

# 2025 AIDS TARGETS

Technical consultation on HIV integration with other health services: 2025 target setting, and 2020-2030 resource needs and impact estimation



3-5 March 2020  
Rio de Janeiro, Brazil

**MEETING REPORT**

## Summary

Programmatic targets for 2025 and impact and resource needs estimates for 2021–2030 are being developed by UNAIDS in close collaboration with its partners. The outputs are timed to serve as key components of the next UNAIDS strategy, a possible future United Nations General Assembly High Level Meeting on the global HIV response, Global Fund replenishments, World Health Organization health sector targets, national target-setting and strategic planning and the decision-making of major global partners.

A multi-stakeholder Steering Committee is tasked with guiding the process. Technical consultations have produced compelling results, which include in-depth analyses of what is working and what is not, and draft targets in key areas of interventions. A technical consultation on HIV integration with other health services, held 3-5 March 2020 in Rio de Janeiro, Brazil, reviewed existing empirical evidence on integration of HIV with other health services and programme enablers, with the aim of proposing targets for integration using the people-centred approach that has been adopted for the 2025 AIDS Targets process.

The overall findings of the consultation were:

- Integration is meant to improve health system and programme performance across four dimensions: efficiency, effectiveness, equity, and responsiveness.
- There is mounting pressure for a more integrated approach to health service delivery. Health programme budgets are under pressure everywhere, and universal health coverage is now a globally agreed framework for delivering a package of health care in a way that improves quality and coverage, does not cause financial hardship and does not leave people behind.
- Integration generally occurs at the service delivery level or the system level. While policy and system level linkages are likewise essential. System linkages are programme enablers (e.g. health worker training, health management information systems, procurement, and supply chain management) may further result in efficiency gains. Policy level linkages are also essential for governing how integrated services are delivered (e.g. governance, planning, financing, strategies, technical guidance, laws and policies). These systems and policies must be sensitive to health needs including the needs of the HIV response (e.g. the need for disaggregated data collection and analysis).
- The benefits and drawbacks of service delivery integration are context specific. A careful consideration of setting-specific clinical practices and the extent to which they can be combined should be made when deciding which services to integrate.
- It should not be assumed that linkages of policy, systems and/or services will result in improvements in the quality and/or efficiency of health services and improve health outcomes. Integration is a means not an end, and can have bi-directional effects, both positive and negative. It is thus important to experiment with different integration options, collect empirical data and qualitative information for recipients and service providers, and carefully analyse this evidence.
- Essentially, users and clients of services prefer quality integrated, people-centred service delivery, that is more convenient, has greater continuity, takes less travel time, with less need to see multiple

providers. Health care workers generally also prefer integrated service delivery, if given adequate training, support and resources, leading to greater job satisfaction and broader skills development.

A key input to the consultation was a review of evidence conducted by a team of experts from the Heidelberg Institute of Global Health, the Harvard T.H. Chan School of Public Health, and the UNAIDS Secretariat. The preliminary results of the review show that there is considerable evidence on the benefits of integration across various HIV and health services. However, there was also a body of evidence where a positive impact was not apparent, and a few where integration led to negative results. In particular:

- Comprehensive sexuality education is an effective integrated approach for strengthening young people's knowledge and ability to protect themselves from HIV sexually transmitted infections (STIs), unplanned pregnancy and other sexual and reproductive health (SRH) concerns. Condoms is an effective integrated commodity for preventing sexual transmission of HIV, other STIs and also unplanned pregnancy.
- There is strong evidence that integration of maternal and child health (MCH) services with HIV care improves uptake and retention of HIV services and improves maternal and child health.
- Some studies suggest that integration of sexual and reproductive health and HIV services can increase uptake of HIV testing. HIV testing and HIV treatment is an essential and routine aspect of STI case management.
- Integrating family planning services in HIV care improves contraceptive use, and integrating HIV services in family planning services improves uptake of HIV testing. However, high-level evidence on this is limited. The ECHO trial identified significant gaps in HIV and STI management in women receiving family planning services.<sup>1</sup> The high rate of HIV infection among women, and especially younger women in ECHO trial, reinforces the need to strengthen HIV prevention integration within contraceptive and other SRH services. These may include HIV testing and linkage to antiretroviral therapy for those testing HIV-positive, partner testing, condom promotion, and pre-exposure prophylaxis (PrEP).
- The high burden of cervical cancer among women living with HIV makes integration a clear priority.
- MCH and prevention of mother-to-child transmission (PMTCT) service integration in sub-Saharan Africa is feasible, acceptable and can improve overall engagement, uptake of HIV treatment among expecting mothers and reduce vertical transmission. Elimination of mother-to-child transmission is now approached in an integrated manner for preventing vertical transmission of HIV, syphilis and hepatitis B virus.
- HIV services integrated with neonatal/child services for children <5 years, hospital care of children <5 years, immunizations, and nutrition services improves health outcomes for HIV-exposed infants, increases infant HIV testing coverage and is cost-effective.

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<sup>11</sup> Hormonal contraceptive methods and HIV acquisition in women. Joint Statement. WHO, UNFPA, UNAIDS, HRP. <https://www.who.int/reproductivehealth/hc-hiv/UN-Joint-Statement-ECHO-study.pdf?ua=1>

- Available evidence suggests that the integration of youth-specific/youth-friendly sexual and reproductive health (SRHR) services for adolescents increases utility, while youth-specific services provided within general primary healthcare can reduce utility.
- Integrating healthcare and HIV services for key populations—transgender people, sex workers, gay men and other men who have sex with men, prisoners and people who inject drugs—is an effective approach when these services are provided in a way that is tailored to the special needs of these populations. This differentiated service delivery is an approach to services that respects and accommodates the differing characteristics and preferences among and within key populations, in order to make services more accessible and acceptable. Separate services and specialized facilities are needed for different key populations. Community empowerment, community-led and community-based approaches are essential for key populations.
- A considerable body of literature shows that integrating HIV and tuberculosis (TB) care has synergistic benefits for the control of TB, and can substantially increase treatment success and reduce mortality. The synergistic benefits for HIV are less frequently reported, but available evidence shows optimistic results.
- Some studies demonstrate that integrating mental health care and HIV services can improve HIV prevention, HIV treatment adherence and mental health services in low- and middle-income countries.
- As the burden of chronic non-communicable diseases (NCDs) rises across sub-Saharan Africa, global donors and governments are exploring strategies to integrate HIV and NCD care. Most programmes demonstrate a substantial yield in new cases. Leveraging existing HIV infrastructure for NCD care is feasible with various approaches possible depending on available program capacity. Process and clinical outcomes for existing models of care integration are not yet described but are urgently required to further advise policy decisions on HIV/NCD care integration. Implementation science is an emerging research that can also help such programs achieve health impact at scale.
- A review of evidence for the integration of HIV services in primary health care found limited and mixed evidence on the impact of integration of HIV care into primary health care, with positive, negative and neutral effects.

The results of the technical consultation and evidence review on integration will inform the model that will project the impact of the 2025 AIDS Targets. In particular the modellers need to understand, for each population group:

- How integration affects coverage of HIV services.
- How integration affects the effectiveness of HIV services.
- How integration affected the cost of HIV service.

A particular challenge that must be addressed soon is how to apportion the costs of integrated services—in essence, what should the HIV response pay for, and what costs should be considered TB costs, SRHR costs, primary health care costs, etc?

One logical way to invest more efficiently will be to prioritize high-value interventions which deliver impacts and spillover benefits simultaneously. The need to leverage spillover benefits also applies to investment areas. Pooling budgets across sectors could ensure the total multi-sectoral value of these interventions is captured, and sectors' shared goals are achieved more efficiently.<sup>2</sup> Specific budgetary contributions from each participating development partner, sector or budget holder are determined by weighing the impact each would expect from the intervention or intervention area against their willingness to pay, or valuation, of that outcome or impact. Under such a co-financing approach, the cost of interventions with multi-sectoral outcomes would be shared by benefiting sectors, stimulating mutually beneficial cross-sectoral investments.

A strong monitoring and evaluation is likewise required to ensure financial accountability and transparency of integrated programming. Cross-cutting initiatives and their interconnectedness are often complex to analyse, i.e. resource allocation, benefits. Strong routine Health Management Information Systems (HMIS) are required as a backbone of monitoring service delivery programs at the national level in low- and middle-income countries. Extensive guidance is necessary on how to track resources deployed for HIV within integrated programming.

## **Introduction and background**

### **UNAIDS-led target setting**

Over the past two decades, the Joint United Nations Programme on HIV/AIDS (UNAIDS) has played a central role in the development of impact-level and programmatic targets for the global AIDS response, as well as estimates of the financial resources required to reach those targets.

From late 2018 to the middle of 2021, programmatic targets for 2025 and resource needs estimates for 2021–2030 are being developed by UNAIDS in close collaboration with its partners (Figure A). As in past years, the outputs are timed to serve as inputs to the next UNAIDS strategy, a possible future United Nations General Assembly High Level Meetings on the global HIV response, Global Fund replenishments, national target-setting and strategic planning and the decision-making of major global partners.

The objective of the target-setting, and the impact and resource needs estimation process, is to bring together the expertise and experience of a range of partners around four related areas of work:

1. Develop programmatic targets for 2025, plus resource needs and impact estimates through to 2030. This process will not change the 2030 impact goals already agreed by the United Nations General Assembly within the 2030 Agenda for Sustainable Development: 90% reductions in HIV incidence and AIDS-related mortality, compared to a 2010 baseline. The focus will be on incorporating new research, programmatic and costing data, new metrics for measuring impact and the existence of new medicines and service-delivery tools within a revised target-setting model, and taking achievements-to-date into account.
2. Explore in depth the potential synergies to be gained through integrated delivery of HIV, health and social services, including through a universal health coverage framework, as well as the potential risks.

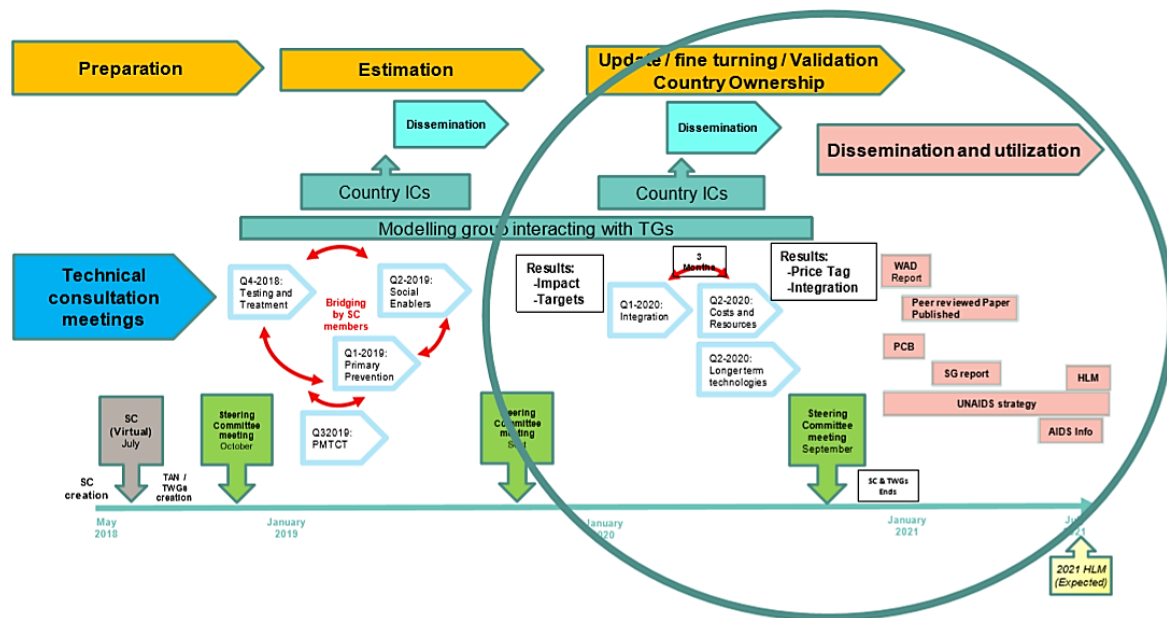
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<sup>2</sup> McGuire et al. 2019

3. Consider the potential long-term impact of future technologies, including broadly neutralizing antibodies, vaccines and a cure.
4. Consider the critical social and programme enablers that will address barriers to service uptake and help to achieve the 2030 goals of zero discrimination.

A multi-stakeholder Steering Committee is tasked with guiding the process (see list of members in Annex 1). The Steering Committee initially agreed to conduct face-to-face technical consultative meetings for six thematic areas: (1) testing and treatment; (2) primary prevention; (3) social enablers; (4) costs and resources; (5) integration; and (6) longer-term technologies. An additional virtual technical consultation on preventing mother-to-child transmission of HIV was later added.

**Figure A. 2025 AIDS targets process**



### Integration within the 2016 Political Declaration on HIV and AIDS

The 2016 Political Declaration on HIV/AIDS includes 2020 targets that have taken the HIV response further out of isolation: to reduce by 30% new cases of chronic viral hepatitis B and C; to treat 5 million people with hepatitis B and 3 million people with chronic hepatitis C; to reduce tuberculosis-related AIDS deaths by 75%; and to reach 90% of all people who need tuberculosis treatment, including 90% of populations at higher risk, and achieve at least 90% treatment success.

The 2016 Political Declaration also includes commitments to build people-centred systems for health by strengthening health and social systems, for at least 30% of service delivery to be community-led, and

to work towards achieving universal health coverage that comprises equitable and universal access to quality health-care services.<sup>3</sup> The integration agenda has been boosted in recent years by the strengthening movement towards universal health coverage.

The process for developing programmatic targets for 2025 and resource needs estimates for 2021–2030 aims to address integration in a more systematic way that takes advantage of and contributes to the universal health coverage movement, and also to make the HIV response more sustainable.

### **Technical consultation objectives**

The technical consultation on HIV integration with other health services: 2025 target setting, and 2020-2030 resource needs and impact estimation, held 3-5 March 2020 in Rio de Janeiro, Brazil, convened with the following objectives:

- To review existing empirical evidence on:
  - well-known integration approaches as well as more innovative integration platforms, and to reflect on implementation challenges; and
  - essential health system enablers, such as community-centred delivery, staff training, monitoring, surveillance and information system, procurement and distribution.
- To use this evidence to develop a conceptual framework to guide policy linkages for suitable service integration strategies.
- To discuss what an ambitious AIDS response might contain on integration and programme enablers with a people-centred approach for the 2021-2030 period and to propose interim targets.

The scope of the consultation on integration was focused on integration of HIV services with other health services. Technical inputs on testing and treatment; primary prevention; social enablers; costs and resources; and longer-term technologies are being made through other consultative thematic groups within the 2025 AIDS Targets process.

UNAIDS Cosponsors urged for integration targets to:

- Be kept as simple as possible, so that heads of states, programme managers and community members can understand and push for targets and rights.
- Be comparable across countries and regions, so the data can be used in a region and globally to compare progress.
- Highlight inequalities in service access among various sub-populations and ensure that no one is left behind.

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<sup>3</sup> The 2016 Political Declaration commitment on people-centered systems for health includes sexual and reproductive health, social protection, financial risk protection, access to safe, effective, quality and affordable essential medicines and vaccines for all, the development of new service delivery models to improve efficiency, lower costs, and ensure delivery of more integrated services for HIV, TB, viral hepatitis, sexually transmitted infections, non-communicable diseases, including cervical cancer, drug dependence, food and nutrition support, maternal, child and adolescent health, men's health, mental health and sexual and reproductive health, and to address gender-based and sexual violence, and to equip fragile communities to cope with these issues as well as future disease outbreaks.

- Be people-centred rather than a disease-focused package of interventions and services.
- Include a descriptive measure of UHC integration and not a prescriptive measure of how the HIV targets are being delivered in countries in relation to UHC.
- Include targets on community delivery as a major HIV contribution to UHC. This should assess how HIV targets are delivered, including community delivery, community owned and led services, and specifically delivery with and for key populations. Measures and targets of community delivery need to be aligned with the UNAIDS Strategy, as a significant contribution of HIV interventions to UHC.
- Include targets for the mid-term review of the SDGs, and include integration in major work areas, for example how Treatment and Prevention are delivered. Support the value of a simple set of targets, which extend to Prevention, with targets aligned with SDGs mid-term review progress in 2030.
- Include additional evidence of the incremental benefits and costs of program linkages. Cosponsors will provide a template and use their technical teams for inputs and on the final review of evidence.

## What are linkages and integration and why should we integrate?

There are many definitions of integration, ranging from the standard definition in the Oxford English Dictionary—*“the action or process of combining two or more things in an effective way”*—to several definitions of the integration of health services developed by health organizations and health scholars. Notable examples include:

- “Joining together different kinds of services or operational programmes in order to maximize outcomes, e.g., by organizing referrals from one service to another or offering one-stop comprehensive and integrated services.” (UNAIDS)
- “Linkages” refer to bi-directional synergies within health policies, systems and services.<sup>4</sup> All three domains are needed to achieve effective people-centred health programmes. “Integration” refers to the service delivery level and can be understood as joining operational programmes to ensure effective outcomes through many modalities (multi-tasked providers, referral, one-stop shop services under one roof, etc.) (WHO)
- “The organization, coordination and management of multiple activities and resources to ensure the delivery of more efficient and coherent services ...” (PEPFAR)
- “The ... assimilation of health interventions into each of the critical functions of a health system” including governance, financing, planning, service delivery, monitoring and evaluation, and demand generation. (Atun et al. 2010)

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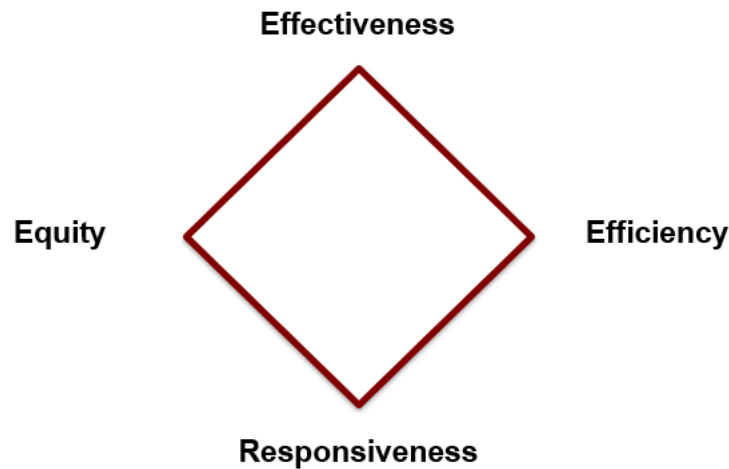
<sup>4</sup> Policy linkages include integrated plans, strategies, technical guidance, financing, laws and policies and high-level mechanisms that govern and guide integration. Systems linkages are integrated support systems such as health provider training, health management information systems, procurement and supply chains, pathology and pharmacy services. Integrated service delivery is direct provision of people-centred health services to clients, users and patients, delivered in a variety of ways – usually via one-stop-shop, supermarket and mall models, reducing or eliminating the need for referral between multiple providers.



- “Whilst integration is intuitively appealing, evidence of its benefits remains uncertain and evaluation is beset by lack of a common understanding of what it involves...” (Shigayeva et al. 2010)

Integration is meant to improve health system and programme performance across four dimensions: efficiency, effectiveness, equity and responsiveness (Figure B).

**Figure B. Integration effects**



*Source: Rifat Atun, Harvard University, 2017.*

Participants of the consultation agreed that the integration of health services occur at different levels of the health system and be seen from different perspectives. From the perspective of a recipient of health services, the objective of integration is to provide person-centred, co-located or well-coordinated services that require fewer referrals, less time and travel and are generally seamless and easy to navigate.

The policy level governs the design of health services, making clear how different health programmes are delivered in a coordinated manner. Ensuring an integrated legal and policy environment facilitates smooth delivery of services to clients and recipients, where different providers are clear about their roles, interrelationships, and shared functions.

From the health-care provider’s perspective, integration is viewed as a teamwork approach where schedules are harmonized and tools such as patient charts and records formats are unified across various providers, so they are easier to work on collaboratively. From the health system manager’s perspective, integration is largely systemic—having unified systems for staffing, training and supervisory, for procurement of medications and supplies, and for monitoring, evaluation, reporting and financing.

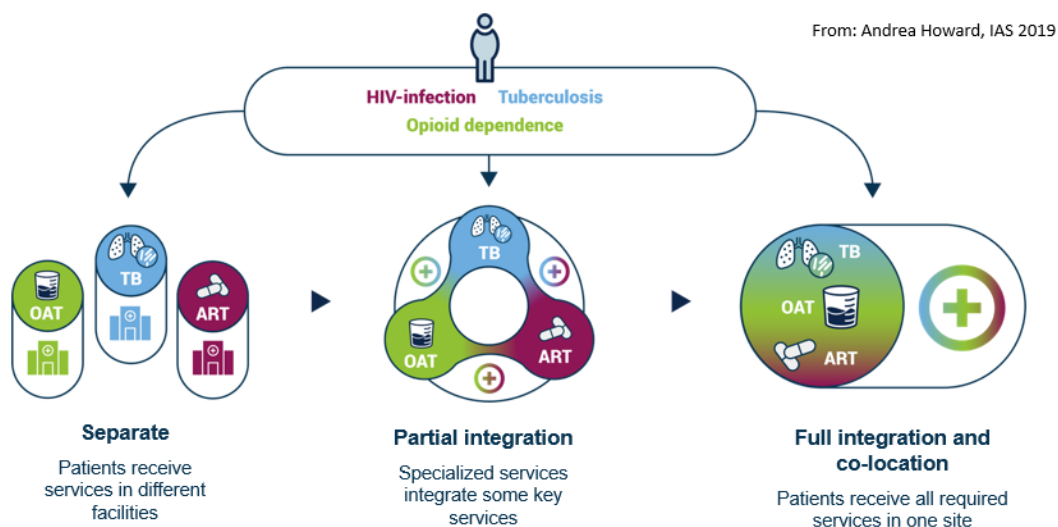
More simply, integration generally occurs at the service delivery level. System and policy level linkages are also required, and likewise integrated actions within the community. Participants of the consultation

agreed that integration is a continuum rather than binary (completely separate vs. completely integrated). An example of HIV, tuberculosis and drug dependence treatment services was provided, showing how services can either be separate, partially integrated and fully integrated and co-located (Figure C).

It was noted that linkages of programme enablers at the policy and system level (e.g. governance, planning, financing, procurement and supply chain management and monitoring and evaluation) often results in efficiency gains. However, these systems must be sensitive to the needs of individual programmes—for example, it’s incredibly important for the HIV response to have surveillance, monitoring and evaluation systems that disaggregate data by age, sex and sub-population. Linkages at policy level is also essential for clarity and agreement on how services will be provided in an integrated, comprehensive and people-centred manner. Community empowerment and engagement reflects the final important level of integration, whereby community-led services are inherently people-focused.

By comparison, the benefits and drawbacks of service delivery integration are more situation specific.

**Figure C. Example options for the integration of HIV, tuberculosis and drug dependence treatment services**



## Integration in the UHC and SDG eras

The Lancet Global Health Commission on High Quality Health Systems in the SDG Era published a report in 2018 that took a fresh look at how health systems can maximise health and wellbeing by consistently providing effective services to all people, earning the trust and confidence of people and adapting to changing situations.

Changing health needs, growing public expectations, and ambitious new health goals are raising the bar for health systems to produce better health outcomes and greater social value. Staying with the current mode of health service organisation and delivery will not be sufficient to meet these increasing

demands. What is needed are improvement in health system quality that optimise health care in each given context. Health care needs to consistently improve or maintain health, by being valued and trusted by all people, and be responsive to changing population needs. Quality of care should not be the purview of the elite or an aspiration for some distant future; it should be the DNA of all health systems.<sup>5</sup> The review found that there was plenty of room for improvement.<sup>5</sup> Furthermore, there often is a general inability to differentiate the severity of disease in different patients, when, for example, a patient presents with general symptoms such as a fever. The review also found that quality flows to the rich, and that even in the poorest countries the poorest people get the worst-quality health services. Health care coverage is not universal – there is significant progress needed to achieve this overarching goal.

Several participants of the technical consultation emphasised the pressure for a more integrated approach to health service delivery. Health programme budgets are under great pressure everywhere, and universal health coverage is now a globally agreed framework for delivering a package of health care in a way that improves quality and coverage, does not cause financial hardship and does not leave people behind.

However, several participants cautioned that it should not be assumed that linkages of policies, systems and/or services will always result in improvements in the quality and/or efficiency of health services and improve health outcomes. Full integration is neither feasible nor desirable. Whilst full integration may be achieved at primary health care level, and within differentiated care for certain population groups, there will always be a need for more specialist referral services for complex cases and people experiencing more severe disease. Specialization is an important aspect of a health system that must provide a range of services to people with widely different needs, e.g. key populations, and more complex conditions. On the other hand, a fragmented approach to health care is clearly inefficient and ineffective, and a degree of integration can occur even for specialist services, through adoption of an integrated electronic client management system (CMS). For example, this has occurred in Eswatini, and also in a number of NGO-run facilities such as in IPPF affiliated clinics in Kenya.

It was ultimately agreed that integration is a means not an end, and can have bi-directional effects, both positive and negative. It is thus important to collect empirical data and qualitative information for recipients and service providers related to different existing integration options, and carefully review this evidence.

## **The evidence on integration**

A key input to the consultation was a review of evidence conducted by a team of experts from the Heidelberg Institute of Global Health, the Harvard T.H. Chan School of Public Health, and the UNAIDS Secretariat. The review had three aims:

1. Comprehensively identify and synthesise the evidence on the costs, benefits and efficiency gains of HIV integration with other health services.

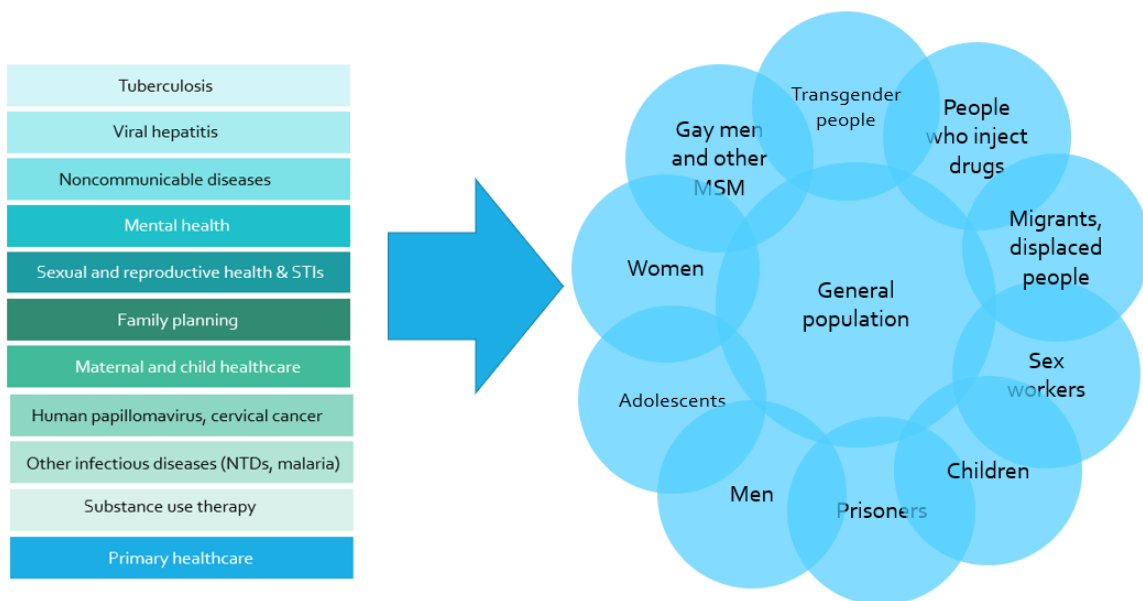
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<sup>5</sup> Kruk et al. 2018

2. Quantify and categorise these costs, benefits and efficiency gains by modality of services delivery and the level and degree of service integration.
3. Based on the outcomes of the technical consultation on Integration of HIV with other health services, establish a conceptual framework to aid in optimising HIV integration tailored to country and (sub)population needs, based on the local HIV epidemic, HIV service delivery, and health systems capacity and organisation.

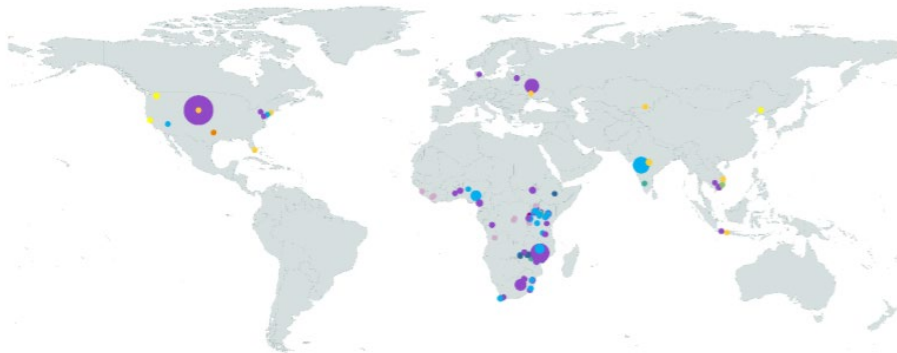
The preliminary results of the review were presented and discussed over the course of the technical consultation. These presentations were generally arranged by population group, mirroring the people-centred approach agreed by the Steering Committee for the 2025 targets process (Figure D). Participants agreed on a need to move away from specialized disease services and towards specialized person services. The importance of scalability was also underscored: which of the evidence-based approaches captured by the evidence review are truly scalable?

**Figure D. Moving from a service-oriented to a people-centred approach to integration**



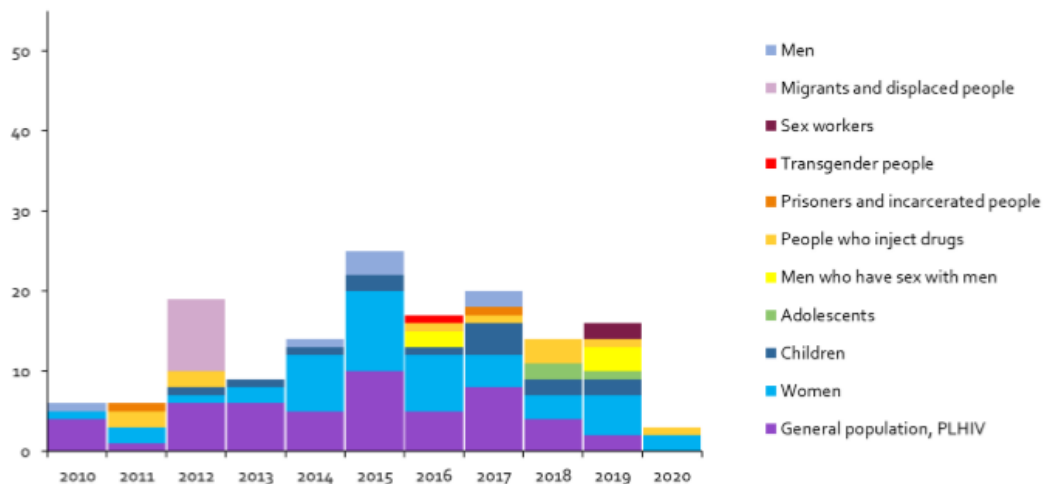
135 eligible studies out of 3,067 unique studies screened were identified for a full overview of the study characteristics and outcomes per subpopulation and type of integration. Of the included studies retained, 135 were empirically based studies; of which 25% RCTs and cluster-randomised controlled trials, 33% non-randomised trials and pre-post intervention studies, and 42% observational studies. Sixty-three percent of empirical studies were conducted in Eastern and Southern Africa, 12% in Asia and the Pacific, 11% Western and Central Europe and North America, 10% in West and Central Africa; 3% in Eastern Europe and Central Asia. An overview of the geographical locations of the studies by subpopulation are shown on the map in Figure E.

**Figure E. Map of the included empirical studies by subpopulation.** Bubble sizes represent the study population size.



The majority of studies focussed on integrated services for people at risk of acquiring HIV within the ‘general population’ or people living with HIV (37%), followed by women and/or children (36%). All key populations were represented in the included studies, but evidence on integration of HIV services for transgender people, migrants and displaced people, sex workers and prisoners and incarcerated people was limited (less than 2% of the included studies for each of these key populations). Most studies reported on utility of services and spill-over health outcomes (i.e. health outcomes for the diseases or conditions integrated with HIV care). An overview of the included empirical studies by subpopulation and year of publication provided in Figure F.

**Figure F. Number of included studies by subpopulation and year of publication.**



## Women and girls

AIDS-related illnesses are the leading cause of death among 15-49-year-old women globally.<sup>6</sup> Young women (aged 10-24 years old) are twice as likely to acquire HIV as young men the same age. The systematic review explored opportunities for integration for the following key health service needs: maternal and child health care, PMTCT for HIV and viral hepatitis, family planning, STIs and sexual and reproductive health and rights, cervical- and breast cancer screening and prevention and urogenital schistosomiasis. Other need or opportunities examined were service to prevent or respond to intimate partner violence and gender-based violence. Most of the evidence available was on maternal and child health and STIs and sexual and reproductive health provided in eastern and southern Africa.

### Sexual and reproductive health and STIs

UNFPA presented the various domains of sexual and reproductive health and rights and HIV linkages, including enabling legal and policy environments, systems, service integration and community engagement. An essential package of SRHR services is shown in Figure G, illustrating some select examples of HIV linkages with broader SRHR essential package. The SRHR package includes contraception, comprehensive sexuality education, sexual health and wellbeing, cancers of reproductive organs, infertility services, antenatal, delivery and postnatal care, sexual and gender-based violence services, safe abortions and HIV/STI prevention, testing and treatment.

There are bi-directional benefits to integrating SRHR and HIV services when key steps are taken, including: meaningful engagement of communities; the building of political will, accountable leadership and governance; sufficient funding; reorientation of health systems to facilitate integrated service delivery; the building of multisectoral partnerships; the use of operational and implementation research to guide programmes; and the adoption of a life-course approach. Shift to integrated service delivery thus requires a comprehensive approach, significant political will and resource reallocation, and work at policy, systems, service delivery and community levels.

It was noted that the integration of HIV and SRHR services into the Namibian primary health care system is considered a gold standard, which operates on a “three ones’ principle of one client, one provider and one room (Figure H). However, others noted that a similar approach might not be feasible in a setting with low HIV prevalence.

The evidence collected by the systematic review shows there are important opportunities for the integration of sexual and reproductive health and HIV services, with some studies suggesting that integration can increase uptake of HIV testing services. Studies from Zambia and South Africa showed integration of SRH and HIV could enhance access,<sup>7</sup> as well as uptake of SRH services,<sup>8</sup> cervical cancer screening, voluntary medical male circumcision (VMMC) and HIV testing and counselling.<sup>9,10</sup> The study from South Africa demonstrated that, integrated opt-out HIV testing and counselling in STI clinics increased HIV testing rates from 42% to 56%.<sup>11</sup> In a retrospective cohort study from Kenya, economies of scale from integration were identified. A doubling of the number of clients per year was associated

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<sup>6</sup> Global health estimates 2016: deaths by cause, age, sex, by country and by region, 2000–2016. Geneva, World Health Organization; 2018.

<sup>7</sup> Hewett et al. 2016

<sup>8</sup> Leon et al. 2010

<sup>9</sup> Hewett et al. 2016

<sup>10</sup> Leon et al. 2010

<sup>11</sup> Leon et al. 2010

with cost reductions of 50% for PMTCT, and 45% for VMMC.<sup>12</sup> Studies based on the “Integra Initiative” in Eswatini and Kenya demonstrated that structural integration is not always sufficient for integrated service delivery. This illustrates the importance of policy and systems linkages as well as service integration, including good leadership and peer teamwork needed for facilities to perform well.<sup>13</sup> Also, unit costs per visit were found to vary considerably across settings - explained mainly by technology used and service maturity.<sup>14</sup> Efficiency gains are likely to be most achievable in settings that are currently delivering HIV and SRH services at a low scale with high levels of fixed costs.<sup>15</sup> Findings from another Integra study suggest that there may be potential for further efficiency gains through integration, but overall, the pace of improvement is slow.<sup>16</sup> Multiple adjustments are needed including high level political will, policy level change, finance flows, systems support and provider capacity building, in order to revise models of service delivery to become more integrated.

46 studies of the review looked at the effects of HIV service integration for women; 23 on integration with maternal and child healthcare; 6 with cervical cancer screening and treatment; 3 with family planning services; 1 with chronic disease care; 1 with primary healthcare; 1 with syphilis services; and 1 with tuberculosis services. Studies primarily evaluated integration of HIV-services with mother-child-health and more specifically PMTCT services in sub-Saharan Africa and South Asia: Kenya,<sup>17, 18, 19, 20, 21</sup> Malawi,<sup>22,23, 24</sup> Mozambique,<sup>25, 26</sup> Nigeria,<sup>27, 28</sup> Rwanda,<sup>29</sup> South Africa,<sup>30, 31, 32, 33</sup> Tanzania,<sup>34</sup> Uganda,<sup>35</sup> Zambia,<sup>36</sup> India,<sup>37</sup> and China.<sup>38</sup> Integration mostly led to increased testing,<sup>39,40</sup> increased service

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<sup>12</sup> Galárraga et al. 2017

<sup>13</sup> Mayhew et al. 2017

<sup>14</sup> Obure et al. 2015

<sup>15</sup> Obure et al. 2016.

<sup>16</sup> Sweeney et al. 2014

<sup>17</sup> Bailey et al. 2017

<sup>18</sup> Kinyua et al. 2019

<sup>19</sup> Turan et al. 2012

<sup>20</sup> Liu et al. 2016

<sup>21</sup> Young et al. 2019

<sup>22</sup> Van Den Akker et al. 2012

<sup>23</sup> Chan et al. 2016

<sup>24</sup> van Lettow et al. 2014

<sup>25</sup> Ciampa et al. 2011

<sup>26</sup> Geelhoed et al. 2013

<sup>27</sup> Akinleye et al. 2017

<sup>28</sup> Aliyu et al. 2016

<sup>29</sup> Guillaine et al. 2017

<sup>30</sup> Dugdale et al. 2019

<sup>31</sup> Myer et al. 2018

<sup>32</sup> Tomlinson et al. 2014

<sup>33</sup> Zulliger et al. 2014

<sup>34</sup> Nance et al. 2017

<sup>35</sup> Nsubuga-Nyombi et al. 2019

<sup>36</sup> Herlihy et al. 2015

<sup>37</sup> Bindoria et al. 2014

<sup>38</sup> Wang et al. 2015

<sup>39</sup> Akinleye et al. 2017

<sup>40</sup> Kanyuuru et al. 2015

uptake,<sup>41, 42, 43, 44, 45, 46</sup> higher and often earlier ART initiation,<sup>47, 48</sup> while retention varied, depending on setting.<sup>49</sup>

The success of integration appears heavily dependent on how services are integrated and contextual factors such as the strength of the local health system. In Eswatini, a study comparing various levels of integration of reproductive health and HIV services found no difference in unmet need among the four options, and that women who attended integrated clinics received fewer condoms. Several challenges hindered successful provision of services, such as provider de-skilling within sub-specialist roles, perception of heavy client loads, imbalance client-provider interactions and provider motivation.<sup>50</sup>

Policy and system-level changes also need to be addressed. Integration is also context specific. Where HIV prevalence is high, there is greater justification for maintaining dedicated, specialist HIV services. In lower HIV prevalence settings, sustainability of HIV services is dependent upon integration within primary health care, and provision of differentiated, integrated (people-centred) care for key and vulnerable populations. The ECHO trial has clearly illustrated that where people present for SRH care – women especially – there is unmet need and an opportunity to address HIV/STIs prevention and management. This can be achieved through varying degree of integrated service delivery versus referral processes. However, the majority of clients of SRH services strongly indicate preference for receiving integrated care that require less travel, time and interaction with multiple providers. Given appropriate training, support and resources, providers themselves also find integrated delivery of care provides more job satisfaction and enriches skills.

While the SDGs call on the global community to “leave no one behind”, efforts need to be redoubled to address the needs of key and vulnerable populations within the four prongs of PMTCT and adolescent girls and young women within treatment, and care services in emergency settings.<sup>51</sup> The Special supplement of Reproductive Health devoted to the 2Gether 4 SRHR program in 10 ESA countries demonstrates that bringing together SRHR and HIV will require deliberate interventions and political commitment that places the individual at the center of service delivery.

***Figure G. An essential package of SRHR services with HIV linkages***

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<sup>41</sup> Bailey et al. 2017

<sup>42</sup> Van Den Akker et al. 2012

<sup>43</sup> Ciampa et al. 2011

<sup>44</sup> Guillaîne et al. 2017

<sup>45</sup> Kanyuuru et al. 2015

<sup>46</sup> Ezeanolue et al. 2015

<sup>47</sup> Chan et al. 2016

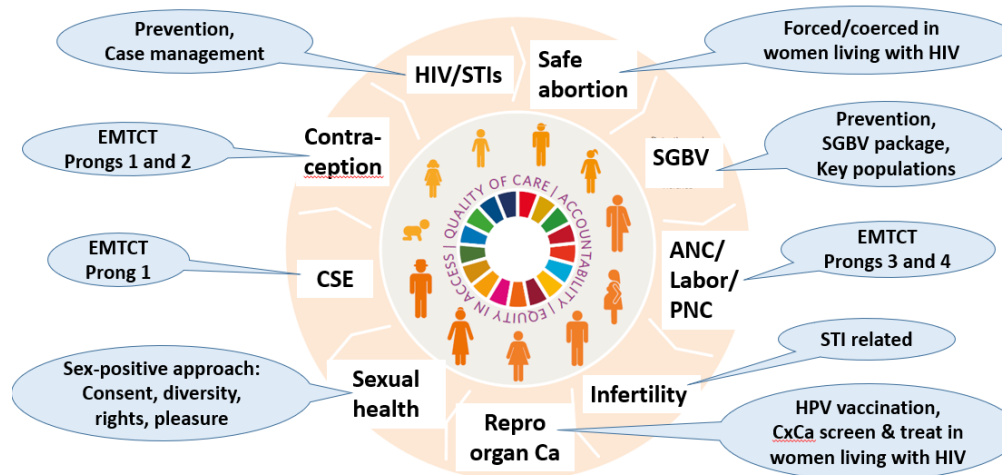
<sup>48</sup> Aliyu et al. 2016

<sup>49</sup> Chan et al. 2016

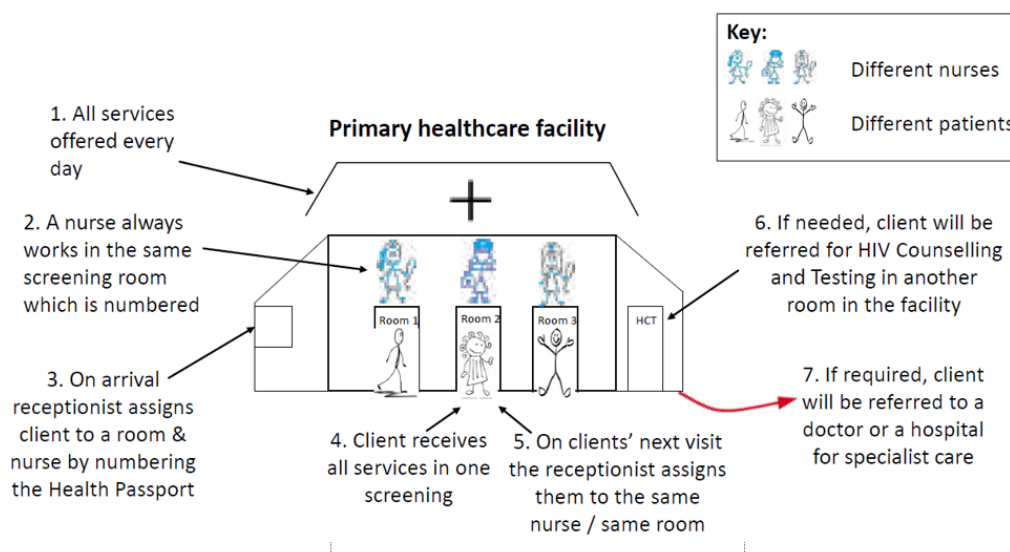
<sup>50</sup> Church et al. 2015

<sup>51</sup> Kangudie et al. 2019





**Figure H. Namibia's primary health care integration model**



### Maternal and child health

A number of randomized control trials and other studies show that integration of maternal and child health services with HIV care improves uptake and retention of HIV services and improves maternal and child health. For example, an RCT in South Africa found that integration of post-partum maternal and child care with HIV services for women living with HIV improved HIV treatment retention and viral suppression and exclusive breastfeeding.<sup>52</sup> One pre-post intervention study from India, integrating HIV services with maternal and child healthcare at rural primary healthcare centres, was considered. In this study, test utilization by local population increased from 55 to 79%, resulting in 27% additional HIV-positive women detected, and higher linkage to ART, and PMTCT service provision. The incremental

<sup>52</sup> Myer et al. 2018

cost-effectiveness ratio was estimated to be lower than 1\$ per pregnant woman tested.<sup>53</sup> Most studies focused on either utility and/or short-term health outcomes, with limited evidence on the impact of integration on costs, effects of scale and scope and long-term health impact.

### Family planning

Studies suggest that there are bi-directional benefits to the integration of family planning and HIV services: integrating family planning services in HIV care improves contraceptive use in women living with HIV, and integrating HIV services in family planning services improves uptake of HIV testing and ART services. Condom use has been demonstrated to effectively prevent both HIV/STIs and unplanned pregnancy.

One cross-sectional study, one cohort study and one RCT that explicitly looked at integration with family planning services were identified. Testing rates, adherence and service quality generally improved, while retention rates remained similar.<sup>54,55</sup>

In Kenya, the integration of family planning into HIV care has been shown to be inexpensive, feasible and cost efficient, with economies of scale achieved for both services.<sup>56</sup>

Overall, the evidence is limited, and the long-term impact of integration on HIV care (linkage, adherence), unintended pregnancy rates and unsafe abortions is unknown. However, the recent ECHO trial illustrated in stark relief that women accessing family planning services are not having their HIV/STI-related health needs met.

### Cervical cancer and breast cancer

Cervical cancer incidence and mortality is highest in sub-Saharan Africa, and women living with HIV are about five times more likely to develop cervical cancer than HIV-negative women.<sup>57</sup> Women living with HIV may also have higher breast cancer mortality.<sup>58</sup>

The high burden of cervical cancer among women living with HIV makes integration a clear priority. However, there is little evidence on the integration of cancer services and HIV care for women. There are no studies identified on integration with breast cancer services, and only case studies of implementation for cervical cancer. Uptake of testing for cervical cancer is high among women who visit HIV facilities, yet high rates of loss to follow-up for those needing treatment is a concern. The lack of RCTs or non-randomized comparisons makes it difficult to draw firm conclusions on the impact of the integration of these services.

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<sup>53</sup> Bindoria et al. 2014

<sup>54</sup> Mansoor et al. 2019

<sup>55</sup> Criniti et al. 2011

<sup>56</sup> Shade et al. 2013

<sup>57</sup> Liu et al. 2018

<sup>58</sup> Oliver et al. 2018

Six studies examined integrated cervical cancer screening and treatment in Kenya,<sup>59, 60, 61, 62</sup> Eswatini,<sup>63,64</sup> Uganda,<sup>65</sup> and Zambia.<sup>66</sup> In Zambia, service utilization for HIV testing services and cervical cancer screening significantly increased, while HIV care and treatment uptake was less consistently affected.<sup>67</sup> Follow-up rates and staff workload were generally not significantly affected.<sup>68, 69</sup> In general, integrated services were found to be provided more efficiently than vertical services, at least for cervical cancer screening<sup>70, 71</sup> and integration was cost-efficient from a modified societal perspective.<sup>72, 73</sup> However, two studies showed, that potential efficiency gains through integration were likely only to be modest and the pace of improvement slow.<sup>74, 75</sup> In Uganda, utilization of integrated services was greatly influenced by demographic and socioeconomic characteristics, with primary education, age <35 and current or past marriage correlating with higher utilization rates.<sup>76</sup>

### Mental health, violence and equality

Women who have been physically or sexually abused by their partners report higher rates of mental health issues, including depression and anxiety, higher use of alcohol and less control over sexual decision-making, and a study in South Africa found that women who had experienced violence were 50% more likely to be living with HIV.<sup>77</sup>

### **Children**

Up to 30% of HIV infections are vertical—from mother to child in-utero, during childbirth or during breastfeeding. The systematic review explored opportunities for integration among the following key health service needs: prevention of mother-to-child transmission (PMTCT), timely testing and counselling for HIV, antiretroviral therapy, nutrition programmes, immunization, early infant male circumcision and infant diagnostic testing platforms. Most of the studies available focused on integrating

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<sup>59</sup> Sweeney et al. 2014

<sup>60</sup> Obure et al. 2016

<sup>61</sup> Vodicka et al. 2019

<sup>62</sup> Vodicka et al. 2017

<sup>63</sup> Sweeney et al. 2014

<sup>64</sup> Obure et al. 2016

<sup>65</sup> Rutaremwa et al. 2016

<sup>66</sup> Hewett et al. 2016

<sup>67</sup> Hewett et al. 2016

<sup>68</sup> Sweeney et al. 2014

<sup>69</sup> Hewett et al. 2016

<sup>70</sup> Hewett et al. 2016

<sup>71</sup> Obure et al. 2016

<sup>72</sup> Vodicka et al. 2019

<sup>73</sup> Vodicka et al. 2017

<sup>74</sup> Sweeney et al. 2014

<sup>75</sup> Obure et al. 2016

<sup>76</sup> Rutaremwa et al. 2016

<sup>77</sup> Jewkes et al. 2010

PMTCT into existing health services in Africa: Kenya,<sup>78, 79, 80, 81, 82</sup> Malawi,<sup>83, 84, 85</sup> Mozambique,<sup>86, 87</sup> Nigeria,<sup>88, 89</sup> Rwanda,<sup>90</sup> South Africa,<sup>91, 92, 93, 94</sup> Tanzania,<sup>95</sup> Uganda,<sup>96</sup> and Zambia.<sup>97</sup>

The review found that MCH-PMTCT integration in sub-Saharan Africa is feasible, acceptable and can improve overall engagement, uptake of HIV treatment among expecting mothers and reduce vertical transmission. A cluster-randomised controlled trial conducted in rural north-central Nigeria compared the standard of care (health information, opt-out HIV testing, infant feeding counselling, referral for CD4 cell counts and treatment, home-based services, antiretroviral prophylaxis, and early infant diagnosis) to an intervention package that added task shifting, point-of-care CD4 testing, integrated mother and infant service provision, and male partner and community engagement. This family-focused PMTCT service package delivered much stronger results than the standard of care: mothers were more like to initiate ART (97% vs. 39%); mothers and children were more likely to be retained in care at 12 weeks (75% vs. 7%); and children were 74% less likely to be HIV infected at 12 weeks.<sup>98</sup>

An evaluation of PMTCT integration into reproductive and child health service centres in Mysore District, Karnataka, India, found that “almost all” pregnant women who were counselled during antenatal care underwent HIV testing.<sup>99</sup> The evaluation recommended that integration be done at the policy, administration, facility and community levels, and that districts should develop an integrated training plan for all the health providers.

The review also found evidence that PMTCT-nutrition integration improves health outcomes for HIV-exposed infants and is cost-effective, that immunization-HIV testing interventions increase infant HIV testing coverage, and that MCH-early infant male circumcision integration should be explored further. Early infant male circumcision (EIMC) is increasingly explored as an cheaper and safer alternative to VMMC at older ages in sub-Saharan Africa.<sup>100</sup> A big non-randomised trial (over 2000 male infants)

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<sup>78</sup> Bailey et al. 2017

<sup>79</sup> Kinyua et al. 2019

<sup>80</sup> Turan et al. 2012

<sup>81</sup> Liu et al. 2016

<sup>82</sup> Young et al. 2019

<sup>83</sup> Van Den Akker et al. 2012

<sup>84</sup> Chan et al. 2016

<sup>85</sup> van Lettow et al. 2014

<sup>86</sup> Ciampa et al. 2011

<sup>87</sup> Geelhoed et al. 2013

<sup>88</sup> Akinleye et al. 2017

<sup>89</sup> Aliyu et al. 2016

<sup>90</sup> Guillaîne et al. 2017

<sup>91</sup> Dugdale et al. 2019

<sup>92</sup> Myer et al. 2018

<sup>93</sup> Tomlinson et al. 2014

<sup>94</sup> Zulliger et al. 2014

<sup>95</sup> Nance et al. 2017

<sup>96</sup> Nsubuga-Nyombi et al. 2019

<sup>97</sup> Herlihy et al. 2015

<sup>98</sup> Aliyu et al. 2016

<sup>99</sup> Nair et al. 2013

<sup>100</sup> Manual for early infant male circumcision under local anaesthesia. World Health Organization. 2010

offering community-level integration of EIMC, HIV testing and MCH service vs. standard MCH care in Kenya revealed that integration could increase uptake of EIMC by 24% to 27%, and overall acceptability of the procedure was high.<sup>101, 102</sup> More evidence is needed to determine the effectiveness of HIV-child health service integration outside of sub-Saharan Africa.

Mandisa Dukashe of the HIV Survivors and Partners Network in South Africa delivered a compelling appeal for peer-led active linkage to and retention in care. The lived experience within her network shows that peers provide clear information about the importance of initiating, staying on HIV treatment and benefits by sharing personal stories, share practical information on where and when to go for HIV treatment, facilitate enrolment in HIV treatment and even escort peers when needed, and provide on-going support to clients that are new on antiretroviral therapy, including through SMS reminders, follow-up phone calls and home visits.

### **Adolescents**

More than one third of HIV infections occur among young people.<sup>103</sup> Low HIV and sexual health knowledge and parental/guardian consent barriers contribute to HIV risk among adolescents and young people. HIV remains a leading cause of death among adolescents in sub-Saharan Africa. The systematic review explored opportunities for services integration targeted at adolescents: HIV testing services, primary prevention, mental healthcare, STI services, family planning, human papillomavirus (HPV) vaccination and female genital schistosomiasis diagnosis and treatment. Other needs and opportunities reviewed included school-based programmes, educational attainment, legislation around parental consent and youth-friendly healthcare provision. Out-of-school education is also provided for young key populations and marginalised young people.

In Malawi, a quasi-experimental cohort study compared vertical HIV testing, family planning and STI services with an intervention model of integrated services plus youth-friendly providers. In integrated youth-friendly models, adolescents were 23% more likely to receive an HIV test, 57% more likely to receive condoms, 39% more likely to access hormonal contraception and 16% more likely to utilize any STI services. The success of the intervention was attributed to the fact that the services were tailored to adolescents' needs and provided without stigma or judgement.<sup>104</sup>

In Viet Nam, the addition of peer education outreach to integrated adolescent sexual and reproductive health and HIV services led to a nearly five-fold increase in the percentage of clients seeking HIV testing.<sup>105</sup> In high-density townships in Cape Town, South Africa, youth clinics had 3.7 times more contraception visits and 1.9 times more voluntary counselling and testing than primary health care facilities.<sup>106</sup> In Zimbabwe, the addition of Community Adolescent Treatment Supporters to the standard of care improved adherence to treatment by 3.9 times and greater confidence and self-esteem among young patients.<sup>107</sup>

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<sup>101</sup> Bailey et al. 2017

<sup>102</sup> Bailey et al. 2007

<sup>103</sup> UNAIDS estimates

<sup>104</sup> Rosenberg et al. 2018

<sup>105</sup> Ngo et al. 2013

<sup>106</sup> Mendelsohn et al. 2018

<sup>107</sup> Willis et al. 2019

A case report from Kenya showed that dispensing PrEP for adolescents at MCH, family planning clinic reduces programme costs by 38%.<sup>108</sup>

The Zvandiri project, a novel community-based, peer-led intervention among HIV-positive adolescents in Zimbabwe resulted in a 42% improvement in viral load outcomes compared with adolescents who continued with standard public sector care, after 24 months of follow-up.<sup>109, 110</sup>

The available evidence suggests that the integration of youth-specific and youth-friendly services for adolescents increases utility, while youth-specific services provided in general primary healthcare settings reduced utility. No cost comparisons between integrated and non-integrated services for adolescents were available, nor were there studies that measured long-term health impacts. As many adolescent/youth-friendly SRH services have been initially set up in an integrated manner, this illustrates the innate benefits and user preferences for these integrated services. There have not been such difficult barriers to realigning vertical programmes, or adding novel interventions such as PrEP, where such integrated, youth-centred services have been developed from the start.

A case study of youth-friendly health services in Malawi was presented by Foster Mafiala, a youth technical officer and SRHR Africa Trust. Youth-friendly outreach services provide a range of SRHR and HIV services, including HIV testing services, linkage to care, family planning, contraceptive services, cervical cancer screening, STI screening and referral and provision of SRHR information. An SRHR Youth-led Advocacy Project, known as SYLAP, used scorecards to measure access to youth-friendly services in Lilongwe. Dialogue with policymakers and stakeholders on the results of the scorecards facilitated the removal of barriers on accessing youth-friendly health services such as stigmatizing attitudes of health service providers, unfriendly rooms and inconvenient opening hours. Important opportunities on integration of HIV services with HPV vaccination<sup>111</sup>, female genital schistosomiasis<sup>112, 113</sup> and mental health<sup>114</sup> should be explored.

Comprehensive sexuality education (CSE) is provided in an integrated manner, both within and out-of-school settings. CSE provides a clear example of how effective integrated service provision can be, especially when designed and implemented from the start using an integrated, comprehensive curriculum. HIV prevention is one topic covered together with other STIs, sexual health and wellbeing, sexual orientation and gender identity, reproductive health care including pregnancy prevention and the need for screening for reproductive organ cancers, infertility and other SRHR issues.

### **Transgender people**

Between 0.1% to 1.1% of reproductive age adults are estimated to be transgender—about 25 million people worldwide. Transgender women globally have a 12 times higher risk of HIV acquisition, and in some countries HIV prevalence among transgender people is 80 times higher than in general population.

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<sup>108</sup> Roberts et al. 2019

<sup>109</sup> Mavhu et al. 2020

<sup>110</sup> Willis et al. 2018

<sup>111</sup> Narasimhan et al. 2017

<sup>112</sup> No more neglect. Female genital schistosomiasis and HIV. UNAIDS. 2019

<sup>113</sup> Hotez et al. 2019

<sup>114</sup> Reimen et al. 2019

Much of this HIV risk is attributed to social and legal exclusion, economic vulnerability, low self-esteem that contributes to challenges in negotiating condom use and higher prevalence of violence.

Studies show that transgender women also have higher rates of STIs, HPV, Hepatitis B & C in compared with cisgender men who have sex with men, and that transgender women face higher rates of a range of non-communicable diseases, including obesity, osteoporosis/osteopenia, venous thromboembolism, ischemic stroke and possibly diabetes. Mental health issues are also common, including suicidality, depression and generalized anxiety disorder.

The systematic review explored opportunities for integration among the following key health service needs: HIV prevention, testing, treatment and adherence programmes, medical gender affirmation services, mental health, STI case-management programmes, HPV screening and treatment, viral hepatitis prevention, screening and treatment, PrEP, NCD preventive care (cardiovascular, cancer screening) and contraceptive/family planning. Other needs and opportunities reviewed included the improvement of knowledge about transgender people among healthcare providers, programmes on sexual and gender-based and sexual violence, condom programming, legal gender affirmation and the use of gender-neutral language by healthcare staff.

The review found that integrating healthcare and HIV services tailored to the needs of transgender people is an effective approach, and that education, healthcare provider training and peer-outreach can increase service uptake and reduce stigma, and that structural, interpersonal, individual and biological factors need to be addressed to reduce HIV risk.

A review was presented by the research group jointly with Asa Radix, a clinician, educator, and researcher whose main area of expertise is in transgender health and HIV. Asa is the Senior Director of Research and Education at Callen-Lorde Community Health Center, an Associate Clinical Professor of Medicine at New York University. Asa presented on transgender health and advised on comprehensive standards of care for transgender people.

The transgender HIV/STI implementation tool (TRANSIT) has been developed as a comprehensive, differentiated, integrated approach for providing HIV/STI, sexual and gender based violence and other SRH services for transgender people, with community-led and based interventions placed centrally in transgender programming.<sup>115</sup> The TRANSIT was co-developed with transgender persons, reflecting best practice normative guidance and transpersons' preferences for an integrated package of interventions.

### **Sex workers**

Sex workers make up 9% of the total number of new HIV infections globally, and their increased risk to HIV infection is driven by factors including economic vulnerability, an inability to negotiate consistent condom use, and high levels of violence, discrimination and marginalization. The review explored opportunities for integration among the following key health service needs: HIV prevention, testing, treatment and adherence programmes, PrEP, mental health programmes, easy-access STI programmes, HPV screening and treatment, and substance use therapy. Other needs and opportunities explored

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<sup>115</sup> <https://www.undp.org/content/undp/en/home/librarypage/hiv-aids/implementing-comprehensive-hiv-and-sti-programmes-with-transgend.html>

included programmes against sexual and gender-based violence, condom programming and legislation around sex work.

The review found evidence that sex workers benefit from targeted and community-based integrated programmes and sex worker-friendly primary care.

A 2014 systematic review of facility-based sexual and reproductive health services for female sex workers in Africa found that most efforts were donor-driven and focused on condom distribution and HIV and STI testing, while broader SRHR needs—such as family planning, cervical cancer screening and gender-based violence—were not addressed.<sup>116</sup> In Mozambique, efforts to improve SRH and HIV service delivery for sex workers and other high-risk individuals through integration were preferred by sex workers and effective, but poor linkage to care and a lack of government endorsement were serious challenges.<sup>117</sup> A similar effort in South India that combined targeted and horizontal SRH-HIV services was found to be feasible, acceptable and to increase uptake of services.<sup>118</sup> A 2018 review of studies from Asia, sub-Saharan Africa and Latin America found that SRH-HIV interventions for sex workers were highly cost effective.<sup>119</sup> There is also evidence from rural South Africa that the integration of cervical cancer screening into HIV clinics was feasible with diagnosis of cervical cancer-positive in many sex workers.<sup>120</sup> The review also concluded that additional evidence is needed on integration of mental health, substance use and harm reduction programmes and tailored services for male and transgender sex workers.

Efforts were presented on use of the Sex Worker HIV/STI Implementation Tool (SWIT),<sup>121</sup> a practical, differentiated guide on effective integrated HIV/STI, violence and other human right abuses prevention programming for sex workers, in Bangladesh, Nepal, Indonesia and Myanmar were presented. High levels of stigma and discrimination in health facilities were repeatedly documented, as well as high prevalence of violence experienced by sex workers. To address the latter, a “Safety First” programme was developed where sex workers were trained as paralegals and worked with their peers to document and respond to violence. The SWIT-based effort has increased awareness of rights and services, increased solidarity among sex workers, improved relationships with law enforcement, addressed domestic violence and financial exploitation and improved service delivery.<sup>122</sup> As for the TRANSIT for transgender people, the SWIT was co-developed by sex workers and represents current best practice for sex worker interventions, utilising differentiated and integrated service delivery techniques.

### **Gay men and other men who have sex with men**

Gay men and other men who have sex with men (MSM) are 22 times more at risk of HIV compared to the general population. This higher risk is attributable to biological, behavioural, legal, and social and cultural factors, including homophobia and the criminalization of same-sex sexual behaviour and relationships. The systematic review explored opportunities for integration among the following key health service needs: HIV testing and counselling, HIV primary prevention, HIV secondary prevention

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<sup>116</sup> Dhana et al. 2014

<sup>117</sup> Lafort et al. 2018

<sup>118</sup> Reza-Paul et al. 2019

<sup>119</sup> Rinaldi et al. 2018

<sup>120</sup> Afzal et al. 2017

<sup>121</sup> <https://www.apnsw.info/programs/sex-worker-implementation-tool>

<sup>122</sup> Results presented by video conference link by Jules Kim, Executive Officer of Scarlet Alliance, Australian Sex Workers Association



(PrEP, post-exposure prophylaxis or PEP, VMMC), hepatitis B vaccination and test and treat for hepatitis A, B, C, mental health interventions, STI screening and treatment, HPV vaccination, testing and treatment, and substance use therapy. Other needs and opportunities explored included legislation on same-sex sexual activity and efforts to ensure that health-care providers were knowledgeable and supportive of MSM.

The review found evidence supporting the presence of knowledgeable healthcare staff in suitable settings for MSM, that integration can increase uptake of HIV services, and that the integration of STI and hepatitis C screening with HIV services can be cost-effective. More evidence is needed on integration of HPV vaccination, VMMC and mental health care. It was found that once- or twice-yearly screening for anorectal chlamydia among MSM in care at HIV treatment centers in the Netherlands prevented new infections and could be cost-saving.<sup>123</sup> Similarly in the same study, it was found that integration of routine hepatitis C monitoring among HIV-positive MSM in The Netherlands could also be cost-saving.<sup>124</sup> In the USA, provision of HIV-testing for MSM with early syphilis, gonorrhoea or chlamydial infection and partner notification services were found to lead to higher uptake of HIV and STI testing services among partners and an overall higher yield of newly diagnosed bacterial STIs.<sup>125</sup> In China, integration of early-ART initiation services and partner testing alongside HIV testing led to an estimated 81% reduction in onward transmission of HIV and reduction of costs.<sup>126</sup>

Mexico's experience with the integration of services for gay men and other men who have sex with men were presented by Jorge Saavedra. Mexico's service delivery model was developed in close consultation with communities of MSM and transgender women to ensure their specific needs were taken into account. The integrated service delivery model implemented by Clinica Condesa in Mexico City includes HIV treatment and care (including CD4 and viral load testing), HIV testing services, STI testing and treatment, proctology, mental health, peer support, condom promotion and distribution, safe sex workshops and active participation in all pride events. Clinica Condesa also provides SRH services for women (including female sex workers), PrEP, PMTCT, dental care, dermatology, community-led human rights guidance, a sanctuary clinic for undocumented migrants, extension services to prison inmates, a trans clinic and safe meeting rooms for gay, transgender and sex workers. A slimmed down version of the Clinica Condesa model, known as CAPASITS (Centro Ambulatorio de Prevención y Atención en SIDA e ITS), is now providing accepting, non-judgmental (i.e. non-homo/transphobic) free services in more than 70 locations around Mexico.

The MSM HIV/STI implementation tool (MSMIT) provides a further example of differentiated and integrated service provision for gay and other men who have sex with men, which is preferred and promoted by the MSM community.<sup>127</sup>

### **People who inject drugs**

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<sup>123</sup> Vriend et al. 2013

<sup>124</sup> Popping et al. 2019

<sup>125</sup> Katz et al. 2016

<sup>126</sup> Hu et al. 2019

<sup>127</sup> <https://www.unfpa.org/publications/implementing-comprehensive-hiv-and-sti-programmes-men-who-have-sex-men>

More than 10% of the 13 million people who inject drugs globally are living with HIV. Higher HIV risk is driven by the sharing of injecting equipment caused by insufficient access to harm reduction services and reinforced by criminalization of drug use, marginalization of people who use drugs and poverty. The systematic review explored opportunities for integration among the following key health service needs: HIV prevention, testing and treatment, adherence programmes, prevention of and screening for viral hepatitis, harm-reduction programmes (including opioid substitution therapy) and overdose prevention. Other needs and opportunities explored included the decriminalization of drug use and drug possession and legislation around clean needle provision programmes, methadone programmes, drug checking, safe injection rooms and heroin programmes.

The review found that integrating HIV, hepatitis C and harm reduction programmes for people who inject drugs led to clear benefits, including higher rates of HIV testing and HIV treatment initiation, increased retention in care and viral suppression, increased uptake of opioid substitution therapy, reduced danger of drug interactions, reduced mortality, reduced costs for patients, greater acceptability among patients. It also found that success of integration depends on where the services are delivered. There was limited evidence on integrating other services such as mental health care or sexual and reproductive healthcare. Some modelling studies suggested that integration is cost-effective, but there was no empirical data on the cost implications of integration.

It was shown that in Vietnam, integration of methadone replacement therapy into HIV care (ART initiation, adherence and additional supportive care) for HIV-positive drug users led to a better methadone response and less frequent heroin use facilitating ART treatment success.<sup>128</sup> The intervention (utilised by 370 drug users) was incrementally cost-effective at a 3 times GDP threshold and the probability of being cost-effective was estimated to be 86%, compared to ART provision only.<sup>129</sup>

Two studies that evaluated integrated HIV and harm reduction programmes for HIV-positive people who inject drugs (PWID) in the USA. A higher number of monthly provider visits and higher monthly costs were observed in the integrated setting, but fewer overall physician encounters were reported potentially leading to lower overall costs per user.<sup>130</sup> A trend towards greater retention in care (77%) and HIV viral suppression (80%) among patients receiving HIV care at a methadone clinic was reported.<sup>131</sup> Two RCTs explored the effect of offering integrated services on drug use behavior<sup>132</sup> and HIV outcomes<sup>133</sup> in HIV-positive PWID and their HIV-negative injection partners. At study sites in Ukraine, Indonesia and Vietnam, overall, ART use and methadone-assisted therapy use increased (72% up from 43% and 41% up from 25% respectively), viral suppression increased (41% up from 24%), mortality decreased (hazard ratio (HR) 0.47, HR partners 0.17).<sup>134</sup> Lastly, an ambitious RCT<sup>135</sup> designed to evaluate the effectiveness of integrated single-venue HIV testing, prevention, and treatment services to increase HIV testing uptake and entry to care for MSM and PWID in India showed a 31% increase in HIV testing for 11,721 PWID receiving their HIV services at methadone clinics. However, overall population

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<sup>128</sup> Tran et al. 2012

<sup>129</sup> Tran et al. 2012

<sup>130</sup> Schackmann et al. 2011

<sup>131</sup> Simeone et al. 2017

<sup>132</sup> Gilbert et al. 2018

<sup>133</sup> Miller et al. 2018

<sup>134</sup> Gilbert et al. 2018

<sup>135</sup> Solomon et al. 2020

exposure remained low: only 40% of PWID living in reach of the sites were exposed to testing, which might have affected overall efficacy.<sup>136</sup>

Three studies reported on the effects of integrating HIV testing, hepatitis C virus (HCV) testing and harm reduction services. In India, an RCT showed that PWID accessing care at one of the 10 integrated sites across the country (as compared to 12 sites offering the usual vertical services) were 3.69 times more likely to know their HCV status, 9.86 times more likely to initiate treatment and 5.36 times more likely to sustain viral suppression for HCV. However, the overall proportion of PWID accessing care remained low (22.0% vs. 7.4% in usual care).<sup>137</sup> In Kazakhstan, integration of harm reduction, HIV, and HCV prevention among HIV/HCV coinfecting PWID was successful to prevent more non-fatal overdoses, but did not show differences in other health outcomes.<sup>138</sup> In the USA, on-site opioid-agonist therapy and HIV/HCV treatment reduced HCV reinfections and attributable as well as non-attributable mortality and was considered to be cost-effective a \$100,000/QALY threshold.<sup>139</sup> In an RCT conducted in drug users from ethnic minorities in Baltimore, USA, it was shown that combining testing for HIV and hepatitis, immunization for hepatitis A and B, risk-reduction counselling, medical treatment, referral and support at the site for mental health services was efficacious in providing an essential service package. Acceptance of the service package was high (over 80%), HIV and hepatitis testing increased and immunisation for hepatitis A and B increased.<sup>140</sup>

Despite being a priority population for HIV prevention and harm reduction programs, the sexual and reproductive health needs of women who inject drugs are being overlooked.<sup>141</sup> This can be improved through the integration of contraceptive and other SRH interventions into existing outreach-based HIV prevention and harm reduction programs. This integration is acceptable to women who inject drugs, and is programmatically feasible. For successful integration, a rights-based beneficiary involvement, coupled with sustainable technical and financial capacity strengthening at the community level is essential. In most countries a significant gap in PWID programming is failure to address their SRHR services.

IDUIT as best practice for integrated HIV/HCV and other services for PWID (like SWIT, MSMIT and TRANSIT).<sup>142</sup>

Mauro Guarineri from the International Network of People Who Use Drugs (INPUD) presented a community perspective on the integration of services. He stressed the huge barriers created by the global 'War on Drugs' and that decriminalization of drug use is essential to reaching people who use drugs with HIV services, hepatitis C services and other health services. Additional barriers faced by people who use drugs include poverty, marginalization, homelessness, stigma and discrimination, and a general lack of people-centred services in many countries. He called for greater use of community-led and peer-assisted services, and for more meaningful dialogue among communities, policy makers and health-care practitioners.

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<sup>136</sup> Solomon et al. 2019

<sup>137</sup> Solomon et al. 2020

<sup>138</sup> Gilbert et al. 2018

<sup>139</sup> Barocas et al. 2019

<sup>140</sup> Rosenberg et al. 2010

<sup>141</sup> Ayon et al. 2019

<sup>142</sup> <https://www.unodc.org/unodc/en/hiv-aids/new/practical-guidance-for-collaborative-interventions.html>

## **Prisoners and incarcerated people**

Every year around 30 million people are imprisoned and there are around 11 million people incarcerated at any given time. Increased risk of HIV and hepatitis C among prisoners is related to insufficient access to harm reduction services and condoms, challenges to treatment adherence and the high levels of stress experienced by prisoners on a day-to-day basis that compromised already weakened immune systems. The systematic review explored opportunities for integration among the following key health service needs: HIV prevention, testing and treatment, harm-reduction programmes, and prevention, screening and treatment for tuberculosis and viral hepatitis. Other needs and opportunities explored included legislation around clean needle provision programmes, drug use and incarceration.

There is evidence pointing to the effectiveness of integrating evidence-based strategies to prevent and treat HIV, hepatitis C, hepatitis B and tuberculosis. Routine hepatitis vaccination programmes have achieved sufficient levels of vaccine coverage. Harm reduction for prisoners who use drugs should include opioid substitution therapy that is continued after the release of the prisoner.

One study from the USA reported on the effects of HIV service integration in prison.<sup>143</sup> Inmates were offered optout HIV and HCV testing during intake, after intake testing was integrated into routine disease screening processes. Uptake of HIV/HCV testing increased from 12.9% (n = 118/915) to 80.5% (n = 269/334) in 6 months' time. HIV was confirmed in 1% and HCV antibody positivity was found in 16%. It was concluded that offering opt-out integrated HIV/HCV testing during intake was feasible, acceptable, and increased prevention and engagement in care for this high-prevalence, hard-to-reach population, and that half of HCV positive inmates would have been missed otherwise.

## **Migrants and displaced people**

The systematic review explored opportunities for integration among the following key health service needs: HIV prevention, testing, treatment and adherence programmes, screening and treatment for tuberculosis and viral hepatitis, sexual and reproductive health services and basic health-care service packages. Other needs and opportunities explored were legal determinants.

Evidence reviewed suggested that migrant women face barriers to SRH services, and that 61% of maternal deaths occur in humanitarian crisis or fragile settings.<sup>144</sup> Médecins Sans Frontières has successfully provided HIV services—including antiretroviral therapy—in about two dozen conflict or post-conflict settings. Patient outcomes on treatment were comparable to those in stable resource-limited settings, and individuals and communities obtained significant benefits from access to HIV treatment.<sup>145</sup>

The experience of Kazakhstan in providing services to immigrant populations was presented by Saule Kassymova. The total number of registered HIV cases among foreign nationals in the country in 2019 was 156, including 41 from key populations, 15 prisoners or individuals in pre-trial detention and nine pregnant women. More than 100 of these cases were from Uzbekistan or the Russian Federation. In

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<sup>143</sup> De La Flor et al. 2017

<sup>144</sup> Endler et al. 2020

<sup>145</sup> O'Brien et al. 2010

early 2020, 170 foreign people living with HIV were receiving antiretroviral therapy with the Global Fund support.

### **Men and boys**

Men and boys were not one of the populations covered by the systematic review. UNAIDS presented a summary of its December 2017 report *Blind spot*, which found that male lifestyles and health behaviours on aggregate put them at greater risk for poor health and premature death. Studies shows that men take more risks, suffer more injuries and accidents, and are less likely to pursue healthy lives and use health services. Despite their many social and economic advantages, men are less likely than women to seek out health care.

These general behaviour patterns affect HIV service provision and effectiveness. In sub-Saharan Africa, 56% of PLHIV are women. Despite the higher disease burden among women, more men living with HIV are dying in the region because they have lower HIV testing and treatment uptake than women. The disparity is particularly pronounced in western and central Africa, where an estimated 61% [32–67%] of women living with HIV were receiving HIV treatment in 2018, compared with 40% [18–41%] of their male peers.

Studies show that engaging men in efforts to achieve gender equality and reduce gender-based violence improves the effectiveness of those programmes. Keeping boys in school has been shown to reduce their HIV risk, and school-based comprehensive sexuality education has been shown to increase HIV knowledge, improve condom use and delay sexual debut. The establishment of men's health centres in several countries has successfully attracted more men to undertake health check-ups, especially when these facilities extend their operating hours into the evenings. Integrating HIV testing with the screening and treatment for malaria, hepatitis, tuberculosis, STIs, diabetes and hypertension have also been shown to be effective.

### **People living with HIV**

Identifying effective linkage-to-care strategies for people living with HIV and addressing their health needs is vital to controlling the HIV/AIDS epidemic. Many HIV-infected persons do not enroll early in treatment, particularly among those diagnosed in community-based settings.

#### Tuberculosis

Tuberculosis and HIV epidemics are closely linked, with TB the leading cause of mortality among people living with HIV. A considerable body of literature shows that integrating HIV and TB care has synergistic benefits for the control of both diseases and can substantially reduce mortality. All 16 studies reporting on HIV-tuberculosis services integration were conducted in sub-Saharan Africa, were mainly pre-post studies offering integrated care in 'one-stop-shops' and most commonly reported on tuberculosis - related health effects. HIV screening in TB patients, and TB screening in PLHIV are key WHO recommendations and are reflecting in global agreements for responses to both diseases.

Positive tuberculosis treatment outcomes were reported by studies from Ghana,<sup>146</sup> South Africa,<sup>147,148,149</sup> Kenya,<sup>150</sup> Zambia,<sup>151</sup> Cameroon,<sup>152</sup> Uganda,<sup>153</sup> and Democratic Republic of Congo.<sup>154</sup> However, health system challenges can compromise successful integration. Some studies demonstrate that integration did not lead to better health outcomes – mentioning insufficient access,<sup>155,156</sup> lack of programmatic health systems strengthening,<sup>157</sup> and overall inability to provide services beyond HIV or TB control<sup>158</sup> as possible barriers. For example, one study found that rural facilities did not always have staff trained to enable the health service integration, and nurses worked without the support of a doctor and supervision which threatened the quality of care.<sup>159</sup> The review also found no evidence on effects of integration on costs, and potential economies of scale and scope.

### Mental health

Mental health disorders are the leading cause of morbidity worldwide. Studies suggest that people with mental health disorders are 4 to 10 times at higher risk of acquiring HIV and that people living with HIV are at higher risk of developing mental health disorders.<sup>160</sup> Mental health disorders affect HIV treatment and care success, with a large meta-analysis finding the likelihood of good adherence to antiretroviral therapy 42% lower for those with depression.<sup>161</sup>

Mental health care involves a complex mix of specialized and non-specialized services, and different mental health integration approaches present different challenges. The review found that integrating mental health care and HIV services would likely improve HIV prevention, HIV treatment adherence and mental health services. However, there is very limited evidence on the effects of integration especially on long-term impacts.

In two studies from Western and Central Europe and North America (the USA<sup>162</sup> and Denmark<sup>163</sup>) it was shown that integration of mental health services into the standard of care for people living with HIV led to improvement in mental health, as well as virologic, and immunologic outcomes<sup>164</sup> and increased resilience through enhancing coping self-efficacy.<sup>165</sup>

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<sup>146</sup> Ansa et al. 2012

<sup>147</sup> Conradie et al. 2013.

<sup>148</sup> Burr et al. 2014

<sup>149</sup> Jacobson et al. 2015.

<sup>150</sup> Owiti et al. 2015

<sup>151</sup> Herce et al. 2018

<sup>152</sup> Hemmer et al. 2015

<sup>153</sup> Hermans et al. 2012

<sup>154</sup> Van Rie et al. 2014

<sup>155</sup> Ferroussier et al. 2013

<sup>156</sup> Ferroussier et al. 2013

<sup>157</sup> Ndagijimana et al. 2015

<sup>158</sup> Kufa et al. 2018

<sup>159</sup> Davey et al. 2016

<sup>160</sup> Remien et al. 2019

<sup>161</sup> Gonzales et al. 2011

<sup>162</sup> Coleman et al. 2012.

<sup>163</sup> Rodkjaer et al. 2017

<sup>164</sup> Coleman et al. 2012

<sup>165</sup> Rodkjaer et al. 2017

## Non-communicable diseases

Specific action is needed to respond to the rapidly rising health toll associated with non-communicable diseases. NCDs are a common co-morbidity of HIV, especially among older people living with HIV. A 2019 Lancet commentary noted that a surge in the burden of NCDs in sub-Saharan Africa over the past two decades has been driven by increasing incidence of cardiovascular risk factors such as unhealthy diets, reduced physical activity, hypertension, obesity, diabetes, dyslipidaemia and air pollution, and that NCDs are set to overtake communicable, maternal, neonatal, and nutritional diseases combined as the leading cause of mortality in sub-Saharan Africa by 2030.<sup>166</sup> People living with HIV in the region are exposed to the same NCD risks as other people, and may have additional NCD risk factors due to HIV infection itself and the effects of some antiretroviral medicines. A recent study in Kenya found that 51% of Kenyan adults and 62% of Kenyans living with HIV had at least one NCD.<sup>167</sup>

The SEARCH trial in Kenya and Uganda supported health fairs that included integrated multi-disease screening for HIV, hypertension, diabetes, malaria, TB, men's health issues and more. This effort increased acceptability and uptake of HIV testing in rural communities.<sup>168</sup> The ICAP-supported JOORTH hospital in Kisumu, Kenya, piloted multi-disease screening kiosks at the hospital entrance, providing screening for HIV, hypertension, TB and nutritional status. This effort found that the proportion of men tested for HIV was higher than at outpatient clinics or inpatient wards.<sup>169</sup> Lessons learned from these and other recent efforts include that it is important to understand the trade-offs when services are integrated (e.g. in time, staff, money and other resources), and that delivering tailored public health requires data, a person-centred approach and a model that is scalable.

Most programmes in the systematic review conducted for this meeting consisted of either adding NCD screening and/or care to HIV clinics, or joint testing campaigns with separate service delivery. Integrated HIV and hypertension services for PLHIV in Uganda led to improved hypertension control.<sup>170</sup> A 2017 systematic review of studies on integrated NCD and HIV programmes in low-income countries found that leveraging experience from HIV care models and adapting existing systems and tools is a feasible method to provide efficient care and treatment for the growing numbers of patients with NCDs.<sup>171</sup> However, a case study from South Africa demonstrated that integrated service delivery can also overburden clinics, compromising service quality,<sup>172</sup> illustrating the need for careful policy, systems and service delivery realignment that addresses the changing needs of both clients and service providers alike.

Integration of HIV services with screening for NCDs in sub-Saharan Africa (Kenya<sup>173</sup> and South Africa<sup>174, 175</sup>) showed different outcomes, possibly depending on the healthcare setting of integration. Implementation of integrated HIV care into local public healthcare clinics increased ART uptake, while

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<sup>166</sup> Bigna et al. 2019

<sup>167</sup> Smit et al. 2019

<sup>168</sup> Chamie et al. 2019

<sup>169</sup> 2nd annual meeting; Commissioning for Quality and Innovation (CQUIN). 2018

<sup>170</sup> Kwarisiima et al. 2019

<sup>171</sup> Duffy et al. 2017

<sup>172</sup> Rawat et al. 2018

<sup>173</sup> Edwards et al. 2015

<sup>174</sup> Golovaty et al. 2018

<sup>175</sup> Rawat et al. 2018

leaving trends in new patients on diabetes and hypertension treatment remained unchanged.<sup>176</sup> Similarly, early results from integration of HIV and NCD care at public healthcare clinics in Kenya showed no differences in diagnosis and treatment.<sup>177</sup> In contrast, integrating all-inclusive NCD screening as part of homebased HTC in a high HIV prevalence setting (KwaZulu-Natal, South Africa) increased programme costs by 42% per person screened (to \$3.95) and reduced the number of persons tested by 15–20% per day.<sup>178</sup>

This review concluded that integrating NCD and HIV care is sensible, given the high dual burden and similar service delivery requirements. Most programmes demonstrated a substantial yield in new cases. However, there is limited evidence on the benefits of integration versus separate service delivery. There is a need for robust and well-designed studies looking at long-term outcomes of integration, and research in a more diverse range of countries.

### Primary health care

Twelve studies reported on integrated HIV and primary healthcare and were conducted in different parts of the world. In districts with integrated HIV-primary healthcare in Ukraine, a two-fold increase in newly detected HIV cases was reported at lower average costs per detected case, compared to non-integrated settings in the country.<sup>179</sup> Findings from an RCT in China showed that HIV testing in primary care, based on the 'One4All' risk-estimation algorithm, was feasible, facilitated earlier access and could lead to prevention of a significant number of deaths and new HIV cases when integrated into a broader combination prevention strategy.<sup>180</sup> Outcomes from HIV-primary healthcare integration in Eastern and Southern Africa varied highly. In Mozambique, a retrospective cohort revealed that HIV patients attending primary healthcare clinics had a higher risk of attrition.<sup>181</sup> It was stressed by the authors that although utilizing primary health clinics to implement ART is necessary to reach higher levels of coverage, further implementation strategies should be developed to improve patient retention in generalized settings. Similarly, in Zambia integration enabled increased HIV case finding and a reduction in stigma associated with vertical antiretroviral therapy (ART) services, but did not solve ongoing human resource shortages or inadequate infrastructure and resulted in an overall increase in patient waiting times.<sup>182, 183</sup>

Decentralisation of follow-up ART care to rural primary healthcare facilities, can be a safe and effective way to rapidly scale-up ART and improves both geographical equity in access to HIV related services and adherence to ART, as shown for Malawi.<sup>184</sup> Another study from Malawi showed that HIV care and surveillance integrated with social, community, and nutritional support programs was \$98 more expensive per capita per annum, but demonstrates superior 1-year survival rates.<sup>185</sup> Similarly, integration of HIV care into primary care was associated with improved survival of HIV-positive patients

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<sup>176</sup> Rawat A et al. 2018

<sup>177</sup> Edwards et al. 2015

<sup>178</sup> Golovaty et al. 2018.

<sup>179</sup> Johns et al. 2017

<sup>180</sup> Zang et al. 2016

<sup>181</sup> Lambdin et al. 2013

<sup>182</sup> Topp et al. 2010

<sup>183</sup> Topp et al. 2013

<sup>184</sup> Chan et al. 2010

<sup>185</sup> McBain et al. 2017



needing ART in South Africa.<sup>186</sup> However, integration of HIV treatment services into public sector primary healthcare in South Africa did not result in large-scale reduction of service delivery: uptake of contraception and immunization services remained unchanged in two out of three clinics, while the third clinic experienced a modest decrease in service utility.<sup>187</sup>

A review of evidence for the integration of HIV services in primary health care found limited and mixed evidence on the impact of integration of HIV care into primary health care, with positive, negative and neutral effects likely related to the strength of the local public sector. Studies with negative results came from sub-Saharan Africa, where health systems are weaker and the PLHIV patient loads disproportionately large. There were no high-quality randomized control trials or quasi-experimental designs, and no evidence on the impact of integration on costs or other health system indicators.

The mixed results, again illustrate the need for comprehensive approaches for shifting policy guidance, supportive health systems and actual service delivery, further enabled by increasing community engagement through increased community mobilisation and community-led programs.

### PLHIV perspectives

GNP+ collected first-person accounts of integrated services from people living with HIV. It was noted that engaging with multiple specialists takes up time because an individual must re-tell their story over and over again. A South African woman noted that it was convenient to receive TB and HIV treatment from the same clinic, and that the TB service was good quality, but that stigma and discrimination by health-care providers was an issue. Another person living with HIV in Kenya said that she was happy with integrated HIV treatment, STI screening, contraceptive services and TB and hepatitis B services in an Médecins Sans Frontières (MSF) Belgium health facility, but when that facility transitioned to government management many service was discontinued so she now needs to visit several facilities. An Indian woman living with HIV who lost a young child to extra-pulmonary TB noted that HIV-TB co-infection management in the country has drastically improved in recent years, and a Ukrainian woman who uses drugs made an impassioned plea for HIV, hepatitis, drug treatment and mental health services to be integrated.

GNP+ concluded that the following are critical to making integrated service delivery work for people living with HIV:

- Health-care providers who are friendly, open, non-judgmental and loving, and who take the opportunity to ask about other health issues and can proactively signpost and/or refer to other services.
- Peer supporters who are well-supported and resourced to be able provide information and linkages to services.
- Tests and diagnostics provided free of charge (not just medicines).

### **Community-based health services**

There have been several successful examples of integration HIV services into existing community health worker programmes in low- and middle-income countries. In Dar es Salaam, Tanzania, community

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<sup>186</sup> Uebel et al. 2013

<sup>187</sup> Lince-Deroche et al. 2019

health workers providing home services were shown to be as successful as nurses providing services in clinics.<sup>188</sup> Community-based approaches are increasingly accepted as powerful complement to clinic-based services. A systematic literature review covering 1990–2011 found that some integrated services are cost-effective and likely lower the costs of HIV services. However, there was insufficient evidence to compare the cost-effectiveness of integrated vs. stand-alone services, nor was there sufficient evidence to determine the most efficient models of integration.<sup>189</sup> The increase in self-care needs to be further factored into the mix of integrated services, for example with increasing HIV self-testing, self-prescribed contraception and use of home-based care and treatments.

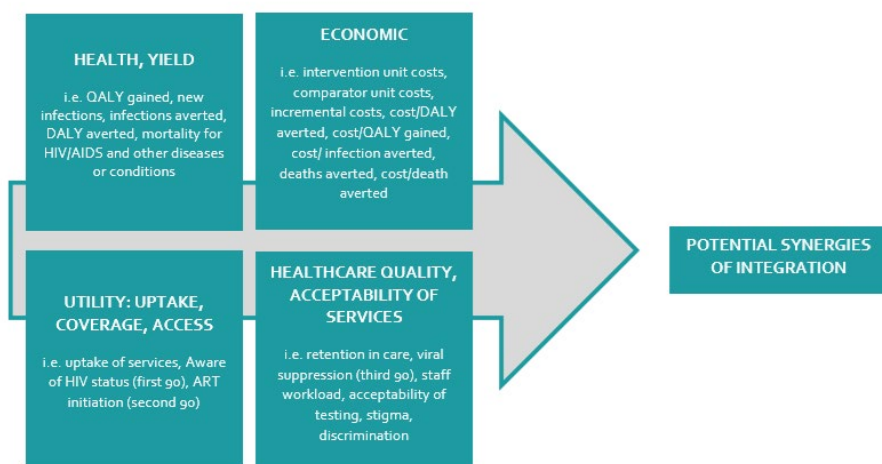
## Modelling the effects of integration

A key aspect of the 2025 AIDS Targets process is the modelling of the projected impact of achieving the targets that are set, and then estimating the cost of reaching those targets. Ultimately the targets must put the world on track to reach the HIV targets within the 2030 Agenda for Sustainable Development: 90% reductions in HIV infections and AIDS-related deaths compared to a 2010 baseline. The results of the technical consultation and evidence review on integration will be used to determine the different effects of integration, and in particular:

- How integration affects coverage of HIV services.
- How integration affects the effectiveness of HIV services.
- How integration affected the cost of HIV service.

Integrated approaches yield improvements both to HIV-related and non-HIV related health outcomes.

**Figure 1. Outcomes to assess the potential synergies gained with integration**



Therefore, a particular challenge that must be addressed soon is how to apportion the costs of integrated services—in essence, what should the HIV response pay for, and what costs should be

<sup>188</sup> Geldsetzer et al. 2018

<sup>189</sup> Sweeney et al. 2012

considered TB costs, SRHR costs, primary health care costs, etc? The Steering Committee will make a recommendation to UNAIDS senior management on this.

Integrated health financing is a key element that needs to be addressed. Financing models are critical for determining the extent and progress of integrated service delivery. Pooling budgets across sectors could ensure the total multi-sectoral value of these interventions is captured, and sectors' shared goals are achieved more efficiently.<sup>190</sup> Specific budgetary contributions from each participating development partner, sector or budget holder are determined by weighing the impact each would expect from the intervention or intervention area against their willingness to pay, or valuation, of that outcome or impact. Under such a co-financing approach, the cost of interventions with multi-sectoral outcomes would be shared by benefiting sectors, stimulating mutually beneficial cross-sectoral investments.

Yet, a strong monitoring and evaluation is required to ensure financial accountability and transparency of integrated programming. Cross-cutting initiatives and their interconnectedness are often complex to analyse, i.e. resource allocation, benefits. Guidance is needed on how to track resources deployed for HIV within integrated and/or pooled programming.

## Conclusion

The overall findings of the consultation were:

- There is pressure for a more integrated approach to health service delivery. Health systems and health programme budgets are under strain everywhere, and universal health coverage is the means and a globally agreed framework for delivering health care in a way that improves quality and coverage, does not cause financial hardship and does not leave people behind.
- Integration is meant to improve health system and programme performance across four dimensions: efficiency, effectiveness, equity, and responsiveness.
- Overall, most evaluated integration types were HIV service integration with maternal and child health, SRH, primary health care and tuberculosis. Evidence on potential benefits for less mature integration strategies and for key populations remain scarce. However, accessibility and uptake of HIV services for adolescents and key populations particularly improve when these are integrated within differentiated care-packages that are offered at easy to reach 'safe spaces' by accepting, non-judgmental, well-trained providers.
- The need and multiple opportunities for integration will require coordinated services tailored to the needs of users to effectively address communicable diseases, as well as the steady rise of non-communicable diseases, social and structural determinants of health. Sufficient implementation capacity, coordination and available resources, including human resources, were identified as key enablers of successful integration in many studies.
- Integration generally occurs at the service delivery level, together with a need for linkages at policy and system levels, plus a need to further engage communities. Overarching high-level political

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<sup>190</sup> McGuire et al. 2019

commitment and supportive legal environments. Further linkages are required at the system level (e.g. budgeting, procurement and supply chain management, health care provider training, ancillary pathology and pharmacy services, health management information systems). Monitoring and evaluation is an overarching aspect occurring at policy, systems and service delivery levels. All of these are needed to achieve efficiency gains at the service delivery level. Engagement of communities is necessary for ownership and uptake of integrated services, and for increasing community-led and based elements of care. However, all these policy, systems and service delivery changes must be sensitive to the needs of the HIV response.

- The preliminary results of the review of evidence conducted for the 2025 AIDS Targets process show that there is considerable evidence on the financial and/or health benefits of integration across various HIV and health services. However, there was a range of evidence where a positive impact was not apparent, and a few where integration led to negative results.
- Preferences of health service clients and providers, alike are key for increasing acceptability, uptake and coverage of HIV programmes going forward. Many community groups and sub-populations have indicated how integrated, people-centred care is more acceptable and preferred. Significant service realignment, including related supportive policy and system strengthening, is required to achieve this.
- It should not be assumed that integration of systems and/or services will result in immediate improvements in the quality and/or efficiency of health services and improved health outcomes. Integration is a means not an end, and can have bi-directional effects, both positive and negative. However, whilst integration may not always achieve significant efficiencies or cost savings, it does more often than not lead to better health outcomes and greater efficacy of service delivery.
- Efficiency gains are likely to be most achievable in settings that are currently delivering integrated services at a low scale with high levels of fixed costs.
- The benefits and drawbacks of service delivery integration are more context specific as optimal paths will differ between settings, populations, and services. Although current evidence supports both financial and/or health benefits of service integration in general, no “one-size-fits-all” integration strategy exists, and optimal integration strategies depend on the subpopulation acceptability, the local epidemiological and health system context.
- Better information on the cost, cost-effectiveness, and fiscal sustainability of integrated programs is needed to justify integrated approach in resource constrained settings.
- Several opportunities for integrated services were identified to lead to health and/or financial gains, including:
  - More mature integration services that affect the same end-users, such as tuberculosis, MCH and SRH services, often showed similar or improved outcomes when delivered together. Yet, it was demonstrated that especially when HIV services are integrated into broader service models, such as MCH and primary healthcare, access for HIV service users and overall capacity of the target facilities should be critically assessed.

- Adolescents can benefit from youth-friendly integrated health and social programmes that for example include vaccination, comprehensive sexuality education, mental wellbeing, address early marriage, 'sugar daddy' practices and sexual and gender based violence. Programmes might be offered at high schools or at youth centres outside of school/work hours and peers can be involved to get adolescents to the services, like being done by the 'Youth Hub' in Malawi and the Zvandiri project in Zimbabwe.
- For women, the introduction of point-of-care technologies for human papillomavirus testing and the subsequent implementation of screen-and-treat strategies are shown to be relatively cheap and easy to implement alongside existing services, such as for HIV.
- Testing coverage among men in generalised epidemic settings might be increased by offering community-based (mobile) disease testing for HIV together with NCDs, i.e. hypertension and diabetes screening.
- Accessibility and uptake of tailored HIV services for key and vulnerable populations particularly improve when differentiated care-packages are offered at easy to reach 'safe spaces' by accepting, non-judgmental and well-trained providers. For many key populations a successful HIV/AIDS response will require clinical care programmes that enable easy and sustainable access to testing, treatment and PrEP, and address health disparities and discrimination (such as homophobia).
- For sex workers, a differentiated package of HIV, STI, sexual and gender based violence, contraception, abortion and antenatal/postnatal care is required to address multiple health concerns and challenges. Sex worker peers provide key services via outreach, mobile services as well as health service navigators for increasing uptake. Supportive legal environments are also necessary to enable uptake of care.
- For MSM, healthcare providers ideally should offer integrated services at gay-friendly safe spaces that includes counselling, mental health services, PrEP, substance use information and comprehensive STI programmes consisting of additional herpes simplex virus prevention and screening, and HPV screening and vaccination for young adults.
- Integrating STIs, HIV/HCV testing and treatment with harm reduction services for PWID reduces HCV reinfections, attributable as well as non-attributable mortality and is reportedly cost-effective. Female injecting drug users are among the most vulnerable, hard-to-reach populations at increased risk for STIs, HIV and unintended pregnancies. For this group, extra emphasis should be placed on providing contraception, gender-based violence and mental health services alongside HIV services.
- Case studies from the USA have shown that HIV prevention interventions for transgender people will be most effective if gender-affirmative care and management of gender transition is offered alongside delivery of HIV-related services.<sup>191, 192, 193</sup>

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<sup>191</sup> Reisner et al. 2016

<sup>192</sup> Restar et al. 2019

<sup>193</sup> Reisner et al. 2014

- The forthcoming integration framework, informed by the technical consultation and group work will be further explored for target-setting and modelling exercise. The framework is furthermore aimed to assess the opportunities for integration where there are not many comparison papers are available.
- Overall, steps toward integration should be undertaken thoughtfully, retaining the key principles that have defined the HIV response. The findings from integration in experimental studies and other research settings are not always expected to be similar in 'real world' settings. Success of the interventions highly depends on the implementation strategy, overall scale and suitability of the existing healthcare structure for offering specific integrated services.
- Quasi-experimental designs can be employed to ascertain effects of integration and establish systems for ongoing learning and improvement.
- Lastly, recognising health as an investment, a strong emphasis was made during the technical consultation that major new resources must be mobilised to support stronger, sustainable, and people centred health systems.