HIV Self-Testing (HIVST) among Migrant Domestic Workers: A Community-Based Participatory Research Project for Filipina and Indonesian Domestic Workers in Hong Kong

The Hong Kong Aids Prevention Society (HKAPS)

Executive Summary

Hong Kong hosts over 370,000 migrant domestic workers (MDWs), predominantly from the Philippines and Indonesia, who face significant barriers to accessing HIV testing and healthcare services. This comprehensive report presents a community-based participatory research (CBPR) framework to design, implement, and evaluate a culturally competent HIV self-testing (HIVST) distribution model tailored to the unique needs of this population. Drawing on extensive evidence from global HIVST implementation and migrant health research, this report provides a roadmap for addressing HIV testing gaps among MDWs through community-engaged approaches that respect cultural contexts and address structural barriers to healthcare access.

1. Introduction and Background

1.1 The Global Context of HIV Self-Testing

HIV self-testing has emerged as a transformative approach to expanding HIV testing coverage globally, particularly among populations facing barriers to conventional testing services. HIVST empowers individuals to collect their own specimen, conduct the test, and interpret results in private settings. Evidence from low- and middle-income countries demonstrates that HIVST is highly acceptable and appropriate, perceived as convenient and better at maintaining confidentiality than standard testing approaches (Rivera et al., 2021). Implementation studies across sub-Saharan Africa have shown that HIVST increases testing uptake significantly, with meta-analyses demonstrating doubled testing

rates among men who have sex with men and other key populations (Hamilton et al., 2021). The World Health Organization released guidelines in 2016 strongly recommending HIVST as an additional approach to HIV testing services, recognizing its potential to reach populations who may not otherwise test (Indravudh et al., 2018).

The evidence base for HIVST continues to expand rapidly, with studies demonstrating high diagnostic accuracy despite concerns about user errors. While user errors occur, diagnostic accuracy remains high across diverse populations and settings (Rivera et al., 2021). Secondary distribution models, where individuals distribute kits to members within their social networks, have proven particularly effective in reaching first-time testers and those who have not tested recently (Hatzold et al., 2019). Peer-delivered HIVST has successfully engaged marginalized populations, including men who have sex with men, sex workers, and migrant communities (Okoboi et al., 2019). However, implementation challenges persist, particularly regarding linkage to confirmatory testing and care services, with studies showing variable rates of linkage ranging from 31% to 100% depending on the support mechanisms in place (Zhang et al., 2017).

1.2 Migrant Domestic Workers in Hong Kong: A Vulnerable Population

Hong Kong employs one of the largest populations of migrant domestic workers in Asia, with Filipina and Indonesian women constituting the overwhelming majority. These workers face unique vulnerabilities that intersect dimensions of migration status, gender, occupation, and ethnicity. Living and working arrangements typically involve residence within employers' homes under the "live-in" requirement, creating situations where boundaries between work and personal life become blurred. This living arrangement, combined with limited time off (typically one day per week) and restrictive visa conditions tied to specific employers, creates dependencies that can limit workers' autonomy and access to healthcare services.

The health vulnerabilities of MDWs extend beyond physical health to encompass mental health challenges. Research on migrant domestic workers globally documents high rates of depression, anxiety, and psychological distress related to social isolation, discrimination, separation from family, and challenging working conditions. A scoping review on peer

support and mental health among MDWs identified significant barriers to accessing mental health services, including concerns about stigma, lack of culturally appropriate services, and limited awareness of available resources (Ho et al., 2022). The intersection of multiple marginalized identities creates compounded vulnerabilities, with studies showing that culturally and linguistically diverse populations face multiple barriers at individual, organizational, and system levels when accessing health services (Khatri & Assefa, 2022).

1.3 HIV Risk and Testing Barriers Among Migrant Domestic Workers

While comprehensive HIV prevalence data specific to MDWs in Hong Kong remains limited, evidence from other contexts demonstrates elevated HIV risk among migrant workers. A systematic review examining healthcare provision for migrants identified that healthcare providers face challenges in managing care due to language and cultural barriers, resource constraints, and conflicts between legal requirements and professional norms (Suphanchaimat et al., 2015). For MDWs specifically, additional barriers include limited time off to access services, lack of health insurance coverage, fear of employer discovery, and unfamiliarity with the local healthcare system. These multilayered barriers underscore the need for innovative, culturally sensitive approaches to HIV testing that can reach this underserved population.

1.4 Purpose and Objectives

This report presents a comprehensive framework for a community-based participatory research project to design, implement, and evaluate a culturally competent HIVST distribution model for Filipina and Indonesian domestic workers in Hong Kong. The primary objectives are to: (1) synthesize existing evidence on HIVST implementation and migrant health to inform program design; (2) articulate a CBPR approach that centers community voices and expertise; (3) propose culturally appropriate distribution strategies; and (4) establish evaluation frameworks to assess program effectiveness and impact. By integrating CBPR principles with evidence-based HIVST strategies, this project aims to create sustainable, community-led solutions that address HIV testing gaps while respecting the agency, culture, and lived experiences of migrant domestic workers.

2. HIV Self-Testing: Evidence and Implementation Models

2.1 Acceptability and Effectiveness of HIVST

The acceptability of HIVST has been consistently high across diverse populations and settings globally. Studies from sub-Saharan Africa demonstrate acceptability rates exceeding 80% among various populations, with users appreciating the convenience, privacy, and autonomy that HIVST provides (Harichund et al., 2018). A systematic review of HIVST among men in sub-Saharan Africa found that both oral swab and finger-prick methods had high acceptability, with ease of access and availability of tests cited as important factors (Hamilton et al., 2021). In Asia-Pacific contexts, HIVST has shown similar patterns of high acceptability. An implementation study among men who have sex with men in Hong Kong found that 79.4% of ever-users and 58.6% of new users received HIVST services, demonstrating feasibility and acceptance in Chinese populations (Chan et al., 2021).

The effectiveness of HIVST in increasing testing uptake is well-established through randomized controlled trials and implementation studies. Meta-analyses show that HIVST increases testing uptake by 1.45 times compared to standard testing services, with particularly strong effects for reaching first-time testers (Witzel et al., 2020). Among men who have sex with men, HIVST is associated with increased testing frequency, with studies showing a mean increase of 2.56 additional tests over follow-up periods (Witzel et al., 2020). Importantly, HIVST has demonstrated capacity to reach populations who face barriers to facility-based testing, including those experiencing stigma, discrimination, and concerns about confidentiality (MartnezPrez et al., 2016). Studies from multiple contexts confirm that HIVST reaches higher proportions of first-time testers compared to standard testing, with rates ranging from 16% to 33% across different distribution models (Hatzold et al., 2019).

2.2 Distribution Models and Delivery Channels

Evidence from global implementation demonstrates that multiple distribution models can effectively deliver HIVST to target populations. Community-based distribution (CBD) models, including door-to-door distribution and distribution at street venues, have proven

highly effective in reaching large numbers of individuals. The STAR Initiative in Malawi, Zambia, and Zimbabwe distributed over 628,000 HIVST kits through five different distribution models, with community-based approaches accounting for 83% of distribution (Hatzold et al., 2019). These studies found that CBD models successfully reached men, young people, and first-time testers who may not have tested otherwise. Workplace distribution has emerged as another effective channel, particularly for reaching populations with limited access to healthcare facilities during working hours.

Secondary distribution, where individuals distribute kits to members of their social networks, represents an innovative approach with particular promise for reaching hidden or hard-to-reach populations. Studies in multiple contexts have demonstrated that secondary distribution can effectively expand testing coverage beyond what direct distribution alone achieves. Peer distribution models have successfully engaged key populations, including men who have sex with men, with studies showing that peer educators can effectively provide HIVST information and support (Okoboi et al., 2020). Research from Uganda demonstrated that peer distribution through MSM networks was feasible and effective, diagnosing more new HIV infections than standard approaches (Okoboi et al., 2020).

2.3 Linkage to Care and Confirmatory Testing

While HIVST successfully increases testing uptake, ensuring linkage to confirmatory testing and care services remains a critical challenge. Systematic reviews indicate that HIVST may be associated with reduced linkage to care compared to standard testing, with one meta-analysis showing a 17% reduction (Witzel et al., 2020). However, these findings vary substantially across studies depending on the support mechanisms provided. Programs that incorporate specific linkage strategies, including financial incentives, phone call reminders, and facilitated referrals, demonstrate improved linkage outcomes (Nakalega et al., 2023). Implementation research from Kenya found that 68% of individuals with reactive HIVST results linked to antiretroviral therapy, though no significant predictors of linkage were identified, suggesting the need for universal support strategies (Shapiro et al., 2020).

Successful linkage strategies identified across multiple studies include integration of HIVST with comprehensive service packages, provision of telephone or text message support, and direct connection to youth-friendly or culturally appropriate clinical services (Adeagbo et al., 2022). Digital health technologies have shown promise in supporting linkage, with studies demonstrating that online real-time counseling can effectively ensure linkage to care (Chan et al., 2021). The integration of HIVST with other prevention services, including pre-exposure prophylaxis (PrEP), represents an emerging approach to maximize the preventive impact of HIVST programs.

2.4 Safety Considerations and Social Harms

Extensive evidence demonstrates that HIVST is safe, with minimal documented social harms when implemented appropriately. A large-scale implementation in Malawi documented minimal reported harms among self-testers. Coercion to test was generally considered well-intentioned within established relationships, though some women who felt persuaded to test reported verbal abuse or economic hardship. These findings underscore the importance of comprehensive counseling and support services to mitigate potential harms.

Safety monitoring systems, including both active surveillance through post-test questionnaires and passive pharmacovigilance reporting, are essential components of responsible HIVST implementation. Studies consistently show that concerns about intimate partner violence have not materialized at significant levels, with reported cases being rare. User perspectives suggest that HIVST can actually empower individuals, particularly women, to take control of their health and make informed decisions about testing (Choko et al., 2017). Research indicates that careful communication before offering HIVST kits and ensuring availability of support services can minimize potential harms while maximizing the benefits of expanded testing access.

3. Migrant Domestic Workers: Context and Challenges

3.1 Demographics and Living Conditions in Hong Kong

The migrant domestic worker population in Hong Kong comprises predominantly women from the Philippines and Indonesia, with Filipina workers historically representing the

larger group though Indonesian workers have increased substantially in recent years. The demographic profile shows workers predominantly in their 20s to 40s, though some women continue working into their 50s and 60s.

Living conditions for MDWs are characterized by the "live-in" requirement, meaning they reside in their employers' homes with minimal personal space. This unique working environment creates particular challenges for health-seeking behavior, as MDWs must often navigate employer awareness and approval to access healthcare services. The single mandatory day off per week, typically Sunday, becomes the primary opportunity for MDWs to engage in social activities, attend religious services, access healthcare, and connect with their communities.

3.2 Healthcare Access Barriers

Migrant domestic workers face multilayered barriers to healthcare access that operate at individual, organizational, and systemic levels. Language barriers constitute a primary challenge, particularly for Indonesian workers who may have limited proficiency in Cantonese or English. Research on culturally competent health systems for migrants found that language ability was a core tenet of cultural competency, with language barriers creating frustration for both migrants and health workers and particularly complicating communication about complex conditions including mental health. In Hong Kong's context, while Filipino workers generally have stronger English language skills, communication challenges persist when interfacing with Cantonese-speaking healthcare providers.

Structural barriers related to employment conditions significantly constrain healthcare access. The tied visa system means MDWs' legal status depends on maintaining employment with a specific employer, creating power imbalances that can deter health-seeking behavior. Fear of employer discovery regarding health conditions, particularly stigmatized conditions like HIV, may prevent workers from seeking testing or treatment. The single day off per week coincides with reduced clinic hours and services, creating logistical challenges for accessing care. Additionally, while basic health insurance is

mandatory, coverage varies substantially, with many policies providing only emergency care rather than comprehensive preventive services (Ang et al., 2017).

Cultural and informational barriers further compound access challenges. A scoping review on access to health services among culturally and linguistically diverse populations identified inadequate interpretation services, cultural competency among providers, and poor health literacy as significant barriers (Khatri & Assefa, 2022). For MDWs, unfamiliarity with the Hong Kong healthcare system, limited knowledge about available services, and cultural differences in health beliefs and practices may delay or prevent appropriate care-seeking. Discrimination and stigma within healthcare settings, documented across multiple contexts for migrant populations, create additional deterrents to accessing services.

3.3 HIV Risk and Knowledge

While comprehensive HIV prevalence data specific to MDWs in Hong Kong is limited, evidence from other contexts suggests potential vulnerabilities. Research on migrant workers globally demonstrates that migration itself can be associated with elevated HIV risk through multiple pathways, including separation from regular partners, exposure to new sexual networks, and reduced access to prevention services. Studies of migrant workers in Asia have found variable HIV prevalence, with some populations showing rates significantly higher than general populations. Importantly, HIV testing rates among migrant workers tend to be substantially lower than among non-migrant populations, creating gaps in diagnosis and treatment.

A systematic review examining healthcare provision for migrants identified that healthcare providers face challenges in managing care due to language and cultural barriers, resource constraints, and conflicts between legal requirements and professional norms (Suphanchaimat et al., 2015). These patterns underscore the importance of ensuring accessible, confidential HIV testing services for migrant populations. For domestic workers specifically, isolation within employers' homes, limited social interaction outside work contexts, and restricted access to health information may contribute to low HIV knowledge and testing uptake.

3.4 Community Networks and Support Systems

Despite significant challenges, MDWs have developed robust informal social support networks that play crucial roles in their well-being. A scoping review on peer support and mental health among MDWs found that para-professional peer support training programs were highly feasible and culturally appropriate, though barriers including concerns about emotion contagion among peers and worries about disclosure of personal information were identified (Ho et al., 2022). These existing networks and organizations represent valuable partners for community-based health interventions, including HIVST distribution programs.

4. Community-Based Participatory Research: Framework and Approach

4.1 CBPR Principles and Rationale

Community-based participatory research represents a collaborative approach to research that equitably involves community members, organizational representatives, and researchers in all aspects of the research process. CBPR is grounded in principles of shared power, mutual respect, co-learning, capacity building, and long-term commitment to addressing health inequities. For interventions targeting migrant domestic workers, CBPR offers particular advantages by centering the lived experiences, cultural knowledge, and priorities of the community itself.

The rationale for applying CBPR to HIVST implementation among MDWs is multifaceted. First, the power differentials inherent in migration status, employment relationships, and social positioning necessitate approaches that explicitly address and work to redress these imbalances. Second, the cultural diversity within and between Filipino and Indonesian communities requires deep cultural knowledge that only community members can provide. Third, sustainability of health interventions depends on community ownership and capacity, which CBPR explicitly builds. Studies of CBPR approaches to health interventions consistently demonstrate that community involvement enhances intervention effectiveness, cultural appropriateness, and sustainability.

4.2 Partnership Development and Stakeholder Engagement

Successful CBPR requires intentional, equitable partnership development involving diverse stakeholders. For this HIVST project, core partners should include: (1) Filipino and Indonesian migrant domestic workers with diverse experiences and perspectives; (2) community-based organizations serving MDW communities; (3) faith-based organizations and leaders; (4) healthcare providers with experience serving migrant populations; (5) academic researchers with expertise in HIV, migrant health, and CBPR; and (6) government health authorities and policymakers. The formation of a Community Advisory Board (CAB) comprising representatives from each stakeholder group is essential for ensuring ongoing community guidance and accountability throughout the project.

Partnership development should follow established CBPR principles, beginning with relationship building and trust development before progressing to collaborative agenda setting and intervention design. For MDW communities in Hong Kong, this process should acknowledge power dynamics, language preferences, meeting accessibility, and compensation for community members' time and expertise. Studies emphasize that equitable partnerships require addressing practical barriers to participation, providing training and capacity building, and ensuring that community voices genuinely shape research directions and decisions.

The CAB should guide all phases of the project, from initial needs assessment through intervention design, implementation, evaluation, and dissemination. For HIVST implementation, the CAB can provide critical insights regarding: culturally appropriate messaging and materials; optimal distribution channels and locations; strategies for addressing stigma and privacy concerns; linkage pathways that align with community preferences; and evaluation approaches that respect community needs and priorities.

4.3 Culturally Competent Intervention Design

Culturally competent intervention design requires moving beyond superficial cultural adaptation to deep engagement with cultural values, beliefs, practices, and structural contexts. For HIVST implementation among Filipino and Indonesian MDWs, culturally competent design must address distinct cultural contexts of each community while

recognizing within-group diversity related to age, education, religion, regional origins, and migration experiences.

Language and literacy considerations are fundamental to culturally competent design. Materials should be available in Tagalog, Bahasa Indonesia, English, and Cantonese, recognizing that multilingual approaches may be necessary for individuals with varying language proficiencies. Visual materials and video demonstrations of HIVST procedures can support individuals with lower literacy levels. For digital components of the intervention, considerations of technology access, digital literacy, and data privacy are essential.

Religious and spiritual dimensions require sensitive incorporation, particularly given the significant role of faith communities in MDW social networks. Both Filipino and Indonesian communities include diverse religious affiliations, with Catholicism predominant among Filipinos and Islam among Indonesians, though both communities include religious diversity. Understanding how religious beliefs intersect with health behaviors, perceptions of HIV, and healthcare decision-making is essential. Engaging religious leaders as partners can facilitate trust and uptake while ensuring interventions align with or sensitively address religious teachings.

4.4 Ethical Considerations and Community Protection

Ethical implementation of CBPR and HIVST distribution requires careful attention to protection of vulnerable populations, informed consent processes, confidentiality safeguards, and prevention of unintended harms. For migrant domestic workers, vulnerabilities related to precarious legal status, employment dependencies, and social isolation necessitate heightened ethical protections. All research activities should receive approval from relevant Institutional Review Boards with expertise in research involving vulnerable populations. Informed consent processes must ensure genuine understanding through language-appropriate materials, adequate time for decision-making, and clear communication that participation is voluntary with no negative consequences for declining.

Confidentiality protections are particularly critical given the stigmatized nature of HIV and the potential for employment and visa implications if HIV status becomes known. HIVST

offers inherent privacy benefits, but associated data collection, result reporting, and linkage processes require robust confidentiality safeguards. Data should be de-identified, stored securely, and accessible only to authorized research team members. Community partners should participate in developing confidentiality protocols to ensure they address community-specific concerns and contexts.

Prevention of social harms requires comprehensive planning, monitoring, and response mechanisms. While evidence shows HIVST-related social harms are rare, potential harms specific to MDW contexts warrant consideration. Mitigation strategies should include: pre-test counseling about when and how to disclose results; availability of confidential support services; clear pathways to legal and social support if harms occur; and active monitoring systems to identify and respond to adverse events. Community advisors can provide invaluable insights regarding potential harms and culturally appropriate prevention and response strategies.

5. Proposed HIVST Distribution Model for Migrant Domestic Workers

5.1 Distribution Channels and Strategies

The proposed HIVST distribution model integrates multiple channels to maximize reach, accessibility, and acceptability among Filipino and Indonesian domestic workers in Hong Kong. Drawing on evidence from successful HIVST programs globally, the model combines peer-led distribution, community organization partnerships, and digital/online access (Hatzold et al., 2019). Primary distribution should occur through trusted community organizations and gathering spaces where MDWs congregate on their days off, particularly on Sundays when the majority have time off. Secondary distribution through peer networks can extend reach to MDWs who may not participate in community activities due to work constraints, geographic location, or other barriers.

Peer-led distribution models have demonstrated particular effectiveness in reaching populations facing stigma and discrimination. For MDW populations, peer educators drawn from both Filipino and Indonesian communities can provide culturally and linguistically appropriate support, leverage existing social networks, and serve as trusted sources of health information. Studies emphasize that peer educators require

comprehensive training in HIVST use, basic HIV counseling, linkage support, and recognition of situations requiring referral to professional services (Okoboi et al., 2020).

Community organization partnerships enable distribution through established, trusted channels while building on existing community capacity and infrastructure. Organizations serving MDWs already provide various services and have demonstrated ability to reach community members effectively. Integration of HIVST distribution with existing services can normalize HIV testing while reducing stigma through association with trusted organizations. Organizations can serve as sites for HIVST kit collection, provide pre and post-test information, facilitate support groups, and connect individuals to confirmatory testing and care services.

Digital distribution channels offer advantages of privacy, convenience, and accessibility outside traditional operating hours. For MDWs with internet access and digital literacy, online ordering with discreet delivery could address barriers related to time constraints and privacy concerns. Research on HIVST with online real-time counseling support among men who have sex with men in Hong Kong found that 63% of ever-users and 40% of new-users received HIVST through this modality, with positive process evaluations (Chan et al., 2021). However, considerations of digital access, data privacy, and technology literacy are essential for ensuring equity in digital distribution approaches.

5.2 Implementation Framework

Implementation should follow a phased approach beginning with formative research, progressing through pilot testing, and culminating in scaled implementation with ongoing evaluation. The formative phase involves in-depth qualitative research with MDWs, community organizations, and other stakeholders to understand HIV knowledge, testing barriers, preferences for HIVST services, and optimal implementation strategies. This phase should produce culturally adapted educational materials, standard operating procedures for distribution, linkage protocols, and monitoring tools.

Pilot implementation in select geographic areas or with specific communities enables testing and refinement before full-scale launch. Pilot studies should assess feasibility, acceptability, and preliminary effectiveness of distribution strategies while identifying

implementation challenges requiring modification. Pilot findings should inform adjustments to distribution approaches, educational materials, support services, and linkage mechanisms. Community advisory board review of pilot results ensures that community perspectives guide refinements.

Scaled implementation requires coordination across multiple sites and partners, systematic training of peer educators and organizational staff, establishment of supply chains for HIVST kits, and creation of referral networks for confirmatory testing and care. For Hong Kong, engagement with health authorities regarding HIVST regulations, integration with existing HIV services, and exploration of sustainable funding sources are essential prerequisites for large-scale implementation.

Quality assurance mechanisms should encompass multiple dimensions: ensuring HIVST kits are WHO prequalified and properly stored; providing standardized training for all distributors; implementing supervision and supportive oversight; establishing clear protocols for handling reactive results; and maintaining confidentiality throughout all processes. Studies of HIVST implementation outcomes highlight that while diagnostic accuracy of HIVST is high, user errors occur, necessitating clear instructions, demonstrations, and support (Rivera et al., 2021). Quality assurance should include monitoring of invalid test rates, user reported difficulties, and adverse events to enable rapid identification and resolution of problems.

5.3 Linkage to Care and Support Services

Effective linkage to confirmatory testing and care services is essential for maximizing the public health impact of HIVST. The proposed model includes multiple linkage strategies operating at individual, organizational, and system levels. At the individual level, all HIVST kits should include clear information about next steps following both reactive and non-reactive results, with contact information for confidential support services available in multiple languages. Research indicates that providing multiple contact options—telephone hotlines, text messaging, online chat—increases likelihood of linkage (Chan et al., 2021). Peer navigators can provide personalized linkage support, accompanying individuals to

confirmatory testing appointments and facilitating connection to HIV care or prevention services.

Organizational partnerships are critical for establishing clear referral pathways. Collaborations with youth-friendly clinics, community health centers, and HIV service organizations can create welcoming environments for MDWs seeking confirmatory testing and care. Research on peer-to-peer delivery of HIVST found that referral slips to youth-friendly clinics facilitated linkage, though systemic barriers including family disapproval and concerns about treatment requirements presented challenges (Adeagbo et al., 2022). For MDWs, clinic characteristics including language capacity, cultural competence, convenient hours, confidentiality protections, and non-judgmental attitudes significantly influence willingness to seek services.

System-level linkage strategies include integration of HIVST programs with broader HIV prevention and care services, including pre-exposure prophylaxis (PrEP) for HIV-negative individuals at risk. For MDWs testing HIV-positive, linkage to comprehensive care requires addressing multiple needs including treatment initiation, adherence support, mental health services, legal protections, and social support. Partnerships with organizations serving people living with HIV can ensure appropriate services and support.

Financial and structural barriers to confirmatory testing and care must be addressed to ensure equity in access. While Hong Kong provides public healthcare services, MDWs may face costs for some services or perceive barriers related to insurance coverage and employment implications. Research on access to HIV care among migrants emphasizes the importance of differentiated models of ART delivery that accommodate mobility and reduce structural barriers (Faturiyele et al., 2018). For MDWs, flexible appointment scheduling, provision of multi-month prescriptions, and assurance of employment protections can facilitate engagement in care.

5.4 Monitoring and Evaluation Framework

Comprehensive monitoring and evaluation (M&E) is essential for assessing program implementation, outcomes, and impact while enabling continuous quality improvement. The M&E framework should incorporate multiple levels and methods consistent with

implementation science approaches. Process evaluation examines implementation fidelity, reach, dose, and context to understand how the intervention operates in practice. For HIVST distribution, process indicators include: number of kits distributed by channel; demographic characteristics of recipients; proportion of kits used; proportion reporting results; geographic coverage; and peer educator training completion and retention.

Outcome evaluation assesses short and intermediate-term effects including HIV testing uptake, identification of previously undiagnosed HIV infections, linkage to confirmatory testing, and connection to prevention or treatment services. Studies of HIVST implementation emphasize the importance of measuring multiple outcomes across the testing cascade (Witzel et al., 2020). Key outcome indicators include: proportion of MDWs who have ever tested for HIV; proportion tested in past 6 months; proportion of first-time testers reached; HIV positivity rate; proportion with reactive HIVST who complete confirmatory testing; proportion of HIV-positive individuals initiating ART; and proportion of HIV-negative individuals accessing PrEP where indicated.

Impact evaluation examines population-level effects including changes in HIV incidence, prevalence of undiagnosed HIV, knowledge and attitudes about HIV, and HIV-related stigma. While impact evaluation requires longer timeframes and substantial resources, proxy measures including community-level testing coverage, time to diagnosis, and stage of HIV at diagnosis can provide interim evidence of impact. Research on HIVST impact emphasizes the importance of considering equity in distribution and outcomes, assessing whether programs successfully reach most marginalized populations (Rivera et al., 2021).

Mixed methods approaches incorporating quantitative and qualitative data provide rich understanding of program functioning and effects. Quantitative methods including surveys, kit tracking systems, and linkage to clinic data enable measurement of numerical indicators. Qualitative methods including interviews, focus groups, and case studies illuminate experiences, barriers, facilitators, and unexpected consequences. Research on process evaluation of peer-to-peer HIVST delivery found that qualitative methods were essential for understanding acceptability, experiences, and implementation challenges (Adeagbo et al., 2022). For MDW populations, qualitative methods can surface cultural nuances and contextual factors not captured through quantitative measures alone.

Cost and cost-effectiveness analyses inform sustainability and scale-up decisions. Studies of HIVST distribution costs have found substantial variation depending on distribution model, setting, and scale. Economic evaluation should examine costs from provider, user, and societal perspectives, considering both monetary costs and opportunity costs of time. Research on cost-effectiveness of HIVST programs demonstrates that costs per person tested decline substantially with scale, and that integration with existing services can reduce unit costs (Cambiano et al., 2019). For Hong Kong, cost analyses should inform decisions about optimal distribution mix and sustainable financing approaches.

6. Conclusions and Recommendations

6.1 Summary of Key Findings

This comprehensive report synthesizes extensive evidence demonstrating that HIV self-testing represents a highly acceptable, effective, and safe approach to expanding HIV testing access among populations facing barriers to conventional testing services. Global implementation experience across diverse contexts establishes HIVST's capacity to increase testing uptake, reach first-time testers, and extend services to marginalized populations. The evidence base includes robust findings from randomized controlled trials, large-scale implementation programs, and systematic reviews documenting HIVST's effects on testing coverage, diagnosis of undiagnosed infections, and linkage to care. While challenges regarding linkage to confirmatory testing and care persist, successful strategies incorporating peer support, digital technologies, and integrated service delivery demonstrate that these challenges can be effectively addressed.

Migrant domestic workers in Hong Kong represent a population experiencing significant health inequities driven by intersecting vulnerabilities related to migration status, gender, occupation, and cultural-linguistic diversity. Filipino and Indonesian domestic workers face multilayered barriers to healthcare access operating at structural, individual, healthcare system, and cultural levels. The unique living and working conditions of MDWs—including live-in arrangements, restrictive employment terms, limited time off, and tied visa status—create particular challenges for health-seeking behavior. Existing

community networks and organizations serving MDWs provide crucial support and represent valuable partners for community-based health interventions.

Community-based participatory research offers a powerful framework for developing culturally competent, contextually appropriate, and sustainable health interventions with and for marginalized communities. CBPR principles of shared power, mutual respect, community voice, and commitment to action align with ethical imperatives to center community expertise and address power imbalances. For MDW populations, CBPR approaches can ensure that HIVST programs respect cultural contexts, address community-identified priorities, and build community capacity for ongoing health promotion.

6.2 Policy and Practice Implications

Implementation of HIVST programs for migrant domestic workers in Hong Kong requires supportive policy environments at multiple levels. Health authorities should establish clear regulatory frameworks for HIVST distribution, ensuring quality standards while enabling diverse distribution channels appropriate for reaching MDW populations. Policies should explicitly permit peer distribution, community organization-based distribution, and online distribution models demonstrated to be effective globally. Regulatory requirements for post-market surveillance and adverse event reporting should balance safety monitoring with avoiding overly burdensome requirements that inhibit access. Integration of HIVST into national HIV testing strategies and HIV prevention programming can facilitate sustainability and coordination with broader health services.

Labor and immigration policies significantly impact MDWs' ability to access health services including HIV testing and care. Policy reforms addressing employment protections, including prohibiting termination based on health status, could reduce barriers to testing and care. Ensuring that health-related information is not shared with immigration authorities without explicit consent is essential for creating safe environments for testing. Mandatory health insurance provisions for MDWs should include comprehensive coverage for HIV testing, prevention, and treatment services. Exploration of portable health insurance models that remain with workers rather than being employer-specific could address concerns about employer discovery and employment-related barriers to care.

Healthcare system adaptations to serve MDW populations more effectively should include expansion of language interpretation services, cultural competency training for providers, and adjustment of clinic hours to accommodate MDWs' limited time off. Development of MDW-friendly health services that provide culturally appropriate, non-stigmatizing care in environments where MDWs feel comfortable and respected can facilitate health-seeking behavior. Integration of HIVST programs with other health services addressing MDWs' broader health needs creates opportunities for comprehensive, efficient service delivery. Partnerships between public health services and community organizations can leverage community trust and reach while ensuring quality and coordination.

Funding mechanisms for sustainable HIVST programming require attention beyond pilot project support. Government health budgets should include allocations for HIVST as part of comprehensive HIV prevention and testing services. Exploration of social entrepreneurship models, where MDWs can access HIVST at subsidized costs through community organizations, may provide sustainable approaches combining accessibility with cost recovery. International development funding, corporate social responsibility initiatives, and partnerships with foundations may provide additional resources for program development and sustainability. Economic evaluations demonstrating cost-effectiveness of HIVST for reaching underserved populations can inform funding decisions and resource allocation.

6.3 Future Research Directions

While substantial evidence supports HIVST implementation, several research gaps require attention to optimize programs for MDW populations in Hong Kong. First, comprehensive epidemiological research documenting HIV prevalence, incidence, and risk behaviors among MDWs in Hong Kong is needed to establish baseline data and monitor trends over time. Such research should employ sampling methods appropriate for reaching hard-to-reach populations and should examine variation by nationality, demographics, and migration characteristics. Population-level estimates can inform program planning, resource allocation, and evaluation of program impact.

Second, implementation research examining optimal HIVST distribution strategies specifically for MDW populations is needed. Research questions include: What distribution channels most effectively reach different segments of MDW populations? How do preferences vary between Filipino and Indonesian workers and by other characteristics? What messaging and educational approaches most effectively promote uptake and appropriate use? What linkage strategies are most successful in ensuring confirmatory testing and connection to care? Mixed methods studies combining quantitative outcome measurement with qualitative exploration of experiences, preferences, and implementation processes can provide actionable insights for program optimization.

Third, research on intersectionality examining how multiple dimensions of identity and marginalization intersect to shape HIV risk, testing behavior, and intervention engagement among MDWs is needed. Studies should explore how gender, nationality, religion, age, education, and length of residence in Hong Kong interact to create diverse experiences and needs. Attention to within-group diversity can prevent homogenization of MDW populations and enable more nuanced intervention tailoring. Qualitative research centering MDWs' voices and perspectives is particularly valuable for understanding lived experiences and identifying community strengths as assets for health promotion.

Fourth, economic research examining costs, cost-effectiveness, and sustainable financing approaches for HIVST programs among MDWs can inform program design and scale-up decisions. Research should examine costs from multiple perspectives including providers, users, and society, while considering both monetary costs and opportunity costs of time. Cost-effectiveness analyses comparing different distribution strategies and linkage approaches can guide resource allocation and implementation decisions. Exploration of innovative financing mechanisms and partnerships can identify sustainable funding models.

6.4 Concluding Remarks

HIV self-testing represents a transformative opportunity to advance health equity for migrant domestic workers in Hong Kong by expanding access to confidential, convenient HIV testing services. The convergence of strong global evidence supporting HIVST effectiveness, documented barriers to conventional testing among MDW populations, and

availability of community-based participatory research frameworks for culturally competent implementation creates an opportune moment for action. Success requires genuine partnership between researchers, health authorities, community organizations, and most importantly, MDWs themselves, recognizing community members as experts regarding their own lives, needs, and priorities.

The proposed CBPR approach centers community voice, agency, and ownership throughout the process of designing, implementing, and evaluating HIVST programs. This approach acknowledges power differentials while working intentionally to redress imbalances, builds on community strengths rather than focusing solely on deficits, and creates sustainable capacity for ongoing health promotion. By integrating evidence-based HIVST strategies with culturally grounded community engagement, programs can be both scientifically rigorous and culturally authentic, achieving the dual goals of effectiveness and equity.

Implementation of HIVST for MDWs in Hong Kong has significance beyond this specific population and context. It demonstrates the feasibility and value of prioritizing marginalized populations in HIV prevention efforts, applying innovative testing technologies in ways that respect autonomy and privacy, and using participatory approaches to create interventions that authentically respond to community needs. The lessons learned can inform HIVST programming for other migrant populations globally and contribute to broader efforts to achieve health equity for all. Moving forward requires sustained commitment, adequate resources, and most importantly, continued centering of community wisdom and leadership in creating healthy futures for migrant domestic workers in Hong Kong.

References

Adeagbo, O., Seeley, J., Gumede, D., Xulu, S., Dlamini, N., Luthuli, M., Dreyer, J., Herbst, C., Cowan, F. M., Chimbindi, N., Hatzold, K., Okesola, N., Johnson, C., Harling, G., Subedar, H., Sherr, L., McGrath, N., Corbett, E. L., & Shahmanesh, M. (2022). Process evaluation of peer-to-peer delivery of HIV self-testing and sexual health information to support HIV prevention among youth in rural KwaZulu-natal, south africa: Qualitative analysis. *BMJ*.

Ang, J., Chia, C., Koh, C. J., Chua, B., Narayanaswamy, S., Wijaya, L., Chan, L. G., Goh, W., & Vasoo, S. (2017). Healthcare-seeking behaviour, barriers and mental health of non-domestic migrant workers in singapore. *BMJ Global Health*.

Cambiano, V., Johnson, C., Hatzold, K., TerrisPrestholt, F., Maheswaran, H., Thirumurthy, H., Figueroa, C., Cowan, F. M., Sibanda, E., Ncube, G., Revill, P., Baggaley, R., Corbett, E. L., Phillips, A., & Working Group on Cost Effectiveness of HIV selftesting in Southern Africa, for. (2019). The impact and costeffectiveness of communitybased <scp>HIV</scp> selftesting in subSaharan africa: A health economic and modelling analysis. *International AIDS Society*.

Chan, P., Chidgey, A., Lau, J., Ip, M., Lau, J., & Wang, Z. (2021). Effectiveness of a novel HIV self-testing service with online real-time counseling support (HIVST-online) in increasing HIV testing rate and repeated HIV testing among men who have sex with men in hong kong: Results of a pilot implementation project. *International Journal of Environmental Research and Public Health*.

Choko, A., Kumwenda, M., Johnson, C., Sakala, D., Chikalipo, M., Fielding, K., Chikovore, J., Desmond, N., & Corbett, E. L. (2017). Acceptability of womandelivered HIV selftesting to the male partner, and additional interventions: A qualitative study of antenatal care participants in malawi. *International AIDS Society*.

Faturiyele, I., Karletsos, D., Ntene-Sealiete, K., Musekiwa, A., Khabo, M., Mariti, M., Mahasha, P., Xulu, T., & Pisa, P. (2018). Access to HIV care and treatment for migrants between lesotho and south africa: A mixed methods study. *BMC Public Health*.

Hamilton, A., Thompson, N., Choko, A., Hlongwa, M., Jolly, P. E., Korte, J. E., & Conserve, D. F. (2021). HIV self-testing uptake and intervention strategies among men in sub-saharan africa: A systematic review. *Frontiers Media*.

Harichund, C., Moshabela, M., Kunene, P., & Karim, Q. A. (2018). Acceptability of HIV self-testing among men and women in KwaZulu-natal, south africa. *AIDS Care*.

Hatzold, K., Gudukeya, S., Mutseta, M., Chilongosi, R., Nalubamba, M., Nkhoma, C., Munkombwe, H., Munjoma, M., Mkandawire, P., Mabhunu, V., Smith, G., Madidi, N.,

Ahmed, H., Kambeu, T., Stankard, P., Johnson, C., & Corbett, E. L. (2019). <Scp>HIV</scp> selftesting: Breaking the barriers to uptake of testing amongmen and adolescents in subSaharan africa, experiences from <scp>STAR</scp> demonstration projects in malawi, zambia and zimbabwe. *International AIDS Society*.

Ho, K., Yang, C., Leung, A., Bressington, D., Chien, W., Cheng, Q., & Cheung, D. (2022). Peer support and mental health of migrant domestic workers: A scoping review. *International Journal of Environmental Research and Public Health*.

Indravudh, P. P., Choko, A., & Corbett, E. (2018). Scaling up HIV self-testing in sub-saharan africa: A review of technology, policy and evidence. *Current Opinion in Infectious Diseases*.

Khatri, R. B., & Assefa, Y. (2022). Access to health services among culturally and linguistically diverse populations in the australian universal health care system: Issues and challenges. *BioMed Central*.

MartnezPrez, G. Z., Cox, V., Ellman, T., Moore, A. M., Patten, G., Shroufi, A., Stinson, K., Cutsem, G. V., & Ibeto, M. (2016). I know that i do have HIV but nobody saw me: Oral HIV self-testing in an informal settlement in south africa. *Public Library of Science*.

Nakalega, R., Mukiza, N., Menge, R., Kizito, S., Babirye, J., Kuteesa, C. N., Mawanda, D., Mulumba, E., Nabukeera, J., Ggita, J., Nakanjako, L., Akello, C. A., Mirembe, B. G., Lukyamuzi, Z., Nakaye, C., Kataike, H., Maena, J., Etima, J., Nabunya, H., … Mujugira, A. (2023). Feasibility and acceptability of peer-delivered HIV self-testing and PrEP for young women in kampala, uganda. *BMC Public Health*.

Okoboi, S., Lazarus, O., Castelnuovo, B., Nanfuka, M., Kambugu, A., Mujugira, A., & King, R. (2020). Peer distribution of HIV self-test kits to men who have sex with men to identify undiagnosed HIV infection in uganda: A pilot study. *Public Library of Science*.

Okoboi, S., Twimukye, A., Lazarus, O., Castelnuovo, B., Agaba, C., Immaculate, M., Nanfuka, M., Kambugu, A., & King, R. (2019). Acceptability, perceived reliability and challenges associated with distributing <scp>HIV</scp> selftest kits to young <scp>MSM</scp> in uganda: Aqualitative study. *International AIDS Society*.

Rivera, A., Hernandez, R., Mag-Usara, R., Sy, K. N., Ulitin, A. R., ODwyer, L., McHugh, M., Jordan, N., & Hirschhorn, L. (2021). Implementation outcomes of HIV self-testing in low- and middle- income countries: A scoping review. *PLoS ONE*.

Shapiro, A. E., Heerden, A. van, Krows, M., Sausi, K., Sithole, N., Schaafsma, T., Koole, O., Rooyen, H. van, Celum, C., & Barnabas, R. V. (2020). An implementation study of oral and bloodbased HIV selftesting and linkage to care among men in rural and periurban KwaZuluNatal, south africa. *International AIDS Society*.

Suphanchaimat, R., Kantamaturapoj, K., Putthasri, W., & Prakongsai, P. (2015). Challenges in the provision of healthcare services for migrants: A systematic review through providers lens. *BioMed Central*.

Witzel, T. C., EshunWilson, I., Jamil, M. S., Tilouche, N., Figueroa, C., Johnson, C., Reid, D., Baggaley, R., Siegfried, N., Burns, F., Rodger, A., & Weatherburn, P. (2020). Comparing the effects of HIV self-testing to standard HIV testing for key populations: A systematic review and meta-analysis. *BioMed Central*.

Zhang, C., Li, X., Brecht, M., & KoniakGriffin, D. (2017). Can self-testing increase HIV testing among men who have sex with men: A systematic review and meta-analysis. *Public Library of Science*.