas emergency departments. **Country:** United States of America		**Design:** Descriptive study **Method:** ED were contacted for nurse leadership contact information and then online surveys, **e**mail surveys or phone survey were conducted. **Purpose:** To determine current practice of using a standard protocol for	*n* = 27 (response by trauma area) **Sample:** Convenience sample, anonymous **Demographics:** All ED respondents had physicians and nurses (n = 27, 100%); some had	• Safety screening tools • Screening based on assessment or symptoms. • Identification based on symptoms, assessment, or knowledge • Mandated reporters for child trafficking	**Data Collection:** 23-question survey **Data Dependability:** Data dependability was not explicitly discussed, Sociodemographic were obtained. 27.3% response	Thematic analysis is presumed **Statistical Tests Used:** None	• ED need specific and valid screening tools • Safety screening tools lacked specificity to HT • ED staff need increased awareness, knowledge and skills to	**Level of Evidence:** Level V **Strengths:** Findings reenforce the need for specific and valid screening tools and reiterated the needs for increased awareness and knowledge of HT. **Weakness:** Regional focus; convenience sample with low

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
Funding: The University of the Incarnate Word Office of Research and Graduate Studies. **Bias:** No conflicts of interest.		identification, assessment and intervention for HT victims in 47 south Texas EDs.	APPs (n = 15, 55.6%), and various clinical staff including social worker, PCT, and paramedic. **Setting:** 99 south Texas ED with 27 responses				connect HT victims to resources • Need for further education of legal reporting of HT (high variability with different states) • There are missed opportunities for standardized processes. • Most screenings performed in triage • HT victims rarely self-report	response rate; high turnover with ED leadership interfered with data collection as did spam filters with institutions; no statistical tests or data analysis was explicitly discussed. **Feasibility:** With the data collection methods and low response rate this is not as feasible. **Application:** High applicability to desired clinical setting with perceived translational evidence to other inpatient settings
Long et al., (2018), Nurses' perceptions of victims of human trafficking in an urban emergency	conceptual framework of beliefs, attitudes, intensions, and behaviors	**Design:** Qualitative, descriptive study **Method:** Semi-structured interviews	**Sample:** *n* = 10 **Demographics:** Over 3 month timeframe BSN nurses with at 3-38 year's experience; 4	• Existence of HT • Nurse belief of previous screening or treatment of HT	**Data Collection:** Interviews were recorded and transcribed verbatim. 12 open-ended questions	Thematic analysis performed post interview.	• Linked HT victims to IPV victims. • All nurses believed they that HT occurs for their patient	**Level of Evidence:** Level V **Strengths:** Most participants had received training or education on IPV

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Citation	Theory/ Conceptual Framework	Design/ Method/ Sampling	Sample/ Setting	Major Themes Studied/ Definitions	Measurement/ Instrumentation	Data Analysis	Findings/ Themes	Level/ Quality of Evidence; Decision for/ Application to practice; Generalization
department: A qualitative study. **Country:** United States of America **Funding:** No funding disclosed. **Bias:** No conflicts of interest.		**Purpose:** Understand ED nurses perceptions on HT victims.	male, 6 female; 4 certified emergency nurses, 1 SANE. **Setting: A s**ingle large, academic, urban Level 1 trauma ED in the Northeastern US	• Perceptions of HT victims • Perceptions of victims of violence • Perceptions of prostitutes • Lack of HT training and education	**Data Dependability:** Sociodemographic data obtained. No discussion of data dependability or rigor of data collection was mentioned.		population but did not knowingly care for an HT victim • Perceptions influenced by the media's portrayal • "young, female, foreign born") • Violence victims perceived as "sad and grieving" • "Prostitutes perceived as "hard and tough" • Did not have education on HT resources and needs	and were able to apply it to HT; Nurses are optimal for identification and treatment of victims of HT **Weakness:** Small sample size, varied age range of participants, and gender was not evaluated to compare perceptions. 1 SANE nurse impacts results as the other 9 are not. No current policy on HT at this hospital. **Feasibility:** The feasibility of this study is likely and demonstrated nurses want to have more resources and be more aware on HT. **Application:** The study is applicable to the desired clinical setting.

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Table A3

Synthesis Table

Study (Author, year)	Bechtel et al., 2022	Cole et al., 2018	Dols et al., 2019	Donahue et al., 2019	Ertl et al., 2020	Fraley et al., 2020	Garg et al., 2020	Garg et al., 2021	Kaltiso et al., 2018	Long et al., 2018
Design	Descriptive, Cross-sectional	NRCT	Descriptive	NRCT	Retrospective	SR	SR	NRCT	Prospective, Observational	Qualitative, Descriptive
LOE	IV	III	V	III	III	V	V	III	V	V
Sample										
n=	481	19	27	75	39	7	18	59	254	10
Age Range					11-17		1-17		10-18	25-57
Physicians	X	X	X	X		X		X		
APP	X		X	X		X				
Nurses	X		X	X		X				X
PCTs	X		X	X						
Social Workers	X		X			X				
Medical Students	X									
Victims of HT					X		X		X	
Setting										
USA	X	X	X	X	X	X	X	X	X	X
Outside of USA						X				
Intervention										
Educational intervention		X		X				X		
Survey	X		X							
Systematic Search Databases						X	X			
Interview										X
Documentation of Concern					X					
Screening Tool									X	
Outcomes/Themes										
Confidence in identifying HT		↑		↑				↑	↑	

Key: **CS** Case study, HT victim identified, **ED** Education **LOE** Level of Evidence, **NRCT** non-randomized control trial, **OE** Open-ended questions, **PCT** Patient care technician, **SR** Systematic Review

Study (Author, year)	Bechtel et al., 2022	Cole et al., 2018	Dols et al., 2019	Donahue et al., 2019	Ertl et al., 2020	Fraley et al., 2020	Garg et al., 2020	Garg et al., 2021	Kaltiso et al., 2018	Long et al., 2018
Confidence in treating HT victims				↑				↑		
Confidence in HT knowledge		↑						↑		
Identification of HT victims		CS		CS	X			CS	X	
Need for specialized screening tool			X		X				X	
Need for HT education	X	X		X		X	X	X		X
Measurement Tool										
Chart Review					X				X	
Likert Scale		X		X				X		
OE Questions	X		X							X
Pre- & Post-Test		X		X				X		
Survey	X		X							
Standardized Tool						X	X		X	
Point-of-reference tool								X		

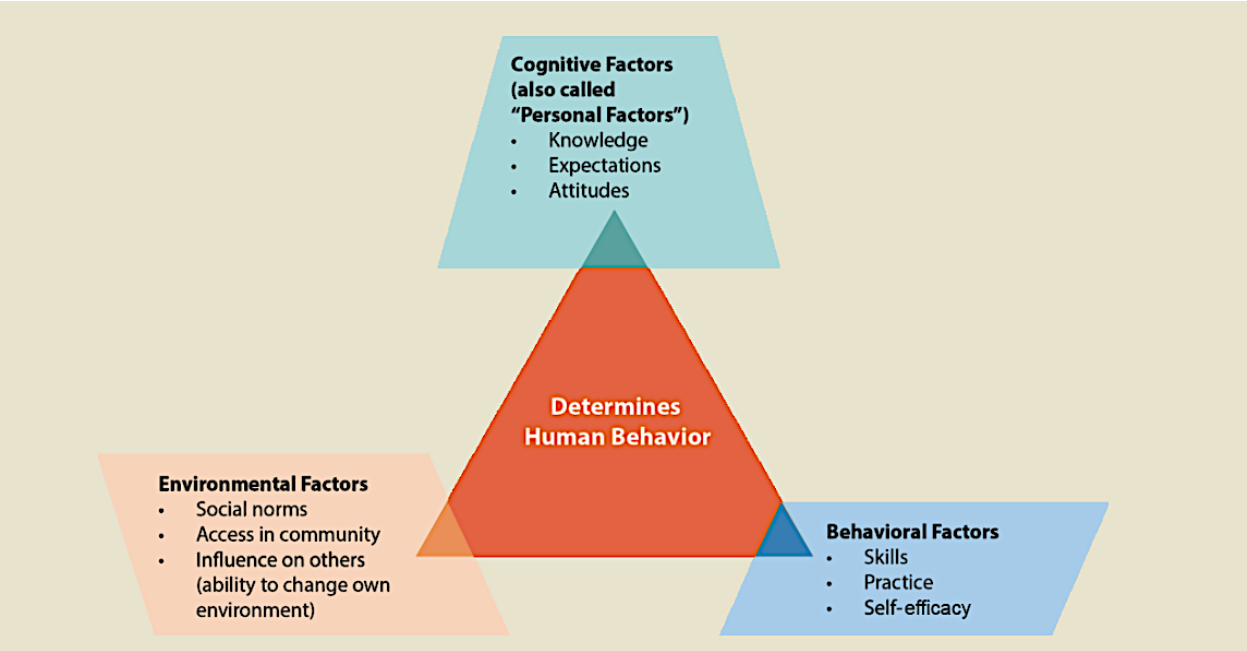
Key: **CS** Case study, HT victim identified, **ED** Education **LOE** Level of Evidence, **NRCT** non-randomized control trial, **OE** Open-ended questions, **PCT** Patient care technician, **SR** Systematic Review

Appendix B

Models and Frameworks

Figure B1

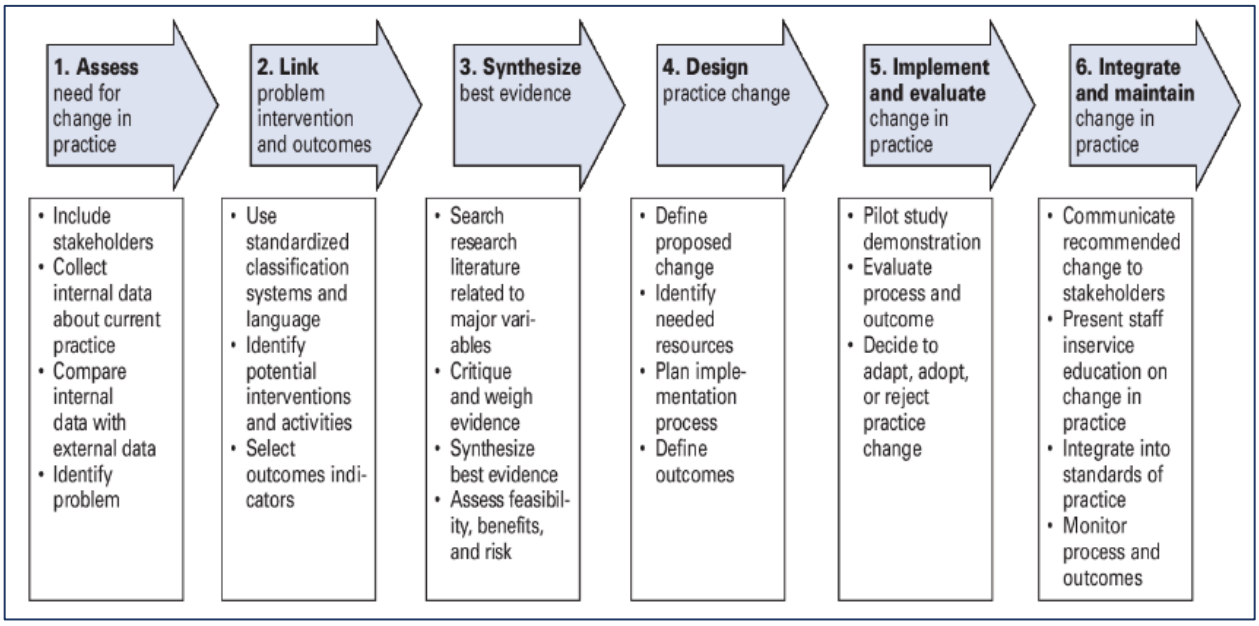
Social Cognitive Learning Theory



(Health Communication Capacity Collaborative, 2020)

Figure B2

Rosswurm & Larrabees' Model for Change



(Rosswurm & Larrabees, 1999)

Appendix C

Figure C1

Recruitment Flyer