Understanding, Measuring, and Ameliorating Workplace Violence in Healthcare: A Canadian Systematic Framework to Address a Global Healthcare Phenomenon

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Abstract

Background: Globally, healthcare institutions have seen a marked rise in workplace violence (WPV), especially since the Covid-19 pandemic began, affecting primarily acute care and emergency departments (EDs). At the University Health Network (UHN) in Toronto, Canada, WPV incidents in EDs jumped 169% from 0.43 to 1.15 events per 1000 visits (p<.0001). In response, UHN initiated a comprehensive quality improvement (QI) project to address WPV. This study presents the project's design, implementation, results, and key takeaways, aiming to showcase effective and trauma-informed strategies for mitigating WPV in healthcare settings.

Methods: Our multi-intervention QI initiative was guided by the Systems Engineering Initiative for Patient Safety (SEIPS) 3.0 framework. We also leveraged the SEIPS 101 tools to aid in crafting each QI intervention. This approach amalgamated various methodologies to approach WPV, incorporating literature reviews, a modified Delphi method, qualitative interviews, surveys, quantitative data gathering and pragmatic interventions.

Results: Our complex intervention contained a total of 12 subprojects. We reviewed existing literature (n=84) pertaining to WPV in healthcare. N = 229 quality indicators utilized to measure WPV in healthcare were extracted from the literature and underwent a Delphi process which yielded 17 quality indicators for a new organizational WPV dashboard. WPV theories were critically reviewed in the context of intervention development. Educational initiatives (n=2) were implemented including ad-hoc point of care training, as well as rollout of a comprehensive trauma-informed training program for WPV prevention, verbal de-escalation and management of escalated responsive behaviour. Further changes involved establishing a Code White Governance Committee, enhancing WPV reporting and addressing underreporting. Debriefing was structured into hot and cold debriefing models. Additionally, environmental indicators promoting mutual respect were introduced, alongside security enhancements including wearable video devices for all security guards and a 100% increase in ED security guards. Outreach initiatives were implemented including qualitative interviews with ED staff (n=75) and the development of a patient partner and community outreach group.

Conclusions: WPV in healthcare is a complex phenomenon that urgently requires effective solutions. We developed a 13-step framework that offers guidance for healthcare institutions seeking to develop a systemic approach in addressing WPV tailored to their organization's needs.

Background

Problem Description

Workplace violence (WPV) in hospitals is a multifaceted problem that impacts healthcare institutions globally [1, 2]. The definition of WPV in the healthcare setting is heterogeneous across different agencies and policy makers (see Table 1). However, following the onset of the COVID-19 pandemic, the rate of WPV has more than doubled in healthcare institutions around the world, especially in high-acuity and

emergency department (ED) settings [3, 4]. Although there exist numerous attempts by hospitals to address WPV through various interventions, individual initiatives have encountered challenges in achieving a positive impact in part due to the complexity of WPV [5].

Ameliorating WPV-related outcomes requires complex interventions and a systems approach to change management in healthcare [5, 6]. To effectively design such interventions, a comprehensive understanding of the issue and contributing risk factors is required. Several category systems for WPV in healthcare settings have been proposed, such as the five risk factor categories suggested by Keith & Brophy [7]: (1) clinical risk factors, (2) environmental risk factors, (3) organizational risk factors, (4) societal risk factors, and (5) economic risk factors [7, 8]. Figure 1 illustrates the breadth of these factors, emphasizing the interdependence of variables contributing to WPV. A systematic framework and step-by-step guidance for the development and implementation of WPV prevention interventions is needed in healthcare to support organizations in making measurable impacts on this multifaceted problem.

Available Knowledge

A multitude of theories in scholarly research provide deep and varied understanding of the factors that drive WPV in healthcare environments [9]. These theories arise from a range of academic fields, such as psychology, biology, criminology, ecology, and sociology. Table 2 provides a summary of several theoretical frameworks used to describe WPV. Gaining insight from various theoretical standpoints is essential for a cross-disciplinary approach to effective WPV prevention strategies in healthcare settings [9]. The practical application of these theories is key to understanding the subtle aspects relevant to intervention(s) implementation, which can greatly influence their success. For example, the efficacy of common practices such as education and training programs, commonly used in WPV prevention strategies, may hinge on how well these theories are integrated into their design. Theories such as the Minority Stress Model [10], Terror Management Theory [11], and the Struggle for Recognition theory [12], highlight the importance of adopting a trauma-informed perspective (please see Table 2). Without an in-depth understanding of these theories, training may prove to be inefficient or yield only temporary effects without the necessary impact on organizational culture change. Thus, good understanding of WPV theories is crucial for effectively addressing and ameliorating WPV in healthcare settings.

Rationale

A valid way of addressing WPV is through the utilization of quality improvement (QI) methods. Although numerous QI methods have been previously employed in healthcare institutions [5], the particular exigencies of the WPV issue necessitate a comprehensive, systems-based approach. QI projects in patient and staff safety often focus on the three categories derived from Donabedian's Structure-Process-Outcome (SPO) model [13]; however, this approach omits a focus on the 'human factor' within the structure component and the individuals involved in the processes including patients, caregivers, chosen family members, healthcare providers (HCPs) and patient facing staff. To expand on the work developed by Donabedian, Carayon and colleagues released multiple iterations of the Systems Engineering Initiative for Patient Safety (SEIPS) [14, 15, 16]. With SEIPS, the "structure" component of Donabedian's framework

is reimagined as a "work system", where there are five main elements interacting: person, environment, organization, technology and tool, and task factors [14]. In this QI project, we incorporated the 3.0 iteration of the SEIPS framework to support us in developing a comprehensive, systems approach to address our multifaceted WPV challenges [16].

Specific Aims

We developed a large-scale QI project at a multi-site academic health science centre in Toronto, Ontario. The QI project was designed in consideration of the complexity of WPV. The aim of this article is to present the development, implementation, and findings of this QI project. Additionally, we present a stepwise framework that summarizes our approach and learning points to support other healthcare institutions in addressing the urgent topic of WPV from a systems theory lens.

Methods

Context

The Security Operations Program at a multi-site academic health science centre established a QI team to address WPV in November 2022. Our organization is a complex healthcare network comprised of three acute-care hospitals, including a cancer centre, a multi-site rehabilitation network and an educational institution. In 2022, this organization had a care volume of approximately 98,000 inpatient weighted cases, 1.1 million ambulatory visits, and 158,000 ED patients. WPV incidents in the ED increased overall during the COVID-19 pandemic (1.15 reported incidents per 1000 ED visits) compared to 2019 (0.43 reported incidents per 1000 ED visits), an increase of 169% ($p<.0001$). This data is consistent with data from other EDs globally [3, 4, 17]. The QI team consisted of healthcare professionals, administrative leaders, and researchers who were sponsored by the organization's executive leadership, to develop a comprehensive strategy for ameliorating WPV. The QI initiative received formal Research Ethics Board exemption and approval from the organization's Quality Improvement Review Board (QI ID: 22−0499). Our reporting followed the Revised Standards for Quality Improvement Reporting Excellence guideline [18].

Interventions

The SEIPS 3.0 framework guided a systemic approach to investigating and understanding the configurations of work system elements and functional entities, interacting through processes, and leading to patient, caregiver, HCP, and organizational outcomes. SEIPS 3.0 was also selected as compared to past iterations of SEIPS as this iteration recognizes that patients move through various and unique work systems in their patient journey. Thus, SEIPS 3.0 provided us with a structure to examine factors influencing and interacting with WPV across multiple care environments. In addition to using SEIPS 3.0 to underpin our QI project, we also applied tools from SEIPS 101. The creators of SEIPS recognized that practical tools were needed to implement SEIPS; thus, a suite of tools was developed and named "SEIPS 101" [19]. Specifically, the journey map tool was applied to outline the QI project

framework by supporting the team in identifying necessary interventions to improve HCPs' interactions with the work system elements influencing WPV (tasks, tools and technology, physical environment and organizational conditions concerning WPV) (Figure 2).

The SEIPS 101 tools provide a simplified version of the SEIPS model that includes several tools that can be utilized for QI initiatives [19]. The SEIPS 101 tools were applied in the development of the 12 subprojects constituting our WPV QI project (Table 3).

Study of the Interventions

To assess the efficacy of the interventions, we used a mixed-methods methodology. Our approach consisted of qualitative interviews and surveys with patient-facing staff, collecting organizational feedback, organization-wide quality indicators, and weekly QI team meetings to monitor the impact of the 12 subprojects that were implemented because of the SEIPS tools-supported organizational scan. The qualitative interviews were performed using a semi- structured interview guide (AppendiCES 1 and 2) that explored staff's sense of safety, support, and perspectives on UHN security and WPV initiatives. All interviews were performed in person and were recorded using a video conference software. The recordings were then transcribed and anonymized using an auto-transcription software. An anonymous survey was created to evaluate the effectiveness of environmental indicators and to gather feedback from staff on these indicators (Appendix 3). Organizational feedback was collected informally from key collaborators and through routine meetings with executive leaders involved in addressing WPV within our healthcare institution. The quality indicators collected data from nine different databases from our Department of Security Operations, the Department of Safety Services and in the electronic medical records system. Table 3 delineates the outcomes under investigation for measuring impact.

Measures

Due to the urgency of this project, we were unable to perform a pre-post study design by quantitatively measuring areas of interest at baseline. Consequently, several descriptive metrics were used to investigate the impact of the various subprojects that comprise the WPV QI project. A comprehensive list of these measures is provided in Table 3. Longitudinal, sequential interviewing was used in high-acuity areas to capture staff members' perceptions of change over time.

Analysis

This study analyzed both quantitative and qualitative data sources. Our team performed a thematic analysis, as outlined by Kiger & Varpio [20], to examine qualitative data collected from the interviews. Thematic analysis was performed by a research analyst (BL) and two research assistants (BS, JG) using a qualitative data analysis software. Additionally, descriptive statistics were utilized to summarize findings from organizational quantitative data and the newly implemented quality indicators.

Results

Implementing a QI initiative at UHN

The SEIPS 3.0 framework and SEIPS 101 tools guided our environmental scan and strategic planning with stakeholders in order to develop an initiative aiming to collectively understand, measure, and ameliorate WPV at our organization. Overall, a QI initiative comprising of 12 subprojects was developed and implemented (Table 4).

Literature Based Interventions

The first two subprojects of our QI initiative draw from existing literature. We began an ongoing literature review (SP1) of WPV-related topics including: (1) WPV in healthcare, (2) agitation management, (3) de-escalation techniques and (4) Code White simulation training as an educational tool. The findings from these literature reviews assisted in guiding the development of our interventions. 84 articles published from 2012 to 2024 were reviewed. In addition, from the inception of the project, it was evident that a novel approach to measuring and monitoring WPV within our organization was imperative [21]. To address this requirement, our team performed a rapid review to identify 229 quality indicators previously used to measure WPV in healthcare environments (SP2) [8].

Outreach Interventions

Two subprojects placed an emphasis on collecting qualitative feedback and guidance from the parties involved in WPV incidents. This consisted of performing qualitative interviews with ED staff (SP4) at four time points related to the implementation of new interventions. Our first round (December 2022) included 52 interviews with ED staff and the second round (May 2023) included 23 interviews with ED staff. ED staff were selected using a convenience sampling strategy. Further post-implementation interview rounds are scheduled for the future (Figure 3). Additionally, efforts to create a patient partner and community outreach group (SP12) were made to elicit the perspectives of all parties involved in WPV. As a trauma-informed approach was emphasized throughout this project's development, it was pivotal to ensure that patients, caregivers, and chosen family members were included [22]. Additionally, this initiative can serve as an opportunity to repair relationships with patients involved in WPV events as up to 66% of individuals who underwent physical restraint indicated feelings of distrust towards HCPs, emotional trauma, and subsequent delays or omissions in attending future treatment sessions [23]. As of February 2024, four meetings have taken place to orchestrate this initiative.

Educational Interventions

Two additional subprojects addressed our healthcare institution's requirement for WPV training. At the inception of our QI project, training related to WPV was reduced to e-learning modules owing to Covid-19 pandemic restrictions. Once these restrictions were lifted, an ad-hoc training program (SP5, N = 220) was implemented to address urgent requests for verbal de-escalation and situational awareness training in our EDs. We also utilized this project as a proof-of-concept demonstrating the feasibility of organization-wide in-person WPV prevention training. While satisfied with the point-of-care training, staff

requested a comprehensive training model that placed emphasis on trauma-informed care, de-escalation, and self-protection skills. Consequently, a second training initiative (SP8) was implemented to create a three-day risk-specific trauma-informed training program. This training is based on the Trauma-Informed De-Escalation Education for Safety and Self-Protection (TIDES) program [24]. An adaptation of this program was developed in partnership with the psychiatric teaching hospital in Toronto, Ontario where TIDES was originally developed. Clinical leaders, organizational WPV experts, and organizational partners including the Joint Health and Safety Committee contributed to the development and implementation process. Two education specialists were hired, spearheading twelve in-house trainer dyads to deliver the training. Each training session was led by a dyad consisting of a clinician and Security representative to ensure increased interdisciplinary collaboration and role modeling. An organization-wide rollout has begun with an emphasis on high-risk areas at UHN (e.g. EDs, specialized inpatient units).

Organizational Interventions

Several subprojects aimed to address organizational needs at UHN as they pertain to WPV. Once a compilation of WPV quality indicators was assembled, the top-quality indicators for UHN (SP3) were selected through a Delphi process that included key collaborators and experts in WPV [21]. 17 quality indicators were identified and operationalized through a digital WPV dashboard at our organization using data from nine separate organizational databases as our sources.

Additionally, structural changes were required for processes related to WPV and Code White incidents. A Code White Governance Committee (SP6) was established to evaluate and streamline processes involved in Code White incidents. The committee performed an organization-wide needs assessment that included qualitative interviews and focus groups with patient facing staff (n=257). The needs assessment demonstrated that UHN required improved WPV training, standardized response to Code White incidents and designated Code White specialists. In addition, the committee developed the 'Life cycle of a Code White' to determine which processes required updating [2]. Procedures that required updating included WPV and Code White incident reporting (SP7), debriefing (SP10) and physical restraint systems (SP11). Consequently, reviewing, updating, and implementing modifications to these processes evolved into new subprojects. Numerous functional units collaborated to develop an efficient, user-friendly, trauma-informed reporting system with 14 meetings dedicated to achieving this feat. Furthermore, functional units collaborated to implement a hot and cold debrief model and an algorithm for flagging a WPV event as a 'Code White not called'. A hot debrief is a debrief with all staff involved in the event within hours of the event's occurrence [2]. A cold debrief is a more in-depth debrief facilitated by the Code White Governance Committee and Emergency Preparedness that involves all staff involved in the event [2]. Cold debriefs are only necessary when further investigation and resolution is required. Following the implementation of these processes, there have been 304 hot debriefs, 13 cold debriefs and 17 requests to flag a WPV event as a 'Code White not called'. As well, policy changes were implemented at UHN to establish a standardized approach to physical restraint utilization, aligning with the objectives

of a new training program and emphasizing the potential impact on patients. Nine meetings were dedicated to the development of physical restraint systems at UHN.

Lastly, an environmental indicator project (SP9) was implemented within UHN's EDs. Five posters were developed to communicate messages of mutual respect between patients and HCPs using trauma-informed language (Figure 4). The research team collected feedback from 106 staff members through surveys. Although staff voiced that the posters were not enough to prevent WPV, they supported the project and requested that more posters be placed throughout the hospital (Figure 4). In addition, the Department of Security Operations at our organization implemented multiple interventions alongside our QI project, including increasing the number of security guards in the ED from one to two guards at all times, as well as introducing wearable devices (e.g. body cameras) for all security guards. Both interventions were received positively by ED staff according to the findings from our qualitative interviews.

Discussion

Summary

In summary, a large-scale QI initiative comprised of 12 subprojects was implemented at our large multi-site academic health sciences centre in November 2022 with the objective of addressing WPV from a systemic perspective. The project consisted of various literature-based, community, educational, and organizational interventions that were identified and informed using the SEIPS 3.0 framework and SEIPS 101 tools.

Interpretation

Systematic Framework to Address WPV in Healthcare Institutions

The following framework was created to provide guidance on how to approach WPV in a healthcare institution. Although, there is an abundant amount of literature on WPV-related topics and interventions, in addition to frameworks for QI projects, there is limited guidance on how to address WPV in hospital settings. Therefore, we created a 13-step framework which was also used to guide our WPV QI initiative at UHN.

Step 1: Define the Problem and Find the Data

WPV quality improvement projects begin with properly defining the problem and finding reviewing the available data. Identifying the root causes of problems is critical to preventing issues from reoccurring. There are multiple problem-analysis methods to define problems such as the Ishikawa fishbone diagram or root cause analysis [25, 26]. Regardless of the method used, it is important to define the WPV problem, identify barriers, risk factors, contextual factors and facilitators of change [26, 27]. The PETT scan from the SEIPS 101 toolbox provided us with an effective method of investigating the people, environment, tools, tasks and the interactions between them in a work system to assist with defining our WPV problem

[19]. The PETT scan is a checklist that encourages users to identify a comprehensive understanding of key elements interacting within the work system, as well as the barriers and facilitators of each work system component. Using these data excavation tools will assist healthcare organizations in identifying where WPV interventions are required. Utilizing SEIPS 101 tools at the commencement of a WPV QI initiative can further be helpful if healthcare institutions lack the data necessary to demonstrate an increase in WPV due to common barrier factors such as underreporting [28].

Step 2: Assemble a WPV QI team

An important preliminary step in WPV QI is assembling an effective team. An interdisciplinary team approach supports leveraging diverse perspectives, skillsets, and knowledge of team members with various backgrounds while fostering opportunities for collaboration and creativity necessary for effective WPV quality improvement [25]. When forming a QI team, it's important to consider contextual factors that have been shown to contribute to success including team diversity, physician involvement, subject matter experts, team members with a history of working together, prior experiences and skills with QI, leadership and a sound decision-making process [29, 30]. Assembling a well-rounded QI team mindful of these factors sets the foundation for a successful and collaborative QI initiative addressing WPV in healthcare.

Step 3: Listen to Frontline Staff

While it is always essential to ensure voices of frontline staff are heard, this becomes particularly crucial when addressing WPV in healthcare. WPV is a demoralizing issue contributing to undesirable patient outcomes, HCP burnout and high turnover rates, thus, making HCPs feel heard on this subject by their own organization can have a positive impact on staff engagement with the WPV QI process [31]. Performing qualitative interviews and collecting data through pulse surveys with frontline staff throughout the project is crucial. HCPs need to be heard, supported, and cared for, and prepared for the envisioned change, and ultimately, be protected within their healthcare settings, as has been discussed in a recent study in the context of the collective impact of the COVID-19 pandemic [32]. WPV-related qualitative data, complementing quantitative data, proves pivotal in addressing intricate issues and guiding WPV QI initiatives [33]. Employing a longitudinal approach supports the identification of lived experience of change, impact or lack thereof overtime [34]. Lastly, meaningful integration of both qualitative and quantitative data enhances the probability of securing key collaborators buy-in [35, 36]. By employing a mixed-methods methodology, teams can combine both quantitative and qualitative data which is often needed to pragmatically address WPV challenges.

Step 4: Key Collaborator Engagement

A critical phase in QI projects involves active engagement with key collaborators. Securing organizational leadership buy-in is a prerequisite for any project success, as it ensures the availability of resources [37]. This includes funding and protected time for team members which is crucial for success in WPV QI projects [38]. Involving leadership is pivotal in creating a cultural change that fosters supportive behaviours of WPV QI initiatives within the organization [29]. Additionally, many WPV QI initiatives, such

as training, are ongoing and require ongoing funding commitment. Maintaining engagement of key collaborators is crucial to ensure that these WPV QI initiatives are sustained [39]. Research demonstrates that engaging key collaborators early, maintaining ongoing clear communication with key collaborators and involving key collaborators in project decision making are effective means of maintaining key collaborators involvement and support [40].

Step 5: Bringing Organizational Entities Together

With WPV being a systemic concern, collaboration must continue beyond the QI team. In most healthcare institution, several functional units are likely to be involved in processes related to WPV, collaborating with representatives from all functional units involved in these processes is necessary to gain comprehensive problem understanding [25]. Unfortunately, functional units in healthcare institutions often operate with silo effects that compromise efficiency and promote conflict, repeated initiatives and sometimes ineffective use of resources [41]. Silo mentality is particularly harmful to organization-wide QI initiatives such as addressing WPV [42], thus proper communication between hospital departments needs to be established from the start. In our case, when investigating functional units addressing WPV using a PETT scan, nine separate functional units involved in WPV were identified (Table 5). It was imperative that these organizational entities were brought together first before initiating change processes.

Step 6: Implement an Effective Governance Structure

Once all involved partners are identified, an effective WPV governance structure is crucial to project success [43]. This offers the leadership and management essential to prevent conflicts in project implementation, resource management, and ensure sustainability [29]. Given the size and complexity of our organization, multiple governance structures were developed in conjunction with existing departments and committees to ensure the success of a large-scale WPV QI initiative (Figure 5). The governance structure should include leadership representation from all functional units involved in WPV initiatives or related processes. A charter for rules and roles of each member should include budgeting analysis, goal alignment and prioritization, data sharing for QI, as well as the timeline of projects [44]. Furthermore, it is imperative that the governance framework has the opportunity to present to the senior most executive level of the organization to ensure securing comprehensive organizational endorsement for its initiatives [37].

Step 7: Integrate a Change Management Culture

While developing a governance structure with multiple functional units is crucial, harmonizing the project culture is necessary for the viability and effectiveness of a large-scale WPV initiative. It is imperative to acknowledge that healthcare organizations encompass multiple subcultures, that if misaligned, are capable of either bolstering or hindering initiatives aimed at improving quality [38, 45]. The cultivation and maintenance of a shared culture can align teams in their beliefs and values ultimately fostering an enhanced collaborative approach to addressing a systemic issue [45, 46]. Healthcare institutions must evaluate the existing cultural milieu within their organization, along with its alignment with strategic and

leadership direction to determine whether functional units involved in addressing WPV interact constructively or destructively. An example of one model was pioneered by Spencer Stuart offering a comprehensive approach to understanding the culture landscape in one's organization and subsequently align their strategies accordingly [45, 46].

Step 8: Assess Project viability and Monitor Progress and Engagement of Functional Units

It is imperative to assess viability and monitor project execution by a governance team for multi-level projects to reach successful outcomes [47]. A validated tool can reduce resource waste [48], which is crucial for assessing the viability of a WPV initiative. Additionally, continuous project monitoring is necessary to maintain employee engagement and commitment, factors that can be influenced by burnout [49, 50]. The Boston Consulting Group has developed an efficacious four-element model known as Duration, Integrity, Commitment and Effort (DICE), [48, 51]. This framework can highlight important determinants of program viability such as the duration of the initiative or sub-projects, the integrity and skills of the team, the commitment level of senior executives and front-line key collaborators, and the additional effort required from the workforce. As subprojects will have natural delays and competing resources, strategic resource allocation and monitoring of functional units is crucial to the continuous progression of WPV initiatives.

Step 9: Connect with the Community

In addition to placing a focus on HCPs and frontline staff, it was important to us to include patients, (chosen) family members and visitors when addressing WPV. Each group is subjected to numerous stressors during visits to a healthcare institution, a multitude of factors that impact their experience at the healthcare institution can trigger stress responses, minority stress and responsive behavior which can increase the probability of WPV events [52]. Trauma-informed care and inclusive lens is a requirement to ensure that patients, (chosen) family members and visitors can feel as safe as possible [53, 54, 55]. Engaging with patients involved in past WPV or Code White incidents provides a different and often complementing perspective of WPV events. However, there exists challenges in reaching out to patients and visitors such as patients feeling underappreciated, unheard and that the gesture is tokenistic [56]. Research has demonstrated that including patient advisors in the development of initiatives, collecting information from patients and visitors on their experiences via surveys and developing patient and visitor advisory boards are effective methods of engaging with patients, (chosen) family members and visitors [57, 58].

Step 10: Implement a Cohesive and Clear Communication Strategy

Ensuring organizational communication regarding WPV QI initiatives is imperative to project success [59]. Clear and cohesive communication from organizational leadership is essential for ensuring staff members understand the organization's direction, leading to increased HCP buy-in and engagement

[60, 61]. A lack of consistency in intra-organizational communication can result in rumours and a divide between individuals or groups with knowledge and without that negatively impacts cohesiveness and organizational trust [62]. WPV QI initiatives and successes can be communicated through organization-wide newsletters, emails, websites, office computer screens, meetings, in-person handouts and leadership communication [63]. Researchers demonstrate utilizing pre-existing organization communication strategies improves effectiveness [64]. Developing a communication stream between site managers and WPV QI team members is another valuable tool that provides the opportunity for managers to provide site-specific feedback on WPV initiatives [64].

Step 11: Implement Data Monitoring and Utilize Statistics for Planning/Management Decisions

Measuring changes in regions of interest pertaining to WPV overtime is pivotal to monitoring the impact of WPV QI initiatives. However, WPV metrics at healthcare institutions often place an emphasis exclusively on outcome indicators including the frequency of documented WPV incidents [65]. These indicators are problematic as WPV is historically underreported in healthcare [7]. Consequently, healthcare institutions will require a larger set of WPV quality indicators that do not rely solely on staff reporting of incidents to successfully monitor WPV [21]. These quality indicators must include structure, process and outcome measures to capture a comprehensive and systemic perspective on WPV within an organization [8, 13, 66]. In our case example, we performed a rapid review and Delphi process to determine quality indicators that would provide the quantitative data imperative to monitoring WPV QI impact and for informing decision making [21].

Step 12: Improve Debriefing and Reporting

Enhancing debriefing and reporting protocols in healthcare institutions has been demonstrated to improve HCP well-being, and organizational culture [67, 68] both of which are pivotal to increasing HCP buy in and reporting of WPV incidents. Debriefing after WPV incidents minimizes adverse outcomes to staff and provide them with a sense of support, connectedness, and relief following the event [67, 69]. However, debriefing must not leave HCPs feeling blamed or criticized, a positive debrief checks in with staff, validates their feelings and encourages help-seeking when needed [70]. Utilizing a protocol for debriefing after WPV events enhances quality and consistency of debriefs in order to meet the support needs of HCPs [67].

The underreporting of WPV is a culturally and structurally rooted problem faced by healthcare institutions. Research has documented that as many as 88% of HCPs that experienced WPV did not report the event [71]. WPV reporting is crucial to identifying WPV trends and informing decision making processes [72]. A wide array of cultural and organizational factors contributes to underreporting (Figure 6), many of which can be addressed through an updated WPV reporting system. Staff require a convenient, accessible reporting system that minimizes added workload, provides staff with follow up messages to demonstrate a course of action was taken and provides WPV support resources to ensure that staff feel seen, heard, supported, protected, and cared for [32,73]. Education interventions and debriefs must encourage the use of WPV reporting systems to create a culture of reporting.

Step 13: Implement Comprehensive Training Plan based on HCP's Environmental Risks

Implementing a new or updated training plan that meets the needs of their staff is a crucial step in addressing WPV in healthcare [74]. Effective WPV prevention training improves the management of WPV situations, increases staff's sense of safety and promotes a culture of safety within the organization [75]. Training must include simulation and education programs that focus on WPV awareness, verbal and physical de-escalation, agitation management, decision making, critical thinking, crisis intervention training and conflict resolution to be effective [7, 76]. Research indicates that factors such as an employee's department, frequency of patient interactions, and concerns regarding WPV are key contributors to the likelihood of their involvement in a WPV incident [77]. Consequently, staff's training requirements need to be determined by generating risk profiles that consider these factors rather than relying solely on professions as a determining factor of needs. Utilizing risk profiles for training will lead to interdisciplinary cohorts that will enhance staff's understanding of other roles, interprofessional communication and teamwork [78]. In our case example at our organizations, criteria for risk level stratification were based upon an environmental assessment of each unit.

Limitations

Although this QI project aimed to address WPV within our healthcare institution through a systemic, methodological approach, there are several limitations that require acknowledgement. The primary objective of this project was to address an urgent issue in healthcare, thus creating actionable results was prioritized. This resulted in a lack of baseline data collection at the inception of the project. Additionally, QI projects lack a control group, thus increasing the difficulty of determining whether change occurred due to the interventions or other influencing or confounding factors. Furthermore, while all subprojects have been initiated, not all have reached completion which is also the nature of QI projects with several implementation cycles. It is important to note that the objective of this paper is to illustrate the development of a systemic WPV QI project, rather than its success. As well, the findings of this article may be specific to our healthcare institution with the resources and processes specific to our situation. For example, not all healthcare institutions utilize the Code White response protocol or manage WPV incidents using physical restraint systems. As a result, there is a potential for the framework provided to be not applicable for some healthcare settings. Moreover, sustainability of large-scale QI projects is difficult due to interventions, such as education and training, requiring ongoing funding and key collaborators support. Lastly, the study design lacks balancing measures to determine the impact of these interventions in other areas of our hospital organization.

Conclusions

In conclusion, WPV is a multifactorial and complex phenomenon in healthcare which ought to be addressed through complex interventions and a systems approach. Through the utilization of the SEIPS 3.0 framework and SEIPS 101 tools, our team created such an approach to address WPV at a multi-site academic health sciences centre in Toronto, Ontario. In addition, we have developed a framework

outlining the necessary steps that we undertook in developing our own project. This framework can be utilized by healthcare institutions to aid in establishing a comprehensive WPV QI project within their own settings. Future research should focus on factors that optimize WPV QI engagement and intervention impact on the organizational level.

Abbreviations

WPV   Workplace violence

ED   Emergency Department

QI   Quality improvement

SPO   Structure-Process-Outcome

HCP   Healthcare Provider

SEIPS   System Engineering Imitative for Patient Safety

PETT   People, Environment, Tools, Tasks

SP   Subproject

DICE   Duration, Integrity, Commitment and Effort

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and materials

All data generated or analyzed during this study are included in this published article [and its supplementary information files].

Competing interests

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Author's contributions

C. S.-Q. provided substantial contributions to the conception and design of the quality improvement project, the acquisition, analysis and interpretation of the quality improvement subprojects, and the conception and design of the framework. C.S.-Q. contributed to drafting the work. C.S.-Q. reviewed the framework manuscript critically for important intellectual content, provided final approval of the version to be published and agreed to be accountable for all aspects of the work; C.S.-Q. has shared first authorship.

B.L. provided substantial contributions to the conception and design of the quality improvement project, the acquisition, analysis and interpretation of the quality improvement subprojects, and the conception and design of the framework. B.L. contributed to drafting the work. B.L. reviewed the framework manuscript critically for important intellectual content, provided final approval of the version to be published and agreed to be accountable for all aspects of the work; B.L. has shared first authorship.

C.R. provided substantial contributions to the conception of the quality improvement project, reviewed the framework manuscript critically for important intellectual content, provided final approval of the version to be published and agreed to be accountable for all aspects of the work.

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J.H. provided substantial contributions to the conception of the quality improvement project, the acquisition, analysis and interpretation of the quality improvement subprojects, reviewed the framework manuscript critically for important intellectual content, provided final approval of the version to be published and agreed to be accountable for all aspects of the work.

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R.S. provided substantial contributions to the conception and design of the quality improvement project, the acquisition, analysis and interpretation of the quality improvement subprojects, and the conception and design of the framework. R.S. contributed to drafting the work. R.S. reviewed the framework

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Tables

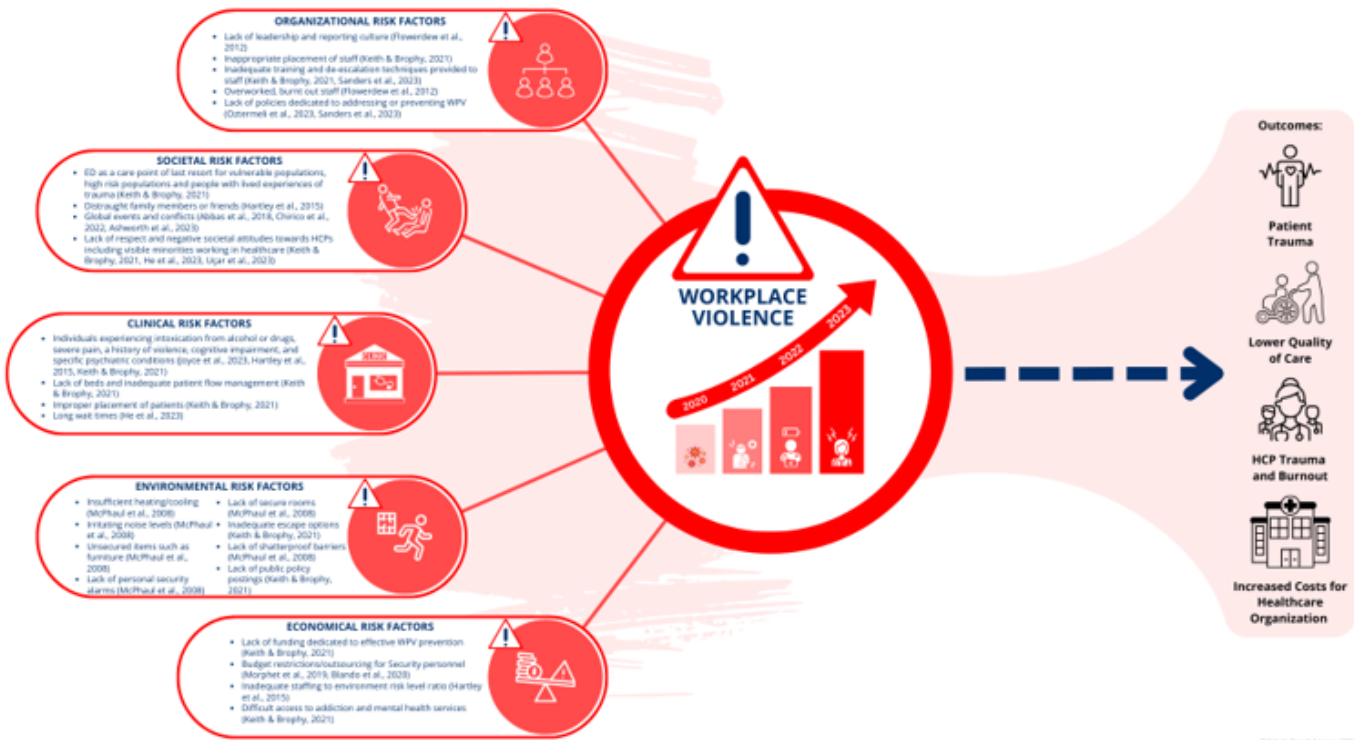Tables 1 to 5 are available in the Supplementary Files section

Figures

Figure 1

This figure illustrates the complexity of WPV in healthcare, encompassing the escalation of WPV since the onset of the pandemic, the contributory risk factors, and the resultant outcomes for patients, HCPs, and healthcare organizations. References relating to 7, 55, 79-90.
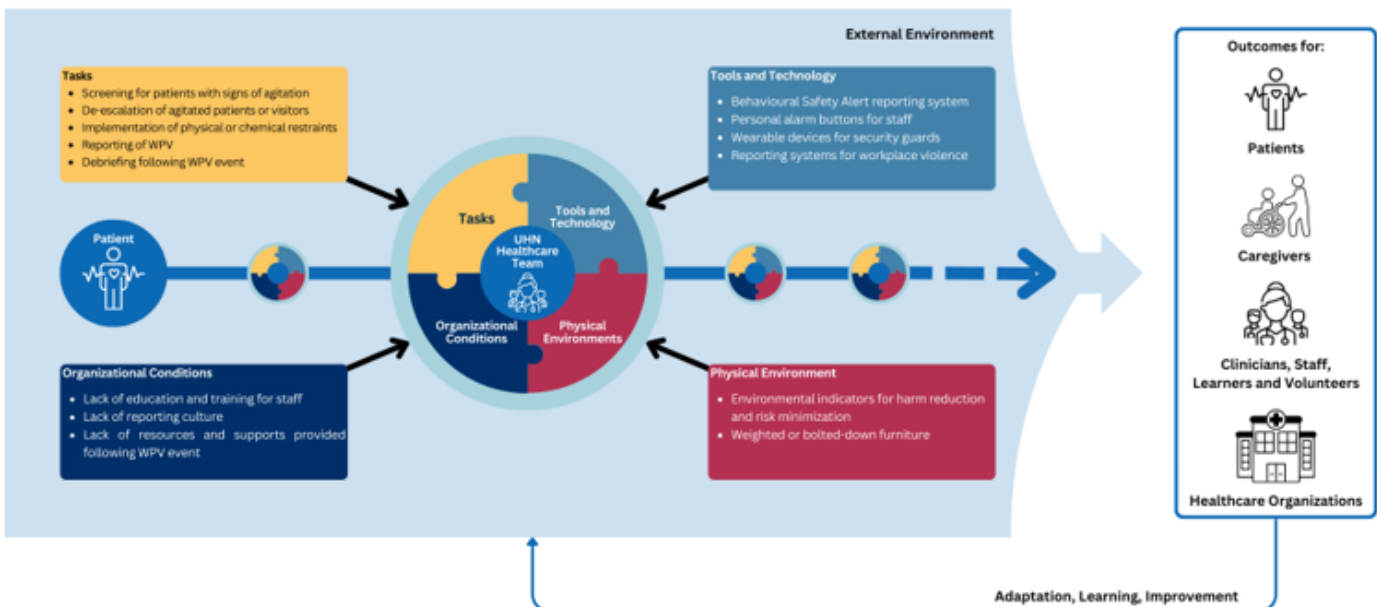
Figure 2

An illustration of the application of the SEIPS 3.0 journey map to identify the tasks, tools and technology, physical environment, and organizational conditions relevant to WPV in healthcare. Adapted from [16].
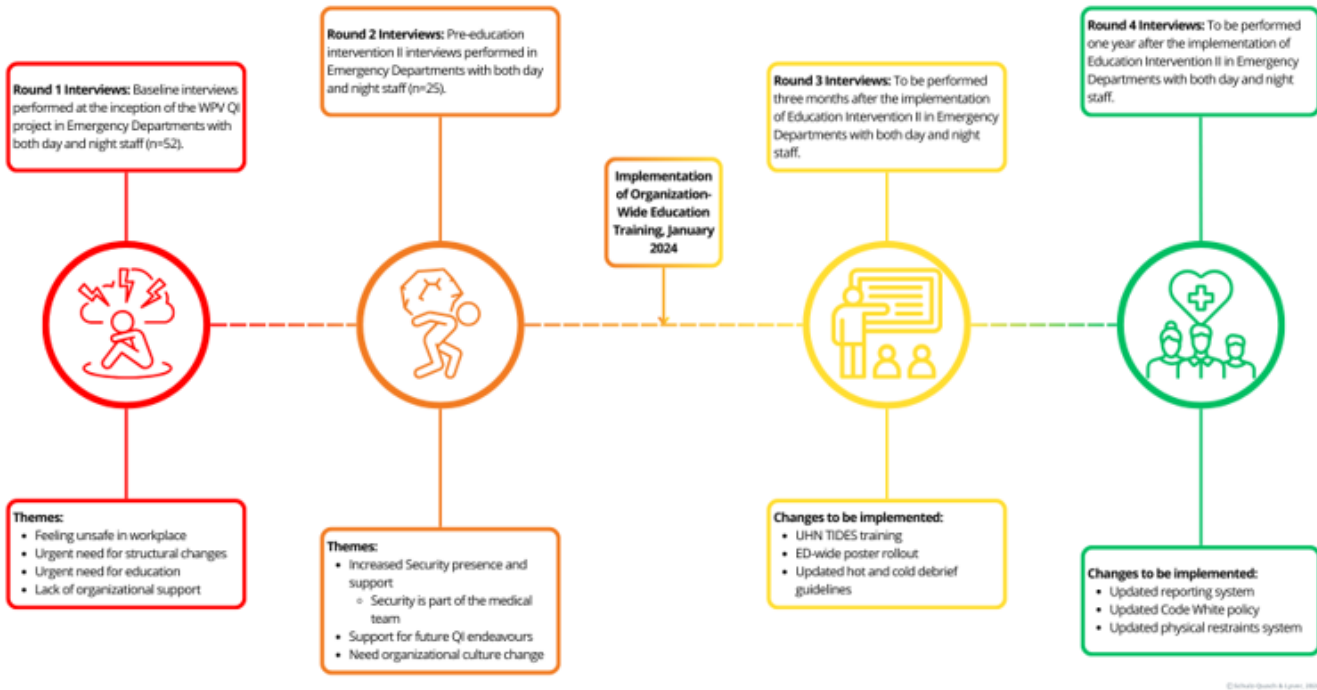

Figure 3

This figure depicts a simplified timeline showcasing qualitative interviews conducted within the UHN ED, the interventions implemented between interviews and the themes identified in the interviews.

Figure 4

An overview of the Environmental Indicators Project, featuring samples of the posters utilized, alongside qualitative and quantitative feedback obtained from staff through surveys.
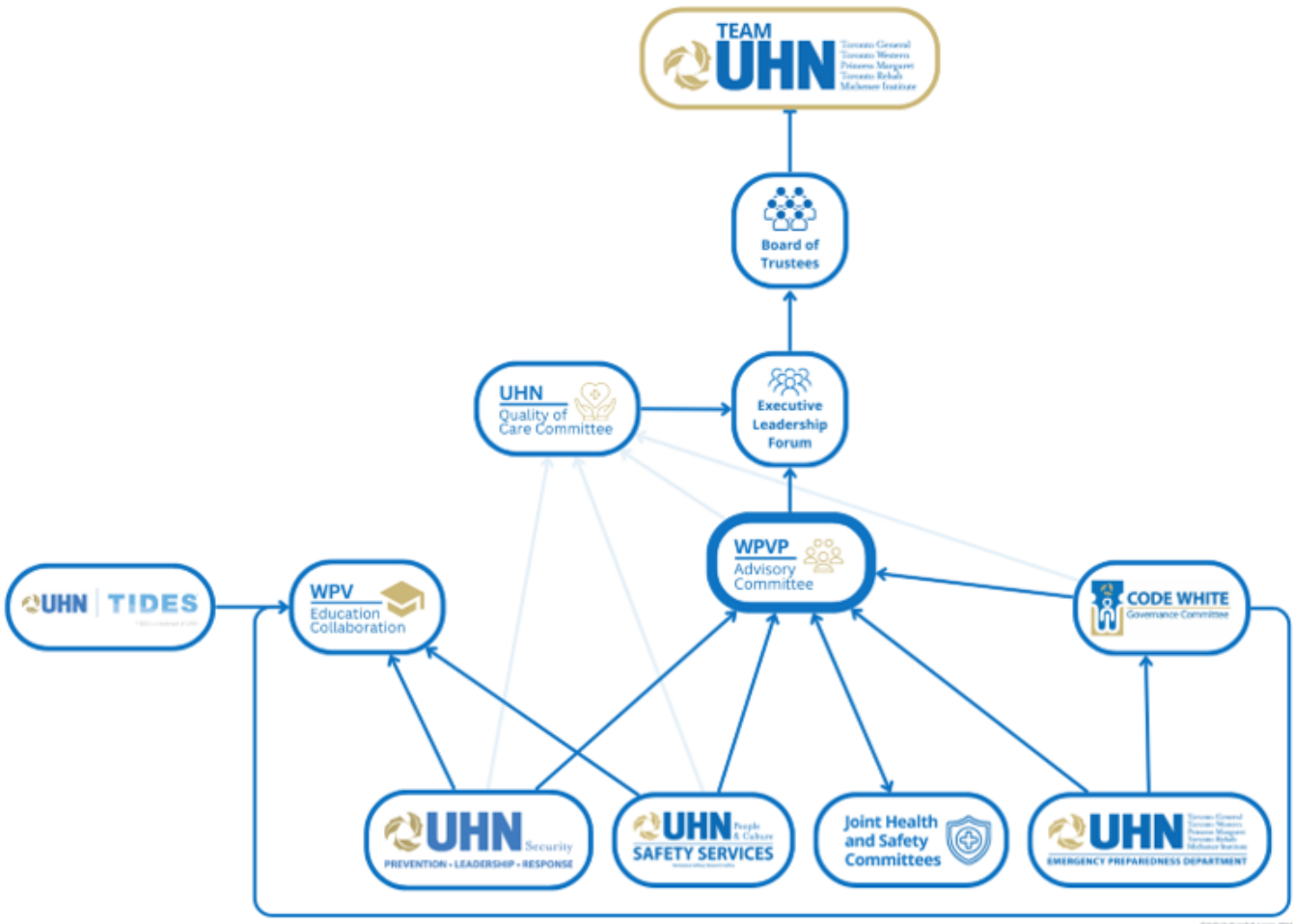
Figure 5

The WPV governance structure implemented at our organization to orchestrate a systemic approach to addressing WPV.
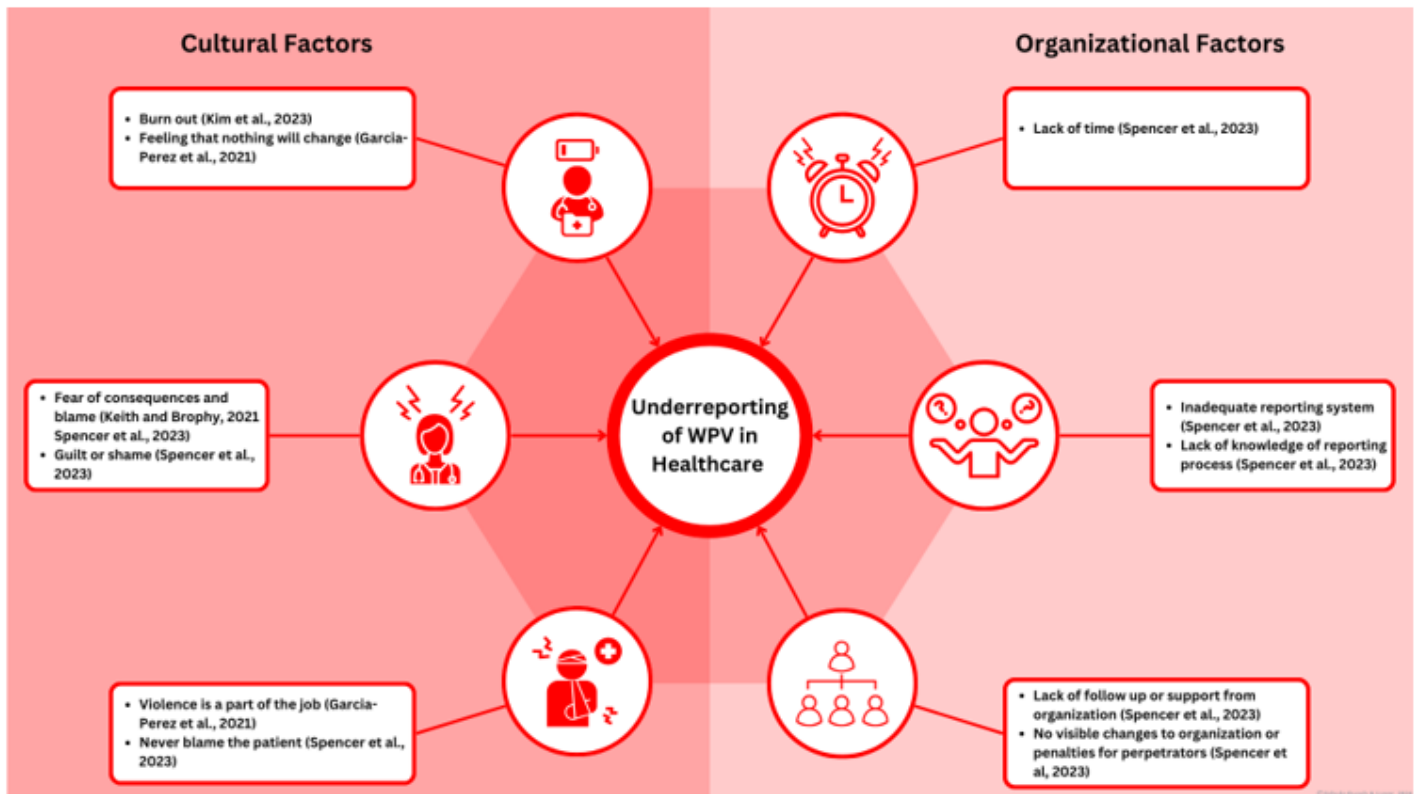
Figure 6

This figure depicts the numerous cultural and organizational factors contributing to the underreporting of WPV in healthcare. References related to 7, 115-117.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Appendix1.pdf
- Appendix2.pdf
- Appendix3.pdf
- Tables.docx