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Integrating business management strategies to address HIV stigma and support employees in diverse workplaces

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Abstract

The persistence of HIV-related stigma within workplace environments presents significant challenges to public health goals and organizational well-being. This review systematically examines the integration of business management strategies aimed at reducing stigma and enhancing support for employees affected by HIV across diverse workplace settings. Drawing from multidisciplinary perspectives, including public health, organizational behavior, and human resource management, this work identifies key intervention models, such as policy development, educational programs, leadership training, and Employee Assistance Programs. Specific attention is given to the critical role of leadership commitment, the creation of psychologically safe environments, and the implementation of multi-component, culturally sensitive interventions that address both visible and invisible dimensions of diversity. The review highlights how workplace dynamics surrounding disclosure dilemmas, confidentiality breaches, and enacted discrimination can negatively impact employee well-being and organizational productivity. Furthermore, it explores the intersectionality of HIV stigma with other marginalized identities, underscoring the necessity for targeted strategies that consider complex social identities and systemic inequities. Despite promising intervention outcomes, methodological weaknesses in existing studies – such as limited long-term evaluations and a lack of standardized measurement tools – remain pressing challenges. This review concludes by recommending evidence-based, participatory approaches that prioritize inclusive policies, robust employee support mechanisms, and stronger cross-sector collaborations to create healthier and more equitable workplaces for all employees, including those affected by HIV.

Keywords: *HIV infections. Social stigma. Workplace. Employee assistance programs. Organizational policy.*

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Introduction

HIV and AIDS infection continue to represent a formidable global public health challenge. Despite significant advancements in biomedical prevention and treatment that have transformed HIV into a manageable chronic condition for many, the epidemic's impact is profoundly shaped by social factors, particularly stigma and discrimination[1]. HIV-related stigma, encompassing negative attitudes, beliefs, and judgments, and the resulting discriminatory actions, remain pervasive barriers hampering efforts to prevent new infections, encourage testing, facilitate disclosure, ensure engagement and retention in care, and optimize treatment adherence[2]. The persistence of stigma critically undermines progress toward achieving global targets, such as the Joint United Nations Programme on HIV/AIDS (UNAIDS) 90-90-90 goals and the Sustainable Development Goal of ending the AIDS epidemic by 2030[3]. The workplace emerges as a particularly critical setting in the context of HIV. A substantial proportion of the 38.4 million people living with HIV (PLWH) globally are part of the workforce, estimated at approximately 29.9 million in 2021[4]. For PLWH, employment offers significant benefits beyond financial necessity, including social integration, skills development, enhanced self-worth, and a sense of normalcy and routine, all of which contribute positively to health outcomes and overall quality of life[5]. However, the workplace can also be a site of significant vulnerability, where individuals may encounter prejudice, discrimination, and breaches of confidentiality related to their HIV status[6]. Discriminatory attitudes remain prevalent; globally, over half of individuals aged 15-49 years reported discriminatory attitudes toward PLWH[4], and high levels persist even in regions heavily impacted by the epidemic, such as sub-Saharan Africa[4]. The impact of HIV extends to businesses themselves, affecting productivity through increased absenteeism and staff turnover, raising healthcare costs, and potentially impacting employee morale[7]. The enduring nature of workplace stigma, even decades after the epidemic's onset and widespread knowledge about HIV transmission, suggests that simplistic or purely information-based approaches are insufficient[8]. Stigma is often intertwined with pre-existing societal prejudices related to sexuality, gender, race, and behavior, necessitating more complex, multi-faceted interventions that address these deeper social and moral dimensions[8]. Simultaneously, the workplace offers a unique and strategic platform for implementing interventions, providing access to a large, economically active population and possessing existing structures for communication, education, and support delivery[4]. This duality underscores the critical need for businesses to actively engage in addressing HIV stigma and supporting affected employees.

Effectively tackling HIV stigma and providing adequate support within the workplace necessitates an integrated, multidisciplinary approach. This requires drawing upon insights and strategies from public health, business management, organizational behavior, human resource management (HRM), and the fields of diversity and inclusion[9]. Public health provides the understanding of HIV transmission, prevention, treatment, and the dynamics of stigma as a health barrier. Business management offers frameworks for policy development, program implementation, resource allocation, leadership strategies, and evaluating organizational impact. Organizational behavior and HRM contribute knowledge on workplace dynamics, employee motivation, support mechanisms, and managing diversity. Diversity and inclusion studies illuminate the complexities of identity, intersectionality, and the experiences of marginalized groups within organizational settings. Central to this review are several core concepts. Business management strategies encompass the range of policies, programs, interventions, and leadership approaches organizations can employ. These include formal HIV workplace policies, anti-discrimination measures, educational campaigns, skills-building initiatives, Employee Assistance Programs (EAPs), wellness initiatives, and leadership training[10]. Employee support mechanisms refer to the formal and informal resources and practices that help employees cope with challenges and enhance well-being, such as perceived organizational, supervisor, and co-worker support, flexibility, confidentiality, and access to resources. HIV stigma is understood as a multi-layered construct involving negative beliefs, attitudes, and discriminatory behaviors, manifesting in internalized, anticipated, enacted, and structural forms within the workplace[11]. Workplace diversity encompasses the range of human differences, including both visible characteristics (e.g., race, gender) and invisible social identities (e.g., HIV status, sexual orientation, mental health status, disability), and recognizes that these identities can intersect to create unique experiences of stigma and support needs[12]. To provide a visual overview of these interconnected concepts, figure 1 presents a conceptual framework linking business management strategies, employee support mechanisms, HIV stigma, and workplace diversity. This schematic highlights how management approaches and employee support systems can either mitigate or

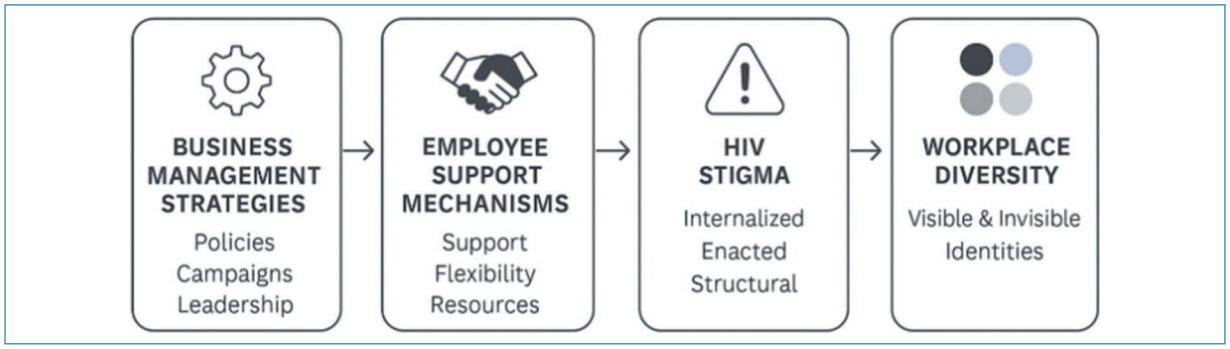

Figure 1. Conceptual framework illustrating the interrelations among business management strategies, employee support mechanisms, HIV stigma, and workplace diversity.

exacerbate HIV-related stigma within diverse workplace environments.

While previous reviews have examined interventions to reduce HIV stigma generally[13] or explored employment issues for PLWH[14], there remains a need for a comprehensive synthesis specifically focused on the integration of business management strategies to combat stigma and enhance employee support within diverse workplace contexts. Existing literature often highlights methodological limitations in intervention evaluations, such as weak study designs, lack of standardized measures, and insufficient long-term follow-up[13]. Furthermore, gaps persist in understanding the effectiveness of specific strategies across different types of workplaces, the impact on diverse employee populations considering intersectionality, and the link between interventions and tangible health or organizational outcomes[13]. Therefore, the objective of this review is to systematically examine and synthesize the peer-reviewed, English-language literature on the integration of business management strategies designed to address HIV-related stigma and strengthen employee support mechanisms within diverse workplace settings. This review aims to identify effective intervention models and policies, explore implementation facilitators and barriers, evaluate the existing evidence base, highlight critical research gaps, and provide recommendations for practice, policy, and future research.

Conceptualizing HIV stigma, workplace dynamics, and diversity

Defining HIV stigma in the workplace context

Understanding the complex interplay between business strategies, employee support, and HIV requires a clear conceptualization of stigma itself, particularly as it manifests in the workplace. Stigma, broadly defined, refers to beliefs and attitudes that mark an individual or group as unworthy or discreditable, essentially staining their social identity[11]. Discrimination is the behavioral consequence of stigma, involving unfair distinction, exclusion, or restriction based on a particular attribute[11]. Following Goffman's seminal work, stigma can be understood as arising from a discrepancy between an individual's "actual social identity" and their "virtual social identity" (how others perceive them), resulting in a "spoiled identity" that can lead to social devaluation and isolation[13]. Link and Phelan further conceptualized stigma as a social process involving the co-occurrence of labeling, stereotyping, separation, status loss, and discrimination, often enacted within power imbalances. Within the specific context of HIV, UNAIDS defines HIV-related stigma as encompassing negative beliefs, feelings, and attitudes directed toward PLWH, groups associated with them (e.g., family members, caregivers), and key populations perceived to be at higher risk[11]. HIV-related discrimination refers to the unfair or unjust treatment (act or omission) of an individual based on their real or perceived HIV status[11]. It is crucial to recognize that HIV stigma is not monolithic; it manifests in various forms and operates across multiple socio-ecological levels, including the individual, interpersonal, community, institutional (including workplaces), and structural levels[11]. Table 1 provides a typology of stigma forms particularly relevant to the workplace.

Workplace dynamics and the impact of HIV stigma

HIV-related stigma profoundly influences workplace dynamics, shaping interactions, decisions, and overall

Table 1. Definitions and manifestations of HIV stigma in workplace settings

Stigma type	Core definition	Workplace manifestations/examples	Key references
Internalized stigma	Endorsement of negative societal beliefs/attitudes about HIV by PLWH, leading to negative self-perception.	Feelings of shame, guilt, low self-esteem, self-blame, negative self-image impacting work confidence/ performance; reluctance to seek promotion or support; concealing status due to self-judgment.	13
Anticipated stigma	Expectation or fear held by PLWH of experiencing future prejudice, discrimination, or negative treatment in the workplace.	Fear of job loss if status is revealed; avoidance of seeking employment or promotion; reluctance to access workplace health services or disclose needs for accommodation; anxiety about colleagues' reactions.	11
Enacted stigma (discrimination)	Actual experiences of unfair treatment, prejudice, or discrimination by employers, supervisors, or coworkers based on real or perceived HIV status.	Refusal to hire; termination; denial of promotion/ training; harassment (verbal abuse, gossip, social exclusion); workplace segregation; forced disclosure; violation of confidentiality; unequal benefits.	13
Structural stigma	Organizational policies, practices, or societal laws that create disadvantages or restrict opportunities for PLWH.	Mandatory pre-employment HIV testing; lack of or poorly implemented anti-discrimination policies; inadequate workplace safety protocols (universal precautions); discriminatory insurance or benefit plans; absence of grievance mechanisms.	6
Symbolic stigma	Attaching moral judgment or blame to PLWH, often linked to perceived modes of transmission or association with marginalized groups.	Assumptions about an employee's lifestyle or behavior based on HIV status; judgmental attitudes from colleagues or supervisors; associating HIV with "immoral" behavior.	8
Stigma by association	Prejudice or discrimination directed toward individuals (e.g., colleagues, HR staff, healthcare providers within the workplace) who associate with, support, or provide services to PLWH.	Avoidance or negative treatment of colleagues known to support PLWH; reluctance of HR/managers to engage with HIV-related issues due to perceived association.	15

organizational climate. A central issue revolves around the disclosure of HIV status. As HIV is often a concealable or "invisible" identity in the workplace[16], employees face a complex "disclosure dilemma"[17]. The decision whether to reveal one's status involves weighing the potential benefits of authenticity, accessing support or accommodations, and building trust against the significant risks of encountering enacted stigma, discrimination, social rejection, and damage to one's professional reputation[16]. Factors influencing this decision include the perceived trustworthiness and supportiveness of the workplace environment, the individual's comfort level and identity centrality, and the anticipated consequences of disclosure versus concealment[18]. The fear of negative repercussions, such as job loss or exclusion, often leads PLWH to conceal their status[4]. This anticipation of stigma, perhaps even more so than internalized negative self-beliefs, appears to be a significant driver of perceived employment barriers for PLWH, suggesting that creating demonstrably safer and more supportive workplace environments is paramount.

When stigma translates into enacted discrimination, the consequences can be severe. Studies and reports consistently document various forms of workplace discrimination against PLWH, including mandatory or forced HIV testing as a condition of employment or promotion[19], refusal to hire or promote[20], unwarranted job termination[4], workplace harassment, social exclusion by colleagues[6], and subtle forms of segregation or assignment to less desirable duties[4]. Data from the U.S. Equal Employment Opportunity Commission between 1992-2003 indicated that HIV/AIDS-related discrimination allegations were significantly more likely to receive merit resolutions compared to allegations involving other disabilities, particularly concerning benefits, reasonable accommodation, training, and termination[21]. This suggests that discrimination against PLWH may be rooted in deeper levels of stigmatization, potentially

linked to unfounded fears of contagion or moral judgments associated with the virus[6].

Confidentiality is another critical dynamic. While many employees may perceive that their organizations protect confidentiality[22], breaches can and do occur, either intentionally through gossip or unintentionally through inadequate data protection practices[4]. Fear of confidentiality breaches is a major barrier to accessing workplace health services and disclosing status. Ultimately, workplace stigma and discrimination negatively impact both the individual employee and the organization. For employees, experiences or fear of stigma can lead to significant psychological distress, including depression, anxiety, and low self-esteem, social isolation, and a reduced quality of life[8]. For the organization, these issues translate into tangible costs associated with reduced productivity, increased absenteeism due to illness or avoidance, higher employee turnover, and increased recruitment and training expenses[23]. To visually summarize the complex dynamics of HIV stigma in workplace contexts, figure 2 maps the core pathways through which stigma manifests and exerts influence. As illustrated, stigma surrounding HIV-positive status is centrally implicated in employees' disclosure dilemmas, experiences of discrimination, concerns regarding confidentiality breaches, and broader psychosocial and organizational consequences. These interconnected factors collectively shape workplace interactions, employee well-being, and organizational functioning.

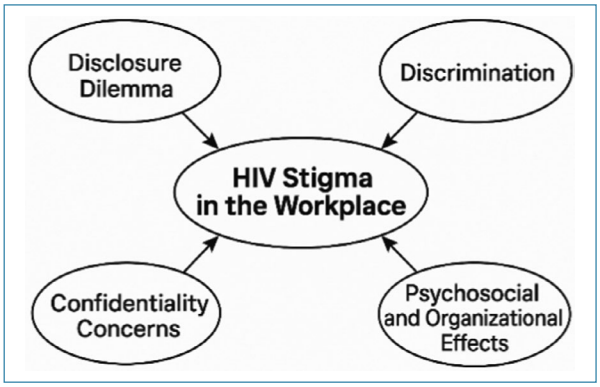

Figure 2. Schematic illustration of key workplace dynamics influenced by HIV-related stigma.

Workplace diversity, intersectionality, and stigma

The modern workplace is increasingly diverse, encompassing a wide range of human differences. While much organizational scholarship has focused on visible diversity characteristics, such as race, gender, and age, less attention has been paid to invisible social identities[24]. These non-apparent characteristics, such as sexual orientation, religion, chronic illness (including HIV), mental health conditions, or certain disabilities, present unique management challenges for individuals who must navigate decisions about disclosure (revealing) versus concealment (passing)[16]. The management of an invisible identity like HIV status is fraught with tension between the desire for authenticity and the need to avoid stigma and discrimination[25]. Business strategies must therefore create environments where disclosure is safe but not mandatory, acknowledging the validity of concealment as a protective strategy in potentially hostile environments.

Furthermore, experiences of stigma are rarely based on a single identity. Intersectionality theory highlights how multiple social identities (e.g., race, gender, sexual orientation, class, disability, and HIV status) intersect and interact, creating unique and often compounded forms of oppression and discrimination. For example, women living with HIV may face heightened stigma due to gender norms that assign greater blame or moral judgment[12]. Indigenous peoples living with HIV may experience "double discrimination" based on both their ethnicity and health status[26]. Sexual and gender minorities (SGM), such as men who have sex with men (MSM) and transgender individuals, face intersecting stigmas related to their sexual orientation, gender identity, and HIV status, often exacerbated by societal homophobia and transphobia[27]. Similarly, individuals with co-occurring conditions, such as tuberculosis (TB)[28] or mental health challenges[29] alongside HIV may face layered stigma. This complex reality necessitates that workplace interventions move beyond a singular focus on HIV status to address the specific, nuanced ways stigma manifests for diverse employee groups. Generic approaches may fail to resonate with or adequately support individuals navigating multiple marginalized identities.

The overall diversity climate within an organization – employees' perceptions of the extent to which the organization supports and promotes diversity[30] – plays a crucial role. A positive diversity climate, underpinned by inclusive policies and practices, can foster psychological safety[31] and make employees with stigmatized identities feel more included and supported. Social identity theory suggests that an employee's sense of

belonging and identification with the organization influences their perception of inclusivity[32]. Legal frameworks, such as the Americans with Disabilities Act (ADA) in the US, which prohibits discrimination based on disability (including HIV)[21], or the extension of civil rights protections to LGBTQ+ workers, provide a foundation for equality. However, the effectiveness of these laws depends heavily on awareness, implementation, and enforcement within individual workplaces, which can vary significantly[4].

Business management strategies for stigma reduction and employee support

Recognizing the detrimental impact of HIV stigma and the importance of supporting affected employees, various business management strategies have been developed and advocated for. These range from formal policies and legal compliance to specific programmatic interventions and the cultivation of supportive workplace environments.

Policy and legal frameworks

At the highest level, international guidelines provide a framework for national and corporate action. The International Labour Organization's (ILO) Recommendation concerning HIV and AIDS and the World of Work (No. 200) and its accompanying Code of Practice emphasize key principles, such as non-discrimination, gender equality, healthy work environment, social dialogue, confidentiality, prevention, and access to care and support. Joint guidelines from the World Health Organization (WHO), ILO, and UNAIDS also specifically address the need to improve access to HIV and TB prevention and care for healthcare workers, recognizing them as an occupational group requiring protection and support[15]. In safety-critical roles that involve exposure-prone procedures (EPPs) – for example, surgery, obstetrics, and some dental practices – many jurisdictions require a confidential occupational-health process to manage any residual risk to patients or coworkers. Contemporary professional and public-health guidance supports HIV-positive healthcare personnel performing EPPs when they are on effective antiretroviral therapy with sustained viral suppression (e.g., < 200 copies/mL), adhere to infection-control precautions, and participate in regular specialist monitoring; routine disclosure to patients or coworkers is not recommended, and confidentiality must be preserved. In the United States, legacy CDC (1991) recommendations called for expert-panel review and, in some instances, patient notification for EPPs; however, subsequent data demonstrate an extremely low provider-to-patient transmission risk under modern ART and standard precautions, and leading organizations (e.g., SHEA) now emphasize individualized, confidential risk management and oversight rather than blanket restrictions. Accordingly, we stress a dual imperative: protecting clients and coworkers through universal precautions, prompt access to PEP, effective ART, and confidential fitness-for-duty pathways, while simultaneously enforcing non-discrimination and privacy protections.

Many countries have adopted national HIV workplace policies, often guided by these international standards. Examples include Nigeria's national policy and the subsequent Akwa Ibom State HIV in the Workplace Policy (HIV WPP)[33], policies mandating workplace programs in Southern African nations, such as Zambia, Malawi, and South Africa[34], and frameworks implemented in countries, such as the Philippines[35] and Thailand[27]. These policies typically aim to protect the rights of PLWH by prohibiting discrimination in hiring, promotion, and termination; forbidding mandatory HIV testing for employment purposes; ensuring confidentiality of HIV status; and promoting prevention, care, and support initiatives within the workplace.

Legal frameworks, such as the ADA in the United States, provide crucial anti-discrimination protections for individuals with disabilities, explicitly including HIV[21]. Similarly, expansions of civil rights laws aim to protect LGBTQ+ individuals, who are often disproportionately affected by HIV, from workplace discrimination[36]. However, a significant challenge lies in the gap between policy adoption and effective implementation and enforcement[37,38]. Studies, such as the evaluation of the Akwa Ibom State HIV WPP, reveal suboptimal implementation due to factors, such as the unavailability of the policy document itself, lack of allocated resources, insufficient leadership commitment, and weak monitoring mechanisms[4]. Furthermore, monitoring legal violations and ensuring compliance within companies can be challenging for both management and unions. To better illustrate the multilevel structure of policy development and implementation challenges regarding HIV in the workplace, figure 3 presents a schematic overview. As shown, international guidelines serve as the foundational layer, influencing national policies and legal protections. However, despite the existence of comprehensive frameworks, effective implementation

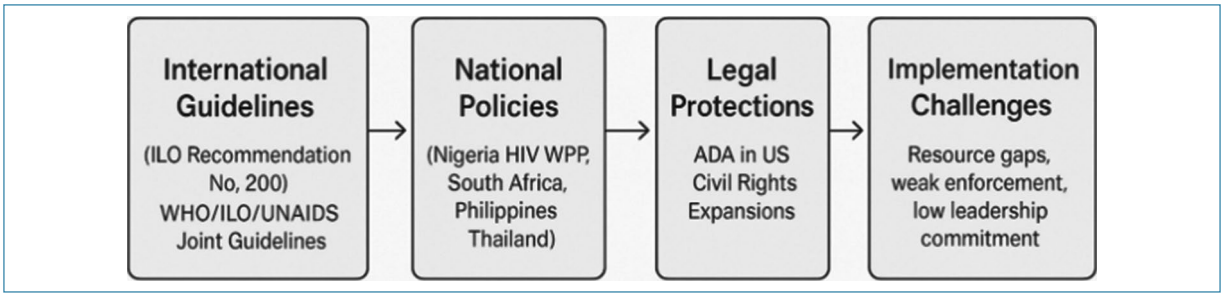

Figure 3. A schematic overview of policy and legal frameworks for HIV in the workplace.

often encounters substantial obstacles, including resource gaps, enforcement difficulties, and limited leadership engagement.

Specific business-led interventions

Beyond broad policies, businesses can implement a variety of specific programs and interventions aimed at reducing stigma and supporting employees. A variety of targeted business-led interventions can be implemented to mitigate HIV stigma and foster a supportive workplace environment. As illustrated in figure 4, these interventions span across eight key categories: Information and Education Programs, Skills-Building Training, Contact Strategies, Peer Education and Support, EAPs, Resilience-Based Interventions, Leadership Training, and Blended Learning Approaches. Each strategy plays a distinct but complementary role in addressing different aspects of stigma reduction, employee empowerment, and organizational change.

Information and Education Programs: these are foundational interventions focused on increasing accurate knowledge about HIV transmission, prevention, treatment, and the realities of living with HIV, while actively dispelling myths and misconceptions that fuel stigma[13]. Delivery methods include workshops, lectures, distribution of materials (posters, pamphlets), company newsletters, film showings, and awareness campaigns. Participatory education methods that encourage reflection and dialogue are often highlighted as particularly effective[35].

Skills-Building Training: these programs aim to equip employees, supervisors, and healthcare providers (in relevant settings) with practical skills for interacting respectfully and supportively with PLWH. This can involve training on non-discriminatory communication, empathy development, challenging stigmatizing attitudes, providing appropriate support, and correctly implementing universal precautions to reduce unfounded transmission fears.

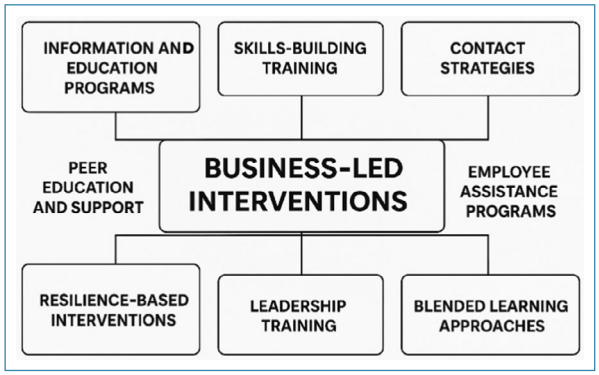

Figure 4. Schematic overview of business-led interventions to reduce HIV stigma and support employees in the workplace.

Contact Strategies: based on the principle that interpersonal contact can reduce prejudice, these interventions facilitate interaction between the target audience (e.g., general employees, managers) and PLWH[39]. This can occur through personal testimonies from PLWH, involving PLWH as co-facilitators in training sessions, or creating opportunities for collaborative work on projects[35].

Peer Education and Support: utilizing trained employees as peer educators or wellness champions leverages existing social networks and trust within the workplace. Peers can effectively disseminate information, model positive behaviors, promote HCT uptake, provide social and emotional support, and link colleagues to necessary resources[40]. Such programs benefit both the recipients and the peer supporters themselves[41].

Leadership and Management Training: given that leadership commitment is a critical facilitator[41] and its absence a key barrier, training programs specifically for managers and supervisors are essential. This training should cover HIV basics, the impact of stigma, relevant workplace policies, legal obligations, strategies for

fostering an inclusive environment, and skills for providing sensitive support to employees[4].

EAPs and Wellness Programs: EAPs are employer-sponsored programs designed to help employees address personal or work-related problems that may affect their well-being and job performance[42]. Initially focused on issues, such as alcoholism, modern EAPs often offer a broader range of confidential services, including counseling, assessment, and referral for mental health issues, substance abuse, stress, financial or legal concerns, and family problems[43]. EAPs represent a potential avenue for providing crucial psychosocial support to PLWH, helping them cope with stigma, manage stress, and navigate challenges[44]. Broader workplace wellness programs can also integrate HIV prevention, education, and support components alongside other health initiatives[41]. However, the effectiveness of EAPs can be limited by factors, such as employee awareness, perceived confidentiality, accessibility, and cultural appropriateness of the services offered. Simply establishing an EAP is insufficient without ensuring it meets the diverse and specific needs of the workforce, including those affected by HIV.

Resilience-Based Interventions: moving beyond solely reducing negative factors, such as stigma, these newer interventions focus on building positive capacities and strengths within PLWH, their families, and their support systems (including healthcare providers in workplace settings)[45]. Strategies aim to enhance coping skills, self-esteem, social support networks, and positive future orientation to help individuals mitigate the adverse effects of stigma[46].

Blended Learning Approaches: combining technology-based modules (e.g., self-administered tablet sessions with videos and interactive exercises) with traditional in-person group sessions offers a potentially more flexible, scalable, and time-efficient way to deliver stigma-reduction training, particularly in busy settings, such as healthcare facilities[47].

To synthesize the range of business-led interventions discussed above, table 2 presents a typology of these strategies alongside their primary mechanisms of action and reported outcomes in reducing HIV stigma or enhancing support. It categorizes interventions from formal policy implementation through to blended learning approaches, summarizing where evidence of impact has been observed and highlighting areas requiring further evaluation.

Employee support mechanisms

Effective business strategies must incorporate robust employee support mechanisms, which are the organizational resources and interpersonal interactions that promote employee well-being and facilitate coping. The concept of Perceived Workplace Support (PWS) provides a useful framework, encompassing four key dimensions grounded in social exchange theory[48]:

- Perceived Organisational Support (POS): employees' belief that the organization values their contributions and cares about their well-being.
- Perceived Supervisor Support (PSS): employees' perception that their direct supervisor values their work and is supportive of their needs. PSS often strongly influences POS.
- Perceived Co-worker Support (PCS): the feeling of being supported by colleagues and having positive peer relationships[49].
- Perceived Sufficient Resource Support (PSRS): the belief that adequate resources (tools, information, staffing) are available to perform the job effectively[49].

Specific mechanisms that operationalize these forms of support and are relevant to employees affected by HIV include flexibility, confidentiality, managerial support, peer support, resource provision, communication and feedback, and training and development. Flexibility involves offering adaptable work schedules, arrangements, such as work-from-home options where feasible, and allowing leeway in task completion, enabling employees to manage health appointments, medication side effects, or fluctuating energy levels without penalty, thereby constituting a form of reasonable accommodation[50,51]. Confidentiality is critical, requiring strict policies and practices that protect the privacy of employees' health information to build trust and encourage help-seeking or disclosure[52]. Managerial support plays a central role, with supervisors expected to demonstrate approachability, empathy, emotional and practical support, fair workload distribution, clear expectations, confidentiality respect, and advocacy for accommodations, as supportive leadership is consistently linked to positive workplace outcomes[53]. Peer support is equally important, as fostering a workplace atmosphere where colleagues are supportive, understanding, and helpful significantly contributes to employee well-being and mitigates feelings of isolation often associated with stigma[54]. Resource provision, ensuring access to necessary information regarding HIV policies, benefits, and support services, along with providing adequate

Table 2. Typology of business management strategies and associated HIV stigma/support outcomes

Strategy type	Mechanism of action	Reported outcomes	Key references
Policy implementation (Anti-discrimination, confidentiality, testing)	Establishes formal rules & rights; reduces structural stigma; creates framework for action.	Mixed implementation effectiveness; reduced discrimination where enforced; increased sense of security (if trusted); potential barrier if mandatory testing persists.	4
Educational programs	Increases knowledge; dispels myths/ misconceptions; addresses fear-based stigma.	Improved HIV knowledge; reduced negative attitudes/fear; sometimes limited impact on behavior change alone.	13
Skills-building training	Develops empathy, communication skills, and non-discriminatory practices; increases confidence in interaction/providing care.	Improved interaction skills; reduced observable discriminatory behaviors (e.g., in healthcare); increased self-efficacy.	13
Contact strategies (with PLWH)	Humanizes HIV; challenges stereotypes; fosters empathy; reduces social distance.	Reduced prejudice/negative attitudes; increased willingness to interact/ support PLWH; positive impact on reducing multiple stigma domains.	13
Peer education/support (Wellness champions)	Leverages social influence/trust; provides relatable support/ information; normalizes health behaviors.	Increased HCT uptake; reduced risk behavior; improved knowledge/ attitudes; enhanced social support; increased program engagement.	40
Leadership training/commitment	Sets organizational tone; drives policy implementation; models inclusive behavior; allocates resources; empowers managers.	Facilitates overall program success; improves diversity climate; increases employee trust/support perceptions; reduces implementation barriers.	4
Eap/wellness programs	Provides confidential counseling, referral, and support for psychosocial issues (stress, mental health, etc.).	Potential to improve coping, mental health, and well-being; effectiveness depends on awareness, accessibility, trust, and cultural fit.	43
Resilience building	Focuses on developing strengths, coping skills, and social support to mitigate stigma's impact.	Potential to improve mental health, coping, self-esteem, adherence, and viral suppression (outcomes under evaluation).	45
Blended learning	Combines technology (scalability, flexibility) with in-person interaction (empathy, skills practice).	Feasible and acceptable; potential for time/resource efficiency; effectiveness under evaluation.	47

training, appropriate tools, and a manageable workload, is crucial for maintaining both performance and well-being[55]. Communication and feedback mechanisms, including transparent communication about organizational decisions, clear channels for raising concerns, and processes for soliciting and acting upon employee feedback, help to cultivate a sense of value and trust within the workplace[56]. Finally, offering training and development opportunities by providing relevant job skills training and prospects for professional growth can enhance employee confidence and improve career trajectories[13]. Table 3 then distils the core employee support mechanisms we have described – such as flexibility, confidentiality, managerial and peer support, resource provision, communication and feedback, and training – linking each to its theoretical underpinnings and summarizing key evidence of effectiveness in fostering well-being and retention among employees affected by HIV.

Evidence suggests that robust employee support mechanisms are linked to numerous positive outcomes, including improved psychological well-being, reduced stress and burnout, increased job satisfaction, higher employee engagement and morale, enhanced innovative work behavior, and lower turnover rates[57]. Integrating these support mechanisms into the core business strategy, rather than viewing them as peripheral benefits, is essential for creating workplaces where all employees, including those affected by HIV, can

Table 3. Key employee support mechanisms and evidence of effectiveness

Support mechanism	Description/Examples	Theoretical link	Evidence of effectiveness	Key references
Flexibility	Flexible scheduling; control over work time/location; ability to adjust workload; remote work options.	PWS (enabling factor)	Improved work-life balance; reduced stress; facilitates management of health conditions (LTCs, HIV); supports retention.	10
Confidentiality	Secure handling of personal/ medical information; respect for privacy; environment supporting safe disclosure (if chosen).	Trust; psychological safety	Essential for accessing support/ EAPs; reduces fear of stigma/ discrimination; fosters trust in management/organization.	4
Manager/supervisor support	Empathy, approachability, trust, respect; fair workload assessment; clear expectations; emotional/ practical support; advocacy for accommodation.	PSS (component of PWS); leadership theories	Strong predictor of POS; increased job satisfaction, commitment, well-being; reduced stress/burnout; facilitates disclosure/help-seeking; key for wellness champion engagement.	41
Peer/co-worker support	Friendly/collegial atmosphere; practical assistance with tasks; emotional encouragement; shared understanding.	PCS (component of PWS); social support theory	Improved morale/well-being; reduced isolation; enhanced team cohesion; facilitates coping with workplace stressors.	41
Resource provision	Access to necessary tools, equipment, information, training; adequate staffing; safe working conditions.	PSRS (component of PWS); job demands-resources model	Enables effective job performance; reduces job strain/ stress; increases feelings of competence/efficacy; supports health & safety.	4
Communication and feedback	Transparency in decisions; open channels for concerns; solicitation and use of employee feedback.	Procedural justice; trust	Increased trust in management; feeling valued/respected; improved understanding of organizational context; facilitates problem-solving.	56
Training and development	Access to job-relevant training; skills enhancement; opportunities for career growth.	Human capital theory	Increased competence/ confidence; improved performance; enhanced career prospects; supports adaptation to change.	13

thrive. The concept of "reasonable accommodation," often legally mandated[21], serves as a practical bridge between policy and support, requiring flexibility and manager-employee dialogue, but its effective implementation can be hampered by the same stigma and disclosure barriers it seeks to overcome[58].

Synthesis and evaluation of workplace interventions

The literature reveals a diverse landscape of interventions aimed at reducing HIV stigma and supporting employees in various workplace settings. Synthesizing the evidence on their effectiveness, implementation challenges, and methodological rigor is crucial for identifying best practices and guiding future efforts.

Effectiveness of stigma reduction interventions

Systematic reviews and individual evaluation studies generally indicate that interventions can be effective in reducing certain aspects of HIV stigma, although the magnitude of effect is often modest, and outcomes vary considerably depending on the intervention type, target population, setting, and measurement tools used[59,60]. Interventions combining multiple strategies, such as information provision, skills-building, and contact with PLWH, appear promising. For instance, evaluations of workplace programs targeting healthcare workers in diverse settings (e.g., India, China, Ghana, Dominican Republic, South Africa) have shown reductions in stigmatizing attitudes, fear of transmission, and

discriminatory behaviors following multi-component training[40]. Similarly, workplace programs in settings, such as factories in LMICs, which often adopt a comprehensive wellness approach as a business strategy to maintain a healthy workforce. By combining education, community HIV HCT provision, peer education, and policy enforcement, these integrated programs have demonstrated improvements in HIV knowledge, the adoption of health-promoting behaviors, including condom use, increased HCT uptake, and reduced stigma. Peer education models, leveraging trust and social networks, have shown effectiveness in improving knowledge, attitudes, and HCT uptake. Newer approaches, like resilience-based interventions targeting PLWH, families, and providers[45] and blended-learning models using technology, show feasibility and potential but require further evaluation for effectiveness, particularly regarding long-term impact and clinical outcomes.

However, the evidence is not uniformly positive. Some studies report mixed results or no statistically significant change in stigma outcomes. A common finding is that interventions may successfully improve knowledge or change self-reported attitudes, but this does not always translate into sustained changes in behavior or reductions in enacted discrimination[61,62]. This apparent "knowledge-attitude-behavior gap" suggests that simply providing information or fostering positive attitudes is insufficient. Interventions likely need stronger components focused on behavioral skills practice, addressing social norms within the workplace, and ensuring structural supports (such as enforced policies and leadership modeling) are in place to facilitate and maintain behavioral change.

Furthermore, the effectiveness of interventions is highly dependent on context. Strategies developed for large corporations in high-income countries may not be directly applicable or feasible in SMEs, the informal sector, or specific industries within LMICs. Cultural norms, resource availability, existing infrastructure, and the specific drivers of stigma in a given setting significantly influence intervention success[63]. This highlights the critical need for culturally sensitive adaptation and context-specific research rather than relying on universal intervention models.

Methodological evaluation of the evidence base

Despite the growing number of interventions, the ability to draw firm conclusions about "what works" best is hampered by significant methodological limitations within the existing evidence base[64]. Many evaluations rely on pre-post designs without control groups, making it difficult to attribute observed changes solely to the intervention[65]. Even when control groups are used, randomization may not always be feasible or properly implemented, and sample sizes are often small, limiting statistical power. A major challenge is the lack of standardized and validated measurement tools for assessing HIV stigma in workplace settings[13]. Studies use a wide variety of instruments, measure different domains of stigma (e.g., attitudes, knowledge, fear, behaviors, internalized stigma), and often lack psychometric validation, making comparisons across studies difficult[13]. Furthermore, many studies focus on measuring changes in knowledge or attitudes, which, as noted earlier, may not reflect changes in actual discriminatory behavior or tangible outcomes for PLWH.

Long-term follow-up is frequently absent, preventing assessment of the sustainability of intervention effects[66]. Reporting quality can also be inconsistent, with insufficient detail provided about intervention components, implementation processes, or evaluation methods, hindering replication and synthesis. Evaluating the impact of structural or policy-level interventions poses particular challenges due to their complexity and the difficulty of isolating their effects using traditional experimental designs. These methodological weaknesses collectively limit the strength of the evidence base and underscore the need for more rigorous research designs, including effectiveness-implementation hybrid studies[29] and the development and consistent use of validated measurement tools tailored to workplace contexts.

Tailoring intervention strategies for diverse workplace contexts

While the strategies discussed provide a comprehensive toolkit for addressing HIV stigma, their application is not one-size-fits-all. The reviewer's suggestion to provide concrete examples is well-taken, as the effectiveness of interventions is highly contingent upon the specific context, including industry sector, organizational size, resource availability, and the local socio-cultural environment. For instance, challenges in the healthcare sector, where unfounded fears of transmission can be high, differ significantly from those in an office-based corporate setting or a resource-constrained small business. Instead of a universal approach, the evidence presented in this review suggests the

need for tailored intervention packages. Below are three illustrative examples of how strategies can be synthesized for distinct workplace types.

Example 1: the large multinational corporation

For a large, well-resourced corporation, often operating in a high-income country with strong legal frameworks, the focus should be on sophisticated integration and structural support.

- Policy and Leadership: policies should move beyond basic non-discrimination and be fully integrated into a broader Diversity, Equity, and Inclusion strategy. Leadership commitment should be demonstrated through resource allocation for comprehensive programs and visible support for initiatives, suchas LGBTQ+ Employee Resource Groups, which can address the intersectional nature of stigma.
- Interventions: a blended learning approach can efficiently deliver education to a large, dispersed workforce. This can be coupled with robust, confidential EAPs that are well-promoted and trusted by employees.
- Support Mechanisms: formal policies for flexible work arrangements should be in place as a form of reasonable accommodation. PSS is critical and can be cultivated through mandatory training for all middle managers on their roles in supporting employees and maintaining confidentiality.

Example 2: the small to medium-sized enterprise (SME) in a low- or middle-income country (LMIC)

For SMEs, particularly in resource-limited or high HIV-prevalence settings, interventions must be cost-effective, pragmatic, and leverage community resources.

- Policy and Leadership: a simple, clearly communicated workplace policy prohibiting discrimination and mandatory testing, perhaps adapted from a national template provided by the Ministry of Labour or a Non-Governmental Organization (NGO), is a crucial first step. Visible and vocal support from the owner or manager is paramount in smaller organizations where they have a direct influence on the workplace climate.
- Interventions: the most effective strategy is often a peer education program. Training a few volunteer "wellness champions" is a low-cost way to disseminate accurate information, promote testing, and build a culture of peer support. Businesses should actively partner with local public health bodies or NGOs to access free educational materials, condoms, and mobile HIV testing and counseling services.
- Support Mechanisms: support in this context is often informal. The focus should be on building strong PCS and fostering a climate of trust where an employee feels safe approaching the manager for support without fear of reprisal.

Example 3: the healthcare facility

Healthcare settings present a unique paradox: they are centers for treatment but can also be sites of intense stigma, driven by occupational risk perceptions and the dual stigma affecting healthcare workers who may be living with HIV themselves.

- Policy and Leadership: policies must be specific and rigorous, with clear protocols for universal precautions, post-exposure prophylaxis, and protecting the confidentiality of both patients and staff. This is not just an HR policy but a core component of occupational health and safety. Staff who perform EPPs should proactively engage with occupational health for confidential assessment and ongoing monitoring consistent with national/organizational guidance (e.g., SHEA/CDC/UKHSA), without mandatory disclosure to patients or peers.
- Interventions: training must go beyond general knowledge and include mandatory, skills-based sessions on correctly implementing universal precautions to reduce unfounded transmission fears. Contact strategies, such as having healthcare workers living with HIV share their experiences, can be powerful in reducing the "us versus them" mentality and fostering empathy.
- Support Mechanisms: given the high-stress environment, robust support for staff well-being is critical. This includes strong supervisor support to address burnout and ensure confidentiality, as breaches are a major concern in these settings. Resilience-based interventions can also equip staff to cope with the emotional toll of their work and the stigma they may witness or experience.

These examples demonstrate that by thoughtfully combining policy, targeted interventions, and appropriate support mechanisms, organizations can develop a strategic response to HIV stigma that is both evidence-based and contextually relevant.

Conclusion

Integrating business management strategies represents a crucial and promising pathway for addressing HIV-related stigma and supporting employees living with or affected by HIV. The workplace, while potentially a site of discrimination and exclusion, holds immense potential as a platform for positive change, education, and support, reaching millions globally. Effective strategies require a multi-pronged approach encompassing strong leadership commitment, comprehensive and enforced non-discriminatory policies, and robust employee support mechanisms grounded in trust and flexibility. As this review highlights, interventions must be tailored to the specific workplace context – whether a large corporation, a small enterprise, or a healthcare facility – to effectively address the multifaceted nature of stigma, including its intersections with other identities. While the present evidence base shows promise, significant gaps remain, particularly concerning rigorous evaluation, understanding long-term impact on tangible outcomes, and addressing diverse contexts and populations. By prioritizing methodologically sound, contextually relevant, and participatory research, and by fostering collaboration between businesses, policymakers, researchers, and communities, workplaces can be transformed into environments that not only mitigate the negative impacts of HIV stigma but also actively promote the health, well-being, and productivity of all employees. In safety-critical roles, pairing anti-discrimination policies with confidential occupational-health pathways ensures any residual transmission risk is managed while privacy and equity are preserved. Achieving this transformation is not only a public health imperative but also aligns with principles of corporate social responsibility and sound business practice, ultimately contributing to both healthier societies and more resilient organizations.

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Conflicts of interest

The authors declare no competing interests.

Ethical considerations

Protection of humans and animals. The authors declare that no experiments involving humans or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The study does not involve patient personal data nor requires ethical approval. The SAGER guidelines do not apply.

Declaration on the use of artificial intelligence. The authors declare that artificial intelligence was used in the writing of this manuscript [The English language of the article was improved with Gemini].

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