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European standards of HIV prevention and care: module on HIV and co-morbidities

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This report on standards of care for HIV and co-morbidities is one in a series of standards for HIV care. Other reports in the series can be found on ECDC's website at: https://www.ecdc.europa.eu/en/infectious-disease-topics/hiv-infection-and-aids/ecdceacs-standards-hiv-care

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Abbreviations

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
BMI	Body Mass Index
CHIP	Centre of Excellence for Health, Immunity, and Infections
CVD	Cardiovascular disease
DDI	Drug-drug interaction
EACS	European AIDS Clinical Society
ECDC	European Centre for Disease Prevention and Control
EU/EEA	European Union/European Economic Area
HIV	Human immunodeficiency virus
NCD	Non-communicable disease
QoL	Quality of life
SDG	Sustainable Development Goals
UACR	Urine albumin to creatinine ratio
UPCR	Urine protein to creatinine ratio
WHO	World Health Organization

Background and introduction

An estimated 2 334 662 people are living with HIV in Europe and Central Asia, of whom 1 944 695 (83%; range: 65–100%) have been diagnosed with the infection [1]. As the population with HIV is aging, 18.7% of new HIV diagnoses occur in people aged over 50 years [2]. Additionally, it is estimated that in Western and Central Europe, the proportion of people living with HIV aged 55 years and older will increase from 34% in 2020 to 47% in 2030 [3].

With increasing life expectancy, people living with HIV face a growing burden of non-communicable diseases (NCDs), including cardiovascular disease (CVD), diabetes, cancers, chronic renal, liver, and pulmonary diseases, as well as mental and neurocognitive disorders. In the general population, the age-standardised mortality rate from NCDs in the World Health Organization (WHO) European Region was 427.1 (312.0–572.9) per 100 000 in 2019, with premature deaths accounting for 29.8% of cases [4], with people living with HIV experiencing an even higher burden of NCDs and increased mortality [5-7], as studies show that after 10 years of follow-up, individuals living with HIV have nearly twice the risk of developing an NCD (42.2% vs. 23.9% in the non-HIV cohort) [5]. By 2030, it is projected that up to 84% of people living with HIV will have at least one NCD, with 28% experiencing three or more [8].

The factors contributing to the higher prevalence of NCDs among people living with HIV are numerous and vary across countries and healthcare settings. Some are HIV-specific, such as persistent inflammation, late diagnosis, and antiretroviral therapy (ART)-related toxicities [9-11]. Others, though common in the general population, may be more prevalent among those with HIV, including substance use [12, 13], smoking [14], unhealthy diet [15], stigma and discrimination [16], barriers to care [17], and coinfections [18], all of which significantly impact NCD development and management.

The Sustainable Development Goals (SDG), adopted by the United Nations in 2015, emphasise the importance of ensuring healthy lives and promoting well-being for all ages. This includes the commitment to end AIDS, but also to 'reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being' by 2030. Achieving these goals requires a strong and standardised framework for HIV prevention and care across Europe.

What are standards of care for HIV?

The standards of care for HIV define the expected or desired quality of prevention, treatment, and care for people at risk of HIV acquisition or living with HIV.

The standards are based on a scientific rationale, as well as the responsibilities of each stakeholder, to ensure that people receive appropriate, high-quality prevention and care that aligns with the most up-to-date medical knowledge and ethical standards.

The European Centre for Disease Prevention and Control (ECDC) in partnership with the European AIDS Clinical Society (EACS) have developed standards of care in the areas of HIV testing, pre-exposure prophylaxis (PrEP), antenatal screening, commencement of ART, and HIV and co-morbidities (https://www.ecdc.europa.eu/en/infectious-disease-topics/hiv-infection-and-aids/prevention-and-treatment/ecdceacs-standards-hiv).

Each standard is based on the following structure:

- Brief description of the rationale for the standard;
- Quality statements describing best practice based on current guidelines, evidence, and expert opinion;
- Related, measurable and auditable outcome indicators used to assess the quality and effectiveness of the services;
- Numeric values for defined targets.

The standards are person-centred in their approach with a specific focus on being equitable, non-discriminatory, relevant, appropriate, and accessible for people at risk of or living with HIV.

Who is the intended audience of the standards of care?

These standards of care are designed for three distinct audiences:

- people at risk of acquiring HIV or people who are living with HIV;
- people responsible for the provision and delivery of HIV-related services (service providers);
- people who have a responsibility for policy, guidance development and commissioning or funding of HIV services (European Commission and public health institutes).

Applying the standards

Auditing is an essential tool to support the application and measurement of these standards. Audits at clinic and at structural/policy levels provide a reference point against which to benchmark the quality of HIV prevention or care services.

The indicators listed in the standards are either structural, process or outcome indicators (defined in Annex 2). Many of the structural indicators are collected annually through the 2004 Dublin Declaration monitoring. On the other hand, to evaluate performance against the process indicators, in particular at the clinical service level, cyclical audits can generate results to form recommendations to improve quality and provision of care. Clinical level audits can thus supplement data collected through the Dublin Declaration monitoring. Specifically, findings from clinical audits could be used to identify areas of underperformance to produce specific clinic recommendations and drive quality improvement.

On a broader scale, auditing can assess the quality-of-care patients receive in Europe, guide service commissioning, and support the development of public health, clinical, and community guidelines.

Methodology

How were the standards of HIV care developed?

An advisory group and topic-specific writing groups consisting of representatives from clinical care providers, public health practitioners, community organisations and people living with HIV from across Europe were established (see Annex 1). The advisory group provided overarching advice throughout the duration of the project, supported the prioritisation of module selection, prioritisation of quality statements and indicators and reviewed the standards of care module. The topic-specific writing groups have developed the quality statements, indicators, and targets (under the guidance of an EACS expert lead writer) and also reviewed the final standards of care testing module.

In developing the standard, a combination of consensus-building techniques, such as the RAND/UCLA Appropriateness method and the Delphi method, were used. The RAND method is a formal consensus technique that combines scientific evidence with expert opinions to create guidelines, recommendations, and quality indicators, particularly in healthcare settings. This method was used to identify topics for the standards of care and for developing quality statements and indicators. The Delphi method is a structured communication process that gathers expert opinions and facilitates consensus through multiple rounds of questions and feedback – this method was used as part of the writing group meetings.

The methodology is described in more detail in the method paper on ECDC's website at: https://www.ecdc.europa.eu/en/infectious-disease-topics/hiv-infection-and-aids/ecdceacs-standards-hiv-care

Quality statements, indicators, and targets

The standards of care for HIV and co-morbidities is divided into topics under which quality statements and indicators have been developed. The topics are listed below followed by the quality statements describing best practice and the minimum service and care that a person at risk of or living with HIV should expect to be able to access relative to HIV risk or status and across the life-course.

Topics

- Prevention and management of cardiovascular disease;
- Cancer screening;
- Mental health;
- General screening for chronic diseases;
- Ageing in people living with HIV;
- Lifestyle interventions;
- Monitoring and evaluation.

For each of the quality statements listed above, indicators and targets have been developed to support their monitoring.

A detailed overview of quality statements, indicators, numerator, denominator, targets, and data source can be found in Annex 2.

Note: The indicators in this module focus on ongoing monitoring and disease management of people in routine HIV care. For the baseline visit assessments, please refer to the 'Commencement of ART' Standard of care module.

1. Prevention and management of cardiovascular disease

Rationale

People living with HIV have an accelerated development of certain chronic non-AIDS co-morbidities including cardiovascular diseases (CVD) [6, 20]. In the modern antiretroviral treatment era, the risk for myocardial infarction and stroke in people with HIV remains elevated and is estimated to be between 50–100% higher than in the general population, even after adjusting for traditional cardiovascular risk factors. While the contribution of cardiovascular disease to mortality is decreasing in the general population, cardiovascular mortality is increasing in people living with HIV [21]. Some traditional cardiovascular risk factors are more prevalent among people living with HIV such as tobacco smoking and dyslipidaemia, however recent reports suggest even when accounting for these factors, cardiovascular risk remains elevated among people living with HIV[22].

In addition to traditional risk factors, it is postulated that the direct effect of HIV and its consequences on inflammation, immune activation, and immunodeficiency as well as certain antiretroviral drugs, such as abacavir and protease inhibitors, may also play a role in CVD development [23]. The more frequently used cardiovascular disease risk calculators were developed for the general population and tend to underestimate cardiovascular risk among people living with HIV, as they do not consider the risk-enhancing factors associated with HIV and/or antiretroviral drugs.

Nevertheless, the EACS Guidelines recommend using the SCORE2 (for people aged 40–69 years) or SCORE2-OP (for people aged ≥70 years) to estimate cardiovascular disease risk annually [24]. Recent evidence from a large interventional clinical trial demonstrated that lifestyle modifications and statin use in people with low to moderate cardiovascular disease risk reduces cardiovascular disease events in people living with HIV [25]. Hence, it is imperative to assess cardiovascular risk, and to monitor and treat cardiovascular risk factors in this population for the prevention of cardiovascular disease.

Table 1. Quality statements, indicators, and targets for topic 1 'Prevention and management of CVD'

Quality statement 1.1 People living with HIV should be screened for CVD and have their modifiable risk factors managed	
Indicator **1.1.1 Percentage of people aged ≥ 40 years accessing HIV care who have their 10-year CVD risk estimated annually.**	**Target** **90%**
Indicator 1.1.2 Percentage of people aged ≥ 40 years screened for diabetes (blood glucose or HB1Ac) within the last 15 months**	**Target** 90%
Quality statement 1.2 In people living with HIV where elevated cardiovascular risk was identified, an appropriate intervention should be offered	
Indicator 1.2.1 Percentage of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% who were offered a statin or referred/advised to attend routine provider of statin within the last 5 years	**Target** **80%**
Indicator 1.2.2 Percentage of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% who were offered referrals to relevant experts (i.e., endocrinologists, dieticians, etc.) within the last 5 years depending on confounding uncontrolled risk factors***	**Target** 90%

**Indicators highlighted in bold have been selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards.*
***Diabetes is listed here as a risk factor for CVD events.*
****Confounding risk factors: diabetes, arterial hypertension, BMI>30, smoking.*

2. Cancer screening

Rationale

Cancer has emerged as the leading cause of mortality in people living with HIV after AIDS-related deaths, and is expected to account for a growing number of deaths as people living with HIV age [26]. Indeed, the incidence and prevalence of numerous malignancies are much higher in people living with HIV than in the general population and often occur at younger ages, are diagnosed at later stages, and cause higher mortality [27]. Given the devastating consequences of late cancer diagnosis, enhancing early detection is paramount to improving patient outcomes. Implementing recommended cancer screening for the general population is highly advisable to increase early cancer diagnosis rates.

Specific screening recommendations are required for people living with HIV where infection-associated cancers, such as anal and cervical cancer as well as liver cancers in hepatitis co-infected individuals occur at a much higher rate than in the general population [24, 28]. Increasing HPV and HBV vaccination rates in people living with HIV should also contribute to a decrease in infection-related malignancies.

Table 2. Quality statements, indicators, and targets for topic 2 'cancer screening'

Quality statement 2.1 All people living with HIV should receive cancer screening in line with EACS Guidelines	
Indicator **2.1.1 Percentage of women and people with a cervix aged >18 years who have been screened for cervical cancer at least once in the last three years following EACS Guidelines**	**Target** **80%**
Indicator **2.1.2 Percentage of men who have sex with men who have received anal cancer screening within the last two years following EACS Guidelines**	**Target** **90%**
Indicator 2.1.3 Percentage of people aged 50-75 years who are not terminally ill and have a life expectancy > 10 years who have been at least once referred for colon cancer screening or been called up by national screening programmes	**Target** 90%
Indicator **2.1.4 Percentage of people with liver cirrhosis who have been screened for hepatocellular carcinoma using ultrasound**	**Target** **90%**
Indicator **2.1.5 Percentage of people aged 50-80 years with at least a 20 pack-year smoking history*, and are either current smokers or former smokers who have stopped smoking within the past 15 years, who have been screened for lung cancer**	**Target** **90%**
Indicator 2.1.6 Percentage of men and people with a prostate aged > 50 years who are not terminally ill and have a life expectancy > 10 years who have been screened for prostate cancer at least once	**Target** 90%
Indicator 2.1.7 Percentage of women and trans men aged 50-74 years who have received mammography-based breast cancer screening within the last five years	**Target** 90%

**A 20 pack-year smoking history indicates a cumulative exposure to tobacco equivalent to smoking one pack of cigarettes (20 cigarettes) per day for 20 years, or any combination that multiplies to 20 (e.g. two packs a day for 10 years).*

No quality statement 2.2 All people living with HIV should receive cancer preventive vaccination as recommended by EACS	
Indicator **2.2.1 Percentage of people aged < 45 years who received at least one dose of HPV vaccination following EACS guidelines**	**Target** **90%**

Quality statement 2.3 People living with HIV who are diagnosed with cancer should have timely access to specialised oncologists, and should be managed jointly by HIV physicians and oncologists	
Indicator 2.3.1 Number of services with documented, agreed-upon referral pathways for people who are newly diagnosed with cancer	**Target** 95%
2.3.2 Percentage of people with a new cancer diagnosis who have a documented medicines review checking for potential drug-drug interactions (DDI) between ART and proposed chemotherapy drugs, by a competent clinician (e.g. pharmacologist/pharmacist, experienced HIV physician) or using the Liverpool HIV Interaction website	**Target** 97%

**Indicators highlighted in bold have been selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards.*

3. Mental health

Rationale

People living with HIV experience higher rates of mental health disorders than the general population. This is associated with lower retention in HIV care and decreased rates of virological suppression [29]. HIV-associated stigma and discrimination can further contribute to mental health conditions [30]. The integration of screening, diagnosis, treatment and care for mental health conditions and psychosocial support, such as counselling and peer support, with HIV services, appears important to improve HIV treatment outcomes.

The development of integrated approaches that are people-centred and local context-specific could ensure better HIV and overall health outcomes, well-being and quality of life (QoL) [31]. Simple mental health screening tools will also help identify individuals who need to be referred to more specialised mental healthcare providers.

Table 3. Quality statements, indicators, and targets for topic 3 'mental health'

Quality statement 3.1 All people living with HIV should be screened for mental health problems and quality of life	
Indicator **3.1.1 Percentage of people who are assessed for QoL within 15 months of last visit using a recognised and validated assessment tool****	**Target** **80%**
Indicator **3.1.2 Percentage of people screened for depression and anxiety within 15 months of HIV diagnosis using recognised and validated screening tools*** **e.g. Patient Health Questionnaire (PHQ) for depression [32], Generalised Anxiety Disorder (GAD) for anxiety [33] or other validated questionnaires. Diagnostic questions proposed in the EACS Guidelines may also be used*	**Target** **80%**
Indicator 3.1.3 Percentage of people living with HIV screened for sleep disorders within 15 months of last visit, preferably using insomnia-specific screening questions or a validated tool (e.g. Insomnia Severity Index ISI-3 [34] **	**Target** 80%

Quality statement 3.2 People living with HIV with mental health problems should have accessible, documented referral pathways for further management of their condition, to ensure timely access to mental health care	
Indicator **3.2.1 Percentage of people with mental health problems with documented referral or access to mental health care service**	**Target** **80%**

**Indicators highlighted in bold have been selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards.*
***Measured as occurring at least once within a 15-month time period; 12 months plus a three-month window allowing for variation in clinic attendance.*

4. General screening for chronic diseases

Rationale

With the advent of effective ART, the prognosis for people living with HIV has improved significantly and HIV is now a chronic manageable condition requiring lifelong treatment. People living with HIV may develop chronic diseases, which may be pre-existing, HIV-associated, or due to the normal ageing process. Moreover, some antiretrovirals may be associated with toxicities which can affect the development of chronic diseases [35, 36]. Evidence suggests that the chronic inflammation and microbial translocation seen in people with uncontrolled viral replication reduces, but does not fully normalise, despite effective antiretroviral treatment [37, 38].

Therefore, the optimisation of co-morbidities is crucial for the long-term care of people living with HIV, as it ultimately impacts quality of life. Importantly, co-morbidities need to be considered when selecting antiretroviral regimens for treatment initiation or switch, due to the potential for adverse effects of certain antiretroviral drugs.

Table 4. Quality statements, indicators, and targets for topic 4 'general screening for chronic diseases'

Quality statement 4.1 All people living with HIV should be offered regular organ-specific screening for chronic diseases	
Indicator **4.1.1 Percentage of people with renal profile (including at least creatinine and proteinuria) measured within the last 12 months****	**Target** **90%**
Indicator **4.1.2 Percentage of people who have liver profile assessment (AST and/or ALT) measured within the last 12 months****	**Target** **90%**
Indicator 4.1.3 Percentage of smokers/ex-smokers with documented screening for respiratory symptoms (shortness of breath, cough, sputum, re-occurring lung infections) within the last 24 months	**Target** 90%
Indicator 4.1.4 Percentage of people older than 40 years of age with risk factors for osteoporosis (including smoking, alcohol use, metabolic syndrome, and frailty-related factors) with a calculated FRAX[1] score within the last 24 months	**Target** 90%
Indicator 4.1.5 Percentage of people at increased risk of fracture who had vitamin D checked within the last 15 months (Assessment based on clinical evaluation, screening questionnaires, or biomarker evidence as defined in Annex 2)	**Target** 90%
Quality statement 4.2 If abnormalities in organ function have been detected, patients should be fully assessed for the underlying cause and appropriately managed and monitored, including specialist referral when indicated	
Indicator **4.2.1 Percentage of people with chronic kidney disease monitored by repeat renal profile test and/or UPCR/UACR at least once in the last 15 months****	**Target** **95%**
Indicator **4.2.2 Percentage of people with elevated liver transaminases who had received non-invasive fibrosis assessment through biomarkers, fibroscan or imaging within the last 15 months****	**Target** **90%**
Indicator 4.2.3 Percentage of people with organ impairment with documented referral to specialised care	**Target** 90%

**Indicators highlighted in bold have been selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards.*
***Measured as occurring at least once within a 15-month time period; 12 months plus a three-month window allowing for variation in clinic attendance.*

[1] Fracture Risk Assessment Tool: https://pmc.ncbi.nlm.nih.gov/articles/PMC10904566/

5. Ageing in people living with HIV

Rationale

The availability of potent ART has transformed HIV infection into a chronic disease such that life expectancy for people living with treated HIV is increasing and at present, almost 50% of all people living with HIV in developed countries are older than 50 years old [39]. Evidence suggests that HIV is associated with premature ageing and increased risks of age-related co-morbidities, including frailty and neurocognitive disorders [40-42]. This leads inevitably to polypharmacy which is commonly defined as the concurrent use of ≥ 5 non-HIV medications.

Polypharmacy occurs two to four times more frequently in people living with HIV compared to the general population and has been associated with several negative outcomes including drug-drug interactions (DDI), cognitive impairment, frailty, falls, and hospitalisation [43]. The knowledge of adverse health outcomes associated with polypharmacy should ensure that there are interventions to prevent harm including medication reconciliation, medication review (i.e. check of DDI) and medication evaluation considering the risks/benefits for older people living with HIV.

Table 5. Quality statements, indicators, and targets for topic 5 'ageing in people living with HIV'

Quality statement 5.1 In older people living with HIV (aged 50 years or older) timely screening for ageing-related conditions should be considered and adequately supported to help maintain health	
Indicator **5.1.1 Percentage of people over 50 years of age experiencing weakness, slowing, decreased energy, lower activity, or unintended weight loss screened for frailty using validated tools*** **Indicator*** *e.g. gait speed measurement, Short Physical Performance Battery (SPPB), Clinical Frailty Scale (CFS) and FRAIL Scale (FS)*	**Target** **70%**
Indicator **5.1.2 Percentage of people with cognitive symptoms/complaints and no known cause with documented neurocognitive assessment**	**Target** **80%**
Indicator **5.1.3 Percentage of people living with HIV over 50 years of age with annual medication review for possible DDI**	**Target** **90%**
Indicator **5.1.4 Percentage of HIV clinics offering linkage/direction to social support for ageing people or having agreed documented pathways to social support services**	**Target** **70%**

**Indicators highlighted in bold have been selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards.*

6. Lifestyle interventions

Rationale

Complementing ART, lifestyle interventions are pivotal to optimise health outcomes for people living with HIV. There is evidence that regular physical exercise enhances cardiovascular function, reduces chronic systemic inflammation, and improves metabolic control, mitigating risks of comorbid conditions such as metabolic syndrome and type 2 diabetes [44, 45]. Nutritional strategies can support immune reconstitution, counter oxidative stress, and improve the quality of life for people living with HIV [46]. Stopping smoking decreases endothelial dysfunction and reduces the risk of respiratory and CVD in people living with HIV [47, 48]. Limiting alcohol and substance use protects hepatic function, ensures ART adherence, and improves mental health outcomes [49, 50].

Together, these integrated lifestyle interventions promote better quality of life, increase life expectancy, and empower individuals to actively manage their health. Addressing these modifiable risk factors is essential for reducing morbidity and improving long-term virological and immunological outcomes in people living with HIV.

Table 6. Quality statements, indicators, and targets for topic 6 'lifestyle interventions'

Quality statement 6.1 All people living with HIV should be screened for modifiable risk factors and informed about effective lifestyle intervention to reduce the risk of co-morbidities	
Indicator **6.1.1 Percentage of people who have a documented smoking status within the last 15 months****	**Target** **80%**
Indicator **6.1.2 Percentage of current smokers provided with smoking cessation advice**	**Target** **90%**
Indicator **6.1.3 Percentage of people with documentation of (history of) recreational drugs and alcohol use within the last 15 months* including men who have sex with men under the influence of recreational drugs (sometimes referred to as 'chemsex') ***	**Target** **80%**
Indicator 6.1.4 Percentage of people who have been asked about their level of physical activity at least once within the last 15 months	**Target** 60% (85% minimum in the aging group of older than 50 years old)

**Indicators highlighted in bold have been selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards.*
***Measured as occurring at least once within a 15-month time period; 12 months plus a three-month window allowing for variation in clinic attendance.*

7. Monitoring and evaluation

Rationale

Building monitoring systems for chronic healthcare requires stronger person-centred, longitudinal monitoring and linkage to services for NCDs and other conditions. Good quality health services are integral to universal health coverage and contributes to achieving SDG 3 'Good health and well-being' [19].

Quality assurance, in the context of delivery of health services, refers to a range of activities related to systematic assessment and monitoring, intended to ensure that services are fulfilling stated requirements for quality. These include measuring performance against standards; performing external evaluation (such as accreditation); communicating standards to users; and monitoring compliance with established standards [51].

To monitor chronic health conditions and ensure comprehensive care for people living with HIV, a well-integrated system, which combines technology and evidence-based guidelines should be in place.

Table 7. Quality statements, indicators, and targets for topic 7 'monitoring and evaluation'

Quality statement 7.1 Every country should develop a standardised protocol that will assure the highest possible quality of care for people living with HIV, care that is coordinated across levels and providers throughout the life-course, together with ways of measuring and auditing performance.	
Indicator	**Target**
7.1 Percentage of countries with adopted national protocol or guidelines for HIV and co-morbidity management or alternatively adopt relevant regional or global guidelines if a national one is not yet available	90%

**Indicators highlighted in bold have been selected for prioritisation in order to maximise acceptability and feasibility of adoption and reporting against the standards.*

References

1. European Centre for Disease Prevention and Control (ECDC). Continuum of HIV care. Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2023 progress report Stockholm: ECDC; 2024 [Available from: https://www.ecdc.europa.eu/en/publications-data/hiv-continuum-care-monitoring-implementation-dublin-declaration-2023.
2. WHO Regional Office for Europe. European Centre for Disease Prevention and Control (ECDC) HIV/AIDS Surveillance in Europe 2024 – 2023 data Copenhagen: WHO Regional Office for Europe; 2024 [Available from: https://www.ecdc.europa.eu/en/publications-data/hiv-aids-surveillance-europe-2024-2023-data.
3. Joint United Nations Programme on HIV/AIDS (UNAIDS). What the data tell us: Projections for the HIV epidemic in western and central Europe and North America in 2030 and beyond Geneva: UNAIDS; 2025 [
4. World Health Organization. WHO Global Health Observatory (GHO) data: NCD morbidity and mortality. 2019 [Available from: https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/ncd-mortality.
5. Jespersen N, Axelsen F, Dollerup J, Nørgaard M, Larsen C. The burden of non-communicable diseases and mortality in people living with HIV (PLHIV) in the pre-, early- and late-HAART era. HIV Medicine. 2021;22(6):478-90.
6. Schouten J, Wit FW, Stolte IG, Kootstra NA, van der Valk M, Geerlings SE, et al. Cross-sectional Comparison of the Prevalence of Age-Associated Comorbidities and Their Risk Factors Between HIV-Infected and Uninfected Individuals: The AGEhIV Cohort Study. Clinical Infectious Diseases. 2014;59(12):1787-97.
7. Marcus JL, Leyden WA, Alexeeff SE, Anderson AN, Hechter RC, Hu H, et al. Comparison of Overall and Comorbidity-Free Life Expectancy Between Insured Adults With and Without HIV Infection, 2000-2016. JAMA Netw Open. 2020;3(6):e207954.
8. Smit M, Brinkman K, Geerlings S, Smit C, Thyagarajan K, Sighem Av, et al. Future challenges for clinical care of an ageing population infected with HIV: a modelling study. The Lancet Infectious Diseases. 2015;15(7):810-8.
9. Zicari S, Sessa L, Cotugno N, Ruggiero A, Morrocchi E, Concato C, et al. Immune Activation, Inflammation, and Non-AIDS Co-Morbidities in HIV-Infected Patients under Long-Term ART. Viruses. 2019;11(3).
10. Jaschinski N, Greenberg L, Neesgaard B, Miró JM, Grabmeier-Pfistershammer K, Wandeler G, et al. Recent abacavir use and incident cardiovascular disease in contemporary-treated people with HIV. Aids. 2023;37(3):467-75.
11. Wearne N, Davidson B, Blockman M, Swart A, Jones ES. HIV, drugs and the kidney. Drugs Context. 2020;9.
12. Kelso NE, Sheps DS, Cook RL. The association between alcohol use and cardiovascular disease among people living with HIV: a systematic review. Am J Drug Alcohol Abuse. 2015;41(6):479-88.
13. Boyer L, Zebachi S, Gallien S, Margarit L, Ribeiro Baptista B, Lopez-Zaragoza J-L, et al. Combined effects of smoking and HIV infection on the occurrence of aging-related manifestations. Scientific Reports. 2023;13(1):21745.
14. Clifford GM, Lise M, Franceschi S, Egger M, Bouchardy C, Korol D, et al. Lung cancer in the Swiss HIV Cohort Study: role of smoking, immunodeficiency and pulmonary infection. Br J Cancer. 2012;106(3):447-52.
15. Fitch KV, McCallum SA, Erlandson KM, Overton ET, Zanni MV, Fichtenbaum C, et al. Diet in a global cohort of adults with HIV at low-to-moderate traditional cardiovascular disease risk. AIDS. 2022;36(14):1997-2003.
16. Stockton MA, Giger K, Nyblade L. A scoping review of the role of HIV-related stigma and discrimination in noncommunicable disease care. PLoS One. 2018;13(6):e0199602.
17. Yang Z, Zhu Z, Lizarondo L, Xing W, Han S, Hu H, et al. Experience of chronic noncommunicable disease in people living with HIV: a systematic review and meta-aggregation of qualitative studies. BMC Public Health. 2021;21(1):1651.
18. Osibogun O, Ogunmoroti O, Michos ED, Spatz ES, Olubajo B, Nasir K, et al. HIV/HCV coinfection and the risk of cardiovascular disease: A meta-analysis. J Viral Hepat. 2017;24(11):998-1004.
19. United Nations. Sustainable Development Goals 2015. Available from: https://sdgs.un.org/goals.
20. Hicks WL, Khalil S, Burke FW, Ho MQ, Mansi I. Comparison of risk factors and mortality in veterans with HIV and those without HIV suffering first major acute cardiovascular events. HIV Med. 2025;26(2):218-29.
21. Feinstein MJ, Bahiru E, Achenbach C, Longenecker CT, Hsue P, So-Armah K, et al. Patterns of Cardiovascular Mortality for HIV-Infected Adults in the United States: 1999 to 2013. Am J Cardiol. 2016;117(2):214-20.
22. Silverberg MJ, Levine TM, Lea AN, Williams AE, Alexeeff SE, Bryant K, et al. Cardiovascular Disease Risk Factor Control in People With and Without HIV. Clin Infect Dis. 2024;78(5):1264-71.
23. Ghandakly E, Moudgil R, Holman K. Cardiovascular disease in people living with HIV: Risk assessment and management. Cleve Clin J Med. 2025;92(3):159-67.
24. European AIDS Clinical Society. EACS Guidelines version 12.1: European AIDS Clinical Society; 2024 [updated November 2024. Available from: https://eacs.sanfordguide.com/.

25. Grinspoon SK, Fitch KV, Zanni MV, Fichtenbaum CJ, Umbleja T, Aberg JA, et al. Pitavastatin to Prevent Cardiovascular Disease in HIV Infection. N Engl J Med. 2023;389(8):687-99.
26. Trickey A, McGinnis K, Gill MJ, Abgrall S, Berenguer J, Wyen C, et al. Longitudinal trends in causes of death among adults with HIV on antiretroviral therapy in Europe and North America from 1996 to 2020: a collaboration of cohort studies. Lancet HIV. 2024;11(3):e176-e85.
27. Masiá M, Gutiérrez-Ortiz de la Tabla A, Gutiérrez F. Cancer screening in people living with HIV. Cancer Med. 2023;12(21):20590-603.
28. WHO Regional Office for Europe. A short guide to cancer screening. Increase effectiveness, maximize benefits and minimize harm Copenhagen: WHO Regional Office for Europe; 2022 [
29. Remien RH, Stirratt MJ, Nguyen N, Robbins RN, Pala AN, Mellins CA. Mental health and HIV/AIDS: the need for an integrated response. Aids. 2019;33(9):1411-20.
30. Rueda S, Mitra S, Chen S, Gogolishvili D, Globerman J, Chambers L, et al. Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: a series of meta-analyses. BMJ Open. 2016;6(7):e011453.
31. World Health Organization (WHO). Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection: Recommendations for a Public Health Approach. 2nd edition Geneva2016 [Available from: https://www.who.int/publications/i/item/9789241549684.
32. Levis B, Sun Y, He C, Wu Y, Krishnan A, Bhandari PM, et al. Accuracy of the PHQ-2 Alone and in Combination With the PHQ-9 for Screening to Detect Major Depression: Systematic Review and Meta-analysis. Jama. 2020;323(22):2290-300.
33. Plummer F, Manea L, Trepel D, McMillan D. Screening for anxiety disorders with the GAD-7 and GAD-2: a systematic review and diagnostic metaanalysis. Gen Hosp Psychiatry. 2016;39:24-31.
34. Thakral M, Von Korff M, McCurry SM, Morin CM, Vitiello MV. ISI-3: evaluation of a brief screening tool for insomnia. Sleep Medicine. 2021;82:104-9.
35. Grant PM, Cotter AG. Tenofovir and bone health. Curr Opin HIV AIDS. 2016;11(3):326-32.
36. Dorjee K, Choden T, Baxi SM, Steinmaus C, Reingold AL. Risk of cardiovascular disease associated with exposure to abacavir among individuals with HIV: A systematic review and meta-analyses of results from 17 epidemiologic studies. Int J Antimicrob Agents. 2018;52(5):541-53.
37. Peterson TE, Baker JV. Assessing inflammation and its role in comorbidities among persons living with HIV. Curr Opin Infect Dis. 2019;32(1):8-15.
38. Ntsekhe M, Baker JV. Cardiovascular Disease Among Persons Living With HIV: New Insights Into Pathogenesis and Clinical Manifestations in a Global Context. Circulation. 2023;147(1):83-100.
39. Wing EJ. HIV and aging. International Journal of Infectious Diseases. 2016;53:61-8.
40. Aung HL, Aghvinian M, Gouse H, Robbins RN, Brew BJ, Mao L, et al. Is There Any Evidence of Premature, Accentuated and Accelerated Aging Effects on Neurocognition in People Living with HIV? A Systematic Review. AIDS Behav. 2021;25(3):917-60.
41. Rodés B, Cadiñanos J, Esteban-Cantos A, Rodríguez-Centeno J, Arribas JR. Ageing with HIV: Challenges and biomarkers. eBioMedicine. 2022;77:103896.
42. Kehler DS, Milic J, Guaraldi G, Fulop T, Falutz J. Frailty in older people living with HIV: current status and clinical management. BMC Geriatrics. 2022;22(1):919.
43. Gleason LJ, Luque AE, Shah K. Polypharmacy in the HIV-infected older adult population. Clin Interv Aging. 2013;8:749-63.
44. Bernal E, Martinez M, Campillo JA, Puche G, Baguena C, Tomás C, et al. Moderate to Intense Physical Activity Is Associated With Improved Clinical, CD4/CD8 Ratio, and Immune Activation Status in HIV-Infected Patients on ART. Open Forum Infectious Diseases. 2021;9(3).
45. Theou O, Stathokostas L, Roland KP, Jakobi JM, Patterson C, Vandervoort AA, et al. The effectiveness of exercise interventions for the management of frailty: a systematic review. J Aging Res. 2011;2011:569194.
46. Rezazadeh L, Ostadrahimi A, Tutunchi H, Naemi Kermanshahi M, Pourmoradian S. Nutrition interventions to address nutritional problems in HIV-positive patients: translating knowledge into practice. J Health Popul Nutr. 2023;42(1):94.
47. Johnson Heather M, Gossett Linda K, Piper Megan E, Aeschlimann Susan E, Korcarz Claudia E, Baker Timothy B, et al. Effects of Smoking and Smoking Cessation on Endothelial Function. Journal of the American College of Cardiology. 2010;55(18):1988-95.
48. Petoumenos K, Worm S, Reiss P, de Wit S, d'Arminio Monforte A, Sabin C, et al. Rates of cardiovascular disease following smoking cessation in patients with HIV infection: results from the D:A:D study(*). HIV Med. 2011;12(7):412-21.
49. Delaney JA, Nance RM, Whitney BM, Altice FL, Dong X, Trejo MEP, et al. Brief Report: Reduced Use of Illicit Substances, Even Without Abstinence, Is Associated With Improved Depressive Symptoms Among People Living With HIV. J Acquir Immune Defic Syndr. 2018;79(3):283-7.

50. Przybyla S, Ashare RL, Cioffi L, Plotnik I, Shuter J, Seng EK, et al. Substance Use and Adherence to Antiretroviral Therapy among People Living with HIV in the United States. Tropical Medicine and Infectious Disease. 2022;7(11):349.
51. World Health Organization (WHO), Organisation for Economic Cooperation and Development (OECD), International Bank for Reconstruction and Development. Delivering quality health services: a global imperative for universal health coverage Geneva: World Health Organization; 2018 [updated 2018. Available from: https://iris.who.int/handle/10665/272465.

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Annex 2. Overview of quality statements and indicators

The indicators[2] highlighted in green and bold are those selected for prioritisation to maximise acceptability and feasibility of adoption and reporting against the standards .

Prevention and management of cardiovascular disease

Quality statements	Indicator	Type of indicator	Key audience	Numerator	Denominator	Targets	Data source
1.1 People living with HIV should be screened for CVD and have their modifiable risk factors managed.	**1.1.1 Percentage of people aged ≥ 40 years accessing HIV care who have their 10-year CVD risk estimated annually.**	**Process**	**Healthcare providers**	**Number of people aged ≥ 40 years accessing HIV care with a 10-year CVD risk estimated in the last 15 months**	**Number of people aged ≥ 40 years accessing HIV care with at least one HIV care-related consultation within the last 15 months**	**90%**	**Audit**
	1.1.2 Percentage of people aged ≥ 40 years screened for diabetes (blood glucose or HB1Ac) within the last 15 months**	Process	Healthcare providers	Number of people aged ≥ 40 years attending for routine HIV care with blood glucose or HB1Ac measured in the last 15 months	Number of people aged ≥ 40 years attending for routine HIV care with at least one HIV care-related consultation within the last 15 months	90%	Audit
1.2 In people living with HIV where elevated cardiovascular risk was identified, an appropriate intervention should be offered.	1.2.1 Percentage of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% who were offered a statin or referred/advised to attend routine provider of statin within the last five years	Process	Healthcare providers	Number of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% with documented evidence of having been offered a statin or referred to a routine provider of statin (e.g. primary care) within the last five years	Number of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% attending for routine HIV care with at least one HIV care-related consultation within the last 15 months	80%	Audit
	1.2.2 Percentage of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% who were offered referrals to relevant experts (i.e., endocrinologists, dieticians, etc.) within the last five years depending on confounding uncontrolled risk factors*	Process	Healthcare providers	Number of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% with documented evidence of having been offered referrals to relevant experts (i.e., endocrinologists, dieticians, etc.) within the last five years depending on confounding uncontrolled risk factors*	Number of people aged ≥ 40 years with a 10-year CVD risk estimate ≥ 5% attending for routine HIV care with at least 1 HIV care-related consultation within the last 15 months	90%	Audit

**Confounding risk factors: diabetes, arterial hypertension, BMI>30, smoking*
***Measured as occurring at least once within a 15-month time period; 12 months plus a 3-month window allowing for variation in clinic attendance.*

[2]Indicators highlighted in bold have been selected for prioritisation in order to maximise acceptability and feasibility of adoption and reporting against the standards.

Cancer screening

Quality statements	Indicator	Type of Indicator	Key audience	Numerator	Denominator	Targets	Source
2.1 All people living with HIV should receive cancer screening in line with EACS guidelines	**2.1.1 Percentage of women and people with a cervix aged >18 years who have been screened for cervical cancer at least once in the last three years following EACS guidelines**	**Process**	**Healthcare providers**	**Number of women >18 years old attending routine HIV care with a record of cervical cancer screening in the last three years**	**Number of women >18 years old attending routine HIV care**	**80%**	**Audit**
	2.1.2 Percentage of men who have sex with men who have received anal cancer screening within the last two years following EACS guidelines	**Process**	**Healthcare providers**	**Number of m**en who have sex with men **attending routine HIV care who have received anal cancer screening in the last two years**	**Number of men who have sex with men attending routine HIV care**	**90%**	**Audit**
	2.1.3 Percentage of people aged 50-75 years who are not terminally ill and have a life expectancy > 10 years who have been at least once referred for colon cancer screening or been called up by national screening programmes	Process	Healthcare providers	Number of persons 50-75 years with a life expectancy > 10 years (assessment based on documented medical record entries) attending routine HIV care who have been referred for colon cancer screening	Number of people aged 50-75 with a life expectancy > 10 (assessment based on documented medical record entries) years attending routine HIV care	90%	Audit
	2.1.4 Percentage of people with liver cirrhosis who have been screened for hepatocellular carcinoma using ultrasound	**Process**	**Healthcare providers**	**Number of people with known liver cirrhosis in routine HIV care undergoing liver ultrasound in the last 12 months**	**Number of people with known liver cirrhosis in routine HIV care**	**90%**	**Audit**
	2.1.5 Percentage of people aged 50-80 years with at least a 20 pack-year smoking history, and are either current smokers or former smokers who have stopped smoking within the past 15 years, who have been screened for lung cancer	**Process**	**Healthcare providers**	**Number of people aged 50-80 years with a 20 pack-year smoking history and either current smokers or former smokers w**ho have stopped smoking **within the past 15 years who have been screened for lung cancer**	**Number of people aged 50-80 years with a 20 pack-year smoking history and either current smokers or former smokers w**ho have stopped smoking **within the past 15 years**	**90%**	**Audit**
	2.1.6 Percentage of men and people with a prostate> 50 years who are not terminally ill and have a life expectancy >10 years who have been screened for prostate cancer at least once	Process	Healthcare providers	Number of men and people with a prostate, > 50 years with a life expectancy >10 years (assessment based on documented medical record entries) who have been screened for prostate cancer	Number of men and people with a prostate, living with HIV, > 50 years with a life expectancy >10 years (assessment based on documented medical record entries)	90%	Audit

Quality statements	Indicator	Type of Indicator	Key audience	Numerator	Denominator	Targets	Source
	2.1.7 Percentage of women and trans men aged 50-74 years who have received mammography-based breast cancer screening within the last five years	Process	Healthcare providers	Number of women and trans men aged 50-74 years who have received mammography-based breast cancer screening	Number of women and trans men aged 50-74 years	90%	Audit
2.2 All people living with HIV should receive cancer preventive vaccination as recommended by EACS.	**2.2.1 Percentage of people aged < 45 years who received at least one dose of HPV vaccination following EACS guidelines**	**Process**	**Healthcare providers**	**Number of people <45 years old. in routine HIV care who received at least one dose of HPV vaccination**	**Number of people < 45 years old in routine HIV care**	**90%**	**Audit**
2.3 People living with HIV who are diagnosed with cancer should have timely access to specialised oncologists, and should be managed jointly by HIV physicians and oncologists	2.3.1 Number of services with documented, agreed-upon referral pathways for people who are newly diagnosed with cancer	Structural	Policy/Public health	Number of services with documented referral pathways	Number of HIV services	95%	Audit
	2.3.2 Percentage of people with a new cancer diagnosis who have a documented medicines review checking for potential drug-drug interactions (DDI) between ART and proposed chemotherapy drugs, by a competent clinician (e.g. pharmacologist/pharmacist, experienced HIV physician) or using the Liverpool HIV Interaction website	Process	Healthcare providers	Number of people newly diagnosed with cancer with DDI check	Number of people newly diagnosed with cancer	97%	Audit

Mental health

Quality statements	Indicator	Type of Indicator	Key audience	Numerator	Denominator	Targets	Source
3.1 All people living with HIV should be screened for mental health problems and quality of life.	**3.1.1 Percentage of people who are assessed for QoL within 15 months of last visit using a recognised and validated assessment tool****	**Process**	**Healthcare providers**	**Number of people with a record of the quality-of-life assessment in the last 15 months**	**Number of people on routine HIV care**	**80%**	**Audit**
	3.1.2 Percentage of people screened for depression and anxiety within 15 months of HIV diagnosis using recognised and validated screening tools* ***e.g. Patient Health Questionnaire (PHQ) for depression [32], Generalized Anxiety Disorder (GAD) for anxiety [33] or other validated questionnaires. Diagnostic questions proposed in the EACS Guidelines may also be used***	**Process**	**Healthcare providers**	**Number of people screened for depression and anxiety in the last 15 months**	**Number of people on routine HIV care**	**80%**	**Audit**
	3.1.3 Percentage of people living with HIV screened for sleep disorders within 15 months of last visit, preferably using insomnia-specific screening questions or a validated tool (e.g. Insomnia Severity Index ISI-3(34))**	Process	Healthcare providers	Number of people screened for sleep disorders in the last 15 months	Number of people on routine HIV care	80%	Audit
3.2 People living with HIV with mental health problems should have accessible, documented referral pathways for further management of their condition, to ensure timely access to mental health care.	**3.2.1 Percentage of people with mental health problems with documented referral or access to mental health care service**	**Process**	**Healthcare providers**	**Number of people with mental health problems (based on clinical suspicion or screening results) with a documented pathway to mental health care/support service**	**Number of people with mental health problems in routine HIV care**	**80%**	**Audit**

***Measured as occurring at least once within a 15-month time period; 12 months plus a 3-month window allowing for variation in clinic attendance.*

General screening for chronic diseases

Quality statements	Indicator	Type of indicator	Key audience	Numerator	Denominator	Targets	Source
4.1 All people living with HIV should be offered regular organ-specific screening for chronic diseases	**4.1.1 Percentage of people with renal profile (including at least creatinine and proteinuria) measured within the last 12 months ***	**Process**	**Healthcare providers**	**Number of people attending routine HIV care with renal profile measured in the last 12 months***	**Number of people attending routine HIV care within the last 12 months***	**90%**	**Audit**
	4.1.2 Percentage of people who have liver profile assessment (AST and/or ALT) measured within the last 12 months*	**Process**	**Healthcare providers**	**Number of people with liver profile assessment (AST, ALT, bilirubin) within the last 12 months***	**Number of people attending routine HIV care within the last 12 months***	**90%**	**Audit**
	4.1.3 Percentage of smokers/ex-smokers with documented screening for respiratory symptoms (shortness of breath, cough, sputum, reoccurring lung infections) within the last 24 months	Process	Healthcare providers	Number of smokers/ex-smokers attending routine HIV care with respiratory symptoms screening documented in the last 24 months	Number of smokers/ex-smokers attending routine HIV care within the last 24 months	90%	Audit
	4.1.4 Percentage of people older than 40 years of age with risk factors for osteoporosis (including smoking, alcohol use, metabolic syndrome, and frailty-related factors) with a calculated FRAX score within the last 24 months (*excluding people with already diagnosed disease)*	Process	Healthcare providers	Number of people older than 40 years of age in routine HIV care with risk factors for osteoporosis with a calculated FRAX score in the last 24 months	Number of people older than 40 years of age attending routine HIV care visit within the last 24 months, excluding people with already diagnosed disease	90%	Audit
	4.1.5 Percentage of people at increased risk of fracture who had vitamin D checked within the last 15 months	Process	Health care providers	Number of people at increased risk for fracture in routine HIV care who had vitamin D checked	Number of people at increased risk for fracture in routine HIV care	90%	Audit
4.2 If abnormalities in organ function have been detected, patients should be fully assessed for the underlying cause and appropriately managed and monitored, including specialist referral when indicated	**4.2.1 Percentage of people with chronic kidney disease monitored by repeat renal profile test and/or UPCR/UACR at least once in the last 15 months***	**Process**	**Healthcare providers**	**Number of people with chronic kidney disease in routine HIV care monitored by repeat renal profile test and/or UPCR/UACR at least once in the last 15 months**	**Number of people with chronic kidney disease in routine HIV care**	**95%**	**Audit**
	4.2.2 Percentage of people with elevated liver transaminases who had received non-invasive fibrosis assessment through biomarkers, fibroscan or imaging within the last 15 months*	**Process**	**Healthcare providers**	**Number of people with elevated liver transaminases liver impairment (low risk for liver cirrhosis) in routine HIV care monitored within the last 15 months**	**Number of people with elevated liver transaminases in routine HIV care**	**90%**	**Audit**

Quality statements	Indicator	Type of indicator	Key audience	Numerator	Denominator	Targets	Source
	4.2.3 Percentage of people with organ impairment with documented referral to specialised care	Process	Healthcare providers	Number of people with liver (APRI score >0.5 or FIB-4 > 1.45 or transient elastography value >7 kPa), kidney (A/C ratio > 3), and respiratory impairment (FEV1/FVC < 0.7) in routine HIV care with documented referral pathways to specialised care	Number of people with organ impairment (liver: APR1 > 0.5 or FIB-4 > 1.45, kidney: ACR > 3, or respiratory impairment: FEV1/FVC < 0.7) in routine HIV care	90%	Audit

**Measured as occurring at least once within a 15-month time period; 12 months plus a three-month window allowing for variation in clinic attendance.*

Ageing in people living with HIV

Quality statements	Indicator	Type of indicator	Key audience	Numerator	Denominator	Targets	Source
5.1 In older people living with HIV (aged 50 years or older) timely screening for ageing/related conditions should be considered and adequately supported to help maintain health	**5.1.1 Percentage of people over 50 years of age experiencing weakness, slowing, decreased energy, lower activity, or unintended weight loss screened for frailty using validated tools** ***e.g. gait speed measurement, Short Physical Performance Battery (SPPB), Clinical Frailty Scale (CFS) and FRAIL Scale (FS)***	**Process**	**Healthcare providers**	**Number of people over 50 years of age in routine HIV care screened for frailty by either tool: gait speed measurement, Short Physical Performance Battery (SPPB), Clinical Frailty Scale (CFS) or FRAIL Scale (FS)**	**Number of people over 50 years of age in routine HIV care**	**70%**	**Audit**
	5.1.2 Percentage of people with cognitive symptoms/complaints and no known cause with documented neurocognitive assessment	**Process**	**Healthcare providers**	**Number of people with cognitive symptoms/complaints without an identifiable cause with documented neurocognitive assessment**	**Number of people with cognitive symptoms/complaints without an identifiable cause**	**80%**	**Audit**
	5.1.3 Percentage of people over 50 years of age with annual medication review for possible drug-drug interactions (DDI)	**Process**	**Healthcare providers**	**Number of people over 50 years old in routine HIV care who underwent medication reconciliation and review (i.e., DDI) within the last 15 months**	**Number of people over 50 years of age in routine HIV care within the last 15 months**	**90%**	**Audit**
	5.1.4 Percentage of HIV clinics offering linkage/direction to social support for ageing people or having agreed documented pathways to social support services	**Structural**	**Policy/public health**	**Number of HIV clinics offering linkage/direction to social support for ageing people**	**Number of HIV clinics**	**70%**	**Audit**

Lifestyle interventions

Quality statements	Indicator	Type of indicator	Key audience	Numerator	Denominator	Targets	Source
6.1 All people living with HIV should be screened for modifiable risk factors and informed about effective lifestyle intervention to reduce the risk of co-morbidities	**6.1.1 Percentage of people who have a documented smoking status within the last 15 months***	**Process**	**Healthcare providers**	**Number of adults aged ≥ 21 years** attending for routine HIV care with at least 1 HIV care-related consultation with smoking status documented in the last 15 months**	**Number of adults aged ≥ 21 years** attending for routine HIV care with at least 1 HIV care-related consultation within the last 15 months**	**80%**	**Audit**
	6.1.2 Percentage of current smokers provided with smoking cessation advice	**Process**	**Healthcare providers**	**Number of individuals who are current smokers who have been provided with smoking cessation advice**	**Number of individuals who are current smokers**	**90%**	**Audit**
	6.1.3 Percentage of people with a history of recreational drugs and alcohol use documented within the last 15 months* including men who have sex with men under the influence of recreational drugs (sometimes referred to as 'chemsex')	**Process**	**Healthcare providers**	**Number of people with a history of recreational drugs and/or alcohol use documented within the last 15 months including men who have sex with men under the influence of recreational drugs (sometimes referred to as 'chemsex')**	**Number of people in routine HIV care in the last 15 months**	**80%**	**Audit**
	6.1.4 Percentage of people who have been asked about their level of physical activity at least once within the last 15 months	Process	Healthcare providers	Number of people with documented level of physical activity provided	Number of people on routine HIV care	60% minimum (85% minimum in the aging group of older than 50 years old)	Audit

**Measured as occurring at least once within a 15-month time period; 12 months plus a three-month window allowing for variation in clinic attendance.*

*** In some countries, individuals aged 18–20 may still be managed in paediatric care; threshold of ≥21 years used for consistency across adult indicators*

Monitoring and evaluation

Quality statements	Indicator	Type of indicator	Key audience	Numerator	Denominator	Targets	Source
7.1 Every country should develop standardised protocol that will assure the highest possible quality care for people living with HIV, care that is coordinated across levels and providers throughout the life-course, together with ways of measuring and auditing performance	Percentage of countries with adopted national protocol or guidelines for HIV and co-morbidity management or alternatively adopt relevant regional or global guidelines if a national one is not yet available	Structural	Public health	Number of countries with adopted national or relevant regional or global protocol or guidelines for HIV and co-morbidity management	Number of European countries	90%	National focal points for HIV

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