



World Health
Organization

CONSOLIDATED GUIDELINES ON
**PERSON-CENTRED
HIV PATIENT MONITORING
AND CASE SURVEILLANCE**

ANNEX 2.5
SI INDICATORS WITH DATA SOURCED FROM
THE HIV PATIENT MONITORING SYSTEM

JUNE 2017

Annex 2.5 SI indicators with data sourced from the HIV patient monitoring system

In red: Of note, revisions to original SI indicator definitions

Follow-up status includes: ART regimen code, STOP, RESTART, LTF, TO, DEAD (VS) by month (TI/TTO included in facility count but not in national [or electronic system] counts)
1 = Paper-based systems 2 = E-systems, APMR, special studies

KeyInd	IndCode	IndName	IndDesc	IndNum	IndDen	IndToolSource	IndDataElement	IndNote
1	PREV.10	ANC syphilis screening coverage	% of ANC attendees who were tested for syphilis	Number of women attending ANC services within the past 12 months who were tested for syphilis	Number of women attending ANC services within the past 12 months	ANC register	N: Syphilis test results, visit date	
1	PREV.11	ANC syphilis treatment	Treatment of syphilis in seropositive ANC attendees	Number of syphilis-seropositive ANC attendees within the past 12 months who received adequate treatment	Number of syphilis-seropositive ANC attendees within the past 12 months	ANC register	N: Syphilis treatment (IM PCN/1, IM PCN/2, IM PCN/3), visit date D: Syphilis test results, visit date	"Adequate" replaced by "at least one dose of benzathine penicillin 2.4 mU IM" to be consistent with GARPR definition
1	LINK.12	TB prevalence in HIV care	Proportion of people living with HIV started on ART with active TB disease started on ART	Number of persons living with HIV and started on ART during the reporting period who have active TB disease	Number of persons living with HIV started on ART during the reporting period	Numerator: HIV patient card, reconciled with TB BMU register Denominator: ART register	ART start date, Status at start ART, TB status	Measures burden of active TB disease among those newly started on ART REVISED indicator definition to "started on ART" instead of newly enrolled in HIV care
1	LINK.16	ART coverage during TB treatment	Proportion of HIV-positive new and relapse TB patients started on ART during TB treatment	Number of HIV-positive new and relapse TB patients started on TB treatment during the reporting period who are already on ART or started on ART during TB treatment	Total number of HIV-positive new and relapse TB patients registered during the reporting period	TB BMU register, reconciled with ART register	TB status, Date enrolled in HIV care, ART start date, ART follow-up status (date STOPPED ART, date LTF, date RESTARTED ART, (dates TI/TO), date DEAD)	Prompt TB treatment and early ART are critical for reducing mortality. May indicate strength of collaboration between national HIV and TB programmes.
1	LINK.17	TB preventive therapy coverage	Proportion of people living with HIV started on ART who were started on TB preventive therapy	Number of people living with HIV started on ART who are started on treatment for latent TB infection during the reporting period	Total number of persons started on ART (registered in the ART register) during the reporting period	ART register	ART start date, IPT start date	Treatment of latent TB infection reduces the burden of TB in people living with HIV REVISED indicator definition to "started on ART" instead of newly enrolled in HIV care

1	LINK.27	Hepatitis B screening	% of people in HIV care who were screened for hepatitis B	Number of people initiated on ART who were screened for hepatitis B during the reporting period using HBsAg tests	Number of people initiated on ART during the reporting period	ART register	Numerator: Other investigations, hepatitis status, ART start date	Monitors extent and trends of HBV screening in HIV+ population, important for treatment; newly added hepatitis status data element in HIV patient card and ART register (for screening only) REVISED indicator to read "initiated on ART" instead of "in HIV care"
1	LINK.28	Hepatitis C screening	% of people in HIV care who were screened for hepatitis C	Number of adults and children initiated on ART who were screened for hepatitis C during the reporting period using HCV antibody tests	Number of adults and children initiated on ART during the reporting period	ART register	Numerator: Other investigations, hepatitis status, ART start date	Monitors extent and trends of HCV screening in HIV+ population, important for treatment; see comments above for LINK.27
1	ART.1	New ART patients	Number of people living with HIV who initiate ART	Number of people living with HIV who initiated ART within the past 12 months	n/a	ART register	ART start date	Measures overall scale-up of ART programme PROXY for LINK.3 Enrolment in care
1	ART.3	ART coverage 2	% of people living with HIV who are receiving ART	Number of people living with HIV who are currently receiving ART	Number of people living with HIV	Numerator: ART register Denominator: Modelling estimates	N: ART start date, Date enrolled in HIV care, ART start date, ART follow-up status (date STOPPED ART, date LTF, date RESTARTed ART, (dates T1/T0), date DEAD) (follow-up status $\neq$ DEAD, (T0), LTF)	Measures ART coverage PROXY for LINK.2 HIV care coverage
1	ART.4	Late ART initiation	% of HIV positive people who initiate ART with a CD4 count of <200	Number of HIV-positive adults initiating ART within the past 12 months with baseline CD4 count of <200	Number of HIV-positive adults initiating ART within the past 12 months who have a baseline CD4 count	ART register	ART start date, CD4 at start of ART	Measures late initiation of ART, indicator of equity in enrolment Removed " , and ≤ 350 " and revised to " <200 " in line with Waldrop et al. 2016 advanced disease definition.

KeyInd	IndCode	IndName	IndDesc	IndNum	IndDen	IndToolSource	IndDataElement	IndNote
1	ART.5	ART retention	% of people living with HIV and on ART who are retained on ART 12 months after initiation (also 24, 36, 48, 60, etc. months)	Number of ART patients alive and on ART 12 months (or 24, 36, 48, 60, etc. months) after initiating ART	Number of patients initiating ART up to 12 months (or 24, 36, 48, 60, etc. months) before the beginning of the reporting year (including those who have died, stopped or are lost to follow up since starting ART as of month 12 (or 24, 36, etc.))	ART register, ART cohort report	ART start date, ART follow-up status (date STOPped ART, date LTF, date RESTARTed ART, (dates TI/TO), date DEAD)	Removed 36, 48 months from global reporting requirements per GARPR, but left for subnational
1	ART.6	Short-term ART outcomes	% of ART patients with specific outcomes at 12 months	Number of ART patients with specific outcomes 12 months after initiating ART; on first-line ART; dead; LTF; stopped ART	Number of patients initiating ART in the 12 months prior to the beginning of the reporting period	ART register, ART cohort report	ART start date, ART follow-up status (date switched to 2 nd -line ARV regimen, date LTF, date STOPped ART, date RESTARTed ART, (dates TI/TO), date DEAD)	Measures 12-month retention with more detail on outcomes RENAMED to "Short-term ART outcomes" Removed "on second-line ART" as outcome May be measured at later time points
1	VLS.3	Viral load suppression	% of people living with HIV and on ART who are virologically suppressed	Number of people living with HIV and on ART who have a suppressed viral load (<1000 copies/mL) during the reporting period	Population level: Number of people living with HIV receiving ART at the end of the reporting period Programme-based: Number of people on ART who had a VL measurement during the reporting period	Lab register, ART register, cross-sectional report	ART follow-up status (date STOPped ART, date LTF, date RESTARTed ART, (dates TI/TO), date DEAD), VL	Measures viral load suppression, the gold standard for ART adherence, using routine and not episodic viral load testing. If viral-load testing coverage is less than 75% of those receiving antiretroviral therapy in the reporting year, results should be interpreted with caution (UNAIDS). REVISED numerator and programme-based denominator to read "during the reporting period" REVISED population-level denominator to be consistent with GARPR definition (also ART.3).

1	MTCT:1	PMTCT testing coverage	% of pregnant women with known HIV status	Number of pregnant women attending ANC and/or who had a facility-based delivery who were tested for HIV during pregnancy or already knew they were HIV+	Programme-based: Number of pregnant women who attended ANC or had a facility-based delivery in the past 12 months	ANC, L&D registers	HIV status at enrolment into ANC/admission to L&D, HIV test result, date of delivery	Measures whether women received ART during pregnancy Removed "during the MTCT risk period" from the numerator to be consistent with GARPR 3.1
1	MTCT:2	PMTCT ART coverage	Number and % of HIV-positive pregnant women who received ART during pregnancy	Number of HIV-positive pregnant women who delivered within the past 12 months and received ART	Population-based: number of HIV-positive pregnant women who delivered within the past 12 months Facility-based: number of HIV-positive pregnant women who delivered within the past 12 months and attended ANC or had a facility-based delivery	Numerator: ART register, ANC register, L&D register	ART start date, pregnancy status, EDD, date of delivery, HIV status at enrolment into ANC/admission to L&D, HIV test result	
1	MTCT:4	Coverage of infant ARV prophylaxis	% of HIV-exposed infants who initiated ARV prophylaxis	Number of HIV-exposed infants born within the past 12 months who were started on ARV prophylaxis at birth	Population-based: number of HIV-positive pregnant women who delivered within the past 12 months Facility-based: number of HIV-positive pregnant women who delivered in a facility within the past 12 months	L&D and HEI registers	Numerator: DoB, ARV drugs dispensed: regimen, date infant ARV prophylaxis dispensed Facility-based denominator: Date of delivery, HIV status at admission to L&D, HIV test result	Measures effectiveness of PMTCT prong 3 (risk of MTCT in immediate postpartum period)
1	MTCT:6	Coverage of early infant diagnosis	% of HIV-exposed infants receiving a virological test for HIV within 2 months of birth	Number of HIV-exposed infants born within the past 12 months who received a virological HIV test within 2 months of birth	Number of HIV-positive women who delivered within the past 12 months (proxy measure for the number of infants born to HIV-infected women)	Numerator: HEI register	HEI DoB, HIV test type, infant HIV test sent, infant HIV test result	Measures early infant HIV diagnosis critical for prompt treatment or counselling REVISE numerator definition of HTS.5 to read the same as MTCT.6 (currently numerator does not include "virological" before HIV testing)

KeyInd	IndCode	IndName	IndDesc	IndNum	IndDen	IndToolSource	IndDataElement	IndNote
1	MTCT.9	CTX prophylaxis coverage	% of HIV-exposed infants started on CTX prophylaxis within 2 months of birth	Number of HIV-exposed infants born within the past 12 months started on CTX within 2 months of birth	Number of HIV-positive women who delivered within the past 12 months	Numerator: HEI register	HEI DoB, age in weeks/ months started CTX	CTX essential for reducing OIs and other bacterial infections. Can be proxy for HEI follow up. May want to consider making this a subset of LINK.7 (currently, guidelines are for HEI 4–6 weeks, which is a bigger subset than MTCT.15)
2	LINK. 5	TB screening coverage in HIV care	Proportion of people in HIV care (including PMTCT) who were screened for TB in HIV care and treatment settings	Number of HIV-positive people enrolled in HIV care in the past 12 months whose TB status was assessed and recorded at last visit during the reporting period	Number of HIV-positive people enrolled in HIV care within the past 12 months	Numerator: ART register Denominator: ART register	Follow-up TB status(=Y), Date enrolled in HIV care/ART start date, ART follow-up status (date STOPPED ART, date LTF, date RESTARTED ART, (dates TI/TO), date DEAD) (follow-up status ≠ DEAD, TO, LTF)	Measures TB screening coverage
2	LINK. 7	CTX coverage	% of eligible HIV-positive individuals who received CTX	Number of eligible HIV-positive individuals who received CTX	Number of HIV-positive individuals enrolled in HIV care who are eligible for CTX	HIV patient card, enrolment and ART registers	CTX, clinical stage , CD4, TB status, age/DoB	Measures CTX prophylaxis coverage (specific populations only) Annual review or sample of sentinel sites Recommend integrating MTCT.9 if possible. LINK.22 comes from TB monitoring system. NOTE: routine clinical stage is no longer a recommended data element
2	LINK.11	Timely linkage from diagnosis to treatment among children under 5 years of age	% of children under age 5 years who initiated ART within 1 month after diagnosis	Number of children under age 5 years living with HIV who initiated ART within 1 month after diagnosis within the reporting period	Number of children under 5 years living with HIV who initiated ART within the reporting period	Numerator: HIV patient card Denominator: ART register Both reconciled with HEI register	Age/DoB, visit date, ART start date, unique ID, date confirmed HIV+ HEI register: date HIV infant test sent, HIV infant test result	Measures ability of programme linkages for HIV-positive children

KeyInd	IndCode	IndName	IndDesc	IndNum	IndDen	IndToolSource	IndDataElement	IndNote
2	LINK.21	TB diagnostic test for people living with HIV	Proportion of people living with HIV having TB symptoms who receive a rapid molecular test (e.g. Xpert MTB/RIF) as a first test for diagnosis of TB	Total number of people living with HIV having TB symptoms who were investigated using a rapid molecular test (e.g. Xpert MTB/RIF) as a first test	Number of people living with HIV and having TB symptoms identified through intensified case-finding at HIV care and treatment facilities during the reporting period	HIV patient card, laboratory register for smear microscopy and Xpert MTB/RIF	HIV patient card: TB status, other investigations; ART register: follow-up TB status	Xpert MTB/RIF is recommended by WHO as a more sensitive and specific diagnosis of pulmonary TB among people living with HIV
2	LINK.23	TB preventive therapy completion	Proportion of people living with HIV who complete the course of TB preventive therapy	Total number of persons who completed the course of treatment for latent TB infection during the reporting period	Total number of persons in HIV care who were newly started on treatment for latent TB infection 12 to 15 months earlier	ART register, HIV patient card, latent TB infection treatment register (if available)	TB preventive therapy start date; TB preventive therapy completion date	Indirectly measures effectiveness of adherence support mechanisms, important for prevention of active TB in people living with HIV May be labour-intensive unless latent TB infection register available or TB preventive therapy generally initiated at start ART, collected through periodic review
2	LINK.24	Early ART for HIV-positive TB patients	Proportion of HIV-positive new and relapse TB patients started on ART within 8 weeks of TB diagnosis	Total number of HIV-positive new and relapse TB patients started on ART within 8 weeks of TB diagnosis	Total number of HIV-positive [not on ART] new and relapse TB patients detected during the reporting period	HIV patient card or ART register, reconciled with TB register	ART start date, TB status	ART greatly improves survival and quality of life of TB patients living with HIV May be labour-intensive. As countries move towards "treat all", this indicator may no longer be a priority, but may still be collected through periodic review for quality of care
2	LINK.25	Early ART for profoundly immunosuppressed HIV-positive TB patients	Proportion of HIV-positive new and relapse TB patients having profound immunosuppression (CD4 cell count <50) who are started on ART within 2 weeks of TB diagnosis	Total number of HIV-positive new and relapse TB patients having CD4 cell count <50 who are started on ART within 2 weeks of TB diagnosis	Total number of HIV-positive new and relapse TB patients detected during the reporting period having CD4 cell count <50	HIV patient card or ART register	ART start date, TB status, CD4	ART greatly improves survival and quality of life of TB patients living with HIV This is a subset of LINK.24 – see notes for LINK.24
2	ART.7	ART adherence proxy	% of ART patients who pick up all prescribed ARV drugs on time	Number of patients who pick up all prescribed ARV drugs no more than 2 days late at the first pick-up after a defined baseline pick-up	Number of patients who picked up ARV drugs on or after the designated sample start date	Pharmacy records, HIV patient card	Visit date, dose of ARV drugs dispensed, number of days of pills dispensed, ARV regimen dispensed, number of days of remaining pills, if available and routinely ascertained and recorded	Early warning indicator to evaluate population-level ARV adherence If sample of records used, age disaggregation may need more careful interpretation

KeyInd	IndCode	IndName	IndDesc	IndNum	IndDen	IndToolSource	IndDataElement	IndNote
2	ART.8	Viral load testing coverage	% of people on ART with VL results at 12 months after ART initiation	Number of people living with HIV and on ART with VL test results available at 12 months	Number of people alive and on ART at 12 months	Lab register, ART register, ART cohort report	ART start date, ART follow-up status (date STOPped ART, date LTF, date RESTARTed ART (dates T1/T0), date DEAD), VL	Measures viral load testing coverage Removed caveat to exclude those who did not have a VL result from the denominator. REVISED denominator to reflect numerator (and equivalent to numerator of ART.5)
2	ART.9	Viral load suppression at 12 months after initiation	% of people living with HIV and on ART who have virological suppression at 12 months after initiating treatment	Number of people on ART living with HIV who initiated ART 12 months (± 3 months) before the start of the reporting period and who have a suppressed viral load (<1000 copies/mL) at 12 months after initiating ART	Population-level: number of patients initiating ART in the 12 months (± 3 months) prior to the beginning of the reporting year Programme-based and HIVDR EWI denominator: number of patients initiating ART and who received a viral load test result 12 months (± 3 months) prior to the beginning of the reporting year	ART register, ART cohort report (or HIVDR surveillance survey where not routinely available – ART.15)	ART start date, VL	Measures cohort-based viral load suppression For EWI, disaggregation not necessary and EXCLUDES those who do not have VL result at 12 months in the denominator ADDED programme-based/HIVDR EWI denominator as with VLS.3 REVISED numerator to match numerator of ART.5: at 12 months (± 3 months) (present in both N+D for ART.15 [HIVDR] and VLS.1).
2	ART.11	ART survival	% of people living with HIV who are alive at 12, 24, 36 months, etc. after initiation	Number of people living with HIV alive and on ART at 12, 24, 36, etc. months after initiating ART	Number of people initiating ART up to 12, 24, 36, etc. months prior to the beginning of the reporting year	ART register, ART cohort report	ART start date, ART follow-up status (date STOPped ART, date LTF, date RESTARTed ART, (dates T1/T0), date DEAD)	Measures true survival among ART patients Requires special study/survey to recategorize patients initially labelled LTF. Special subset of ART.5 REVISED numerator to include “and on ART”. Otherwise does not measure survival among patients on ART, but survival among ART initiators

2	ART.12	Toxicity prevalence	% of ART patients with treatment-limiting toxicity	Number of people living with HIV and on ART in the past 12 months who substituted regimen due to toxicity	Number of people living with HIV who are currently receiving ART	HIV patient card, ART register	ART start date, ART follow-up status (date STOPPED ART, date LTF, date RESTARTED ART, (dates TI/TO), date DEAD), ARV regimen, date substituted (within 1st-, 2nd-, 3rd-line regimen), reason substituted, toxicity/serious drug reaction, number of missed doses, reason for poor adherence	Measures impact of toxicities on treatment outcomes and guides national policy REVISED numerator to include those who have substituted regimen only (toxicity no longer included as reason for STOP or SWITCH) REVISED denominator to be consistent with numerator of ART3
2	VLS.4	Viral load monitoring	% of people living with HIV and on ART who obtained at least one VL test result during the past 12 months	Number of people living with HIV and on ART who have obtained at least one VL test result during the past 12 months	Number of people living with HIV and on ART at the end of the reporting period	ART register, cross-sectional report, ART cohort report	ART start date, ART follow-up status (date STOPPED ART, date LTF, date RESTARTED ART, (dates TI/TO), date DEAD), VL	Essential for interpreting VLS.3 REVISED denominator to include only cross-sectional version and removed "who had VL measured" to render it useful for interpreting VLS.3 (cohort-based denominator was not consistent with numerator). It now equals the population-level denominator of VLS.3
2	MTCT.3	Early ART retention (of pregnant and breastfeeding women)	% of HIV-positive pregnant and breastfeeding women retained on treatment at 1 and 6 months after initiating ART	Number of HIV-positive pregnant and breastfeeding women who are on ART at 1 and 6 months after initiating ART (if initiated ART after becoming pregnant)	Number of HIV-positive pregnant and breastfeeding women who initiated ART 1 and 6 months prior to the beginning of the reporting period (including those who are dead, stopped ART or lost to follow up at 1 and 6 months)	ART register, cohort-report	ART start date, pregnancy/breastfeeding status at ART start, ART follow-up status (date-STOPPED ART, date LTF, date RESTARTED ART, (dates TI/TO), date DEAD)	Measures retention among pregnant women newly initiating ART (key population due to maximizing PMTCT during risk period) REVISED numerator and denominator definitions to include breastfeeding women, merged with MTCT.17 to include at 1- and 6-month time points May need to aggregate ART register tallies across service delivery points (MCH). Subset of-ART.5 ART retention

KeyInd	IndCode	IndName	IndDesc	IndNum	IndDen	IndToolSource	IndDataElement	IndNote
2	MTCT.5	ARV coverage for mothers of breast-feeding infants	% of HIV-exposed breastfeeding infants whose mothers are receiving ART at 3 months (and 12 months) postpartum	Number of HIV-exposed breastfeeding infants born within the past 12 months whose mothers are receiving ART at 3 months (and 12 months) postpartum	Population-based: estimated number of HIV-exposed infants breastfeeding at 3 months (and 12 months) (including the estimated number of infants not attending clinic and who are still breastfeeding) Programme-based: number of identified HIV-exposed infants born within the past 12 months who are breastfeeding at 3 months (and 12 months) of age	Numerator: HIV patient card, (ART register, HEI register) Programme-based denominator: HEI register (ART register)	HEI DoB, ART start date, infant-feeding practice at 3 and 12 months (maternal ART, pregnancy/BF status)	Measures risk of transmission through breastfeeding REVISED indicator name to specify ARV coverage for "mothers of" ... May include maternal ART data elements on HEI register to facilitate collection, or pregnancy/BF status in ART register
2	MTCT.8	Final outcome status	% distribution of HIV-exposed infants by final outcome status	Number of HIV-exposed infants who reached 18 months in the last calendar year with various final outcome statuses	Number of HIV-exposed infants who reached 18 months in the last calendar year	HEI register	HEI DoB, final status	Measures ability of programme to follow up HEI REVISED numerator and denominator to be consistent and to rather include HEI who reached 18 months in the last calendar year
2	MTCT.15	Infant ART initiation	% of identified HIV-positive infants who initiated ART by 12 months of age	Number of infants started on ART by 12 months of age	Number of infants identified as HIV-positive by 12 months of age	Numerator: ART register (HEI register) Denominator: HEI register	Numerator: DoB, ART start date Denominator: DoB, date infant HIV test sent, infant HIV test result (date positive HIV test confirmed)	Quality-of-care indicator measuring extent of diagnosis and ART initiation when HIV-infected infants are most at risk of death In a paper-based system, easier to get numerator and denominator from one source – the HEI register, rather than extracting as a subset from ART register (LINK.11) – may add ART start date to HEI register

2	MTCT.17	Early retention rate	% of pregnant or breastfeeding women on ART at 1 month and 6 months after initiating ART	Number of pregnant or breastfeeding women on ART still alive and on treatment at 1 and 6 months after initiating ART	Number of pregnant or breastfeeding women who initiated ART 1 or 6 months prior to the beginning of the reporting period	ART register	Reproductive/ family planning choice (current pregnancy/ breastfeeding status), ART start date, ART follow-up status (date STOPPED ART, date LTF, date RESTARTED ART, (dates T1/T0), date DEAD), status at start ART	May be collected from a sample of patients, measures early retention of lifetime ART in this subpopulation Merged with MTCT.3: ART at 1-, 6-month time points Included pregnancy/BF status as part of follow up in ART register to facilitate data collection
---	---------	----------------------	--	--	--	--------------	--	---