Healthcare Provider Knowledge, Attitudes, and Practices (KAP) in Adolescent HIV Care: A Comprehensive Analytical Report for Hong Kong

The Hong Kong Aids Prevention Society (HKAPS)

© 2025 The Hong Kong Aids Prevention Society (HKAPS). All rights reserved.

Executive Summary

This comprehensive analytical report examines the current state of healthcare provider knowledge, attitudes, and practices regarding adolescent HIV care in Hong Kong's unique healthcare ecosystem. Adolescents and young adults (aged 10-24 years) living with HIV represent a critical population requiring specialized, developmentally appropriate care that extends beyond biomedical management to encompass psychosocial support, mental health services, and confidential, non-judgmental communication. While Hong Kong possesses exceptional clinical infrastructure and universal healthcare coverage, significant gaps persist in provider preparedness to deliver truly adolescent-centered HIV care. The literature demonstrates that healthcare providers globally face challenges in addressing adolescent sexuality, managing confidentiality concerns, and overcoming implicit biases that can undermine care quality (DelanyMoretlwe et al., 2015). This report proposes a dual-method research approach—combining anonymous provider surveys with simulated patient studies—to precisely identify knowledge gaps, attitudinal barriers, and practice variations across Hong Kong's diverse healthcare workforce, ultimately informing targeted training interventions mandated by the Hospital Authority and Social Welfare Department.

1. Overview and Analysis of the Current Clinical Landscape

1.1 Hong Kong's Healthcare System Structure for Adolescent HIV Care

Hong Kong's healthcare system operates through a hybrid public-private model, with the Hospital Authority managing the vast majority of HIV care through designated specialist clinics. The system benefits from several structural advantages: universal healthcare coverage ensures financial accessibility, advanced laboratory facilities enable sophisticated monitoring of viral loads and CD4 counts, and established medical protocols align with

international treatment guidelines (DelanyMoretlwe et al., 2015). Specialized HIV treatment centres in public hospitals house multidisciplinary teams with deep expertise in antiretroviral therapy management, opportunistic infection prevention, and long-term comorbidity monitoring. These centres have achieved remarkable success in reducing HIV-related mortality and maintaining high rates of viral suppression among adult populations.

However, the adaptation of these adult-oriented services to meet the unique developmental needs of adolescents remains incomplete. Young people living with HIV in Hong Kong navigate a care system designed primarily for adults, requiring them to interact with providers who may lack specific training in adolescent medicine, youth-friendly communication techniques, or the psychosocial complexities of growing up with a chronic, stigmatized condition (Newman et al., 2021). The division between specialized youth-friendly services—which exist in limited capacity—and general practice settings creates variability in care quality depending on where an adolescent accesses services.

1.2 Benefits of the Current System

Hong Kong's adolescent HIV care infrastructure demonstrates several notable strengths. First, the concentration of HIV services within Hospital Authority facilities ensures that medical management adheres to evidence-based treatment protocols, with regular updating based on international guidelines (DelanyMoretlwe et al., 2015). Providers in specialist centres possess sophisticated knowledge of antiretroviral regimens, drug-drug interactions, resistance patterns, and emerging treatment options. Second, the public health infrastructure supports comprehensive disease surveillance, contact tracing, and prevention

programming, creating an ecosystem where individual clinical care connects to broader population health strategies. Third, universal healthcare coverage eliminates the financial barriers that plague adolescent healthcare access in many other settings, ensuring that cost does not prevent young people from obtaining antiretroviral therapy or related services (Maheen et al., 2021). Fourth, Hong Kong's compact geography and efficient public transportation system theoretically improve physical accessibility to specialized clinics, reducing geographical barriers that adolescents in rural settings might face.

1.3 Drawbacks and Limitations of Current Provider Competencies

Despite these structural advantages, significant limitations compromise the quality of adolescent-centered HIV care. Provider discomfort with adolescent sexuality emerges as a consistent theme in the international literature and likely operates in Hong Kong's culturally conservative context (Fahme et al., 2021). Healthcare providers may struggle to discuss sexual behaviors, substance use, mental health concerns, and adherence challenges openly with adolescent patients, particularly when these topics conflict with cultural expectations of adolescent behavior. This discomfort manifests as avoidance of sensitive topics, use of euphemistic language that obscures important health information, or judgmental attitudes that discourage adolescents from seeking care (Baigry et al., 2023).

Knowledge gaps regarding adolescent-specific HIV care guidelines represent another critical limitation. While providers may excel in general HIV management, the nuances of treating adolescents—including considerations of ongoing physical development, transitioning from pediatric to adult formulations, managing disclosure in school settings, and addressing adherence challenges unique to this age group—require specialized

knowledge that many providers have not acquired (Wiener et al., 2015). The literature on provider training reveals that medical and nursing education rarely emphasizes adolescent health as a distinct specialty, leaving practitioners to extrapolate from either pediatric or adult care models (Kohrt et al., 2018).

Confidentiality concerns present particularly complex challenges in Hong Kong's family-centric culture. Healthcare providers must navigate tensions between respecting adolescent autonomy and involving parents or guardians in care decisions (Siu et al., 2019). Uncertainty about legal requirements regarding adolescent consent for HIV testing and treatment may lead providers to default to involving parents, even when this compromises the adolescent's trust or willingness to disclose sensitive information (Maheen et al., 2021). Additionally, the proximity of services within Hospital Authority facilities—where adolescents might encounter family members or community members in waiting rooms—can compromise perceived confidentiality.

Variation in practice across disciplines creates inconsistency in the care adolescents receive. Medical doctors, nurses, social workers, and psychologists bring different training backgrounds, professional cultures, and role definitions to adolescent HIV care (Kohrt et al., 2018). Without standardized competency expectations and coordinated training, adolescents may experience fragmented care where critical psychosocial needs fall between professional silos.

1.4 Implicit Bias and Structural Stigma

Perhaps most insidiously, implicit biases and structural stigma operate beneath conscious awareness to compromise care quality. Healthcare providers may harbor unconscious

negative attitudes toward adolescent sexuality, substance use, or same-sex attraction—attitudes that subtly influence their tone, body language, questioning patterns, and treatment recommendations (Metzger et al., 2023). The literature on stigma in healthcare settings demonstrates that even well-intentioned providers can inadvertently communicate judgment, leading adolescents to withhold information, miss appointments, or disengage from care entirely (Nyblade et al., 2022). In Hong Kong's context, where homosexuality was only decriminalized in 1991 and where LGBTQ+ youth face ongoing social stigma, providers' own attitudes toward sexual and gender minorities may particularly affect care for adolescent men who have sex with men—a key HIV-affected population (Pham et al., 2017).

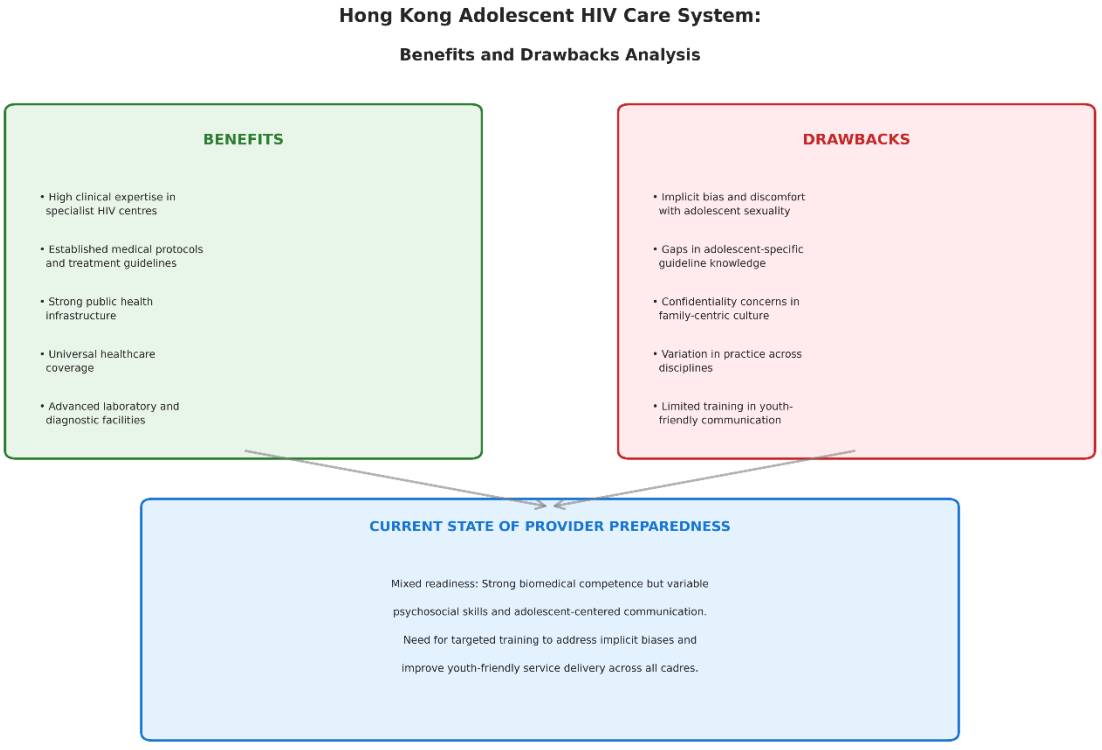

Figure 1: Benefits and Drawbacks Analysis of Hong Kong's Adolescent HIV Care System

2. Healthcare Provider Roles, Responsibilities, and Interaction Points

2.1 Medical Doctors: Varied Roles Across Specialties

Medical doctors constitute the primary decision-makers in Hong Kong's medical hierarchy and occupy diverse roles in adolescent HIV care. **Pediatricians and adolescent medicine specialists** working in designated youth clinics represent the ideal providers for adolescent HIV care, possessing both disease-specific knowledge and developmental expertise (Wiener et al., 2015). These specialists typically practice in hospital-based clinics where multidisciplinary teams can address medical, psychosocial, and developmental needs comprehensively. Their interaction points include initial HIV diagnosis disclosure, regular viral load and CD4 monitoring visits, management of treatment side effects, and coordination of transitions to adult care. However, Hong Kong has limited numbers of formally trained adolescent medicine specialists, creating capacity constraints.

Adult infectious disease specialists manage the majority of adolescents living with HIV, particularly those diagnosed in late adolescence or transitioned from pediatric care. These physicians possess sophisticated HIV treatment expertise but may lack training in adolescent development, communication techniques appropriate for youth, or recognition of developmental stage-specific challenges to treatment adherence (Carter et al., 2019). Their practice environments—often shared clinical spaces with adult patients—may not provide the privacy or youth-friendly atmosphere that encourages adolescent engagement. Interaction points mirror those of pediatric specialists but may inadvertently adopt an adult-oriented approach that fails to address adolescent-specific concerns.

General practitioners and family physicians in primary care settings represent crucial frontline providers, particularly in Hong Kong's private healthcare sector and government-funded general outpatient clinics. These doctors may encounter adolescents presenting with non-specific symptoms potentially related to HIV, sexual health concerns requiring HIV testing, or requests for pre-exposure prophylaxis (PrEP) (Sell et al., 2023). However, the literature documents that primary care providers often report limited knowledge of PrEP, discomfort discussing adolescent sexuality, and uncertainty about age-of-consent regulations for HIV testing and treatment (Storholm et al., 2021). Their interaction points include opportunistic HIV testing, initial sexual health counseling, and referrals to specialist care—making their competencies critical for early detection and linkage to care.

2.2 Nurses: Direct Care Providers Across Settings

Registered nurses play multifaceted roles spanning clinical care, health education, and psychosocial support. **Specialist HIV clinic nurses** embedded in Hospital Authority clinics often develop longitudinal relationships with adolescent patients, conducting medication adherence counseling, side effect monitoring, and health education at each clinic visit (Hung et al., 2022). These nurses may become trusted confidants whom adolescents prefer for discussing sensitive concerns they feel uncomfortable raising with physicians. Their frequent patient contact positions them ideally to detect early signs of treatment fatigue, mental health decline, or social challenges affecting adherence. However, nursing training programs rarely include substantial content on adolescent development or youth-friendly communication, leaving many nurses to learn these skills informally (Pleaner et al., 2023).

Hospital ward nurses interact with adolescents during hospitalizations for opportunistic infections, medication side effects, or other complications. These acute care episodes represent high-stress moments when adolescents may feel particularly vulnerable and when provider attitudes strongly influence psychological outcomes. Ward nurses must manage complex medication regimens while also providing emotional support and maintaining confidentiality in shared hospital environments (Chen et al., 2020). The literature on healthcare worker burnout and stigma suggests that high workload demands and limited mental health support for nurses themselves may compromise their capacity for compassionate, non-judgmental adolescent care (Ramaci et al., 2020).

School nurses occupy a unique position in Hong Kong's education system, potentially serving as accessible healthcare providers for adolescents who spend substantial time in school settings. These nurses could provide continuity for adolescents on antiretroviral therapy, monitor adherence during school hours, and offer confidential support. However, concerns about confidentiality breaches in school settings and uncertainty about school nurses' training in HIV care limit their current involvement (Maheen et al., 2021). Adolescents may fear that accessing HIV-related services through school nurses risks disclosure to teachers or peers, even when legal confidentiality protections exist.

2.3 Social Workers and Clinical Psychologists

Social workers and clinical psychologists address the psychosocial dimensions of living with HIV that medical providers alone cannot fully manage. **Hospital-based social workers** assess adolescents' family situations, connect them with financial assistance programs, facilitate support groups, and provide crisis intervention (Kohrt et al., 2018).

Their responsibilities include helping adolescents navigate disclosure decisions with family members, peers, and romantic partners—decisions that carry profound psychological and social consequences. Social workers also coordinate with schools, social welfare services, and community organizations to create supportive environments for adolescents living with HIV. In Hong Kong's context, where social welfare services operate under different administrative structures than medical services, effective collaboration requires deliberate coordination (Kola et al., 2021).

Clinical psychologists provide specialized mental health assessment and treatment for adolescents experiencing depression, anxiety, trauma, or other psychiatric conditions that frequently co-occur with HIV (Newman et al., 2021). The literature documents elevated rates of mental health disorders among adolescents living with HIV compared to HIV-negative peers, driven by HIV-related stigma, social isolation, grief over lost family members to AIDS, and neuropsychiatric effects of HIV itself (MacDonald et al., 2018). Psychologists employ evidence-based therapies such as cognitive-behavioral therapy, trauma-focused interventions, and adherence counseling. However, access to psychological services remains limited in Hong Kong's public sector due to long waiting lists and insufficient workforce capacity (Li & Leung, 2020).

Both social workers and psychologists require training in HIV-specific issues—including understanding antiretroviral therapy regimens sufficiently to provide informed adherence counseling, recognizing the unique features of HIV-related stigma, and collaborating effectively with medical providers. The interdisciplinary nature of optimal HIV care demands that these professionals share a common language and coordinated care planning frameworks (Kohrt et al., 2018).

2.4 Healthcare System and Policymakers

The **Hospital Authority** serves as the central organizing body for Hong Kong's public healthcare system, establishing clinical protocols, allocating resources, and mandating continuing professional development for medical and nursing staff. Its policies determine which services are available at which facilities, staffing ratios, and quality metrics used to evaluate care. The Hospital Authority's capacity to mandate adolescent HIV care training and establish adolescent-friendly service standards directly influences provider preparedness across the system. Current continuing medical education requirements rarely include mandatory training in adolescent health or cultural competency related to HIV stigma (Hung et al., 2022).

The **Department of Health** oversees public health functions including HIV surveillance, prevention programming, and health promotion campaigns. Its policies regarding HIV testing guidelines, age-of-consent regulations, and school-based health education shape the broader environment in which adolescent HIV care occurs. Coordination between the Department of Health and Hospital Authority determines how prevention efforts (such as PrEP availability) integrate with treatment services.

The **Social Welfare Department** administers services for vulnerable youth, including adolescents in residential care, those experiencing family conflict, and young people at risk of homelessness—populations with elevated HIV vulnerability. Its training requirements for social workers in non-governmental organizations and government-funded services influence the psychosocial support capacity available to adolescents living with HIV. Effective adolescent HIV care requires policy coordination across these governmental

bodies to create seamless referral pathways and eliminate administrative barriers (Kola et al., 2021) (see Table 1).

Table 1: Healthcare Provider Categories, Settings, and Adolescent HIV Care Interaction Points

Provider Category	Primary Settings	Key Interaction Points	Core Responsibilities
Pediatricians / Adolescent Medicine Specialists	Hospital Authority specialist clinics; Designated youth health centers	Initial diagnosis disclosure; Regular monitoring visits; Developmental assessments; Transition planning	Comprehensive medical management; Developmental screening; Coordination of multidisciplinary care; Family counseling
Adult Infectious Disease Specialists	Hospital Authority HIV clinics; Private infectious disease practices	Routine follow-up appointments; Antiretroviral therapy management; Opportunistic infection treatment	HIV treatment expertise; Viral load monitoring; Resistance testing; Management of comorbidities
General Practitioners / Family Physicians	Government general outpatient clinics; Private primary care practices; Community health centers	Opportunistic HIV testing; Initial sexual health counseling; Chronic disease management	Primary care coordination; HIV screening; Referral to specialists; Preventive care

Provider Category	Primary Settings	Key Interaction Points	Core Responsibilities
Specialist HIV Clinic Nurses	Hospital Authority HIV clinics	Medication dispensing; Adherence counseling; Side effect monitoring; Health education sessions	Treatment adherence support; Patient education; Care coordination; Symptom management
Hospital Ward Nurses	Inpatient hospital wards	Acute care episodes; Post-operative care; Management of complications	Acute medical management; Emotional support; Confidentiality maintenance in hospital settings
School Nurses	Primary and secondary schools	Daily medication supervision (rare); Health education; Referrals to outside care	Preventive health services; Health promotion; Liaison with external healthcare providers
Social Workers (Hospital-based)	Hospital Authority facilities; Integrated care teams	Psychosocial assessments; Discharge planning; Crisis intervention	Family support; Resource navigation; Disclosure counseling; Case management
Social Workers (NGO-based)	Community-based NGOs; Youth centers; Outreach programs	Community outreach; Support groups; Peer education programs	Community engagement; Stigma reduction; Social support facilitation
Clinical Psychologists	Hospital Authority psychology departments; Private practice; NGO mental health services	Mental health assessments; Psychotherapy sessions; Adherence counseling	Psychiatric diagnosis; Evidence-based therapy; Trauma treatment; Adherence interventions
Hospital Authority (System Level)	Central administrative offices; Hospital management	Policy development; Resource allocation; Training mandates; Quality monitoring	Service protocol establishment; Continuing education requirements; Quality metrics

Provider Category	Primary Settings	Key Interaction Points	Core Responsibilities
Department of Health (System Level)	Public health administrative offices; Health promotion units	Public health surveillance; Prevention campaign design; Policy formulation	HIV testing guidelines; Prevention programming; Health education standards
Social Welfare Department (System Level)	Social welfare administrative offices; Service funding bodies	Service standards for NGOs; Training requirements for social workers; Youth service planning	Psychosocial service standards; NGO oversight; Training requirements for community providers

3. Knowledge, Attitudes, and Practices Assessment: Current Evidence

3.1 Knowledge Gaps in Adolescent HIV Care

The international literature reveals systematic knowledge deficiencies among healthcare providers regarding adolescent-specific HIV care, deficiencies likely mirrored in Hong Kong. Studies assessing HIV provider knowledge consistently find that while clinicians demonstrate strong understanding of antiretroviral pharmacology and viral resistance patterns, they possess limited knowledge of developmental psychology, adolescent risk assessment frameworks, and evidence-based youth engagement strategies (Carter et al., 2019). Specific knowledge gaps include: uncertainty about age-appropriate methods for discussing sexual behavior and substance use; limited awareness of the heightened mental health risks among adolescents living with HIV; insufficient understanding of confidentiality regulations specific to adolescent care; and lack of familiarity with

transition readiness assessment tools for moving adolescents from pediatric to adult care systems (Wiener et al., 2015).

Knowledge deficits extend beyond clinical content to encompass structural determinants of adolescent health. Providers may not recognize how experiences of stigma, discrimination, and minority stress affect treatment adherence and health outcomes (Metzger et al., 2023). They may lack awareness of community resources available to adolescents, such as peer support groups, youth-friendly counseling services, or educational supports for students managing chronic illness. Furthermore, the rapid evolution of HIV prevention technologies—particularly pre-exposure prophylaxis (PrEP) for HIV-negative adolescents at risk—has outpaced provider education, leaving many clinicians uncertain about prescribing criteria, monitoring requirements, and behavioral counseling approaches for adolescent PrEP users (Storholm et al., 2021).

3.2 Attitudinal Barriers to Adolescent-Centered Care

Provider attitudes toward adolescent sexuality, autonomy, and risk-taking behaviors profoundly influence care quality yet operate partly below conscious awareness. Research using implicit association tests and observational methods reveals that healthcare providers—across cultural contexts—often harbor judgmental attitudes toward adolescent sexual activity, perceiving sexually active youth as irresponsible or morally compromised (Baigry et al., 2023). These attitudes intensify when adolescents belong to already-stigmatized groups, such as men who have sex with men, transgender youth, or adolescents who use substances (Nyblade et al., 2022). In Hong Kong’s cultural context, where traditional values emphasize family honor and sexual conservatism, providers may struggle

to reconcile professional obligations to provide non-judgmental care with personal values that view adolescent sexuality negatively (Siu et al., 2019).

The “provider as parent” dynamic emerges as a particularly problematic attitudinal pattern. Healthcare providers, especially those with children of their own, may unconsciously adopt parental rather than professional stances toward adolescent patients, prioritizing perceived protection over autonomy and imposing their own values about appropriate adolescent behavior (Nyblade et al., 2022). This paternalism manifests in providers making treatment decisions without fully involving adolescents, breaching confidentiality by sharing information with parents without consent, or lecturing adolescents about behavior rather than employing collaborative, motivational approaches (Fahme et al., 2021).

Attitudes toward HIV itself compound these challenges. Despite decades of public health messaging emphasizing that HIV is a manageable chronic condition, residual stigma persists even among healthcare professionals (Treves-Kagan et al., 2015). Providers may view HIV as a “lifestyle disease” resulting from morally questionable choices, particularly when diagnosing adolescents—a perception that undermines empathy and therapeutic relationships. Fear of HIV transmission, though scientifically unfounded when standard precautions are followed, may also subtly influence provider behavior, manifesting in avoidance of physical contact or excessive precautionary measures that communicate disgust or fear to adolescent patients (Ramaci et al., 2020).

3.3 Practice Variations and Quality Indicators

Observational research and simulated patient studies—methodologies that assess actual provider behavior rather than self-reported practices—reveal substantial variations in

adolescent HIV care quality. These studies, conducted primarily in other settings but highly relevant to Hong Kong, document that providers frequently fail to perform key components of comprehensive adolescent care (King et al., 2019). Common practice deficiencies include: insufficient sexual history-taking, with providers asking closed-ended questions that discourage disclosure or avoiding sexual history entirely; inadequate assessment of mental health symptoms despite high prevalence of depression and anxiety among adolescents with HIV; limited substance use screening and counseling; failure to assess and support medication adherence using validated tools; and incomplete discussions of disclosure challenges and strategies (Fitzpatrick & Tumlinson, 2017).

Quality variations correlate with provider characteristics and practice settings. Specialist providers in designated adolescent clinics generally demonstrate higher quality than general practitioners or adult HIV specialists seeing adolescents (Carter et al., 2019). Providers who have received specific training in adolescent health—whether through formal fellowship programs, continuing education courses, or structured mentorship—outperform those relying on informal learning (Dubin et al., 2018). Practice environment also matters: clinics with dedicated adolescent spaces, flexible appointment scheduling, and co-located mental health services facilitate higher quality care than settings where adolescents receive services alongside adult patients in environments that feel unwelcoming (Newman et al., 2021).

Simulated patient studies specifically assessing HIV care reveal concerning patterns of implicit bias and discrimination. When simulated patients presenting identical symptoms vary only in demographic characteristics (such as sexual orientation, gender identity, or race/ethnicity), they receive systematically different quality of care, with marginalized

adolescents experiencing shorter consultations, less detailed counseling, and more judgmental communication (Nyblade et al., 2022). These studies provide powerful evidence that explicit knowledge alone does not ensure equitable, high-quality care; addressing implicit biases requires targeted interventions beyond traditional medical education (Metzger et al., 2023).

3.4 The Disconnect Between Knowledge and Practice

A critical finding across healthcare quality research is the persistent disconnect between what providers know they should do and what they actually do in clinical encounters—a phenomenon termed the "knowledge-practice gap" (Kaladharan et al., 2020). Surveys assessing provider knowledge may find that clinicians can correctly answer questions about adolescent confidentiality rights or optimal adherence counseling techniques, yet observational studies of the same providers' clinical practice reveal frequent violations of confidentiality and inadequate adherence support (Fitzpatrick & Tumlinson, 2017). This disconnect stems from multiple sources: time pressure in busy clinical environments that leads providers to prioritize biomedical management over behavioral counseling; discomfort with sensitive topics that causes avoidance even when providers intellectually recognize their importance; lack of institutional support or protocol clarity that leaves providers uncertain how to operationalize best practices; and insufficient practice opportunities to develop communication skills beyond didactic knowledge (King et al., 2019).

Understanding this knowledge-practice gap has profound implications for intervention design. Traditional continuing medical education focused solely on information transfer

(lectures, online modules) rarely translates into practice change (Michie et al., 2015). Effective interventions must employ experiential learning methods that allow providers to practice new skills, receive feedback, and develop both competence and comfort with adolescent-centered communication. Simulated patient training, where providers interact with trained actors portraying adolescent scenarios followed by immediate feedback, represents one evidence-based approach to bridging this gap (Wilson et al., 2017).

4. Hong Kong Context: Cultural, Social, and Systemic Factors

4.1 Family-Centric Culture and Confidentiality Tensions

Hong Kong's Confucian-influenced cultural context places paramount importance on family cohesion, filial piety, and collective decision-making—values that can conflict with Western bioethical principles of individual autonomy and adolescent confidentiality that undergird many international healthcare guidelines (Siu et al., 2019). In this cultural framework, parents or guardians expect involvement in their children's healthcare decisions well beyond what would be normative in Western contexts, and healthcare providers may feel culturally obligated to honor these expectations even when they compromise adolescent trust or disclosure (Maheen et al., 2021).

These tensions manifest acutely in HIV care, where diagnosis disclosure to family members carries profound implications. Adolescents may fear parental rejection, violence, or forced disclosure of behaviors (such as same-sex sexual activity or injection drug use) that led to HIV acquisition. Yet the practical demands of daily medication administration and clinic attendance often necessitate some level of family awareness (Fahme et al., 2021). Healthcare providers must navigate this complex terrain without clear cultural consensus

or practice guidelines specific to Hong Kong's context. The absence of legal clarity regarding adolescent medical consent—particularly the age at which adolescents can consent to HIV testing and treatment without parental involvement—further complicates provider decision-making (Maheen et al., 2021).

4.2 Stigma, Discrimination, and Marginalized Populations

HIV-related stigma operates at multiple levels in Hong Kong society: structural stigma embedded in policies and institutions; interpersonal stigma experienced in social interactions; and internalized stigma where individuals living with HIV incorporate negative societal attitudes into their self-concept (Treves-Kagan et al., 2015). For adolescents—already navigating developmental challenges of identity formation and peer belonging—HIV-related stigma intersects with developmental vulnerabilities to create profound psychosocial burden (Newman et al., 2021). The literature documents that stigma anticipation (fear of experiencing stigma) often drives adolescents to avoid healthcare settings entirely, miss appointments, or withhold information from providers, undermining both prevention and treatment efforts (Nyblade et al., 2022).

Stigma intensifies for adolescents belonging to multiple marginalized groups—phenomena termed "intersectional stigma." Adolescent men who have sex with men living with HIV face compounded stigma related to both HIV status and sexual orientation in a society where same-sex attraction remains stigmatized despite legal decriminalization (Pham et al., 2017). Transgender adolescents with HIV encounter healthcare systems structured around binary gender categories that erase their identities and providers lacking training in gender-affirming care (Dubin et al., 2018). Migrant adolescents from mainland China or ethnic

minority backgrounds may experience additional layers of discrimination and cultural disconnection from Hong Kong's healthcare system (Maheen et al., 2021).

Hong Kong's educational environment contributes to stigma through inadequate sexual health education that emphasizes abstinence, fails to address diverse sexual orientations, and perpetuates shame around sexuality (Siu et al., 2019). The absence of comprehensive, medically accurate, inclusive sex education leaves adolescents with knowledge gaps that increase both HIV vulnerability and internalized stigma. School environments rarely provide supportive spaces for students managing chronic health conditions, creating isolation for adolescents living with HIV who fear disclosure to peers or teachers.

4.3 Public-Private Healthcare Divide

Hong Kong's healthcare system encompasses both a comprehensive public sector (Hospital Authority) and a substantial private sector, creating differential access patterns with implications for adolescent HIV care. The public sector provides heavily subsidized services, including free or low-cost antiretroviral therapy, making it financially accessible (Hung et al., 2022). However, public clinics face high patient volumes, long waiting times, and time-constrained consultations that may limit providers' capacity for the extended, relationship-building interactions optimal for adolescent engagement. Physical environments in public clinics—often institutional, crowded, and lacking privacy—may feel unwelcoming to adolescents concerned about confidentiality.

The private healthcare sector offers shorter wait times and more comfortable environments but at substantial out-of-pocket cost, creating financial barriers for most adolescents and their families (Siu et al., 2019). Some adolescents prefer private care specifically to avoid

the possibility of encountering known individuals in public clinic waiting rooms, viewing the cost as justified by enhanced privacy. However, private practitioners vary widely in their HIV expertise and adolescent health competencies, with no systematic quality oversight or training requirements specific to adolescent HIV care. This public-private divide means that the quality and accessibility of care adolescents receive depends heavily on family socioeconomic status—a form of structural inequity.

4.4 Digital Health and Contemporary Communication Patterns

Hong Kong's adolescents are digital natives, with near-universal smartphone access and extensive social media engagement (Wong et al., 2023). This digital fluency creates both opportunities and challenges for healthcare delivery. Telemedicine and digital health interventions hold promise for increasing accessibility, particularly for adolescents who face transportation barriers, time conflicts with school, or anxiety about in-person visits to HIV clinics (Li & Leung, 2020). During the COVID-19 pandemic, rapid adoption of telehealth for HIV care demonstrated feasibility, though concerns about digital privacy and the quality of remote therapeutic relationships remain (Hung et al., 2022).

However, digital health also introduces new dimensions of privacy vulnerability. Adolescents may worry that electronic health records, appointment reminders, or prescription notifications could inadvertently disclose their HIV status to family members who monitor their devices or share household internet access (Li & Leung, 2020). Healthcare providers require training in digital communication best practices that protect confidentiality while leveraging technology's benefits. The generational digital divide

between adolescent patients and many healthcare providers—who may be less fluent with communication platforms adolescents prefer—can create barriers to effective engagement.

5. Proposed Research Methodology: A Dual-Method Approach

5.1 Rationale for Mixed Methods Design

Accurately assessing healthcare provider knowledge, attitudes, and practices regarding adolescent HIV care requires methodological approaches that capture both explicit, conscious dimensions (amenable to survey assessment) and implicit, behavioral dimensions (requiring observational methods). Self-reported surveys alone are insufficient because providers may lack insight into their own biases, may provide socially desirable responses that do not reflect actual practice, or may possess knowledge that does not translate into behavior during the time pressure of clinical encounters (Kaladharan et al., 2020). Conversely, observational methods alone cannot fully assess providers' declarative knowledge or their conscious reasoning processes.

A dual-method design combining **anonymous provider surveys** with **simulated patient (mystery shopper) studies** addresses these limitations by triangulating different types of data (King et al., 2019). Surveys efficiently assess explicit knowledge across large samples, capture self-reported attitudes and perceived barriers, and document providers' awareness of guidelines and protocols. Simulated patient studies complement surveys by directly observing provider behavior in naturalistic clinical encounters, detecting implicit biases that providers may not consciously recognize, and identifying discrepancies between what

providers say they do and what they actually do (Fitzpatrick & Tumlinson, 2017). Together, these methods provide comprehensive understanding necessary to design targeted, effective interventions.

5.2 Component 1: Anonymous Provider Surveys

Anonymous surveys administered to healthcare providers across Hong Kong's public and private sectors would assess multiple dimensions of knowledge, attitudes, and self-reported practices. Survey design should draw on validated instruments from the international literature while adapting items for cultural and linguistic appropriateness (Kaladharan et al., 2020). Key content domains include:

HIV Treatment Knowledge: Assessment of provider knowledge regarding current antiretroviral therapy guidelines, drug interactions, resistance patterns, and monitoring requirements. Items should specifically probe adolescent-relevant considerations such as growth and development impacts of medications, formulation preferences for adolescent patients, and transition planning from pediatric to adult treatment regimens.

Adolescent Health Competencies: Questions assessing knowledge of adolescent development stages, communication techniques appropriate for youth, confidentiality and consent regulations specific to adolescents, and screening tools for mental health, substance use, and social determinants affecting adolescent health outcomes (Wiener et al., 2015).

Attitudes and Beliefs: Validated scales measuring attitudes toward adolescent sexuality, substance use, and autonomy; stigma toward people living with HIV; and beliefs about professional role responsibilities in discussing sensitive topics with adolescent patients.

These items should employ both direct questions and indirect measures to capture socially desirable response bias (Metzger et al., 2023).

Self-Efficacy and Comfort: Assessment of providers' confidence in their ability to deliver various components of adolescent HIV care, including discussing sexual behavior, addressing mental health concerns, managing disclosure dilemmas, and engaging reluctant or non-adherent adolescents.

Barriers and Facilitators: Questions identifying system-level and individual-level barriers providers experience when attempting to deliver high-quality adolescent care, such as time constraints, lack of training, insufficient institutional support, or unclear policies. Open-ended questions would allow providers to describe challenges in their own words (Hung et al., 2022).

Demographics and Practice Characteristics: Collection of provider characteristics (profession, years of experience, specialty training, practice setting) and practice characteristics (patient volume, availability of multidisciplinary team members, electronic health record systems) to enable subgroup analyses.

Survey administration would utilize secure online platforms ensuring complete anonymity to reduce social desirability bias. Recruitment would engage all relevant provider categories (physicians, nurses, social workers, psychologists) across diverse settings (Hospital Authority specialist clinics, general outpatient clinics, private practices, NGO services) to ensure representativeness. Target sample sizes should be calculated based on expected effect sizes for key comparisons (e.g., comparing specialist versus generalist

providers) and should aim for adequate representation of smaller provider subgroups such as school nurses or adolescent medicine specialists (Kaladharan et al., 2020).

5.3 Component 2: Simulated Patient (Mystery Shopper) Studies

Simulated patient methodology, where trained actors unannounced present to healthcare facilities portraying standardized adolescent clinical scenarios, provides direct observation of provider behavior in naturalistic clinical encounters (King et al., 2019). This methodology, validated internationally for healthcare quality assessment and increasingly used in low- and middle-income countries, overcomes limitations of self-report and chart review by documenting what providers actually do when they believe they are treating real patients (Fitzpatrick & Tumlinson, 2017). Implementing simulated patient studies in Hong Kong's context requires careful methodological planning across several dimensions:

Case Scenario Development: Research teams must develop clinically realistic, standardized scenarios representing common adolescent HIV care presentations (Xu et al., 2019). Scenarios should vary systematically to assess specific competencies and detect biases. For example: (1) An 18-year-old presenting for routine follow-up with recent medication non-adherence; (2) A 16-year-old newly diagnosed with HIV seeking information about disclosure to family and school; (3) A 19-year-old experiencing depression and expressing suicidal ideation; (4) A 17-year-old young man requesting pre-exposure prophylaxis due to sexual activity with male partners. Each scenario includes a standardized script covering the patient's stated concerns, medical history, and responses to typical provider questions (Wilson et al., 2017).

Simulated Patient Recruitment and Training: Young adults (aged 18-25) who can believably portray adolescent patients must be recruited, trained extensively in their roles, and supported throughout the study (Fitzpatrick & Tumlinson, 2017). Training includes memorizing the clinical scenario, practicing consistent responses to varied provider questions, developing skills to remember details from encounters for later reporting, and managing the emotional demands of portraying stigmatized identities or sensitive topics. Ethical protocols must protect simulated patients' safety, provide psychological support, and ensure they can decline encounters that feel unsafe (King et al., 2019).

Facility Sampling and Access: A stratified random sample of healthcare facilities across Hong Kong should be selected to represent the diversity of settings where adolescents receive HIV care: Hospital Authority specialist HIV clinics, general outpatient clinics, private practices, NGO-affiliated health services, and school-based health centers. Facilities must be approached for participation with full disclosure of research purposes (to facility administrators) while individual providers remain unaware of which patient interactions are simulated—a challenging ethical balance requiring institutional review board approval (Xu et al., 2019). Alternatively, studies can be conducted without facility-level consent using only public services, though this limits setting diversity.

Data Collection Instruments: Simulated patients complete detailed checklists immediately after encounters documenting specific provider behaviors observed: types of questions asked, topics addressed, quality of counseling provided, non-verbal communication indicators (eye contact, body language), confidentiality practices (visible to other patients, door closed), referrals offered, and prescriptions or recommendations given (Fitzpatrick & Tumlinson, 2017). Checklists should be developed based on evidence-

based adolescent HIV care guidelines and validated through pilot testing. Qualitative narrative reports supplement checklists, capturing nuances of provider communication that structured forms may miss (King et al., 2019).

Quality Metrics: Analysis focuses on comparing observed provider behavior against gold-standard adolescent HIV care practices, documenting variations by provider type and setting, and identifying systematic biases (e.g., differences in care quality based on patient's sexual orientation as portrayed in different scenarios) (Rosapep et al., 2022). Specific quality indicators might include: proportion of providers who ask about sexual behavior using non-judgmental language; percentage who screen for mental health symptoms; rates of appropriate antiretroviral adherence counseling; confidentiality breaches observed; and referrals to psychosocial support services when clinically indicated.

Ethical Considerations: Simulated patient studies raise unique ethical questions requiring careful institutional review board consideration (King et al., 2019). Key ethical challenges include: potential for provider detection (which compromises data validity and may harm provider-patient relationships for future real patients); brief deception regarding patient identity (justified by significant scientific value and no harm to providers); ensuring no medically unnecessary procedures are performed on simulated patients; and managing findings when observed care quality is dangerously inadequate. Ethical protocols must specify stopping rules, feedback mechanisms for facilities, and confidentiality protections for individual providers while still enabling organizational learning (Fitzpatrick & Tumlinson, 2017).

5.4 Integration, Analysis, and Dissemination

The research design integrates findings from both methodological components to generate comprehensive understanding of provider competencies and practice patterns. Quantitative analyses compare survey-reported knowledge and attitudes with observed behaviors from simulated patient studies, explicitly testing for knowledge-practice discrepancies (Kaladharan et al., 2020). Subgroup analyses examine whether competencies vary by provider characteristics (profession, specialty training, years of experience), practice setting (specialist clinic versus general practice, public versus private), or patient characteristics as portrayed in scenarios (age, gender, sexual orientation).

Mixed-methods analysis triangulates quantitative patterns with qualitative data from open-ended survey questions and simulated patient narrative reports, providing rich understanding of mechanisms underlying observed variations (King et al., 2019). For example, if simulated patient studies detect systematic biases in care quality based on portrayed sexual orientation, qualitative analysis of provider reflections may reveal the attitudinal roots of these biases and inform culturally appropriate intervention design.

Dissemination strategies must balance research transparency with ethical obligations to protect provider confidentiality. Aggregate findings should be published in peer-reviewed literature and presented at professional conferences to contribute to international knowledge. Within Hong Kong, findings must be communicated to the Hospital Authority, Department of Health, and Social Welfare Department through policy briefs, stakeholder meetings, and collaborative workshop sessions where provider representatives participate in interpreting results and co-designing interventions (Hung et al., 2022). Individual

providers should never be identifiable in public dissemination, though facilities receiving summary data about their site-specific performance can use this for internal quality improvement.

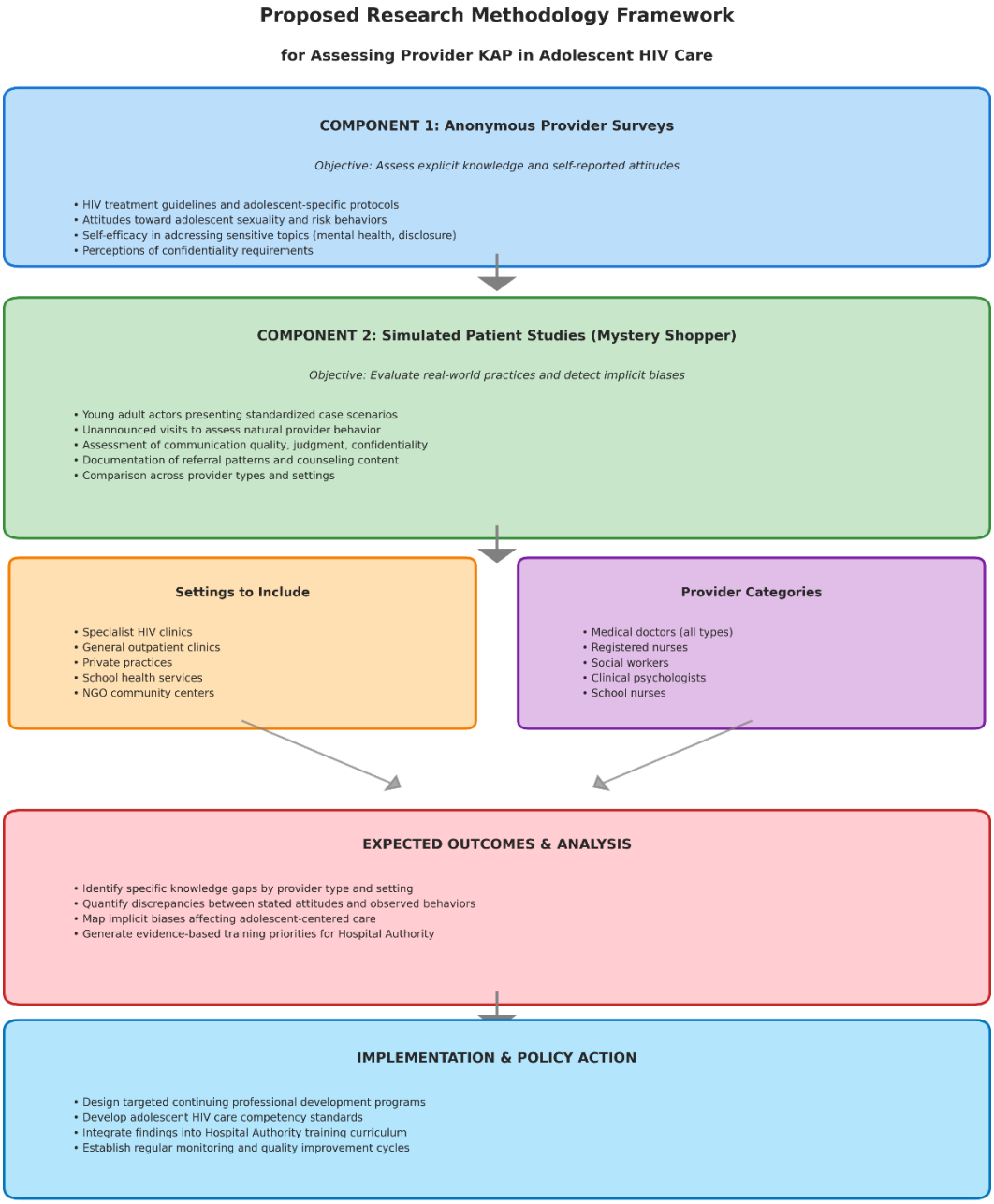

Figure 2: Proposed Research Methodology Framework for Assessing Provider KAP in Adolescent HIV Care

5.5 Feasibility and Resource Considerations

Implementing this dual-method research design requires substantial but justified investment of resources. Survey development, translation, pilot testing, and administration require research staff with expertise in survey methodology, psychometrics, and healthcare quality measurement—expertise available through Hong Kong's academic institutions. Electronic survey platforms reduce data collection costs but require careful attention to data security given the sensitive nature of provider attitudes being assessed.

Simulated patient studies demand more intensive resources: recruitment and training of actors, development of detailed scenario scripts and data collection instruments, coordination of healthcare facility access, and ongoing supervision of data collection to ensure standardized implementation (Fitzpatrick & Tumlinson, 2017). International experience suggests that adequately powered simulated patient studies require several months of preparation and field implementation, with per-encounter costs higher than survey methods but generating uniquely valuable data unavailable through other approaches (King et al., 2019). Funding sources could include government research grants, Hospital Authority quality improvement budgets, or international development agencies supporting HIV care optimization.

The research team should comprise multidisciplinary expertise: HIV clinicians who understand clinical care standards, adolescent health specialists who can ensure developmental appropriateness, behavioral scientists expert in implicit bias measurement, health services researchers skilled in implementation science methods, and ethicists who can navigate the complex ethical terrain of this research. Importantly, the team should

include young people living with HIV as research partners who can ensure that research questions, methods, and interpretation reflect adolescent priorities and perspectives—an approach termed "participatory action research" increasingly recognized as essential for youth health research (Newman et al., 2021).

6. Recommendations and Path Forward

6.1 Immediate Actions for Healthcare Leadership

Based on this analysis, several immediate actions are recommended for Hong Kong's healthcare leadership—particularly the Hospital Authority, Department of Health, and Social Welfare Department:

Establish Adolescent HIV Care Competency Standards: Develop clear, evidence-based competency standards defining the knowledge, attitudes, and skills expected of healthcare providers involved in adolescent HIV care (Kohrt et al., 2018). These standards should differentiate expectations by provider role (physicians, nurses, social workers, psychologists) while establishing common cross-disciplinary competencies. Standards development should engage multidisciplinary working groups including providers, adolescent health experts, and young people with lived experience.

Mandate Continuing Professional Development: Integrate adolescent HIV care content into mandatory continuing professional development requirements for providers working in relevant settings (Hung et al., 2022). Training should employ evidence-based pedagogical approaches including simulated patient encounters, reflective exercises addressing implicit bias, and skills practice with feedback—moving beyond traditional

didactic lectures toward experiential learning that changes practice (Wilson et al., 2017). The Hospital Authority's existing training infrastructure provides a foundation for scaling these programs.

Implement the Proposed Research: Commission the dual-method research design outlined in this report to generate Hong Kong-specific data on provider KAP and practice patterns. This evidence base is essential for designing culturally appropriate, targeted interventions addressing the specific gaps identified rather than relying on generic international materials that may not fit Hong Kong's context (King et al., 2019). Research funding should be accompanied by commitment to act on findings through policy and practice changes.

Create Adolescent-Friendly Service Standards: Develop and disseminate operational standards defining adolescent-friendly healthcare environments, including physical space requirements (private consultation areas), scheduling accommodations (after-school appointments), and confidentiality protocols (Pleaner et al., 2023). These standards, implemented through Hospital Authority facilities and communicated to private providers, would reduce current variation in the adolescent-centeredness of care settings (Newman et al., 2021).

6.2 Medium-Term System Strengthening

Enhance Multidisciplinary Coordination: HIV care for adolescents requires seamless collaboration among medical providers, nurses, social workers, psychologists, and community organizations (Kohrt et al., 2018). Current coordination mechanisms often rely on informal relationships rather than structured systems. Implementing formal

multidisciplinary team meetings, shared electronic health records accessible across professions, and clear care coordination protocols would improve integration and reduce fragmentation (Kola et al., 2021).

Expand Psychological Social Support Services: The current capacity of psychological services within Hong Kong's public healthcare system remains insufficient to meet the mental health needs of adolescents living with HIV (Li & Leung, 2020). Expanding the clinical psychology workforce, reducing waiting times for mental health assessment, and integrating mental health screening into routine HIV clinic visits would address this critical gap (Kola et al., 2021). Additionally, developing peer support programs led by young people with lived HIV experience provides cost-effective psychosocial support that complements professional services and reduces isolation (Newman et al., 2021).

Strengthen School-Health System Linkages: For adolescents spending significant time in educational settings, stronger partnerships between schools and healthcare systems could improve continuity of care and reduce stigma (Newman et al., 2021). This requires training school nurses in confidential HIV care support, establishing clear protocols for medication administration during school hours when needed, and creating referral pathways connecting school counselors with HIV clinical teams while maintaining strict confidentiality (Maheen et al., 2021).

Leverage Digital Health Platforms: Expanding telehealth options, secure messaging systems for patient-provider communication, and digital adherence support tools would increase accessibility particularly for adolescents facing transportation barriers or scheduling conflicts with school (Li & Leung, 2020). However, digital health expansion must be accompanied by provider training in digital communication best practices and

robust confidentiality protections addressing adolescents' unique privacy concerns in shared household environments (Hung et al., 2022).

6.3 Long-Term Vision and Sustainability

The ultimate goal is transforming Hong Kong's adolescent HIV care system from one primarily designed for adults with adolescents accommodated as exceptions, to one fundamentally structured around adolescent developmental needs, autonomy, and life-course perspectives (DelanyMoretlwe et al., 2015). This transformation requires sustained commitment from healthcare leadership, adequate resource allocation, ongoing quality monitoring, and regular updating of standards as the evidence base evolves. Establishing a dedicated Adolescent HIV Care Working Group within the Hospital Authority, with representation from all relevant professions and including young people with lived experience, would provide governance structure for continuous quality improvement (Kohrt et al., 2018).

Success metrics should extend beyond biomedical outcomes (viral suppression rates) to encompass patient-reported measures of care satisfaction, perceived stigma in healthcare settings, and adolescents' sense of partnership in their own care (Newman et al., 2021). Regular measurement of these broader quality indicators, combined with the proposed research methodologies, would enable data-driven refinement of services and training programs.

Conclusion

Hong Kong stands at a critical juncture in adolescent HIV care. The city possesses exceptional healthcare infrastructure, universal coverage, and clinical expertise that have achieved remarkable success in adult HIV treatment outcomes. However, translating this success to adolescent populations requires intentional, evidence-based efforts to enhance provider knowledge, address attitudinal barriers, and transform practice patterns across the diverse healthcare workforce. The proposed dual-method research approach—combining anonymous surveys with simulated patient studies—offers a rigorous, ethically sound pathway to identify specific competency gaps and practice variations that currently compromise care quality. By generating Hong Kong-specific evidence and using these findings to design targeted training interventions, healthcare leadership can ensure that all adolescents living with HIV receive developmentally appropriate, culturally sensitive, and genuinely youth-friendly care regardless of where they access services. The investment required for this research and subsequent system strengthening is modest compared to the substantial human and public health benefits of optimizing care for this vulnerable population during a critical life stage (DelanyMoretlwe et al., 2015). The time for action is now—adolescents living with HIV in Hong Kong deserve nothing less than the comprehensive, compassionate, and competent care that will enable them to thrive.

References

Baigry, M., Ray, R., Lindsay, D., Kelly-Hanku, A., & Redman-Maclaren, M. (2023). Barriers and enablers to young people accessing sexual and reproductive health services in pacific island countries and territories: A scoping review. *PLoS ONE*.

Carter, M. R., Aaron, E., Nassau, T., & Brady, K. (2019). Knowledge, attitudes, and PrEP prescribing practices of health care providers in philadelphia, PA. *Journal of Primary Care & Community Health*.

Chen, R., Sun, C., Chen, J., Jen, H., Kang, X. L., Kao, C., & Chou, K. (2020). A LargeScale survey on trauma, burnout, and posttraumatic growth among nurses during the COVID19 pandemic. *Wiley*.

DelanyMoretlwe, S., Cowan, F. M., Busza, J., BoltonMoore, C., Kelley, K., & Fairlie, L. (2015). Providing comprehensive health services for young key populations: Needs, barriers and gaps. *International AIDS Society*.

Dubin, S., Nolan, I. T., Streed, C. G., Greene, R. E., Radix, A., & Morrison, S. D. (2018). *Dove Medical Press*.

Fahme, S., Sieverding, M., & Abdulrahim, S. (2021). Sexual and reproductive health of adolescent syrian refugee girls in lebanon: A qualitative study of healthcare provider and educator perspectives. *Reproductive Health*.

Fitzpatrick, A., & Tumlinson, K. (2017). Strategies for optimal implementation of simulated clients for measuring quality of care in low- and middle-income countries. *Global Health: Science and Practice Journal*.

Hung, C., Banerjee, S., Gilada, I., Green, K. E., Inoue, Y., Kamarulzaman, A., Leyritana, K., Phanuphak, N., Wong, T., Wong, T.-L., Singh, S., & Choi, J. (2022). Impact of COVID-19 on the HIV care continuum in asia: Insights from people living with HIV, key populations, and HIV healthcare providers. *PLoS ONE*.

Kaladharan, S., Daken, K., Mullens, A., & Durham, J. (2020). Tools to measure HIV knowledge, attitudes & practices (KAPs) in healthcare providers: A systematic review. *AIDS Care*.

King, J. J. C., Das, J., Kwan, A., Daniels, B., Powell-Jackson, T., Makungu, C., & Goodman, C. (2019). How to do (or not to do) using the standardized patient method to measure clinical quality of care in LMIC health facilities. *Health Policy and Planning*.

Kohrt, B. A., Asher, L., Bhardwaj, A., Fazel, M., Jordans, M. J. D., Mutamba, B. B., Nadkarni, A., Pedersen, G. A., Singla, D. R., & Patel, V. (2018). The role of communities in mental health care in low- and middle-income countries: A meta-review of components and competencies. *Multidisciplinary Digital Publishing Institute*.

Kola, L., Kohrt, B. A., Hanlon, C., Naslund, J. A., Sikander, S., Balaji, M., Benjet, C., Cheung, E. Y. L., Eaton, J., Gonsalves, P. P., Hailemariam, M., Luitel, N. P., Machado, D. B., Misganaw, E., Omigbodun, O., Roberts, T., Salisbury, T. T., Shidhaye, R., Sunkel,

C., … Patel, V. (2021). COVID-19 mental health impact and responses in low-income and middle-income countries: Reimagining global mental health. *Elsevier BV*.

Li, T. M. H., & Leung, C. S. Y. (2020). Exploring student mental health and intention to use online counseling in hong kong during the COVID19 pandemic. *Psychiatry and Clinical Neurosciences*.

MacDonald, K., Fainman-Adelman, N., Anderson, K. K., & Iyer, S. N. (2018). Pathways to mental health services for young people: A systematic review. *Springer Science+Business Media*.

Maheen, H., Chalmers, K., Khaw, S., & McMichael, C. (2021). Sexual and reproductive health service utilisation of adolescents and young people from migrant and refugee backgrounds in high-income settings: A qualitative evidence synthesis (QES). *CSIRO Publishing*.

Metzger, I. W., Turner, E. A., Jernigan-Noesi, M., Fisher, S., Nguyen, J. K., shodiya-zeumault, shola, & Griffith, B. (2023). Conceptualizing community mental health service utilization for BIPOC youth. *Journal of Clinical Child & Adolescent Psychology*.

Michie, S., Wood, C. E., Johnston, M., Abraham, C., Francis, J., & Hardeman, W. (2015). Behaviour change techniques: The development and evaluation of a taxonomic method for reporting and describing behaviour change interventions (a suite of five studies involving consensus methods, randomised controlled trials and analysis of qualitative data). *NIHR Journals Library*.

Newman, P., Prabhu, S., Akkakanjanasupar, P., & Tepjan, S. (2021). HIV and mental health among young people in low-resource contexts in southeast asia: A qualitative investigation. *Global Public Health*.

Nyblade, L., Ndirangu, J., Speizer, I., Browne, F., Bonner, C. P., Minnis, A., Kline, T. L., Ahmed, K., Howard, B., Cox, E. N., Rinderle, A., & Wechsberg, W. (2022). Stigma in the health clinic and implications for PrEP access and use by adolescent girls and young women: Conflicting perspectives in south africa. *BMC Public Health*.

Pham, M. D., Aung, P. P., Paing, A., Pasricha, N., Agius, P. A., Tun, W., Bajracharya, A., & Lchters, S. (2017). Factors associated with <scp>HIV</scp> testing among young men who have sex with men in myanmar: A crosssectional study. *International AIDS Society*.

Pleaner, M., Scorgie, F., Martin, C., Butler, V., Muhwava, L., Mojapele, M., & Mullick, S. (2023). Introduction and integration of PrEP and sexual and reproductive health services for young people: Health provider perspectives from south africa. *Frontiers in Reproductive Health*.

Ramaci, T., Barattucci, M., Ledda, C., & Rapisarda, V. (2020). Social stigma during COVID-19 and its impact on HCWs outcomes. *Multidisciplinary Digital Publishing Institute*.

Rosapep, L., Faye, S., Johns, B., Olusola-Faleye, B., Baruwa, E., Sorum, M. K., Nwagagbo, F., Adamu, A. A., Kwan, A., Obanubi, C., & Atobatele, A. (2022). Tuberculosis care quality in urban nigeria: A cross-sectional study of adherence to screening and treatment initiation guidelines in multi-cadre networks of private health service providers. *Public Library of Science*.

Sell, J., Chen, R., Huber, C., Parascando, J. A., & Nunez, J. (2023). Primary care provider HIV PrEP knowledge, attitudes, and prescribing habits: A cross-sectional survey of late adopters in rural and suburban practice. *Journal of Primary Care & Community Health*.

Siu, J. Y., Fung, T., & LEUNG, H. M. (2019). Social and cultural construction processes involved in HPV vaccine hesitancy among chinese women: A qualitative study. *International Journal for Equity in Health*.

Storholm, E. D., Ober, A. J., Mizel, M., Matthews, L., Sargent, M., Todd, I., Zajdman, D., & Green, H. (2021). Primary care providers" knowledge, attitudes, and beliefs about HIV pre-exposure prophylaxis (PrEP): Informing network-based interventions. *AIDS Education and Prevention*.

Treves-Kagan, S., Steward, W. T., Ntswane, L., Haller, R., Gilvydis, J. M., Gulati, H., Barnhart, S., & Lippman, S. A. (2015). Why increasing availability of ART is not enough: A rapid, community-based study on how HIV-related stigma impacts engagement to care in rural south africa. *BioMed Central*.

Wiener, L., Weaver, M., Bell, C., & Sansom-Daly, U. (2015). Threading the cloak: Palliative care education for care providers of adolescents and young adults with cancer. *Clinical Oncology in Adolescents and Young Adults*.

Wilson, K., Mugo, C., Bukusi, D., Inwani, I., Wagner, A., Moraa, H., Owens, T., Babigumira, J., Richardson, B., John-Stewart, G., Slyker, J., Wamalwa, D., & Kohler, P. (2017). Simulated patient encounters to improve adolescent retention in HIV care in kenya: Study protocol of a stepped-wedge randomized controlled trial. *Trials*.

Wong, I. H. S., Fan, C. Cliff., Chiu, D. K. W., & Ho, K. K. W. (2023). Social media celebrities" influence on youths" diet behaviors: A gender study based on the AIDA marketing communication model. *Aslib Journal of Information Management*.

Xu, D., Hu, M., He, W., Liao, J., Cai, Y., Sylvia, S., Hanson, K., Chen, Y., Pan, J., Zhou, Z., Zhang, N., Tang, C., Wang, X., Rozelle, S., He, H., Wang, H., Chan, G., Melipilln, R., Zhou, W., & Gong, W. (2019). Assessing the quality of primary healthcare in seven chinese provinces with unannounced standardised patients: Protocol of a cross-sectional survey. *BMJ*.