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From surviving to thriving: Integrating mental health care into HIV services for adolescents living with HIV

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Summary

Adolescents are a critical generation, with the potential to bring future social and economic success for themselves and their countries. With over 90% of adolescents living with HIV residing in sub-Saharan Africa, their mental health has a background of poverty, familial stress, service gaps, and an HIV epidemic now intertwined with the COVID-19 crisis. In this Series paper, we review systematic reviews, new randomised trials and cohort studies, for adolescents living with and affected by HIV. We provide a detailed overview of mental health provision and review evidence for future pathways. We find high adolescent mental health burden, contributing to low quality of life and ART challenges. Mental health provision is scarce, infrastructure and skilled providers are missing. But emerging evidence shows effective interventions including mental health-specific provision (CBT, problem-

solving, mindfulness, parenting programmes), and wider provision for drivers of poor mental health (social protection, violence prevention). Combinations of these ('cash plus care') may increase benefits. Scalable delivery models include task sharing, primary care integration and strengthening families, and a pyramid of provision that differentiates levels of need from prevention to care of severe disorders. A turning point has now been reached, where complacency cannot persist. Our review concludes that there is substantial need, available frameworks and a growing evidence base for action while infrastructure and skill acquisition is built.

Introduction

The global HIV pandemic continues, now embedded within the COVID-19 pandemic—increasing mental health challenges worldwide. Adolescents living with HIV are caught up in this syndemic. Of the 1.7 million adolescents living with HIV globally, 90·5% live in sub-Saharan Africa.[1] They face additional, significant challenges in adherence to antiretroviral therapy (ART),[2] risk behaviour, vulnerability to violence, early pregnancy, discrimination, substance use, and stigma. High rates of mental health problems in this population have been reported, with limited service provision and resource allocation.[3-5] Consequently, unaddressed mental health needs are detracting from public heath gains of HIV treatment and care.[6] This review provides a summary of current research on mental health for adolescents living with HIV and explores evidence for action. It finds that integration of mental health into HIV care is an urgent and non-negotiable need.

Mental health and adolescents living with HIV

Multi-country evidence shows pervasive mental health and cognitive challenges among adolescents living with HIV.[7] Mental health encompasses internalising and externalising disorders, emotional distress, cognitive disability and substance use. It is also a continuum, spanning acute disorders to positive coping, resilience and wellbeing. Four recent systematic reviews provide detailed insight on prevalence. The first[8] found high prevalence of depression, anxiety, emotional and behavioural problems, post-traumatic stress, and suicidal behaviour, exacerbated by orphanhood, conflict environments and living in sub-Saharan Africa. A second review[4] found associations between poor mental health and ART non-adherence, driven by stigma. It described severe limitations in mental health provision, while sharing some promising evidence-based interventions.

The third systematic review[9] identified a high prevalence of mental health problems among adolescents living with HIV, with 25% meeting criteria for a psychiatric disorder across measures, and 30-50% with emotional or behavioural distress. Psychiatric disorders were associated with stigma, bullying, poverty, school interruption and family problems, whilst support and good parenting were protective. The fourth, a meta-analysis of 10 studies[10] confirmed a psychiatric disorder prevalence rate of 26%, noting higher distress amongst females and older adolescents. An additional meta-analysis of suicidality in 14 studies found one in four adolescents experiencing lifetime suicidal ideation and one in ten with current suicidal symptoms,[11] confirmed by other reviews with wider age range of inclusion.[12]

Cognitive impacts of HIV may especially affect vertically-infected adolescents. Although data varies by context,[13] meta-analyses show lower cognitive functioning, motor scores, language deficits and executive functioning in young children infected with HIV,[14] likely to lead to challenges in adolescent decision making, risk reduction and treatment adherence. Furthermore, these cognitive impacts may worsen mental health through accelerating school dropout and increasing risk of adolescent pregnancy, unemployment and poverty. Furthermore, cognitive difficulties may affect the efficacy of

mental health interventions that require more complex information processing skills, such as cognitive behavioural therapy (CBT), mindfulness or psychoeducation platforms requiring literacy.

Panel 1: Integrating mental health care for adolescent pregnancy and living with HIV
When HIV and early pregnancy/motherhood co-occur, adolescent girls and young women experience compounded stigma and reduced access to health[15], education, and social support and services[16]. Mental health issues, which may emerge or be exacerbated during this time, cause additional barriers to healthcare access[17]. Peer-delivered support has emerged as a promising means to improve HIV-related outcomes among adolescents living with HIV,[18] but evidence on mental health outcomes for young mothers is needed.[19] There are promising clinic and community-based models.[20] One promising approach, Ask-Boost-Connect-Discuss (ABCD), equips and mentors peer supporters to reach adolescent mothers living with HIV.[16] Peer supporters deliver the WHO-endorsed *Thinking Healthy* intervention, adapted with adolescent mothers and peer supporters. Pilot evidence from implementation in Malawi, Tanzania, Uganda, and Zambia showed high levels of acceptability and retention among peer supporters and participating mothers.[21] Rapid, pragmatic research that assesses the impact of such novel hybrid models, especially during the COVID-19 pandemic, is needed to advance mental health for this highly vulnerable group.

In addition to genetic and environmental risks, a cluster of HIV-related factors contribute to adolescent mental health distress.[3] Studies show more parenting violence against children in AIDS-affected families.[22] Depression in parents living with HIV can negatively impact parent-child interaction.[23] Related drivers of poor adolescent mental health include AIDS illness and deaths of family members, adolescent illness, bullying, and family conflict.[24,25] Externalised and internalised stigma may be particularly damaging during adolescence,[26] inhibiting disclosure in romantic relationships and early parenthood.[27] The review's adolescent advisory groups emphasised the severe effects of stigma related to HIV and sexual activity, especially for adolescent girls. The concentration of HIV in low-income settings brings additional stressors of poverty, violence and limited healthcare access. Mental health distress is in turn a key driver of adolescent disengagement with HIV health services, ART non-adherence, unsuppressed viral load and unsafe sex,[28] exacerbated by low levels of disclosure.[29]

HIV is a lifelong infection, and there may be particular periods of heightened vulnerability—such as testing, disclosure and transitioning from paediatric into adult HIV care. Emerging evidence suggests that COVID-19 has increased adolescent mental health challenges globally, through interrupting care access[30] and education,[31] and increasing poverty and violence against children. COVID-associated deaths have led to 5·2 million children losing a primary caregiver.[32] These challenges could be particularly salient for adolescents living with HIV,[33,34] who may be further at risk of vulnerability given high rates of grandparental care for children already orphaned by AIDS.

Current mental health provision for adolescents living with HIV

Only a tiny fraction of adolescents living with HIV receive any mental health services or support,[35] hampered by lack of financing and trained personnel.[36] This treatment gap reflects a broader gap in adolescent mental health services,[8,37] with limited evidence compared to adult mental health care.[38,39] For the highest-vulnerability groups of adolescents living with HIV who experience layered stigma – such as adolescent sex workers, adolescents living with HIV and disabilities, and adolescents living on the streets – there is a near-total lack of evidence and service provision. There is increasing pressure from HIV advocacy groups to include end-users in the development of interventions and service delivery, but this practice remains very rare in adolescent HIV programming.[40 41]

However, within the Global South, there are pockets of evidence-based services[42] and increasing recognition at policy level. There are examples of NGOs and government using task-sharing, ringfencing mental health resources, supporting facility and community provision,[43] and strengthening governance.[44] A situational analysis from five low- and middle-income countries identifies both challenges and opportunities for integrating mental health provision within primary healthcare.[45] The World Health Organization (WHO) has established a population-level action plan to integrate mental health service provision for children and adolescents in the Global South,[46] and published new service delivery guidelines for people living with HIV, with a strong recommendation that psychosocial services be adopted for all adolescents.[47] This recommendation was informed by a systematic review and consultations with adolescents living with HIV across 45 countries, who reported the need for sustained psychosocial support (counselling, support groups and mental health check-ins) to promote engagement in care and viral suppression.[48]

With compelling evidence of high mental health burden among adolescents living with HIV, and a dearth of mental health service provision for this group, it is clear that the time for reviews is now over, and the time for action is overdue.

Table 1. Effective interventions: State of the evidence.

Evidence-based interventions	Additional protective factors	Evidence-based delivery approaches	Strategies for integration into HIV care
Problem-solving/ CBT[49]	Government cash transfers[60]	Peer supporters and mentor mothers[67,68]	Support healthcare staff to understand mental health[20]
Social protection/economic strengthening[50,51]	Caregiver support[61,62]	Community and clinic lay health workers[69]	PRIME model – integration into primary care[71]
Evidence-based parenting programmes[52-55]	Good parenting[9,63,64]	Support groups[61]	Routine mental health screening[72,73]
Bereavement support[56]/Memory work[57]	Good caregiver mental health[63]	Community-based organisations[64]	Training healthcare staff in mhGAP[71,74]
Mindfulness[58,59]	Palliative care for pain and end of life[65]	Initial evidence for digital delivery	Simple, immediate referral systems[20]
	Respect and non-stigmatising healthcare[66]	Professional support where available[70]	

There is emerging evidence of effective mental health services for adolescents living with HIV, including interventions promoting positive mental health or preventing onset of mental health disorders, as well as broader-based psychosocial interventions aimed at promoting adherence and engagement in care, or reducing risk behaviour.[75] A meta-analysis of psychosocial interventions for adolescents living with HIV found small to moderate benefits on improved adherence to ART and reduced viral load,[76] leading to a strong recommendation of psychosocial interventions for young people living with HIV.[77] A review conducted for the WHO's Helping Adolescents Thrive initiative, to support guidelines development for adolescent mental health, found three small-scale RCTs—

including a parent-child programme in South Africa,[52] a mindfulness-based programme in the U.S.[58] and the Zvandiri peer support programme in Zimbabwe[67]—all showing improvements in mental health outcomes.[78] Because of limited evidence, no HIV-specific recommendations were made, but the Guidelines recommended that generalised adolescent mental health programmes become integrated into HIV care.[73]

By 2021, four new randomised trials add to the evidence base. In Zimbabwe, a trial combined the Zvandiri peer supporter programme with the locally-developed Friendship Bench mental health intervention. At one year, symptoms of common mental disorders among adolescents living with HIV had reduced from 72% to 10% with standard peer counselling, and from 68% to 2% with peer counselling plus problem-solving therapy.[49] These findings suggest that trained, mentored peer counsellors can help reduce mental health distress, with effects boosted by problem-solving therapy. An RCT of a family-based savings programme with matched cash transfers in Uganda found reductions in depression and viremia at 36 months.[50] [79] In Thailand, a pilot RCT of a family-based programme based on the South African CHAMP+ intervention was implemented in an HIV clinic by healthcare staff, and found improvements in adolescent mental health and adherence.[80] Lastly, a pilot trial in Tanzania with doubly-orphaned adolescents living with HIV found benefits of memory work and narrative therapy on psychological symptoms.[57]

There is also valuable evidence for the wider group of adolescents living in AIDS-affected families,[44] who share challenges of family HIV including ill health, caregiver mental health distress, poverty and stigma.[5] A recent scoping review identified 13 mental health interventions for adolescents living with or affected by HIV.[5] In Rwanda, an RCT of a family support programme reduced adolescent depression;[81] similarly, in China, a resilience-based intervention with a youth component, parenting programme, and community advocacy improved child and caregiver mental health.[54] In Uganda, an economic empowerment and family support programme reduced adolescent hopelessness [82] and in South Africa a CBT-based bereavement support programme reduced depressive symptoms and behavioural problems[56]. In Myanmar, a mindfulness-based programme improved adolescent emotional and behavioural outcomes.[59] In Uganda and South Africa, economic support improved mental health of orphaned children and those living with HIV-infected caregivers.[51]

There is increasing interest in the role of social protection and/or economic support in improving HIV-prevention[83], care outcomes in HIV-positive populations,[84] and on mental health in general child and adolescent populations.[60] But little evidence exists on the mental health impacts of government-delivered social protection for adolescents living with HIV. In response to this gap, we conducted original analyses to investigate associations of South Africa's unconditional government cash transfer programme on mental health with our three-round cohort of n=1046 adolescents living with HIV between 2015-2018 (n=933 retained at all points, 5% mortality, methods and descriptive statistics shared in supplementary materials, Table S1).[85] Table 1 shows a within-between logit regression model (hybrid model) to test associations between household access to a government grant (child support grant, foster child grant or pension) and adolescents' depression, anxiety, or suicidality. Receiving a grant is associated with reduced odds of having any mental health problem, in both within-person variation (aOR 0·58, 95% CI 0·39-0·86, p=0·007) and between-person variation (aOR=0·61, 95% CI 0·39-0·96, p=0·032). Adjusted predicted probabilities show that receiving a household grant was associated with 15·7% increase in good mental health among adolescents (p=0·006).

Table 1: Multivariable logistic regressions testing associations of social grants and adolescents' mental health (N=933, South Africa 2015-2018)

	Any mental health problem	
Factors		
Within-person variation	**aOR 95% CI**	**p-value**

Any grant	**0·58 (0·39-0·86)**	**0·007**
Age	**0·71 (0·66-0·76)**	**<0·001**
Rural	0·69 (0·41-1·15)	0·154
Caregiver (biological parent)	0·98 (0·71-1·35)	0·905
Informal housing	1·14 (0·70-1·88)	0·599
Poverty	0·86 (0·68-1·07)	0·178
Hunger	0·98 (0·76-1·27)	0·877
Between-person variation		
Any grant	**0·61 (0·39-0·96)**	**0·032**
Age	**1·09 (1·05-1·12)**	**<0·001**
Rural	1·03 (0·83-1·28)	0·768
Caregiver (biological parent)	0·91 (0·73-1·13)	0·372
Informal housing	1·21 (0·93-1·57)	0·164
Poverty	1·12 (0·80-1·56)	0·502
Hunger	1·26 (0·91-1·75)	0·169
Time-invariant factors		
Horizontally infected	1·07 (0·83-1·36)	0·611
Female	1·03 (0·86-1·23)	0·727

95% CI – 95% confidence interval. aOR- adjusted odds ratio

Cohort and case-control studies of adolescents living with HIV indicate additional protective factors, including good parenting and caregiver mental health. In South Africa, caregiver social support, HIV support group participation, positive parenting, and parent-child communication predicted reductions in depression and suicidality.[86,87] A systematic review in sub-Saharan Africa identified social support and parental competence.[7] In Uganda, caregiver mental health and better caregiver-adolescent relationships were associated with lower adolescent behavioural disorders.[63] In South Africa, Malawi and Zambia, access to community-based organisations was associated with improved psychosocial health.[64] Whilst evidence for mitigating cognitive impacts of HIV during adolescence is very limited, screening and special needs support in schools may reduce stigma and school dropout, and for young children, cognitive rehearsal and rehabilitation show promise.[88]

The latest evidence points to the effectiveness of integrating community mental health interventions adapted for adolescents living with HIV, family-based parenting support programmes, and cash-based economic support. Notably, effective psychosocial programs in this review all include evidence-based mental health intervention components, such as problem-solving, mindfulness, CBT approaches and family support. Simple combinations of these services may benefit mental health, and also function as 'development accelerators' – simultaneously improving retention in HIV care, and reducing violence victimisation and sexual risk behaviours[85].

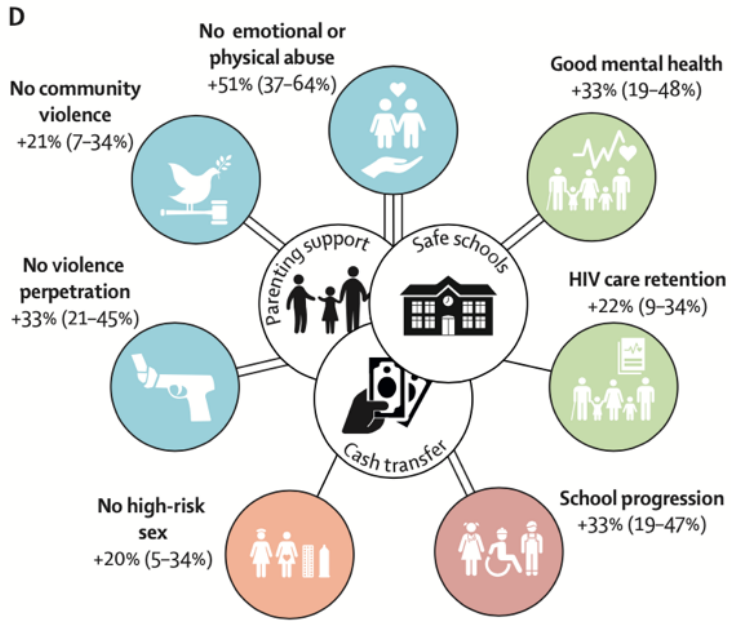

Figure 1. Modelled effects of development accelerators on mental health and other Sustainable Development Goal associated targets amongst 1063 adolescents living with HIV in South Africa's Eastern Cape.
The accelerators identified are parenting support, safe schools, and cash transfers; Data are percentage-point improvements (95% CIs) in percentage probabilities of achieving the Sustainable Development Goal-aligned targets compared with no intervention. Double lines indicate a synergy effect of two accelerators, triple lines indicate a synergy effect of all three accelerators. Figure from The Lancet Child and Adolescent Health 2019: 3: 254-54

Integration of mental health into HIV services: a pyramid of provision.

Panel 2: Cost-effectiveness of integrating mental health care into HIV care
There is a need for cost-effectiveness evaluations of integrating mental health care into adolescent HIV services. A recent study in Uganda showed cost-effectiveness of lay health worker-delivered group support psychotherapy for depression among adults living with HIV.[89] This study assessed reductions in depression, but did not examine ART adherence or subsequent health benefits. The potential for significant return on investment for adolescent-focused interventions is perhaps greater, at a critical period in the lifecourse known to influence long-term outcomes. There is evidence of indirect benefits, including reduced HIV risk behaviours related to both prevention[90] and adherence,[91] possibly improved school retention[92] and, for family-based interventions, additional benefits for adults.[5]

Based on the growing evidence base, we propose a strategy that includes the integration of mental health assessment, prevention, intervention, treatment and evaluation into HIV care at the facility level, family level, health systems and community levels.[2] As mental health distress includes a range of disorders, prevalence and severity, services are envisioned in a pyramid according to intensity of need and skill required.

Provider-patient relationships. At all levels, respectful and warm healthcare experiences can build patient-provider trust and support mental health care. However, this remains a gap in the healthcare infrastructure in many Global South contexts, where increased pressure to reach high numbers of

adolescents adds to provider burden. Our consultations with adolescents in South Africa highlight the importance of respectful and non-stigmatising treatment within the clinic, from healthcare providers as well as staff including receptionists and security guards.[66] Training, capacity sharing and supervision of healthcare staff should support some understanding of the lived experience of HIV infection and illness, and emotional reactions to the journey of HIV care.

Assessment and targeted prevention. Mental health issues among adolescents living with HIV are often undiagnosed and untreated. A key step of integration is including screening and assessment for mental health needs and support as routine aspects of clinical care for adolescents living with HIV.[93] There are now well-validated, non-commercialised, and locally-relevant measures that can be used and adapted. [28,94] Preventative care also includes identifying critical moments for mental health distress—including developmentally-appropriate disclosure of parent and adolescent HIV-positive status,[95] pre-and post-test counselling, and bereavement support in the frequent context of parental loss[56]—and ensuring adequate support.

Responding to generalised mental health problems. Adolescents have low engagement with healthcare and HIV settings, often fearing stigma.[56] Integration of effective services may have better uptake in community settings, or through remote services. Evidence supports transdiagnostic mental health services for adolescents and young people as effective;[96] these services often include task-sharing approaches where trained community-based lay workers provide support for a range of common mental health problems. Similarly, there is increasing evidence for peer supporter programmes, where young people living with HIV are trained in problem-solving and CBT.[68] Effective referral processes between clinics, social work services where available, and community-based government or NGO-supported programmes are essential. Referral systems may work best when they are simple, immediate and do not rely on adolescent initiative.

There is emerging potential for remote mental health services, including digital technologies; these may be especially relevant in contexts of sustained COVID-19, where there is emerging evidence of successful remote adaptations to HIV care.[97] Self-help problem-solving booklets were found to reduce mental health problems amongst vulnerable adolescents in India.[98] Digitally-delivered mental health interventions for adolescents are being piloted in upcoming trials in India and Kenya. However, current technology-based approaches often rely on access to smartphones, web platforms and data. Delivering mental health care at scale through remote platforms requires ensuring access to digital and non-digital remote support that allow use with a range of literacy and cognitive capabilities. Digital programs must be offline-first, open-source and locally adaptable. With extended COVID-19 epidemics and delayed vaccine coverage,[99] practical strategies for delivering remote mental health and HIV care is likely to remain a pressing need.

Parenting support. This review's adolescent advisors highlighted the need to provide information and skills to parents and caregivers, in order to support adolescents living with HIV with mental health and linked challenges of SRH and adherence. In the context of COVID-19 lockdowns and movement restrictions, adolescents have interrupted access to health and community services, and reduced social support from school, peers and communities. Good parenting and positive family functioning can act as a buffer for even severe mental health risks,[72,100] and families may need to be a primary source of mental health support. However, caregivers face a cascade of additional COVID-related stressors and challenges to their own mental health.[101] Thus, strengthening the capacity of caregivers to support their adolescents' and their own mental health through evidence-based parenting programmes can increase resilience and reduce family-related risks.[102] There is also increasing evidence for delivery of evidence-based parenting programmes through government health and social services, and for remote delivery: WHO systematic reviews find that digitally-delivered parenting programs have similar effectiveness to in-person versions.[103]

Responding to severe mental health problems. A subset of adolescents living with HIV will experience severe mental health distress including post-traumatic stress disorder, major depression, psychosis and suicidality. A recent U.S.-based study showed lifetime suicide attempts in youth with perinatally-acquired HIV were double that of their uninfected peers.[72] Screening for suicidal ideation, planning and attempts is important for all adolescents living with HIV,[72] particularly for those who identify in gender and sexual minority groups. Asking about suicidality does not increase risk, and can be life-saving.[104]

In contexts where there are human and financial resources available, integrating screening and referral to qualified psychiatric or psychological staff is beneficial for adolescents experiencing acute distress.[70] However, there remains severe scarcity of psychiatric professionals in the Global South, with 1.4 mental health workers per 100,000 population in the African WHO region,[105] and almost no adolescent inpatient wards. An innovative model for addressing this generalised mental health gap is the Programme for Improving Mental health care (PRIME),[71] which worked with Ministries of Health and partners in five LMIC countries to integrate evidence-based psychosocial and pharmacological interventions into existing primary healthcare systems, using WHO's mhGAP guidelines.[106] Other novel ongoing work with adult HIV services includes the training of medical staff in WHO's mhGAP action programme.[38] These models are likely to provide the blueprints for a health-system approach to supporting adolescents living with HIV and severe mental distress.

Palliative care. AIDS is the leading cause of death amongst adolescents in sub-Saharan Africa.[107] Palliative care remains an essential, and often ignored, part of the HIV care continuum[108] and includes care for emotional and spiritual facets and pain management at the end of life.[109] A systematic review finds potential for integration of end-of-life psychosocial and physical palliative care for adolescents living with HIV into hospital and hospice services, but scarce provision of these services.[65]

Panel 3: Integrating mental health care for ALHIV in conflict and humanitarian settings. In 2015, adolescents accounted for 18% of the people living with HIV affected by humanitarian crises,[110] a figure which is likely on the rise given crises in many sub-Saharan African countries. For adolescents living with HIV in conflict areas, the breakdown of health services makes treatment near-impossible,[111] and the COVID-19 pandemic has compounded this challenge further. These service limitations have far-reaching impacts on mental health. For example, in Northeast Nigeria 6 out of 10 children and adolescents living with HIV had a mental disorder[112], and in South Sudan 98% reported unhappiness and tearfulness. Mental health care is yet to be integrated into HIV services.

However, there is good evidence for the effectiveness of psychosocial interventions for adolescents affected by humanitarian emergencies,[73] and opportunities to deliver mental health care. In South Sudan, a PEPFAR-supported program provides psychosocial counselling and parenting programmes to adolescents and their families living with HIV.[113] In Northern Nigeria, NGOs like the International Organization of Migration (IOM) and *Médecins du Monde* (MDM) have been instrumental in responding to the mental health needs of adolescents affected by the Boko Haram insurgency. These organisations have trained frontline health workers in internally displaced persons camps and host communities using the WHO mhGAP Action Programme Humanitarian Intervention Guide.[114] Expanding these services to deliberately include adolescents living with HIV could be a promising and cost-effective approach.

Discussion

With continuing high rates of new infections, increasing ART and PMTCT access, the population of adolescents living with HIV is growing.[115] They face significant challenges, but also have huge potential for achieving positive mental health in areas of coping, resilience, hope and happiness.[81,116] Thus, the

new challenge for the HIV care cascade is not solely to support access and retention in biomedical treatment, but also to address wellbeing so that these adolescents can thrive.[116]

Although considerably more research is needed,[117] there is an emerging body of effective interventions, evaluated in large-scale RCTs, targeting the mental health of adolescents living with HIV. These are supplemented by quasi-experimental evidence from cohort studies, and evidence for the overlapping group of adolescents in HIV-affected families. Together, these studies highlight core content and strategies that can inform the *what* of integrating mental health into HIV care. Evidence-based interventions include problem-solving, CBT, provision of social protection or other economic strengthening, parenting programmes, memory work and mindfulness. In contexts of severe poverty, combining economic support with psychosocial and parenting support may be more effective than either alone.

There is also growing evidence for *when* mental health care is essential. Adolescent consultations identify a strong need for routine screening, check-ins and support. In addition, key moments in adolescents' HIV journeys—testing, disclosure, bereavement and palliative care—signify times when they are highly likely to need mental health care.

Evidence from HIV and the broader mental health field is helping to identify the *how* of mental health integration. There is increasing evidence in adolescent HIV populations for task-sharing approaches with trained and supervised peer supporters, mentor mothers and lay health workers, through community and clinic-associated services. New digital platforms may present opportunities for COVID-flexible delivery and bundling of services, but more research is needed. Evidenced strategies include training and support for healthcare workers in adolescent-sensitive care, use of simple and immediate referral systems such as the Friendship Bench, and systems-based approaches such as those used in PRIME for integrating broader mental health provision into primary care.

Research suggests substantial intersection in effective services for adolescents living with HIV, and the wider group of adolescents living in families affected by HIV. HIV care provision could wisely extend mental health care support across both these overlapping groups. The COVID-19 pandemic has elevated awareness of mental health challenges globally, and may present an opportunity to advocate for interventions. There are encouraging signs: PEPFAR systems now promote the integration of mental health and psychosocial support into HIV clinical care and parenting programmes, WHO's guidelines for adolescent mental health[73] and for HIV prevention, treatment, service delivery and monitoring[77,118] identify an urgent need for mental health care for adolescents living with HIV.

In the past two decades, ART has turned HIV from a death sentence to a manageable health condition. Now, we have the opportunity to usher in a further transformation for adolescents living with HIV: from a stigmatised mental health burden to a life experience that allows them to be stronger, happier and more resilient.[119]

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