# Sentinel Surveillance and Centring Prevention in Anti-Trafficking Policy and Response

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## Abstract

There are more people today living and working in slavery-like conditions than ever before, highlighting limitations in the current anti-trafficking policy paradigm, characterised by its focus on prosecution and falling short on investment in prevention. This paper echoes the call made by other scholars for a prevention-centric, public health approach towards eradicating human trafficking and forced labour. Through a discussion of conceptual and practical advantages, it supports the use of sentinel surveillance for the proactive monitoring of at-risk populations to better understand changing patterns of exploitation over time. Centring prevention at the heart of anti-trafficking efforts is a long-term strategic investment in developing effective policy and addressing the root causes of why trafficking occurs in the first place.

## Introduction

Over the past twenty years, the international community has become increasingly aware of the problems of human trafficking and forced labour that fall under the umbrella term of what constitutes modern slavery. The International Labour Organisation (ILO) estimated that at any given moment in 2016, there were 40.3 million people trapped in situations of modern slavery worldwide[1], highlighting the magnitude of this pervasive and complex global human rights violation. The eradication of human trafficking and forced labour was included in Target 8.7 of the Sustainable Development Goals, adopted unanimously by

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[1] ILO, "Global Estimates of Modern Slavery: Forced Labour and Forced Marriage" (Geneva, Switzerland: International Labour Office (ILO), 2017).

member states of the United Nations (UN) in 2015[2]. Research on modern slavery is becoming increasingly multi- and interdisciplinary, and there have been calls from within the anti-trafficking community to engage with public health researchers and practitioners to help develop novel insights and innovative solutions[3].

The ultimate goal of public health is to prevent harms to individuals and populations from occurring in the first place. Public health accomplishes this objective of prevention by adopting evidence-based research methodologies, systematically collecting data, tracking trends and evaluating interventions. A comprehensive approach to effectively addressing human trafficking involves elements of prosecution, protection, and prevention, with a historical emphasis on prosecution[4]. In spite of this, exclusively enhancing criminal law or protection measures ultimately cannot translate to the aims of prevention[5]. Moving away from the dominant criminal justice approach towards one more informed by public health can improve the understanding of where and why trafficking occurs, who is most vulnerable to becoming a victim, and how these dynamics change in response to various policies and programs[6].

## Reviewing Anti-Trafficking Discourse and Responses

The ILO defines forced labour as 'all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily'[7]. Skřivánková's Continuum of Exploitation[8] further maps all work environments on a single spectrum, ranging from decent work to

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[2] "ILO Contributions to Achieve Target 8.7 (The 2030 Development Agenda)," accessed October 23, 2019, https://www.ilo.org/global/topics/sdg-2030/goal-8/target-8-7/lang--en/index.htm.

[3] Ligia Kiss and Cathy Zimmerman, "Human Trafficking and Labor Exploitation: Toward Identifying, Implementing, and Evaluating Effective Responses," *PLOS Medicine* 16, no. 1 (January 29, 2019): e1002740, https://doi.org/10.1371/journal.pmed.1002740.

[4] Caroline Robinson, "The Modern Slavery Bill: The Missing 'P's' - Prevention & Protection" (Focus on Labour Exploitation, July 2014), https://www.labourexploitation.org/publications/flex-parliamentary-briefing-modern-slavery-bill-house-commons-second-reading.

[5] Elisabeth Haase, "'Human Trafficking, Public Health and the Law': A Comprehensive Analysis of Intersections," *Journal of Public Health* 22, no. 2 (April 1, 2014): 121–29, https://doi.org/10.1007/s10389-013-0603-6.

[6] Makini Chisolm-Straker and Hanni Stoklosa, *Human Trafficking Is a Public Health Issue: A Paradigm Expansion in the United States* (Springer, 2017).

[7] ILO, Convention C029 - Forced Labour Convention, 1930 (No. 29) (1930).

[8] Klara Skřivánková, "Between Decent Work and Forced Labour: Examining the Continuum of Exploitation" (York, UK: Joseph Rowntree Foundation, 2010)

forced labour (Figure 1). The continuum is representative of the relationship between decent work and forced labour, highlighting that human trafficking is a process which moves a worker towards a situation of forced labour through a series of increasingly exploitative conditions and criminal and labour violations. Using this definition, it's possible see that a work situation can begin as consensual and mutually beneficial and eventually deteriorate into being oppressive and exploitative[9].



**Figure 1: Skřivánková's continuum of exploitation (adapted from[10]).**

High-profile anti-trafficking campaigns often focus on the far-right side of this continuum, with the most prominent cases of extreme violence and egregious human rights violations being further sensationalised by popular media[11]. While not detracting from the severity of abuse that these victims have faced and the need for justice and restitution, focusing only on these extreme cases of exploitation diminishes the significance of the exploitation faced by the millions of people who are trapped in the grey areas of the continuum. The most extreme cases tend to elicit the strongest emotional response from ordinary citizens and policymakers, with calls for justice necessitating a criminal perpetrator to be held accountable for his or her grave human rights violations. This reinforces the narrative and response that the prosecution of traffickers should be the primary means towards resolution for victims. Arresting and prosecuting a perpetrator represents a direct link between anti-trafficking activity and the successful outcome is apparent and easy to quantify. However, because of this framing, what is often lost within the grey spaces between extreme ends of the continuum are the less severe (but far more frequent) circumstances of human trafficking and forced labour. While high profile

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[9] R. Weitzer, "New Directions in Research on Human Trafficking," *The ANNALS of the American Academy of Political and Social Science* 653, no. 1 (May 1, 2014): 6–24, https://doi.org/10.1177/0002716214521562.

[10] Skřivánková, "Between Decent Work and Forced Labour."

[11] Rutvica Andrijasevic and Nicola Mai, "Trafficking (in) Representations: Understanding the Recurring Appeal of Victimhood and Slavery in Neoliberal Times," *Anti-Trafficking Review*, no. 7 (2016), https://doi.org/10.14197/atr.20121771

campaigns can be successful in raising awareness and funding, they often frame the issue exclusively in a criminal justice lens focused on individual-level impact (e.g. narrative of rescue from the bondage of a trafficker) whereas a public health framing is instead focused on prevention and population-level impact. Popular discourse and policies centred on preventative measures, regardless of their potential for long-term impact, are not as likely to resonate with stakeholders due to the reality that tangible outcomes of prevention are much harder to quantify and identify. The intersection of public health and human trafficking lies at the heart of a shift in the anti-trafficking paradigm towards a prevention-centric approach.

## Public Health and Human Trafficking

Human trafficking is increasingly understood as a public health concern of global magnitude, with well-established negative health consequences affecting individuals, families, and communities all around the world[12]. A growing body of research documents how survivors of labour exploitation and human trafficking often suffer from severe and lasting physical and mental health problems[13]. Approaching human trafficking through a public health lens enables researchers to identify and characterize the vulnerabilities that lead people to be susceptible to victimisation and exploitation[14]. A public health framework emphasises the importance of evidence-based research to inform intervention and prevention strategies. This is particularly significant in the context of human trafficking because despite the billions of dollars poured into anti-trafficking efforts, the work of a multitude of organisations around the world, and increased public awareness of the issue, there has been little evidence to suggest that trafficking is declining[15]. There is increasing support for exploring the adaptation of public health methodologies as a means to better understand the dynamics of human trafficking and create more effective policy responses[16].

[12] Cathy Zimmerman and Ligia Kiss, "Human Trafficking and Exploitation: A Global Health Concern," *PLOS Medicine* 14, no. 11 (November 22, 2017): e1002437, https://doi.org/10.1371/journal.pmed.1002437.

[13] L. Ottisova et al., "Prevalence and Risk of Violence and the Mental, Physical and Sexual Health Problems Associated with Human Trafficking: An Updated Systematic Review," *Epidemiology and Psychiatric Sciences* 25, no. 4 (August 2016): 317–41, https://doi.org/10.1017/S2045796016000135.

[14] Chisolm-Straker and Stoklosa, *Human Trafficking Is a Public Health Issue*.

[15] Jonathan Todres, "Moving Upstream: The Merits of a Public Health Law Approach to Human Trafficking," *North Carolina Law Review* 89, no. 2 (2011).

[16] E. Such et al., "Modern Slavery and Public Health: A Rapid Evidence Assessment and an Emergent Public Health Approach," *Public Health* 180 (March 1, 2020): 168–79, https://doi.org/10.1016/j.puhe.2019.10.018.

Due to the inherently hidden nature of the trafficked population there are many challenges and limitations in generating reliable prevalence estimates. The phenomena of trafficking is driven underground and out of sight due to its illicit nature, the stigma and shame that victims often experience from their communities, and the fear of retribution from perpetrators that deters victims from self-identifying. Rothman et al. state that 'a public health approach to human trafficking involves estimating the size of the problem; identifying risk and protective factors for victimisation, perpetration, survival, and resilience across multiple levels of the social ecology; and developing evidence-based strategies to improve victim health.'[17] One of their recommended priorities for public health research on human trafficking is to determine the prevalence and incidence of human trafficking with better precision[18]. Prevalence and incidence are some of the most fundamental measures used in epidemiology, or the science of public health.

The World Health Organisation (WHO) defines epidemiology as 'the study of the distribution and determinants of health-related states or events (including disease), and the application of this study to the control of diseases and other health problems'[19]. Epidemiology aims to understand how a disease occurs, how it is spread, and why it affects different groups of people. Epidemiology is a unique science because of its interdisciplinarity and potential for applying its methodological tools to a wide range of fields of study[20]. As Akers and Lanier[21] observe, "epidemiological models, methods, and theories that consider disease patterns, distribution, and causal linkages are useful because human population modelling should not be limited to traditional interpretations of diseases from a biomedical framework". Using ideas from across disciplines such as public health can help to broaden conceptual and quantitative models and advance research on human trafficking. For example, epidemiological methodologies used to measure other hidden populations and stigmatized conditions, such as injection drug users

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[17] Emily F. Rothman et al., "Public Health Research Priorities to Address US Human Trafficking," *American Journal of Public Health* 107, no. 7 (July 2017): 1045–47, https://doi.org/10.2105/AJPH.2017.303858.

[18] Rothman et al.

[19] World Health Organization, "Epidemiology," WHO, accessed February 15, 2019, https://www.who.int/topics/epidemiology/en/

[20] John Lynch, "It's Not Easy Being Interdisciplinary," *International Journal of Epidemiology* 35, no. 5 (October 1, 2006): 1119–22, https://doi.org/10.1093/ije/dyl200.

[21] Timothy A. Akers and Mark M. Lanier, "'Epidemiological Criminology': Coming Full Circle," *American Journal of Public Health* 99, no. 3 (March 2009): 397–402, https://doi.org/10.2105/AJPH.2008.139808

and HIV-positive individuals, have been employed in several studies that generate local and national estimates of trafficked populations[22].

Having a better understanding of the size and scope of human trafficking is necessary to make informed decisions for program design, resource allocation, and evaluation. In public health, the data to support such informed decision-making processes is collected through epidemiological surveillance. Gathered through either a passive or active approach, this data is used to develop strategies, evaluate policies, and predict future trends. A public health approach to trafficking incorporates surveillance both locally and globally[23]. Passive surveillance involves the cooperation of frontline responders (typically health care professionals), to report every occurrence of a disease they come across, at a fixed time interval (i.e. monthly or weekly). Active surveillance on the other hand initiates procedures to search for cases within at-risk populations. When surveillance systems identify a representative population sample and collect data over time, this information can help to calculate and refine estimates of prevalence and incidence[24]. Epidemiological surveillance is most relevant to and associated with health research. However, although there are extensive health harms caused by human trafficking, this is secondary to our principle objective of applying epidemiological methodologies to the subject matter. Instead, we focus on epidemiology as a methodological tool to measure the extent and distribution of an outcome[25], in this case with the outcome being an instance of trafficking or forced labour.

Human trafficking and forced labour are both hidden crimes and have relatively low population level prevalence, so traditional household or probability sample methods may necessitate a significantly large sample size, making this form of data collection highly complex or prohibitively expensive[26]. Moreover, scholars caution against concentrating on such macro-level estimates and instead

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[22] Lisa Fedina and Bruce R. DeForge, "Estimating the Trafficked Population: Public-Health Research Methodologies May Be the Answer," *Journal of Human Trafficking* 3, no. 1 (January 2, 2017): 21–38, https://doi.org/10.1080/23322705.2017.1280316.

[23] Jordan Greenbaum, "A Public Health Approach to Global Child Sex Trafficking," *Annual Review of Public Health* 41 (April 2, 2020): 481–97, https://doi.org/10.1146/annurev-publhealth-040119-094335.

[24] Kenneth J. Rothman, Sander Greenland, and Timothy L. Lash, *Modern Epidemiology* (Lippincott Williams & Wilkins, 2008).

[25] Eve Waltermaurer and Timothy A. Akers, *Epidemiological Criminology: Theory to Practice* (Routledge, 2014).

[26] ILO, "Measurement of Forced Labour" (20th International Conference of Labour Statisticians Geneva, 10-19 October, 2018),

advocate for micro-level research[27] focused on identifying the magnitude and characteristics of trafficking within a measurable context[28]. Given that trafficking is a process, rather than an event that can be quantified into a single data point, and is highly dependent on contextualized factors such as geography and sector, analysis of more richly detailed micro-level data may be of greater utility than national aggregate statistics or estimates. While macro-level data is certainly important to inform global prevalence estimates, greater focus on uncovering patterns of exploitation and victim identification on a smaller scale can more effectively support the development of evidence-based policy[29]. Global figures are capable of drawing attention to the sheer magnitude of the issue, however smaller scale research may be more precise and better suited to specific contexts[30].

## Sentinel Surveillance

Beyond conceptual models that apply public health thinking to human trafficking, an operational example of how public health methodologies can be applied to anti-trafficking efforts is through sentinel surveillance. A sentinel surveillance system is comprised of a network of carefully selected sentinel sites, or nodes, where there is a higher than average probability of detecting a condition of interest, such as an infectious disease[31]. This type of surveillance system is meant to select representative population samples and is effective at signaling emerging trends and the early detection of health-related events and diseases[32]. Although traditionally used in research and response related to infectious diseases such as influenza and HIV, sentinel surveillance systems have also been adapted for reporting and analyzing non-communicable health problems such as child

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[27] Ronald Weitzer, "Human Trafficking and Contemporary Slavery," *Annual Review of Sociology* 41, no. 1 (2015): 223–42, https://doi.org/10.1146/annurev-soc-073014-112506.

[28] Weitzer, "New Directions in Research on Human Trafficking."

[29] Hannah Thinyane and Francisca Sassetti, *Apprise: Using Sentinel Surveillance for Human Trafficking and Labor Exploitation* (United Nations University Institute on Computing and Society, 2019).

[30] IOM, "Human Trafficking: New Directions for Research," 2008.

[31] Yuan Bai et al., "Optimizing Sentinel Surveillance in Temporal Network Epidemiology," *Scientific Reports* 7, no. 1 (2017): 4804, https://doi.org/10.1038/s41598-017-03868-6.

[32] Toon Braeye, Sophie Quoilin, and Niel Hens, "Incidence Estimation from Sentinel Surveillance Data; a Simulation Study and Application to Data from the Belgian Laboratory Sentinel Surveillance," *BMC Public Health* 19, no. 1 (July 23, 2019): 982, https://doi.org/10.1186/s12889-019-7279-y.

maltreatment[33], occupational injuries[34], domestic violence[35], opioid related injuries[36], and self-harm[37].

As a complex phenomenon that cannot be understood simply as a sum of its various parts, making sense of human trafficking's emergent properties on a macro-level requires having comprehensive knowledge of what occurs on a micro-scale. Sentinel surveillance allows for systematic and more detailed investigation of a subset of cases to assess trends in characteristics that could not be universally evaluated[38]. Sentinel surveillance can be particularly useful when national estimates are not reliable or feasible, and when gathering detailed information is required for most cases[39]. If data from sentinel sites is linked to the sub-population under surveillance, and the site selection is representative of this population of interest, extrapolations can then be made to a larger regional or sub-national level[40]. Only through geographically and sectorally defined research can findings be aggregated to look for overarching trends and patterns within a locality or region. Given that sentinel surveillance is a targeted approach, as opposed to sampling across an entire population, the data generated will be more cost-effective, timely, and has greater potential for use in low-resource settings[41]. Sentinel sites also have design flexibility to extract specific information from target populations and geographic areas to document trends and monitor indicators of

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[33] Aimée Campeau et al., "Sentinel Surveillance of Child Maltreatment Cases Presenting to Canadian Emergency Departments," *BMC Pediatrics* 19, no. 1 (October 29, 2019): 393, https://doi.org/10.1186/s12887-019-1788-9.

[34] Yogindra Samant et al., "Sentinel Surveillance and Occupational Disease," *Occupational Medicine* 65, no. 8 (November 1, 2015): 611–14, https://doi.org/10.1093/occmed/kqv166.

[35] Marta Maria Alves da Silva et al., "Characteristics of the Violence and Accidents Survey Conducted in Brazilian Sentinel Emergency Departments," *Epidemiologia e Serviços de Saúde* 26, no. 1 (March 2017): 183–94, https://doi.org/10.5123/s1679-49742017000100019.

[36] Do Minh T. et al., "Original Quantitative Research - Sentinel Surveillance of Suspected Opioid-Related Poisonings and Injuries: Trends and Context Derived from the Electronic Canadian Hospitals Injury Reporting and Prevention Program, March 2011 to June 2017," *Health Promotion and Chronic Disease Prevention in Canada : Research, Policy and Practice* 38, no. 9 (September 2018): 317–27.

[37] Katrina Witt and Jo Robinson, "Sentinel Surveillance for Self-Harm," *Crisis* 40, no. 1 (January 1, 2019): 1–6, https://doi.org/10.1027/0227-5910/a000583.

[38] Lisa M. Lee, Stephen B. Thacker, and Michael E. St Louis, *Principles and Practice of Public Health Surveillance* (Oxford University Press, 2010).

[39] Nkuchia M. M'ikanatha and John Iskander, *Concepts and Methods in Infectious Disease Surveillance* (John Wiley & Sons, 2014).

[40] Nkuchia M. M'ikanatha et al., *Infectious Disease Surveillance* (John Wiley & Sons, 2013).

[41] Robert J. Hudson et al., *Veterinary Science* (EOLSS Publications, 2010).

vulnerability[42]. When properly implemented this type of system offers an effective method of utilizing limited resources to enable prompt and flexible monitoring and investigation[43].

Defined by the largest, most comprehensive human trafficking sentinel surveillance project to date, this methodology "seeks to understand and track the prevalence, severity, trends and changes in human trafficking patterns and flow, both internal and cross-border" [44]. Moreover, it collects three major types of data that are crucial in establishing anti-trafficking data regimes: information about victims and their vulnerability factors; criminal networks; and the effectiveness of laws and policies[45]. The United Nations Inter-Agency Project on Human Trafficking (UNIAP) used this sentinel surveillance approach on the Cambodia / Thailand border in 2009-2010[46] and the Vietnam / China border in 2010-2011[47]; conducting in-depth interviews with labour migrants on their deportation journey, to identify the risk and protective factors related to human trafficking. Using this information, UNIAP aimed to 'map trafficking trends and patterns; establish estimates of numbers and types of cross-border trafficking victims, particularly those who are not identified as victims and put into the pool of deportees; and document how brokers and traffickers operate to put migrants in exploitative situations'[48].

Recognizing the conceptual and practical advantages of sentinel surveillance and the potential to use for it to overcome some challenges facing anti-trafficking stakeholders, Thinyane et al.[49] further builds upon these initial studies, and suggests that sentinel surveillance could be used to identify trends and monitor for labour exploitation within human trafficking "hot spots". Using the WHO's

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[42] UNICEF, "Practical Considerations for Monitoring and Responding to Bottlenecks in Real Time," 2014, https://www.unicef.org/socialpolicy/files/Practical_Considerations.pdf.

[43] Peter Nsubuga et al., "Public Health Surveillance: A Tool for Targeting and Monitoring Interventions," in *Disease Control Priorities in Developing Countries*, ed. Dean T. Jamison et al., 2nd ed. (Washington (DC): World Bank, 2006), http://www.ncbi.nlm.nih.gov/books/NBK11770/.

[44] UNIAP, ed., *Human Trafficking Sentinel Surveillance: Poipet, Cambodia, 2009-2010* (Bangkok: United Nations Inter-Agency Project on Human Trafficking, 2010).

[45] UNIAP.

[46] UNIAP.

[47] UNIAP, "Human Trafficking Sentinel Surveillance: Viet Nam - China Border 2010" (Bangkok, Thailand: United Nations Inter-Agency Project on Human Trafficking, 2011).

[48] UNIAP, *Human Trafficking Sentinel Surveillance*.

[49] Thinyane and Sassetti, *Apprise*.

definition and recommendations for surveillance standards[50], a list of best practices and key considerations surrounding human trafficking sentinel surveillance is derived:

a) Involves a <u>limited number of carefully selected reporting sites</u> where this is a high probability of prevalence;
b) Centrally coordinated system with <u>proactive, anonymous data collection</u> in sentinel sites;
c) Used to <u>identify and monitor trends</u> in a community or region;
d) Involves a core function of 'action', which consists of three components: <u>control / response, policy, and feedback</u>.

*Site selection*

Site specific research in areas where trafficking is known to be taking place, or very likely to be encountered has previously been suggested[51]. When the parameters of data collection are limited to areas that have a higher probability of encountering a specific condition, in this case, human trafficking, more valid estimates of victimization can be generated and trafficking hot spots can be identified for the deployment of additional resources[52]. Surveillance could identify these areas of high incidence and help policymakers determine where capacity building activities and training is most needed for frontline responders[53]. Forced labour is generally isolated and concentrated in certain pockets therefore it is crucial to integrate prior knowledge about the geospatial and sectoral distribution of the phenomenon when selecting sample sites for data collection[54]. Conversely, if sites are poorly selected, the surveillance system may miss critical changes in patters and flows of labour exploitation.

One of the easiest and most reliable touch points is when trafficking survivors are being deported across a national border, as their identity and circumstances have already been discovered. As with UNIAP, practitioners often

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[50] World Health Organization, "WHO Recommended Surveillance Standards" (World Health Organization, 1999), http://www.who.int/csr/resources/publications/surveillance/whocdscsrisr992.pdf?ua=1.

[51] IOM, "Human Trafficking: New Directions for Research."

[52] Weitzer, "New Directions in Research on Human Trafficking."

[53] Todres, "Moving Upstream: The Merits of a Public Health Law Approach to Human Trafficking."

[54] ILO, "Measurement of Forced Labour."

conduct interviews at immigration detention centres to collect survey responses (for example, consider the recent report by IOM aimed at understanding migration patterns between Thailand and Myanmar[55]). Note must be made, however, of the reliability of data collected at these sites, as migrant worker rights groups often describe workers as being reluctant to participate or 'saying whatever it takes to get an interview finished'[56]. Other touch points where potential victims may come in contact with avenues of support include health services; routine labour inspections; investigations by police officers; and outreach activities by worker groups or NGOs. Within the context of sentinel surveillance of human trafficking, we refer to this broad group of stakeholders as frontline responders.

*Data collection*

Data on human trafficking tends to be collected on an ad-hoc basis by different actors for different purposes, and very rarely are these data streams linked with one another[57]. Within a network of sentinel sites, there needs to be a standardized statistical definition of trafficking adopted in order to conduct quantitative research and programmatic evaluation and to ensure comparability, reliability, and uniformity between sites. This definition should be drawn from the Palermo Protocol[58] and include harmonized operational indicators (such as the ILO's Indicators of Forced Labour[59]) as well support calculations for both the prevalence (i.e. stock) and incidence (i.e. flow) of trafficking (such as those included in the University of Georgia's APRISES Toolkit for Prevalence

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[55] IOM, "Flow Monitoring Surveys: Insights into the Profiles and Vulnerabilities of Myanmar Migrants to Thailand (Round Two)" (Bangkok, Thailand: International Organization for Migration, December 2018), https://reliefweb.int/sites/reliefweb.int/files/resources/IOM%20-%20DTM%20report%20A4_2019-01-09_0.pdf.

[56] Comment by migrant worker rights network, describing their own experience when interviewing deported migrants at the Mae Sot border in Thailand. April 2017.

[57] Alexis A. Aronowitz, "Overcoming the Challenges to Accurately Measuring the Phenomenon of Human Trafficking," *Revue internationale de droit penal* Vol. 81, no. 3 (2010): 493–511.

[58] UNHCHR, "Protocol to Prevent, Suppress and Punish Trafficking in Persons" (Palermo: United Nations Human Rights Office of the High Commissioner, 2000), http://www.ohchr.org/EN/ProfessionalInterest/Pages/ProtocolTraffickingInPersons.aspx.

[59] ILO, "ILO Indicators of Forced Labour" (Geneva, Switzerland: Special Action Programme to Combat Forced Labour, ILO, 2012), http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@declaration/documents/publication/wcms_203832.pdf.

Reduction[60]). A general paucity of primary data collection, inconsistencies in measurement, and unclear definitions inhibits such information from being analysed and compared in any meaningful way[61]. Data collection should combine both qualitative and quantitative information in a mixed methods approach in order to synthesize and contextualize statistical measures and other numerical data. Reporting such data does not necessarily require that a new, independently designed system be implemented, but could potentially leverage existing protocols and infrastructure at sentinel sites for collecting other forms of administrative data like demographic, health, labour, and immigration information.

The WHO Surveillance Standards notes that reporting units that have a higher probability of encountering certain conditions in a surveillance system are required to have staff that are specially trained to accurately diagnose and report cases[62]. To do so, tools like questionnaires are required, as well as adequate training in how to administer them. By having frontline responders trained in identifying indicators of exploitation and having a standardized methodology of disaggregated data collection, this would support sentinel sites to screen for signs of labour exploitation and consistently identify victims. The WHO also suggests that testing should be undertaken to ensure the anonymity of cases, with a minimum set of data to be collected; especially in cases where there are negative consequences for patients to be associated with the condition[63]. This consideration of infectious disease surveillance is also pertinent with human trafficking data collection, as disaggregated data should be collected but not reveal the identity of the trafficking victim.

Due to fears of prosecution for immigration offences or illegal work practices as part of their exploitation, victims may not always be willing to self-identity to frontline responders, particularly to law enforcement. Therefore, passive reporting of cases that make it into the formal justice system for investigation and prosecution will always provide an incomplete picture of trafficking. In comparison, utilizing a victim-centric approach in data collection and proactively screening at risk individuals in high-risk areas adopts an active surveillance

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[60] David Okech, Lydia Aletraris, and Elyssa Schroeder, "Human Trafficking Statistical Definitions: Prevalence Reduction Innovation Forum," 2020, https://www.aha.org/system/files/media/file/2020/08/PRIF-Statistical-Definitions-Document-8-3.pdf.

[61] Frank Laczko and Marco A. Gramegna, "Developing Better Indicators of Human Trafficking," *The Brown Journal of World Affairs* 10, no. 1 (2003): 179–94.

[62] World Health Organization, "WHO Recommended Surveillance Standards."

[63] World Health Organization.

approach, can help improve the likelihood of victim identification and give more representative data. Notably, a sentinel surveillance system is useful when high-quality data about a particular disease or condition cannot be obtained through a passive system of data collection[64]. Proactive screening and data collection can help to identify victims in the early stages of exploitation and potentially prevent further harm from occurring.

*Data analysis*

By concentrating on a spatially defined sub-population at a hot spot (i.e. those who interface with frontline responders at a specific sentinel site) and collecting information across time, it may be more feasible to assess intervention effectiveness and changing patterns because of the establishment of baseline data. This type of hot spot analysis is used to identify and track how patterns of disease outbreak are changing over time when applied in the context of infectious disease control. Examining surveillance data can lead investigators to ask questions about the driving forces of emerging trends, vulnerability of subgroups and associated risk factors[65]. Coherent policy cannot be developed, and funds cannot be effectively targeted, without accurate data on labour exploitation and human trafficking and how trends are changing over time[66]. Trends in victimisation may change in accordance to new law enforcement or immigration policies, market forces, or any number of reasons. Having a sentinel surveillance system in place would help not only to inform immediate responses but would also provide the data to actively shape new policies or adapt previously existing ones as conditions change.

*Use of Data for Policy*

A final consideration of human trafficking sentinel surveillance is that it involves a core function of "action" consisting of three components: control/ response, policy, and feedback. A lack of sufficient baseline data in a specific location would hinder the ability to assess changing trends or evaluate

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[64] WHO, "Sentinel Surveillance," World Health Organization, 2018, https://www.who.int/immunization/ monitoring_surveillance/burden/vpd/surveillance_type/sentinel/en/.

[65] Pia MacDonald, *Methods in Field Epidemiology* (Jones & Bartlett Publishers, 2012).

[66] Amanda J Gould, "From Pseudoscience to Protoscience: Estimating Human Trafficking and Modern Forms of Slavery" n.d., 65. 2010.

interventions. Therefore, the establishment of a more comprehensive human trafficking sentinel surveillance network would inevitably take place across several stages. Small scale pilots would need to be conducted to document feasibility and learn best practices in implementation prior to expanding surveillance activities to multiple sentinel sites. This would allow for controlling parameters, ensuring the sites are responsive to changing conditions through the gathering of feedback, and to eventually become robust enough to offer recommendations for stakeholders and policymakers. In the context of public health knowledge, surveillance seeks to integrate multiple data sources for research purposes, to synthesize and translate the information collected, and deliver "actionable" recommendations and insights[67].

The Staged Development Tool[68] helps to assess current capacity in public health activities and helps to develop a roadmap for achieving higher level of function through assessing gaps, prioritizing, and planning. This tool provides an overview of sentinel surveillance characteristics including strategic direction, systems, resources, quality, engagement and impact and how improvements across these dimensions help to progress the development from basic to advanced[69]. Although designed with National Public Health Institutes in mind, the broad characterizations of different stages and capacities can map onto the development of human trafficking sentinel surveillance systems as well. For example, in its most preliminary stages sentinel sites are established primarily on donor/funder interests and sites have limited capacity to independently analyze data and use it to develop policy and program recommendations. Over time, as capacity is strengthened and data collection practices improve through iterative processes based on feedback from various stakeholders and knowledge of best practices, surveillance information can be better integrated with other contextual information to make quality recommendations to stakeholders. A key consideration in site selection is the potential for attracting additional resources over time that can lead to improvements based on the types of characteristics that influenced the initial selection.

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[67] James W. Buehler and Centers for Disease Control and Prevention, "CDC's Vision for Public Health Surveillance in the 21st Century. Introduction," *MMWR Supplements* 61, no. 3 (July 27, 2012): 1–2.

[68] CDC, "Staged Development Tool: Sentinel Surveillance," 2016.

[69] CDC.

## Centring Prevention in Policy and Response

　　While prosecution and protection remain critical components of the tripartite response in the fight against human trafficking, a public health approach emphasises prevention as the cornerstone of all anti-trafficking efforts[70]. When an emerging public health issue is identified, initial responses will tend to be first directed towards tertiary prevention. Tertiary prevention in public health is focused on the rehabilitative efforts to prevent the worsening of a disease or condition that has already occurred[71]. In the first generation of modern slavery research and initiatives, efforts were primarily law enforcement centric, with a focus on holding perpetrators accountable and adopting legislation to criminalize all forms of human trafficking and forced labour[72]. Human trafficking tertiary prevention takes the form of emergency responses to capture traffickers, interventions to help survivors separate from their situation, and rehabilitative services that seek to prevent revictimization[73]. Over time, as responses become more effective and more is learned about the nature and scope of the problem, prevention initiatives will evolve to subsequently focus on secondary prevention.

　　Secondary prevention seeks to promote identification of individuals who are at risk and to take measures to reduce existing risk factors through screening and early diagnosis[74]. Secondary prevention efforts will involve referrals for assistance and the sharing of information that may prevent further harm from occurring[75]. Importantly, monitoring and surveillance are key pillars of secondary prevention that shift the dynamic from a reactive approach to a proactive one, where consistent screenings can lead to increased levels of early identification. The patterns that are identified through a sentinel surveillance system can be used to inform policy responses given that surveillance is the cornerstone of informed

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[70] Alexis A. Aronowitz, Gerda Theuermann, and Elena Tyurykanova, *Analysing the Business Model of Trafficking in Human Beings to Better Prevent the Crime* (Vienna: OSCE Office to the Special Representative and Co-ordinator for Combating Trafficking in Human Beings, 2010).

[71] F. Douglas Scutchfield and C. William Keck, *Principles of Public Health Practice* (Cengage Learning, 2003).

[72] Global Alliance Against Trafficking in Women, ed., *Collateral Damage: The Impact of Anti-Trafficking Measures on Human Rights around the World* (Bangkok: GAATW, 2007)

[73] Chisolm-Straker and Stoklosa, *Human Trafficking Is a Public Health Issue*.

[74] Stephen Gillam, Jan Yates, and Padmanabhan Badrinath, *Essential Public Health: Theory and Practice* (Cambridge University Press, 2012).

[75] Patricia A Crane and Melissa Moreno, "Human Trafficking: What Is the Role of the Health Care Provider?" 2 (2011): 28.

public health decision-making and action[76]. Secondary prevention is a necessary bridge to further the transition towards primary prevention, where interventions and measures are designed to prevent harm from occurring in the first place. A strong emphasis on enhancing secondary prevention through screening, monitoring and surveillance is necessary to lay the foundation that will assess the effectiveness of future efforts and drive systemic change. A paradigm shift away from 'downstream' responses can reorient anti-trafficking efforts from confronting harms after they have already occurred, towards strengthening individuals' and communities' capacities to prevent human trafficking[77].

## Conclusion

Researchers and practitioners face a multitude of challenges in estimating trafficked populations and tracking trends and changes in patterns of exploitation over time. Human trafficking and forced labour have always been associated with criminology and law enforcement but are also becoming increasingly recognized as public health concerns that merit the exploration of insights and methodological linkages between the two. Conceptual frameworks and operational solutions from public health, particularly epidemiological research and surveillance methods, represent an emerging approach to better understanding and addressing modern slavery. Building off of surveillance recommendations from the WHO on infectious disease, we have detailed key considerations for adapting a sentinel surveillance approach for human trafficking. Surveillance is a key component of victim identification and prevention efforts and the sentinel approach offers certain advantages given the characteristics and dynamics of human trafficking. While not a panacea for all contexts, further exploration of operational aspects of this methodology should be of interest and utility to researchers and practitioners as a way to enhance anti-trafficking efforts.

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[76] Lisa Lee and Stephen B. Thacker, "The Cornerstone of Public Health Practice: Public Health Surveillance, 1961--2011," *MMWR Surveill Summ* 60, no. 4 (October 2011): 15–21.

[77] Chisolm-Straker and Stoklosa, *Human Trafficking Is a Public Health Issue*.

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