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The Concept and Measurement of Violence and Abuse in Health and Justice Fields: Toward a Framework Aligned with the UN Sustainable Development Goals

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Abstract: Violence reduction is a United Nations (UN) sustainable development goal (SDG) and is key to both public health and criminology. The collaboration between these fields has the potential to create and improve prevention strategies but has been hampered by the usage of different definitions and measurements. This paper explores the definitions and measurements of violence by the World Health Organization, UN, and Council of Europe to arrive at a harmonized framework aligned with the SDGs. Violence and abuse are defined by these organizations as intentional actions that (are likely to) lead to harm, irrespective of physicality or legality. When recording violence and abuse, health- and justice-based administrative systems use different codes which cannot directly be translated without resorting to broad overarching categories. Additionally, the identification of the number of victims, perpetrators, and events is challenging in these systems due to repeat victimization/offending, multiple victims/perpetrators, and multiple engagements with services associated with a single event. Furthermore, additional information on the victims (e.g., ethnicity) and events needs to be registered to evaluate progress toward the SDGs. We propose a framework to record violence that includes individual and event identifiers, forms of violence and abuse (including physical, sexual, and psychological), harm, and individual and event characteristics.

Keywords: abuse; crime; definition; justice; measurement; public health; violence

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1. Introduction

Violence is recognized as a public health issue by the World Health Organization (WHO 1996) and as a violation of rights and fundamental freedoms by the United Nations General Assembly (UN GA 1994). Reducing violence is key to the sustainable development goals (SDGs), specifically SDG 16.1, to "significantly reduce all forms of violence and related death rates everywhere". Further emphasis is placed on reducing violence experienced by women and children in SDG 5.1 and SDG 16.2. The SDGs are designed to encourage collaboration across sectors and multisector working and rely on the effective monitoring of progress (UN GA 2015). Despite this need, there is no general multiagency coherence in the definitions and measurement of violence and abuse. In this paper, we present a framework for recording violence so as to further facilitate collaboration between the health and justice fields to, in turn, facilitate the evaluation of progress toward the SDGs.

Improved collaboration between the fields of health and justice has the potential to result in effective policymaking and monitoring of violence (National Institute for Health and Care Excellence 2014; Public Health England 2018). There are some examples of effective collaborative working between health and justice agencies when it comes to monitoring violence, for instance, the "Cardiff model", which uses accident and emergency healthcare data to identify crime hotspots (Florence et al. 2011; Kohlbeck et al. 2022; Mercer Kollar et al. 2020), the usage of police and hospital data for youth violence surveillance in the USA (Matjasko et al. 2016), as well as the proliferation of violence reduction units as a public health initiative in the United Kingdom (UK) (UK Home Office 2023). Whilst

there is collaboration in specific subfields of the health and justice sectors, such as forensic health services, this is not consistently implemented across regular health and justice settings. The suboptimal registration of violence in healthcare settings is why, for instance, natural language processing is used to extract such information (e.g., Botelle et al. 2022; Tabaie et al. 2022). Police and health system records in isolation provide an incomplete picture of violence (Kruse et al. 2010; Mosher et al. 2011; Sutherland et al. 2021; Wu et al. 2019). Combining these data sources can provide a more comprehensive understanding of violence in society and its health burden and help in formulating prevention strategies (Florence et al. 2011; Kruse et al. 2010).

However, collaboration between health and justice can be hindered because the definitions and measurements of violence are contested and differ between these fields (de Haan 2008; Follingstad 2017; Hamby 2017; Walby et al. 2017). Even within fields, disagreement exists over concepts of violence (for instance, regarding street gangs (Mallion and Wood 2020)). Whilst previous research has focused on conceptualizations of violence in individual fields (e.g., Rutherford et al. 2007; Walby et al. 2017), the comparison of concepts and measurements between fields remains underdeveloped. In contrast to prior research into the definition of violence, we rely primarily on the definitions of violence provided by the international organizations, the WHO, UN, and Council of Europe (CoE), due to the importance, influence, and legitimacy of these organizations. We propose a shared measurement framework for health and justice to facilitate collaboration when it comes to monitoring violence and progressing toward achieving the formerly set out SDGs in relation to violence.

The consequences of misalignments in conceptualizing and measuring violence are threefold. First, it is more difficult to evaluate progress toward the SDGs to reduce violence when different fields have a different understandings of what violence entails and how to measure it. Second, comparing evidence based on data from different agencies is problematic because the conclusions drawn will depend on how each agency has conceptualized and measured violence. Third, there are implications for the people who experience violence and abuse, who may not receive the best healthcare or experience of justice as a result of inconsistencies in the understanding of and approaches to violence. For example, if health professionals do not recognize the experiences of their patients as violence and abuse due to them not being consistent with their own definitions, these patients may not be referred to the justice system or third-sector support services (Feder et al. 2011).

This paper will begin by determining what should be covered by such a framework by discussing what is considered to constitute violence. For that purpose, we discuss and analyze the violence definitions of the WHO, UN, and CoE. These organizations specifically call for better measurement of and data on violence. Similar definitions are used or adopted by, for instance, the African Union (2003), the Association of Southeast Asian Nations (2016), and the Organization of American States (1994). The WHO's definition focuses on violence in general, while the UN and CoE's definitions are specific for gender-based violence, violence against women, and domestic violence. We include these definitions of the UN and CoE because these are widely used and the most comprehensive of the definitions provided by these organizations due to being most explicit in what is and is not included regarding possible act(s), harm, and contexts of violence. Despite the different scope of these definitions, the overlap between them is substantial, as discussed further on in the paper. In defining and analyzing violence, previous research has, at times, opted for an exemplary approach, listing examples to show what they consider violence, whilst others have defined violence by stating its defining characteristics (de Haan 2008; Hamby 2017). We adopt the latter approach, comparing these definitions of violence on the characteristics of action and intention, physicality, harm, consent, and legality. We consider these characteristics either because they have been frequently included in definitions of violence or because there is considerable debate over whether they should be included.

Next, we discuss how best to record violence and how this is currently undertaken using measurement frameworks in the health and justice fields, namely the WHO's Inter-

national Classification of Diseases (ICD) and the UN Office on Drugs and Crime (UNODC) International Classification of Crime for Statistical Purposes (ICCS). Attention is then turned to how to achieve congruency between the sectors. Within this, we discuss approaches to recording violence in terms of the units of measurement (event/victim/perpetrator), its severity, and the classification of events. We also discuss what other individual and event characteristics need to be registered in order to better monitor progress toward the SDGs and to what extent the ICD and UNODC ICCS incorporate these. Overall, this paper will provide a framework better suited to evaluating progress toward the SDGs to reduce violence, using evidence collected within the justice and health fields. We focus on interpersonal violence, whereas violence against oneself (e.g., suicide and self-harm) or collective violence by the State or other sociopolitical entities (Rutherford et al. 2007) are beyond the scope of this study. Furthermore, we do not include acts that may be considered violence that is essential for survival (Hamby 2017).

2. Conceptualization of Violence by International Organizations

2.1. Definitions by International Organizations

We first outline the three identified international definitions and measurement frameworks before analyzing these definitions and how they have been implemented into the measurement frameworks. The WHO definition of violence is "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al. 2002, p. 5). Whilst sexual violence is not named explicitly in this definition, further on, it is defined as "any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person's sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work" (Krug et al. 2002, p. 149).

The UN provides one of the more comprehensive definitions in relation to gender-based violence, defined as "any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life" (UN GA 1994, art. 1). Violence is also defined in relation to the UN SDGs (UN GA 2015), in particular SDG 5.2.1 (UN 2021):

> "1. Physical violence consists of acts aimed at physically hurting the victim and include, but are not limited to, acts like pushing, . . . threatening or attacking with some sort of weapon, gun or knife.
>
> 2. Sexual violence is defined as any sort of harmful or unwanted sexual behavior that is imposed on someone, whether by use of physical force, intimidation or coercion. . . .
>
> 3. Psychological violence consists of any act that induces fear or emotional distress. It includes a range of behaviors that encompass acts of emotional abuse".

The definitions of violence used across the individual SDGs are largely similar, but differences do exist; mainly, neglect and negligent treatment are explicitly included under violence against children (in line with UN 2011).

Lastly, the CoE uses a similar definition to the UN in the Istanbul Convention regarding violence against women and domestic violence (Council of Europe 2011a, art. 3) but also specifies economic violence and harm:

> "acts of gender-based violence that result in, or are likely to result in, physical, sexual, psychological or economic harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life"

> "'domestic violence' shall mean all acts of physical, sexual, psychological or economic violence that occur within the family or domestic unit or between former or current spouses or partners, whether or not the perpetrator shares or has shared the same residence with the victim".

2.2. Measurement Systems

The primary measurement system used in the health sector is the ICD, a widely used classification system of diagnostic codes for diseases and conditions and their causes and consequences, maintained by the WHO. For instance, the ICD includes assault and maltreatment, commonly considered forms of violence and abuse, as a cause of morbidity and mortality (WHO 2022). In many countries, the ICD is the main classificatory tool for coding episodes of care in hospitals and allows the systematic recording, interpretation, and comparison of medical data collected by different healthcare facilities, regions, and countries (Harrison et al. 2021). The latest version of the ICD, ICD-11, came into effect on 1 January 2022, and countries will transition to this new system in the following years.

In the justice sector, the measurement of violence and abuse exists within the context of crimes. Similar to the ICD in the health field, the justice field has implemented an international measurement and coding structure for crimes, the UNODC ICCS, which was first released in 2015 (UNODC 2015). Its purpose is to improve the (international) comparability and analytical capabilities of crime statistics (UNODC 2015). The ICCS focuses on crimes and, thus, also includes acts that are not normally considered violence, such as fraud or corruption. Since its first release, it has been adopted by Eurostat (2017) and the Organization of American States (n.d.), as well as individual countries for some reporting. The ICCS works with a multilevel structure, within which level 1 is the most general and level 4 is the most detailed. For instance, the level 4 category "Serious assault" falls under the level 3 category "Assault", under the level 2 category "Assault and threat", and the level 1 category "Acts causing harm or intending to cause harm to the person".

2.3. Dimensions of Violence

2.3.1. Action and Intention

Here, we analyze the definitions of violence above in terms of their defining characteristics. Two characteristics of violence and abuse are action and intention. The act of violence and/or abuse is performed by the perpetrator(s) (Krug et al. 2002; Rutherford et al. 2007) and can be either physical or verbal (for instance, threats) actions, as indicated by the UN, CoE, and WHO definitions of violence. Additionally, the WHO and UN violence definitions (Krug et al. 2002, p. 5; UN 2011, para. 4) include acts of omission (e.g., neglect or deprivation), specifically in relation to children or other dependents. Note that acts do not always succeed and may be uncompleted, for instance, attempted homicide.

Intent to commit the act is crucial to distinguish accidents from violence. The example given by the WHO is that tripping and falling onto someone is not considered violence, as there was no intent to commit violence (Hamby 2017; Krug et al. 2002). Intent is explicitly included in the definition of violence by the WHO and in the definition of physical violence by the UN. However, intent is not mentioned within the UN's definitions of psychological or sexual violence. In addition to intent, recklessness and negligence can constitute violence and/or abuse (Hamby 2017), which is explicitly included in the WHO (Krug et al. 2002, p. 5) and the UNODC (2015, n. 54) definitions. The ICD takes intent partially into account in the "external causes" codes by differentiating unintentional causes from causes such as assault or maltreatment.

Overall, the UN, CoE, and WHO are clear that part of the definition of violence is that it revolves around intentional acts or threats of physical force or power. The UN and CoE do not mention recklessness, but the WHO and criminal law do include reckless acts in their definitions of violence. Despite the overlap between the definitions, the measurements differ; in the ICCS, intent and recklessness are included in the measurement of violence but only in a more limited way in the ICD.

2.3.2. Physicality

The physicality of violence is contested. Some argue that nonphysical acts can be understood as violence, whilst some prefer to use the term abuse for acts that are nonphysical. For example, the UK domestic violence and abuse sector includes the term "abuse" to make clear that nonphysical actions are relevant and can cause great harm. Traditionally, definitions of violence only focused on physical acts and were later expanded to include threats of physical violence (Cudd 2006; de Haan 2008). Others have expanded the concept of violence further to include acts that do not (per se) have physical components, such as stalking, sexual and gender harassment, acts of omission, and coercive control (de Haan 2008; see also Walby et al. 2017). It is important to note that coercive control can take many forms, such as financial or emotional abuse, of which some include physical violence (Stark 2007). The UN, CoE, and WHO all explicitly include psychological and sexual violence in their definitions. Controlling behavior is explicitly included in the UN and WHO definitions; thus, a broader definition of violence that includes coercive control in its various forms is most in line with these definitions. In line with this consensus, the ICD and UNODC ICCS also include nonphysical violence and abuse. The ICD-11 includes psychological violence and abuse as "psychological maltreatment" and "personal history of psychological abuse". Similarly, the ICCS includes "coercion" and "acts intended to induce fear or emotional distress", which incorporate stalking, harassment, and other acts of psychological violence.

Actions that cause substantial physical and nonphysical harm do not always have a physical component, for instance, coercive control, human trafficking, and other acts (Stark 2007; Zimmerman et al. 2011). Nonphysical acts can cause severe harm; thus, focusing on physical violence underestimates the health burden violence places on society (Hamby 2017; WHO 2014). However, others argue that broad definitions of violence carry the risk that any situation that people find disagreeable become considered as violent, which would obstruct "the understanding of violence by cloaking the complexities of the phenomenon in a definitional fiat", and "privileging subjective meaning may involve a risk of circular reasoning" (de Haan 2008, p. 33; see also Walby et al. 2017). By this reasoning, some acts that can cause (psychological) harm need to be excluded from definitions of violence and abuse, such as making someone redundant or ending a romantic relationship. A solution to this may be to include intent (as discussed above) to indicate that violent acts are intentional and aim to cause harm. Alternatively, clear thresholds for the "severity" of the act could solve this issue. Regarding the threshold for psychological violence, whilst the extremes of psychological violence may be easy to categorize as violence or abuse, the minimum of psychological violence is disputed (Follingstad 2017). The ICCS does include a minimum in their definition of (psychological) harassment, which "at minimum, is improper behavior directed at and which is offensive to a person by another person who reasonably knew the behavior was offensive. This includes objectionable or unacceptable conduct that demeans, belittles or causes personal humiliation or embarrassment to an individual" (UNODC 2015, n. 73).

2.3.3. Harm

The harm from violence is a defining dimension within the UN, CoE, and WHO definitions; the WHO states that violence is an act "that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (Krug et al. 2002, p. 5), and the UN and CoE state it is any act that "results in, or is likely to result in, ... harm or suffering" (Council of Europe 2011a, art. 3; UN GA 1994, art. 1). For this reason, Walby et al. (2017) argue that existing violence measurements that do not include harm in their operationalization are insufficient to capture violence. As discussed above, the harm does not have to be physical. Importantly, the UN, CoE, and WHO define violence not only by the actual harm it causes but also include acts that "are likely" or have "high likelihood" to result in harm (Council of Europe 2011a; Krug et al. 2002; UN GA 1994). Thus, acts that do not lead to harm but are likely to lead to harm are included in

their definitions of violence. A concept of violence based on the likelihood of harm also allows for the inclusion of "failed" violence or violence that (in individual cases) did not lead to harm.

Hamby (2017) argues that a threshold for what constitutes notable harm must be determined, where the goal is to focus on harm that has some lasting impact. The UN defines the level of harm for physical violence as "at minimum, . . . bruises, cuts, scratches, chipped teeth, swelling, black eye and other minor injuries" (UN 2016; almost identical to UNODC 2015, n. 57). To our knowledge, the UN, CoE, and WHO also do not define the level (or duration) of likely psychological harm that is required for something to be considered violence, except that the CoE defines psychological harm as "seriously impairs and damages a person's psychological integrity", and, as noted above, the UNODC ICCS defines (psychological) harassment as "improper behavior directed at and which is offensive to a person" (UNODC 2015, n. 73).

Harm is integral in the ICD measurement system, as the ICD is, first and foremost, a classification of diseases and health conditions (both physical and psychological), some of which may be harm caused by exposure to violence. For a person who experienced violence to seek medical attention, harm has, by definition, occurred. In line with the purpose of the ICD, levels of harm are registered in detail and recorded as primary codes in medical data. Furthermore, harm is included in defining violence in the UNODC ICCS, for example, with the level 1 category "acts causing harm or intending to cause harm to the person" and the level 2 category "Acts intended to induce fear or emotional distress". The levels of harm are limitedly registered in the UNODC ICCS for the purpose of distinguishing various forms of physical violence, for instance, regarding (threat with) serious versus minor assault.

2.3.4. Consent

Another part of defining violence concerns the aspect of consent. Consent is particularly crucial in the definition of sexual violence as used by the UN, CoE, and WHO, as well as in the measurement of sexual violence in the UNODC ICCS. Consent is not explicitly included in the ICD. Importantly, "consent" as a result of "intimidation, force, fraud, coercion, threat, deception, use of drugs or alcohol, or abuse of power or of a position of vulnerability" is not considered freely given consent (UN 2016). Consent is not included in the definitions of violence other than sexual violence (Council of Europe 2011b, para. 189; Krug et al. 2002, p. 149; UN 2021; UNODC 2015, p. 50). However, it has been argued that consent is relevant to all acts (Hamby 2017). People may have consented to acts that potentially lead to harm and could be considered violence (for example, martial arts). Provided such acts fall within the agreed upon boundaries of those involved, they should not be considered violence (Hamby 2017).

2.3.5. Legality

Legality is one of the dimensions that is often used in the conceptualization of violence (de Haan 2008), most obviously in the justice system. Derivatives from this system also include legality in their definitions, albeit, at times, indirectly; for example, the UNODC ICCS's operationalization of "crime" "is considered . . . to be the punishable contravention or violation of the limits on human behavior as imposed by national criminal legislation" (UNODC 2015, p. 11). However, not all forms of violence are illegal in all countries, and legality changes over time within countries, for instance, sexual violence in intimate partner relationships (Tavares and Wodon 2018) and coercive control (Stark and Hester 2019). Inconsistencies in the legality of acts across countries and over time means that legality may not be an appropriate demarcating line to judge what is and what is not violence, as it hampers longitudinal and cross-country comparisons of violence; both are crucial for evaluating progress toward the SDGs regarding violence reduction. Additionally, including legality as a defining factor of violence obscures the fact that which violent acts are considered crimes and which are not is part of a complex web of societal systems (Roberts 1993).

The definitions of violence, as employed by the UN, CoE, and WHO, do not include the legality of an act in their definitions, and it is explicitly mentioned to not be a defining factor in the WHO definition (Krug et al. 2002, p. 6). The ICD codes do not mention the legality dimension. The ICCS, however, focuses on crimes, and thus, legality is a defining factor in its inclusion criteria.

3. Measurement of Violence

In addition to having a shared definition of violence, it is important to have a shared measurement system to facilitate collaboration between the health and justice fields and to monitor progress toward the SDGs. Here, we discuss what should be registered within systems, including the unit of measurement (by events, victims, or perpetrators) and the classification of violence, as well as how the ICD and ICCS incorporate these aspects.

3.1. Event, Victim, and Perpetrator Identifiers

In order to evaluate whether "all forms of violence" decrease (SDG16.1), facilitate collaboration, and record violence accurately, the unit of measurement needs to be harmonized to include event, victim, and (when possible) perpetrator identifiers. Conventionally, there is an assumption of one perpetrator, one victim, and one event, but in practice, this does not align with reality; for example, in the case of domestic violence where there are often multiple events occurring between the same victim and perpetrator/s. In evaluating progress toward the SDGs, the UN focuses only on victims (e.g., SDG 5.2.1 and 16.1.3, UN 2016, 2021). One of the SDG key indicators (16.1.3) is "the total number of persons who have been a victim of physical, psychological or sexual violence in the previous 12 months, as a share of the total population" (UN GA 2017), which essentially attempts to estimate the prevalence of violence. This, however, disregards the fact that measuring repetitions is key to ensuring violence in society is accurately assessed, particularly due to the high societal costs of repeated victimization (Walby et al. 2016). Assessing repetition may seem straightforward for certain forms of violence, such as assault by a stranger, but it is not for others, such as domestic abuse, stalking, and coercive control (Hester et al. 2023; Stark 2007; United Nations Department of Economic and Social Affairs 2014, para. 83). Therefore, the UN argues that it is better to ask whether such complex types of violence have occurred within a specified period (United Nations Department of Economic and Social Affairs 2014, para. 83).

Unique perpetrator and event identifiers are generally not available in the international health field, as patients and healthcare episodes are the main units for registration (WHO 2022). To identify repeated victimization, a violence event identifier is needed. Currently, when multiple medical interventions are required following the same act of violence or when there are multiple victims of a single event, the number of healthcare episodes will not correspond to the number of violent events.

The international justice registration system focuses on events in the UNODC's ICCS (UNODC 2015). However, police records differ between countries regarding how they deal with repeated events and with multiple perpetrators and whether they are registered as a single or multiple offence/s (Aebi et al. 2021). The UNODC ICCS recommends registering whether the perpetrator is a repeat offender, but the amount of previous offences is unknown (UNODC 2015). Registering both event identifiers and victim and perpetrator identifiers is crucial to determine the incidence and prevalence of violence, which is needed to evaluate progress toward the SDGs on reducing violence.

3.2. Classification of Violence

Beyond counting events, victims, and perpetrators, how violence is classified and registered is important to investigate violence reduction as specified in the SDGs. There are several issues around the classification of violence. First, both the ICD and ICCS classify violence, albeit for different reasons, but these classifications do not, per se, overlap. For example, the ICD-11 codes deal with assault using various means (e.g., struck/kicked/bumped

[PE10], knife/sword/dagger [PE30], blunt object [PE40]), which can constitute serious and minor assault (ICCS codes 020111 and 020112), amongst others. By combining the ICD codes with information on the harm caused, these ICD codes can be translated into ICCS codes. For example, the ICD code PE10 (assault by being struck/kicked/bumped) combined with having a fracture of the forearm (ICD NC32) could constitute serious assault (ICCS 020111). However, maltreatment in the ICD (e.g., physical, sexual, and psychological maltreatment, ICD-11 PJ20-PJ22) can refer to many different acts and forms of violence. Therefore, the different classification systems are not easily comparable or translatable without collapsing the detailed ICCS codes into broader ones, losing much of the detailed information in the process. Furthermore, even if the forms of violence and perpetrators' information were more detailed in the ICD, coders have, at times, difficulties with coding, which can undermine the usage of these existing codes (Kohlbeck et al. 2022; Olive 2018). Developing guidelines on the consistent application of violence codes in health settings and providing adequate training to clinical staff and coders could offer a solution. Nonetheless, on a higher level of abstraction, for instance, whether it was psychological, sexual, or physical violence, ICD and ICCS codes may be made comparable. While the SDGs are formulated to aim to reduce all forms of violence simultaneously, specific forms of violence may require targeted interventions. Hence, any measurement system that may inform policies to reduce violence would require a detailed categorization of violence. Note that there may be a need for specific additional codes building upon the ICCS for some country-specific forms of violence that are not covered by the ICCS.

In addition to differing codes between the ICD and ICCS, the justice field widely uses hierarchies of violence, meaning that in situations where multiple offences are committed, only the most serious offence is counted (Aebi et al. 2021; Mosher et al. 2011). It has been argued that such hierarchies are necessary to avoid double counting events (Mosher et al. 2011; Walby et al. 2017). However, countries differ in whether they use the hierarchy rule at all, as well as in the order of the severity of offences (Aebi et al. 2021), which affects the international comparability of data based on the ICCS classification (UNODC 2015, p. 106). Additionally, these hierarchies do not always seem to account for the seriousness of psychological, sexual, and physical harm, nor do they account for short-term severe harm versus long-term minor harm or for the influence of cultural norms upon determining crime seriousness (Francis et al. 2001). Furthermore, it is difficult for analysts to (only) study violent acts lower on the hierarchy, as some of these will not be registered when they accompany more "serious" forms of violence, potentially impacting the effectiveness of policies aimed at reducing specific forms of violence. Whilst beyond the scope of our harmonized framework for violence, a potential solution could be countries abandoning such hierarchies, such as the USA, who are moving toward systems where multiple offenses can be recorded (Maxfield 1999; USA Bureau of Justice Statistics 2022).

4. Recording of Additional Characteristics

4.1. Individual Characteristics

Beyond recording aspects of violent events, the characteristics of individuals need to be registered to accurately assess the SDGs and Istanbul Convention objectives. SDG 5.1 concerns violence against women, as does the CoE's Istanbul Convention (Council of Europe 2011a; UN GA 2015), and SDG 16.2 concerns violence against children (UN GA 2015). Hence, accounting for sex and age is required to monitor the progress toward these goals. Furthermore, SDG 10.2 aims to "empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status" (UN GA 2015). Considering that exposure to violence obstructs inclusion in these domains, particularly for marginalized groups (Cudd 2006), this SDG goal requires the recording of all these individual characteristics of people who experience violence. Furthermore, we argue that sexual orientation and gender identity need to be included, considering that gathering data regarding these groups "forms part of a State's human rights obligations" (UNHRC 2019).

Not all of these characteristics are captured by medical or police records. Medical records generally contain information on the age, sex, and ethnicity of the patient, although these characteristics, especially ethnicity, might be inconsistently registered by different countries and within the same countries over time (Jain et al. 2017; Routen et al. 2022). Additionally, the ICD-11 (but not the ICD-10) contains codes regarding the gender of the perpetrator. The UNODC ICCS records the sex, age, citizenship, and legal status of both the victims and perpetrators and the economic activity status of the perpetrator (UNODC 2015, pp. 100–1). They do not recommend collecting data on aspects that are relevant only in specific contexts (UNODC 2015, n. 22), for example, ethnic minority groups in different countries. However, this may lead to overlooking inequities in violence. Therefore, we would propose that relevant characteristics, for instance, regarding ethnicity, are recorded regardless of the specific context. Still, it must be acknowledged that there are risks with registering characteristics that are stigmatized in particular contexts, leaving the individual at risk (UNHRC 2019), and thus, not all characteristics can be enquired about in all contexts.

4.2. Relationship between Victim and Perpetrator

Beyond registering individual characteristics, the relationship between the victim and perpetrator needs to be taken into account. Both the UN, CoE, and WHO specifically mention domestic violence or violence in the private sphere as an important factor to consider (Council of Europe 2011a; Krug et al. 2002; UN 2021), and the SDG measurement 5.2.1 requires collecting information on the victim–perpetrator relationship (UN GA 2017). Several relationships are specifically mentioned, such as those between (ex)partners, parents and children, and between other family members who are not intimate partners (e.g., Council of Europe 2011a; Krug et al. 2002).

Both the ICD and UNODC have the capacity to provide detailed information regarding the relationship between victims and perpetrators, differentiating, for instance, various types of partner, family, and friendship/acquaintance relationships. The UNODC has quite extensive relationship categories for intentional homicide; however, the categories for other offenses are less elaborate and should be expanded upon. Overall, the relationship indicators are sufficient for evaluating progress toward the SDGs and are potentially comparable between the two measurement systems.

4.3. Location

Lastly, the location where the violence took place is relevant for formulating policies, for instance, to prevent violence at work and in public spaces (Krug et al. 2002, p. 249; United Nations Department of Economic and Social Affairs 2014, para. 84). For that reason, SDG indicators 5.2.2 and 11.7.2 regarding sexual violence against women and girls and physical and sexual harassment, respectively, mandate the collection of the place of occurrence (UN GA 2017). The location of the event is registered in the UNODC ICCS under eight categories, for instance, "private residential premise" or "open area, street or public transport". The ICD-11 has 13 categories and another 24 extra categories to indicate the place in the building or grounds (for instance, bedroom, classroom, or tennis court). Considering more detail is useful for implementing better prevention and planning policies, we recommend the harmonization of categorization following the ICD-11 classification.

5. Discussion and Recommendation

We started this paper by emphasizing the need for a shared conceptualization and measurement of violence between the health and justice fields. This would enable the evaluation of progress toward the SDGs regarding violence and a more comprehensive view of violence and its societal costs, facilitate interdisciplinary research, and lead to more effective policies to prevent violence and help victims.

The harmonization of violence measurement is a public health issue that has been somewhat explored in other data projects in the UK and other countries. The Data First initiative by the UK Ministry of Justice (2022) is potentially an ambitious source of linked data that, although mostly focused on administrative-based justice systems (magistrates and Crown courts, prisons, and family courts), also includes information from education, children's social care, and young people's offending. This justice-centered data source is expanding but remains centered on offenses meeting a criminal threshold and does not include harm. Furthermore, its expansion has been slow, given that deterministic data linkage requires overcoming a fair amount of regulatory barriers. In terms of public health, the UK has made some progress via violence reduction units (UK Home Office 2023). Particularly, the Wales Violence Prevention Unit benefited from the early implementation of the Cardiff model, managing to consistently link ambulance and emergency care data with police data in south Wales (Florence et al. 2011). This model has since been replicated in several US cities (see, for example, Kohlbeck et al. 2022; Mercer Kollar et al. 2020). Nonetheless, even in relatively smaller geographical areas, further linkage does not exist, not in the least because the data collected are not harmonized but also due to regulatory barriers.

We relied on the definitions provided by the WHO, UN, and CoE to determine what violence is and, thus, which violent acts need to be included in any new framework. Whilst definitions of violence are contested throughout the research (de Haan 2008), the UN, CoE, and WHO have a consistently broad definition of violence, even though the WHO's definition focuses on violence in general, while the UN and CoE's definitions discuss gender-based violence and violence against women and domestic violence. They define violence as intentional actions that lead to or have a high likelihood of leading to harm; these actions can be illegal or legal, and the actions and harm can be either physical or nonphysical, which is visualized in Figure 1. For sexual violence, it is required that there is no consent. Acts of omission are also included in the definition of violence.

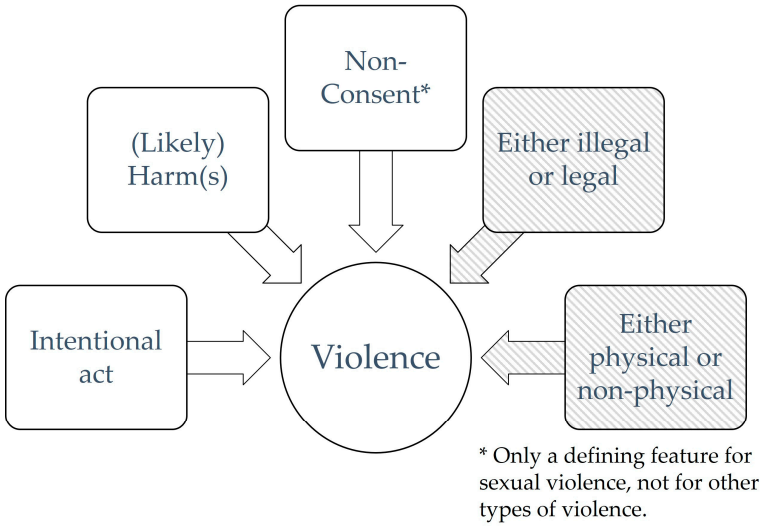

Figure 1. Violence as defined by the WHO, UN, and CoE. Intentional acts and (likely) harm are defining features; consent is only applicable to sexual violence. Violence is not defined by the physicality and legality of the act.

Whilst the definitions of the UN, CoE, and WHO are very similar, some room for clarification exists. The first relates to consent, which has been argued to be relevant for different forms of violence (Hamby 2017), while the WHO, UN, and CoE mention is only regarding sexual violence. However, consent for nonsexual violence is a nuanced topic, for instance, when people are not able to consent to medical procedures. Second, reckless acts should be included in the definition, following the WHO and criminal law (Krug et al. 2002; UNODC 2015). Furthermore, as the definitions by the WHO, UN, and CoE concern

actions leading to (or likely to lead to) harm, the level of harm needed for something to be construed as violence or abuse needs to be made explicit (Hamby 2017). Whilst for physical harm, this is made more explicit, for instance, in minor assaults (UN 2016; UNODC 2015), the threshold for nonphysical harm needs to be established. Hence, we recommend future research to study the minimum level of nonphysical harm that should be construed as violence and relatedly, which level of severity of harm delimits different types of violence.

Whilst the conceptualization of violence is quite similar between the WHO, UN, and CoE, how violence is measured and what is recorded differs substantially between the measurement frameworks used by the health and justice fields (ICD-11 and UNODC ICCS). They are also insufficient on some aspects for measuring progress toward the SDGs or assessing the cost of violence. A potentially large obstacle to collaboration between the health and justice sectors is the registration of violence; the ICD uses different codes to the UNODC ICCS. Potentially, a "translation" could be made to convert the ICD categories to ICCS violence categories on a higher level of abstraction in order to facilitate research using data sources from both fields. Relying on this higher level of abstraction hinders the investigation of more specific forms of violence, such as minor or serious assault, coercive control, or stalking, when using data from both health and justice fields. For the shared measurement framework, we recommend recording all acts that fit the definition of intentional nonconsensual actions that lead to or have a high likelihood of leading to (physical or nonphysical) harm. These forms of violence could be categorized into physical, psychological, and sexual violence, following the definitions of the UN and CoE. Ensuring more consistent coding practices when using the ICD for recording violence and abuse within the health sector is also recommended.

Furthermore, when no country-wide unique individual and event identifiers are incorporated in the registration, it is impossible to identify the number of events, victims, and perpetrators that are due to repeated victimization and offending, possible multiple victims/perpetrators, and multiple care episodes for a single violent event. The abandonment of the hierarchy rule in registering crimes in the justice field in favor of allowing multiple codes to be attached to incident reports (i.e., counting every crime that has been committed at one time, instead of only counting the most serious), as is the case with the ICD measurement system, would further facilitate counting violence that is classified as at a lower level within these hierarchies. Beyond counting violence accurately, additional information about the victim, the perpetrator, the victim–perpetrator relationship, and the location of the event needs to be registered to assess the progress toward the SDGs using these data sources and to adhere to their human rights obligation (UN GA 2017; UNHRC 2019).

Combined, this would allow for a better position to assess progress toward the SDGs regarding violence reduction and for the more effective use of data collected by both the health and justice sectors. Thus, we propose the following framework to record violence, within which the main unit of measurement is events, but victim and perpetrator identifiers can be linked to enable data to also be displayed using the individual as a unit in order to study prevalence (Table 1). The main variable categories are victim, perpetrator, and event identifiers, forms of violence (preferring a detailed description similar to the ICCS classification), harm, and victim, perpetrator, and event characteristics. This framework should be sufficient for capturing the main societal costs of violence and abuse, as well as providing opportunities for evaluating progress toward the SDGs. To do so also requires small amendments to the existing ICCS and ICD frameworks, which would have a large impact, such as including the recording of harm for the ICCS, recording more details on the forms of violence for the ICD, and recording identifiers for the event, victim, and perpetrator, which preferably are consistent across health and justice agencies.

Table 1. Proposed measurement framework for recording violence and assessing its consequences. Main unit is the violent event.

Identifiers
Event identifier, victim(s) identifier(s), and perpetrator(s) identifier(s).
Form(s) of violence
Physical violence, sexual violence, and psychological violence.
Harm
Physical harm, sexual harm, and psychological harm.
Victim and perpetrator characteristics
Sex, age, citizenship/legal status, race/ethnicity, disability, religion, economic status, gender identity, and sexual orientation.
Event characteristics
Duration (for certain forms of violence), repetition (if event identifier is not possible), relationship between victim and perpetrator, and location.

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