ASSESSMENT OF SITUATION AND RESPONSE OF DRUG USE AND ITS HARMS IN THE MIDDLE EAST AND NORTH AFRICA 2024

2025

Prepared By

MENAHRA

SCALING UP HARM REDUCTION IN MENA

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NOTE ON COUNTRY COVERAGE AND REPORTED FIGURES

This report relies on secondary data, including estimated prevalence figures for people who use drugs (PWUD), people living with HIV (PLHIV), and people who inject drugs (PWID) in the MENA region. These figures are sourced from published reports, including the most recent meta-analyses available for the region, as well as reports from global organizations such as HRI, UNODC, UNICEF, UNAIDS, and WHO. It is important to emphasize that the reported estimates points were not generated by this report but are cited from existing literature.

The true magnitude and prevalence of substance use in the Arab world remain undocumented for several reasons. First, many Arab countries lack recent or comprehensive data on substance use and abuse. Second, the classification of Arab countries alongside non-Arab Asian countries by global organizations like the World Health Organization (WHO) and the United Nations Office on Drugs and Crime (UNODC) complicates regional analysis.[1] Arab countries are typically included in the WHO's "Eastern Mediterranean Region," which also encompasses non-Arab nations such as Afghanistan, Iran, and Pakistan, while excluding some Arab countries like Algeria, Mauritania, and Comoros.[2] Similarly, the UNODC classifies Arab countries under the "Near and Middle East/South-West Asia" category, grouping them with non-Arab countries such as Iran and Pakistan.[3] These categorizations can distort regional analysis and potentially mislead policymakers and researchers, as Arab countries differ significantly in culture, policy frameworks, and resources compared to the non-Arab nations included in these groupings.

Consequently, the data presented in the tables within this report are derived from multiple sources to address data gaps, particularly when relying on information from global organizations. This approach helps to provide a more comprehensive perspective, although it reflects the inherent challenges posed by differing classifications and limited regional data.

[1] Alharbi, F. F., Alsubaie, E. G., & Al-Surimi, K. M. (2021). Substance abuse in the Arab world: Does it matter and where are we? In I. Laher (Ed.), *Handbook of healthcare in the Arab world* (pp. [insert page numbers if available]). Springer, Cham. https://doi.org/10.1007/978-3-319-74365-3_179-1

[2] Ibid

[3] Ibid

ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
AAS	Anabolic Androgenic Steroid
ATS	Amphetamine-Type Stimulant
BBS	Bio-Behavioral Survey
BBSS	Bio-Behavioral Surveillance Survey
BBV	Blood-Borne Virus
BMT	Buprenorphine Maintenance Treatment
CI	Confidence Interval
COVID-19	Corona Virus Disease 2019
CSO	Civil Society Organization
CSW	Commercial Sex Worker
DCR	Drug Consumption Room
EMRO	Eastern Mediterranean Regional Office (World Health Organization)
FSW	Female Sex Worker
GARPR	Global AIDS Response Progress Report
GBV	Gender based violence
GCC	Gulf Cooperation Countries
GF	The Global Fund
GINAD	Global International Network About Drugs
GNI	Gross National Income
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HR	Harm Reduction
HRI	Harm Reduction International
HTS	HIV Testing Services
IBBS	Integrated Bio-Behavioral Survey
IDU	Injecting Drug Use
IEC	Information Education Communication
INCB	International Narcotics Control Board
KAP	Knowledge, Attitudes, and Practices
KP	Key Population
LGBT	Lesbian, Gay, Bisexual, Transsexual
MDMA	methylenedioxymethamphetamine (ecstasy)
MENA	Middle East and North Africa
MENAHRA	Middle East and North Africa Harm Reduction Association
MMT	Methadone Maintenance Treatment
MOH	Ministry of Health
MOPH	Ministry of Public Health
MSM	Men who have Sex with Men

MSW	Male Sex Worker
NA	Not Available
NACC	National AIDS Control Committee
NACP	National AIDS Control Program
NAP	National AIDS Program
NASP	National AIDS Strategic plan
NGO	Non-Governmental Organization
NPS	Novel Psychoactive Substance
NRC	National Rehabilitation Center
NSP	Needle/ Syringe Program
OAT	Opioid Agonist Treatment
OST	Opioid Substitution Therapy
OTC	Over The Counter
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission
PREP	Pre-Exposure Prophylaxis
PWID	People Who Inject Drugs
PWUD	People Who Use Drugs
ROMENA	Regional Office for Middle East and North Africa - UNODC
SBIRT	Screening Brief Intervention and Referral for Treatment
SOP	Standard Operating Procedures
STI	Sexually Transmitted Infection
TB	Tuberculosis
TC	Therapeutic Community
TG	Transgender
TGSW	Transgender Sex Worker
UAE	United Arab Emirates
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNODC	United Nations Office on Drugs and Crime
UNRWA	United Nations Relief and Work Agency
WHO	World Health Organization
WLHIV	Women Living with HIV

LIST OF TABLES

EXECUTIVE SUMMARY

The MENA region is currently experiencing significant political instability, with major crises impacting the region's public health and governance structures. The fall of the Assad regime in Syria, ongoing conflicts in Lebanon and Palestine, the protracted war in Yemen, and persistent instability in Iraq have resulted in widespread displacement, weakened state control, and disrupted healthcare systems. These political and social upheavals exacerbate the region's existing public health challenges, including substance use and HIV. The ongoing power vacuums and lawlessness in conflict zones have created fertile ground for the production and trafficking of drugs such as Captagon and opioids, which are now increasingly accessible to vulnerable populations, including displaced individuals. At the same time, the limited access to healthcare and harm reduction services, and the region punitive drug laws and policies has heightened the risk of HIV transmission, particularly among people who inject drugs (PWID) and other key populations such as sex workers and men who have sex with men (MSM).

This report aims to present an in-depth analysis of the current drug use situation and its related harms in the MENA region, encompassing 20 countries: Afghanistan, Algeria, Bahrain, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, the UAE, and Yemen. The analysis is based on the 2024 assessment, which closely follows the methodology used in the 2021 situation assessment, with a key difference being the exclusion of Key Informant Interviews (KIIs) due to time constraints. The assessment relied heavily on a comprehensive desk review, incorporating a scoping review methodology that included multilingual searches, focusing on data from 2017 to 2024, and drawing from diverse sources such as academic databases, UN publications, reports from international and regional NGOs, and insights from recent international meetings and seminars.

The findings from this assessment highlight several critical trends and challenges. Drug use in the region continues to evolve, with synthetic drugs such as Captagon and methamphetamine becoming increasingly prevalent. Captagon production, particularly in Syria, has fueled regional instability, and trafficking routes have extended to neighboring countries like Iraq, Jordan, and the Gulf states. Methamphetamine use, known as "Shabu" or "Al-Shaboo," has also surged, with the UAE accounting for nearly half of regional confiscations in recent years. Cannabis remains the most widely used drug, followed by opioids and prescription drug misuse. The prevalence of injecting drug use (IDU) remains a significant concern, with an estimated 320,000 PWID in the region, putting them at high risk for HIV and hepatitis C (HCV). Risk behaviors such as syringe sharing and non-fatal overdoses are common among PWID, and access to harm reduction services, such as naloxone for opioid overdoses, remains limited.

The region's bloodborne virus (BBV) burden is also high, with HIV, hepatitis B (HBV), and hepatitis C (HCV) continuing to pose major public health threats. Despite global progress in reducing new HIV infections, the MENA region remains one of the few areas where new HIV cases are on the rise. Between 2015 and 2022, new HIV infections in the region increased by 43%, with several countries, including Algeria, Egypt, Iran, Saudi Arabia, and Sudan, accounting for the majority of these cases. While hepatitis B and C remain significant public health concerns, with the MENA region having the world's highest HCV prevalence, access to testing and treatment remains critically low in many countries, with substantial disparities in service availability and coverage.

In terms of harm reduction, the response remains limited, with only nine countries in the region offering needle-syringe programs (NSPs) and 11 countries providing opioid agonist therapy (OAT) as of 2024. These services are insufficient, and cultural and socio-political barriers such as stigma, discrimination, and religious opposition significantly hinder their effectiveness. While some countries, such as Lebanon, Iran, and Morocco, have incorporated harm reduction measures into national HIV strategic plans, implementation is weak, with limited access to these services in both community and prison settings. This is compounded by restrictive drug laws and budgetary constraints that impede the scaling up of harm reduction services.

The report also highlights the essential role of NGOs and civil society organizations (CSOs) in the MENA region's response to drug use and HIV. Despite facing legal, financial, and social challenges, organizations such as MENAHRA, MENAROSA, and MCoalition continue to provide critical services for key populations in countries like Morocco, Lebanon, and Iran. However, restrictive environments in countries such as Bahrain, Libya, and Saudi Arabia limit the effectiveness of these NGOs, while resource constraints in Egypt, Yemen, and Pakistan challenge their sustainability.

To address the growing challenges of substance use and HIV in the MENA region, several key strategies should be prioritized. These include the expansion of harm reduction services, particularly needle-syringe programs (NSPs) and opioid agonist therapy (OAT), in both community and prison settings. Targeted HIV prevention and treatment efforts should focus on high-risk populations, including PWID, sex workers, and MSM, with an emphasis on improving access to HIV testing, pre-exposure prophylaxis (PrEP), and antiretroviral therapy (ART). Legal reforms are essential to decriminalize drug use, reduce stigma, and create a supportive environment for treatment and prevention. Public education campaigns aimed at reducing stigma and raising awareness about HIV and substance use should be launched in countries with high stigma levels.

In addition, there is an urgent need to strengthen healthcare infrastructure, particularly in underserved and conflict-affected regions, and to improve surveillance systems to monitor trends in drug use and HIV prevalence. Addressing the underlying social and economic factors contributing to substance use, such as mental health issues and poverty, is also critical for the region's response. Finally, improved data collection and research are essential for guiding evidence-based interventions and better allocation of resources, ensuring that programs are tailored to the region's unique needs and challenges. By focusing on these recommendations, the MENA region can make significant strides in improving the public health response to drug use and HIV, reducing the burden of these interconnected issues, and ultimately improving the health and well-being of vulnerable populations across the region.

BACKGROUND

Global Situation on Drugs

The UNODC World Drug Report 2024 highlights the significant global increase in drug use, production, and trafficking, alongside the profound health, social, and economic impacts of the drug trade.[4] What follows is the global situation on Drugs as highlighted by UNODC (2024).

In 2022, 292 million people—or 1 in 18 globally—used drugs, representing a 20% increase over the past decade. Cannabis remained the most widely used drug, with 228 million users, while opioids were used by 60 million people, half of whom used opiates. Stimulants such as cocaine and "ecstasy" saw a resurgence following declines during the COVID-19 pandemic, contributing to rising drug use. The diversity of substances has expanded, making polydrug use increasingly common and complicating consumption patterns.

The consequences of drug use are severe, with opioids accounting for the largest global disease burden and two-thirds of drug-related deaths, driven largely by synthetic opioids like fentanyl. 64 million people—or 1 in 81 worldwide—suffered from drug use disorders in 2022, marking a 3% increase since 2018, yet only 1 in 11 accessed treatment.

The same report indicated that harmful use of cannabis among adolescents is a growing concern across various regions. In North America, while daily cannabis use among adolescents has remained stable, there has been an increase in the regular vaping of cannabis. In Canada and Colorado, hospitalizations related to cannabis use have risen, especially cases of cannabis-induced psychosis and withdrawal, disproportionately affecting young adults. The availability of cannabis products such as vapes, concentrates, and edibles following legalization has potentially contributed to an overall increase in health-related harms. Additionally, young men have been identified as a high-risk group for synthetic drug use, influenced by factors such as peer pressure, easy access to synthetic substances, and the pursuit of enhanced performance.

Among the 13.9 million people who inject drugs, 1 in 8 live with HIV, and nearly half are infected with hepatitis C, making unsafe injection a significant driver of global hepatitis C epidemics. Liver diseases caused by hepatitis C account for more than half of drug-related deaths, emphasizing the critical health burden. Women, representing 20% of drug users, face heightened barriers to treatment and are disproportionately affected by pharmaceutical opioids and methamphetamine.

On the production side, **cocaine production reached a record 2,757 tons** in 2022, with Western and Central Europe and Africa emerging as significant hubs. Methamphetamine production has surged, particularly in East and South-East Asia, with growing markets in the Middle East and

[4] United Nations Office on Drugs and Crime. (2024). *World Drug Report 2024*. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR_2024_SPI.pdf

South-West Asia. In contrast, opium cultivation experienced a 74% reduction in 2023, largely due to the Taliban's ban on cultivation in Afghanistan. The digital drug trade continues to expand, with traffickers leveraging social media, darknet platforms, and cryptocurrencies to reach broader markets and evade law enforcement. The environmental impacts of drug production, such as deforestation, chemical waste, and soil degradation, are also becoming increasingly significant.

In 2022, approximately 7 million people worldwide were formally in contact with law enforcement for drug-related offences. Significant regional differences exist in the handling of drug offences: globally, individuals arrested for drug trafficking are more likely to be prosecuted and convicted than those arrested for drug use or possession. However, in regions such as Africa and Asia, the reverse is observed, with higher prosecution and conviction rates for drug use or possession offences.

Europe has the highest rates of arrests, prosecutions, and convictions for drug trafficking and use or possession, while the Americas report one of the highest arrest rates for drug use or possession, second only to Europe. Notably, men accounted for approximately 90% of those arrested for drug-related offences in 2022, with women representing 9% of those arrested for trafficking and 12% for use or possession.

Recent legislative shifts further highlight the complexities of global drug policy. As of January 2024, Canada, Uruguay, and 27 jurisdictions in the United States have legalized the production and sale of cannabis for non-medical use. European countries such as Germany, Luxembourg, and Malta have adopted regulated access, while others, like the Netherlands and Switzerland, are conducting experimental trials. Legalization trends have accelerated harmful cannabis use in certain jurisdictions, as evidenced by rising hospitalizations and psychiatric disorders. Simultaneously, illegal cannabis markets have contracted in some areas, and arrests for cannabis-related offences have decreased in the United States, though racial disparities persist.

Interest in the therapeutic potential of psychedelics for treating mental health disorders has surged, leading to clinical trials and policy changes in high-income countries. The use of psychedelics for medical or "quasi-therapeutic" purposes is now permitted in Australia, Canada (in one jurisdiction), and parts of the United States. However, rapid policy shifts risk outpacing scientific evidence, raising concerns about public health impacts and unsupervised drug use.

Global Response

In March 2024, the United Nations Commission on Narcotic Drugs (CND), during its 67th session, adopted a landmark Resolution that, for the first time, acknowledged harm reduction as a crucial approach to saving lives, protecting human rights, and improving public health.[5] Despite its cost-

[5] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

effectiveness, harm reduction efforts face significant barriers due to criminalization, stigma, and the lack of cultural shifts in attitudes toward people who use drugs.[6]

According to UNODC (2024) [7]newly available estimates, only about 1 in 11 people with drug use disorders received drug treatment globally in 2022, a decrease from 2015. The treatment gap is widest in Africa and Asia, where drug treatment coverage was 2.8 per cent and 5.1 per cent respectively in 2022. Drug-related treatment coverage is lower among women than among men in all five global regions. Some 1 in 18 women with drug use disorders received treatment globally in 2022, while the ratio was 1 in 7 in the case of men.[8]

The Global State of Harm Reduction 2024[9] published by Harm Reduction International, offers a comprehensive analysis of harm reduction responses worldwide, identifying critical regional disparities and neglected populations. The report notes that 108 countries now incorporate harm reduction in their national policies. This includes 11 countries across four regions: Eastern and Southern Africa (Ethiopia, Malawi, Mozambique, and Zimbabwe); Latin America and the Caribbean (Brazil, Chile, and Costa Rica); West and Central Africa (Cameroon, São Tomé and Príncipe, and Togo); and Asia (Cambodia). However, harm reduction could no longer be confirmed in eight countries where it was previously documented: Dominican Republic, Ghana, Libya, Oman, Philippines, Samoa, Syria, and Vanuatu.

While the availability of harm reduction services has increased slightly since 2022, significant gaps persist. The number of countries offering at least one needle and syringe programme (NSP) rose from 92 to 93, and opioid agonist therapy (OAT) programmes are now available in 94 countries, up from 88. However, OAT coverage remains inadequate, with fewer than 2% of people who inject drugs accessing it in regions such as Central Asia, Eastern Europe, and parts of Africa. OAT remains prohibited in Russia, despite 90% of the estimated 1.3 million people who inject drugs using opioids. Drug consumption rooms (DCRs) are operational in only 18 countries, including two new additions since 2022: Colombia (where Bogotá opened its first DCR in 2023) and Sierra Leone. Take-home naloxone programmes are available in 34 countries, with Colombia and Lebanon recently added, though availability has changed in India, Mozambique, and South Africa.

Global funding for harm reduction remains precarious, heavily reliant on the Global Fund to Fight AIDS, Tuberculosis, and Malaria, which accounted for 73% of harm reduction funding in 2022. Domestic funding and support for community-led initiatives are severely lacking, with stringent reporting requirements and reduced donor commitments further hindering progress. For

[6] Ibid
[7] United Nations Office on Drugs and Crime. (2024). *World Drug Report 2024*. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR_2024_SPI.pdf
[8] Ibid
[9] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

example, the Uganda Harm Reduction Network reported that at least three donors ended harm reduction funding in Uganda since 2022.

Certain populations, including women, LGBTQI+ individuals, Indigenous peoples, migrants, and incarcerated persons, face compounded barriers to accessing harm reduction services. For instance, harm reduction services in prisons remain critically underprovided. Only 11 countries offer NSPs in at least one prison: Canada in North America; Armenia, Kyrgyzstan, Moldova, Tajikistan, and Ukraine in Eurasia; and Spain, Luxembourg, Germany, and Switzerland in Western Europe. Globally, OAT in prisons is available in at least 60 countries, with major regional disparities.

Geographic disparities also persist. Despite national-level recognition of harm reduction, services often fail to reach people in remote or rural areas. Additionally, the lack of diverse harm reduction services for non-opioid drugs, such as stimulants in Latin America and the Caribbean, underscores the need for tailored interventions.

Despite these challenges, progress has been made, such as harm reduction's inclusion in Colombia and Sierra Leone, and the success of North America's first DCR, Insite in Vancouver, Canada.

International human rights norms, including the Nelson Mandela Rules, affirm the principle of equivalence in healthcare, asserting that people in prison are entitled to the same standard of healthcare as those in the community.[10] This principle extends to harm reduction services, emphasizing their availability, accessibility, quality, and voluntary nature for incarcerated populations.[11]

Despite the heightened risk of infectious diseases and unsafe drug use in prison settings, harm reduction implementation lags significantly behind community-level services.[12] According to the United Nations Office on Drugs and Crime (UNODC) and the World Health Organization (WHO), recommended harm reduction interventions for prisons include needle and syringe programs (NSP), opioid agonist therapy (OAT), naloxone distribution, and other services.[13] However,

[10] United Nations General Assembly. (2015). *United Nations Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules)* (General Assembly Resolution 70/175, Annex, adopted on 17 December 2015, Rule 24(1)). New York, NY: United Nations.
[11] Ibid
[12] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/
[13]United Nations Office on Drugs and Crime & World Health Organization. (2023). *Recommended package of interventions for HIV, viral hepatitis, and STI prevention, diagnosis, treatment, and care for people in prisons and other closed settings: Policy brief*. Vienna, Austria, and Geneva, Switzerland: UNODC/WHO.
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according to IHR 2024 report on the Global State of Harm Reduction services, progress in prison-based harm reduction services has been slow, with little improvement since 2022.[14]

As of 2024, OAT is available in at least one prison in 60 countries, just one more than in 2022. Most programs are concentrated in Western Europe (21 countries) and Eurasia (19 countries), with limited availability in the Middle East and North Africa (6 countries, including Afghanistan, Algeria, Iran, Israel, Lebanon and Morocco), Asia (5 countries), and sub-Saharan Africa (4 countries). Notably, Puerto Rico is the sole provider of prison-based OAT in Latin America and the Caribbean.

NSP is available in at least one prison in 11 countries, an increase from 9 in 2022. These programs are primarily located in Western Europe and Eurasia, with France, Iran, North Macedonia, and Ukraine newly implementing NSPs in at least one prison.

Take-home naloxone programs on release exist in 11 countries, predominantly in Europe and North America, with one initiative in Australia.

Canada has pioneered prison-based overdose prevention sites (OPS), providing sterile syringes and private spaces for drug use, with medical staff available in case of overdose.

Despite these advancements, significant barriers remain. People in prison often fear punishment for drug use or possession, loss of rights or privileges, privacy violations, and stigmatization by staff or peers, which hinder access to harm reduction services. Expanding harm reduction in prisons is essential to addressing health inequities and protecting the right to health for incarcerated populations.

Furthermore, Harm reduction services in prisons are particularly limited for women. Existing prison-based harm reduction programs are predominantly concentrated in facilities for men. Even where such services are available, they are rarely adapted to address the specific needs of women. Similar to challenges faced in the community, women who use drugs encounter heightened stigma and discrimination when attempting to access harm reduction services in many countries.[15]

UNODC World Drug Report (2024)[16] , underscores the urgent need for a balanced and inclusive response that integrates harm reduction, prevention, and treatment with effective law enforcement and international cooperation. Expanding access to harm reduction services, including needle exchange programs and opioid substitution therapy, is critical to addressing the health impacts of drug use. Addressing structural drivers such as poverty, inequality, and lack of

[14] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/
[15] Ibid
[16] United Nations Office on Drugs and Crime. (2024). *World Drug Report 2024*. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR_2024_SPI.pdf

healthcare, coupled with enhanced regulation of synthetic drug production, is essential to mitigating the complex and interconnected harms of the global drug problem. Comprehensive, evidence-based strategies that prioritize public health and sustainable socioeconomic alternatives are vital for addressing these challenges effectively.

Rationale for the 2024 Situation Assessment

The 2024 assessment of drug use and its harms in the MENA region is essential to address the significant challenges posed by diverse drug use patterns, associated harms, and the varying responses across 20 countries, including Afghanistan, Algeria, Bahrain, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, UAE, and Yemen. These countries exhibit substantial differences in geography, demographics, the characteristics of key populations, the prevalence of blood-borne viruses (BBVs) like HIV and hepatitis, and the scale of harm reduction implementation. Rising drug use trends, limited reliable data, and disparities in harm reduction services hinder evidence-based interventions. Key populations, particularly people who inject drugs (PWID), face heightened vulnerabilities, and regional dynamics, such as drug trafficking and migration, exacerbate the challenge. This assessment will provide a comprehensive understanding of the situation, address critical knowledge gaps, and inform effective, context-specific interventions while fostering regional collaboration and aligning with global health priorities, including the Sustainable Development Goals (SDGs). Data on selected country indicators is presented in Table 1.

Table 1 General characteristics of countries in the MENA region

Countries	Total population (1000s) (2019)[17]	Population living in urban areas (%) (2018)[18]	Adult literacy rate (%) (2014- 8)[19]	Life expectancy at birth (years)[1]	Income Group (World Bank 2020 d)[20]	GNI per capita (Int$) (2019)[21]	HDI rank (2020)[22]
Afghanistan	38,042	25·8	43·0	64·5	Low	2,190	169
Algeria							
Bahrain	1,641	89·4	97·5	77·2	High	44,250	42
Egypt	100,388	42·7	71·2	71·8	Lower middle	11,840	116
Iran	82,914	75·4	85·5	70·5	Upper middle	12,950	70
Iraq	39,310	70·7	85·6	76·5	Upper middle	11,310	123
Jordan	10,102	91·2	98·2	74·4	Upper middle	10,520	102
Kuwait	4,207	100	96·1	75·4	High	58,550	64
Lebanon	6,856	88·8	95·1	78·9	Upper middle	14,920	92
Libya	6,777	80·4	NA	72·7	Upper middle	16,130	105
Morocco	36,472	63·0	73·8	76·5	Lower middle	7,680	121
Oman	4,975	85·4	95·7	77·6	High	26,210	60
Pakistan	216,565	36·9	59·1	67·1	Lower middle	4,800	154
Palestine	4,685	76·4	97·2	73·9	Lower middle	7,510	115
Qatar	2,832	99·2	93·5	80·1	High	91,670	45
Saudi Arabia	34,269	84·1	95·3	75·0	High	49,520	40
Syria	17,070	54·8	NA	71·8	Low	NA	151
Tunisia	11,695	69·3	79·0	76·5	Lower middle	10,850	95
UAE	9,771	86·8	93·2	77·8	High	70,430	31
Yemen	29,162	37·3	NA	66·1	Low	3,520	179

[17]World Bank. (2020). Data on population estimates and projections. Retrieved from https://databank.worldbank.org/source/population-estimates-and-projections

[18] World Bank. (2020). Data on urban population. Retrieved from https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?end=2019&start=2015&view=map

[19] World Bank. (2020). Data on literacy rate. Retrieved from https://data.worldbank.org/indicator/SE.ADT.LITR.ZS

[20] World Bank. (2020). World Bank country and lending groups: 2021 definition. Retrieved from https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

[21] World Bank. (2020). Data on GNI per capita. Retrieved from https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

[22] United Nations Development Programme (UNDP). (2020). *Human Development Report 2020*. Retrieved from http://hdr.undp.org/en/content/latest-human-development-index-ranking

Situation Assessment Method

The methodology for the 2024 assessment closely followed the approach used in the 2021 assessment, with one notable difference: Key Informant Interviews (KIIs) were not conducted in 2024 due to time constraints, whereas they were an integral part of the 2021 assessment. All other aspects of the methodology remained consistent with the previous approach.

The 2024 assessment primarily relied on a desk review to collect and analyze data. The focus included topics such as the overall drug situation (trends, patterns, and injection practices); drug laws and policies; the HIV epidemic among key populations (KVP); and the prevalence and infections of HBV and HCV among people who inject drugs (PWID). Additionally, it examined harm reduction responses and the involvement of NGOs across countries in the MENA region, including Afghanistan, Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Pakistan, Qatar, Saudi Arabia, Syria, Tunisia, the United Arab Emirates (UAE), and Yemen.

The assessment utilized a scoping review methodology, including:

- Multilingual Literature Review: Searches were conducted in English, Arabic, and French, focusing on data from 2017 to 2024, with an emphasis on the years 2022–2024.
- Use of MeSH Terms: Terms used in the 2021 assessment were matched with MENA countries to guide the search.
- Data Sources: Data was retrieved from:
    - Academic databases: Liverpool John Moores University, PubMed Medline (via Ovid), EMBASE, Index Medicus EMRO (IMEMR), Web of Science, PsycINFO, Google, and CINAHL.
    - United Nations publications and websites: UNAIDS, WHO-EMRO, UNODC, and the World Bank (headquarters, regional, and country offices).
    - International and regional NGOs: Harm Reduction International (HRI), MENAHRA, and others.
    - Reference lists from the 2021 situation assessment and related documents.
    - Conference abstracts, organizational websites, and Google Scholar searches.
- Focus on Updated Literature: The search included the latest reports on HIV, viral hepatitis, drug use, and harm reduction from UNAIDS, WHO, UNODC, and others, along with insights from seminars and international meetings.

All records were organized by country, with duplicates and irrelevant data excluded. Data extraction emphasized key indicators, including the year and methodology of data production and the definitions of studied populations. The information was mapped, and a narrative review with a meta-summary approach was used to develop general country profiles and a regional overview presented in tables.

Findings are presented as a regional overview for comparative purposes, followed by detailed country-level profiles, offering both a broad understanding and specific insights into individual countries.

REGIONAL OVERVIEW

Drug use: Extent and Patterns

Drug use in the Middle East and North Africa (MENA) region has evolved significantly, with synthetic drugs like captagon and methamphetamine becoming major concerns.[23] The production and trafficking of captagon, predominantly in Syria, have surged, making the drug highly accessible and cheaper than alcohol in countries like Saudi Arabia and the UAE.[24] Captagon serves as a revenue source for the Assad regime, with smuggling networks extending to Iraq, Jordan, and Gulf countries, fueling regional instability and funding armed groups.[25]

Similarly, methamphetamine, locally referred to as "Shabu" or "Al-Shaboo," has seen increasing seizures across the region, with the UAE accounting for nearly 50% of all methamphetamine confiscations between 2016 and 2020.[26] Bahrain, Saudi Arabia, and Kuwait have also reported significant seizures.[27] Methamphetamine-related fatalities have surged in Iraq, rising from 4.6% to 37%, and accounted for 23% of drug-related deaths in Kuwait from 2014 to 2018.[28]

The MENA region's drug market is shaped by complex geopolitical factors, including armed conflict and economic instability. These conditions have facilitated the growth of black markets and the trafficking of drugs such as captagon and methamphetamine. Afghanistan, historically a

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[23] United Nations Office on Drugs and Crime (UNODC). (2024). *Drug trafficking dynamics across Iraq and the Middle East: Trends and responses*. Retrieved from file:///C:/Users/Tech%20Line/Desktop/Drug%20Trafficking%20Dynamics%20Across%20Iraq%20and%20the%20Middle%20East%20-%20Trends%20and%20Responses.pdf

[24] Foreign Affairs. (n.d.). *The Middle East awash in drugs*. Retrieved from https://www.foreignaffairs.com/middle-east/middle-east-awash-drugs

[25] Wikipedia contributors. (n.d.). *Ba'athist Syrian Captagon industry*. Wikipedia. Retrieved March 7, 2025, from https://en.wikipedia.org/wiki/Ba%27athist_Syrian_Captagon_industry

[26] Al-Asmari, A. I., Alasmari, F., & Alsanea, S. (2024). Special issues in forensic toxicology in the Middle East and North Africa (MENA) region: The importance of toxicology amid MENA drug challenges. *Saudi Pharmaceutical Journal, 32*(6), 102071. https://doi.org/10.1016/j.jsps.2024.102071

[27] Ibid

[28] Ibid

major producer of opiates, has also emerged as a significant source of methamphetamine, with trafficking routes passing through Pakistan and Iran to reach Iraq and Gulf countries.[29] Iraq, in particular, has become a critical hub for trafficking both captagon and methamphetamine, further complicating regional drug control efforts.[30]

A lack of reliable data on substance use remains a major barrier to understanding the true extent of the issue in the MENA region. Many Arab countries do not systematically report substance use data, and global organizations often group Arab countries with non-Arab nations like Afghanistan, Iran, and Pakistan, distorting regional analyses.[31]

According to UNODC World Drug Report (2024), the annual prevalence of cannabis use in the Near and Middle East/ South-West Asia is at 3.0% and opioid use at 3.19% among individuals aged 15–64 in 2022, but data for other substances, including ecstasy and opiates, remain scarce.[32]

The most recent data on drug use patterns in the Eastern Mediterranean Region (EMR) were reported by Rostam et al. in a meta-analysis review of online databases and grey literature on the prevalence and patterns of drug use, drug use disorders, and the extent of treatment services in 21 countries and one territory in the region from 2010 to 2022.[33]

According to Rostam et al (2023), Drug use patterns in the EMR demonstrate significant variability by substance, age group, and gender. The prevalence of illicit drug use in the adult population is estimated at 6.7% (95% CI 5.4–8.9), with higher rates among males (10.9%, 95% CI 8.9–13.4) compared to females (2.5%, 95% CI 1.9–4.3). Cannabis is the most commonly used drug among adults, with a prevalence of 4.3% (95% CI 3.1–6.2), and the highest use observed in

[29] United Nations Office on Drugs and Crime (UNODC). (2024). *Drug trafficking dynamics across Iraq and the Middle East: Trends and responses*. Retrieved from file:///C:/Users/Tech%20Line/Desktop/Drug%20Trafficking%20Dynamics%20Across%20Iraq%20and%20the%20Middle%20East%20-%20Trends%20and%20Responses.pdf

[30] Ibid

[31] Alharbi, F. F., Alsubaie, E. G., & Al-Surimi, K. (2021). Substance abuse in the Arab world: Does it matter and where are we? In I. Laher (Ed.), *Handbook of healthcare in the Arab world*. Springer, Cham. https://doi.org/10.1007/978-3-030-36811-1_179

[32] United Nations Office on Drugs and Crime. (2024). *World Drug Report 2024*. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR_2024_SPI.pdf

[33] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., Taj, M., Saeed, K., Mojtabai, R., & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: A systematic review. *The Lancet Psychiatry, 10*(4). Retrieved from https://www.emro.who.int/images/stories/mnh/documents/du_du_disorders_and_treatment_services_in_emr.pdf

Morocco among males and Lebanon among females. Opioid use prevalence is estimated at 2.2% (95% CI 1.9–2.6), with the highest rates in Afghanistan and the lowest in Iraq.[34]

Tramadol use is particularly prominent in Egypt, where categorization inconsistencies contribute to heterogeneous estimates. Amphetamine-type stimulant use is estimated at 0.4% (95% CI 0.3–0.7) among adults, with the highest prevalence in Lebanon and the lowest in Iraq. Inhalant use prevalence is 0.3% (95% CI 0.2–0.6), with Lebanon reporting the highest rates. Cocaine use data is sparse but shows the highest rates in Lebanon. Khat use is notably prevalent in Djibouti, Somalia, and Yemen, particularly among males.[35]

Among young males, illicit drug use prevalence is estimated at 4.9% (95% CI 4.3–5.9). The highest rates for cannabis and amphetamines are seen in Morocco and Kuwait, respectively, while heroin use is most prevalent in Palestine for males and Egypt for females.[36] Injection drug use among people seeking treatment varies widely, with an overall prevalence of 15.5% (95% CI 7.8–25.1), ranging from 3.0% in Iraq to 67.0% in Oman.[37]

Specific trends highlight the dominance of opiates in Afghanistan and Iran, tramadol and heroin in Egypt, and cannabis in Sudan. Prescription drug misuse, including benzodiazepines, is common in Iraq, Libya, and Syria. The mean age of individuals seeking treatment is 34.2 years, with a mean age of first drug use at 21.3 years.[38] Gender disparities persist, with females constituting 7.5% (95% CI 5.3–9.9) of those seeking treatment.[39]

These findings underscore the diverse and region-specific nature of drug use in the EMR, influenced by cultural, legal, and socioeconomic factors. The rising prevalence of synthetic drugs and their associated health impacts highlight the urgent need for enhanced drug policy and harm reduction measures in the MENA region. Expanding surveillance efforts to include new psychoactive substances (NPS) is critical, as the region currently lacks comprehensive detection and reporting mechanisms. Additionally, targeted interventions are needed to address the growing burden of methamphetamine and captagon use, particularly in countries along trafficking routes such as Iraq, Kuwait, and Saudi Arabia.

[34] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., Taj, M., Saeed, K., Mojtabai, R., & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: A systematic review. *The Lancet Psychiatry, 10*(4). Retrieved from https://www.emro.who.int/images/stories/mnh/documents/du_du_disorders_and_treatment_services_in_emr.pdf

[35] Ibid

[36] Ibid

[37] Ibid

[38] Ibid

[39] Ibid

Table 2. Main drugs used, injected and treated in the region/country

Countries	Main drugs used[40]	Common drugs injected [41]	Primary drugs of abuse among persons treated for drug problems[42]
Afghanistan	Hashish and opium	Heroin and tranquilizers	
Algeria			Cannabis resin (hashish), Psychotropes, Amphetamine-type stimulants, poly toxicomania, Cannabis-type drugs.
Bahrain	Synthetic drugs, methamphetamines, and heroin.	Heroin	
Egypt	Hashish, opium, cannabis (called bango), tranquilizers, also widespread use of tramadol, and heroin.	NR	Heroin, Cannabis resin (hashish), Tramadol, synthetic cannabinoids, Benzodiazepines Amphetamine-type stimulants, Cannabis herb (marijuana), Opium, pregabalin, morphine, Barbiturates, and Codeine
Iran	Opioids, including heroin, crystal meth, hashish, and Opium.	Heroin	Any drug
Iraq	Synthetic stimulants, hashish, prescription tramadol, opium, heroin, cannabis, benzodiazepines. Drug use is increasing, especially among youth and women.	Prescription drugs	Amphetamine-type stimulants, Benzodiazepines, Non-medical use of pharmaceutical sedatives and tranquillizers, Opioids, including opiates and synthetic opioids, Methamphetamine, Benzodiazepines, Cannabis-type drugs, Tramadol, solvents and inhalants, opium, Hallucinogens,
Jordan	Synthetic stimulants, crystal meth, hashish, opium, tranquilizers. Use of captagon described as epidemic.	Heroin	Amphetamine-type stimulants Cannabis-type drugs Non-medical use of pharmaceutical sedatives and tranquillizers, Opioids, including opiates and synthetic opioids
Kuwait	Opioids, synthetic stimulants, crystal meth, cannabis.	Heroin	
Lebanon	Tranquilizers, hashish, cannabis, cocaine, heroin.	Heroin	Opioids, including opiates and synthetic opioids, Heroin, Cannabis-type drugs, Tramadol, Cocaine-type drugs, Amphetamine-type stimulants, Pharmaceutical opioids, tranquillizers Benzodiazepines, Cocaine-type drugs, and Hallucinogens
Libya	Hashish, heroin, and cocaine	Buprenorphine	Not reported

[40] Pergolizzi, J. Jr., LeQuang, J. A. K., Vortsman, E., Magnusson, P., El-Tallawy, S. N., Wagner, M., Salah, R., & Varrassi, G. (2024). The emergence of the old drug Captagon as a new illicit drug: A narrative review. *Cureus, 16*(2), e55053. https://doi.org/10.7759/cureus.55053

[41] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health*. Retrieved from https://pubmed.ncbi.nlm.nih.gov/37474230/

[42] United Nations Office on Drugs and Crime (UNODC). (2024). *World drug report*.

Morocco	Medical marijuana since 2021 but recreational use illegal. Cocaine and opioid use is rare but data are sparse.	Heroin	Cannabis-type drugs, Opioids, including opiates and synthetic opioids, Non-medical use of pharmaceutical sedatives and tranquillizers, Cocaine-type drugs, Solvents and inhalant, Hallucinogens Ecstasy, Amphetamine-type stimulants
Oman	Hashish, heroin, growing use of synthetic stimulants.	Heroin	Opioids, including opiates and synthetic opioids, New psychoactive substances, Cannabis-type drugs, Non-medical use of pharmaceutical sedatives and tranquillizers, Amphetamine-type stimulants, Hallucinogens
Pakistan	Cannabis heroin, and Prescription drugs.	Heroin and pheniramine	
Palestine	Tramadol, opioids, cocaine, cannabis, and alcohol are widely used. Captagon used by young people.	Heroin	
Qatar**	Methamphetamine, cannabis, pregabalin, amphetamines, benzodiazepines, cocaine, tramadol and heroin.	NR	
Saudi Arabia		NR	Amphetamine-type stimulants, Cannabis-type drugs, Opioids, including opiates and synthetic opioids, Non-medical use of pharmaceutical sedatives and tranquillizers, Solvents and inhalants, Cocaine-type drugs, Hallucinogens
Syrian Arab Republic	Synthetic stimulants, most notably captagon.	Heroin	
Tunisia	Cannabis, buprenorphine, more limited use of heroin.	Buprenorphine	Cannabis-type drugs
UAE	Hashish and heroin are used and there is some prescription drug diversion	NR	Amphetamine-type stimulants, Cannabis-type drugs, Hallucinogens, Opioids, including opiates and synthetic opioids
Yemen	Khat, Hashish, cocaine, and amphetamines.	NR	NR

Injecting Drug Use

The Middle East and North Africa (MENA) region faces significant challenges in addressing the needs of people who inject drugs (PWID), exacerbated by limited data availability, stigma, and socio-political instability. Persistent data gaps, especially following the decline in global and regional HIV funding, have led to a scarcity of biobehavioral surveillance studies since 2015, leaving many aspects of PWID dynamics in the region poorly understood.[43]

[43] Degenhardt, L., Webb, P., Colledge-Frisby, S., et al. (2023). Epidemiology of injecting drug use, prevalence of injecting-related harm, and exposure to behavioural and environmental risks among people who inject drugs: A systematic review. *The Lancet Global Health, 11*(4), e659–e672. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00057-8/fulltext

According to Degenhardt et al. (2023), the prevalence of injecting drug use (IDU) in the region is estimated at 0.10% (95% CI 0.03–0.15) of the adult population, equivalent to approximately 320,000 individuals aged 15–64 years.[44] Of these, 97.7% are men, while 2.3% are women, with women comprising just 0.01% of the adult population.[45]

Youth account for 37.6% of PWID in the region, emphasizing the urgent need for targeted interventions to address this vulnerable group.[46]

A systematic review and meta-analysis by Aghaei et al. (2023) examined injecting drug use (IDU) in the Eastern Mediterranean Region (EMR) based on data from 2010 to 2022. The study estimated that 864,597 people inject drugs in the EMR, equating to 20.0 per 10,000 people aged 15–64 years.[47]

Injecting drug use prevalence was highest in South Asia, particularly Afghanistan, Iran, and Pakistan, where 72% of people who inject drugs (PWID) in the region reside, and lowest in East Africa.[48] Men accounted for 97.7% of PWID, while women represented 2.3%.[49] Heroin was the most commonly injected drug across most subregions, except in North Africa, where buprenorphine was prevalent, and West Asia, where prescription drugs dominated.[50]

Available evidence, indicates that people who inject drugs (PWID) in the Middle East and North Africa (MENA) region are exposed to a range of risk behaviors that amplify their vulnerability to health harms such as HIV, hepatitis C (HCV), hepatitis B (HBV), and other injection-related complications.

In the Middle East and North Africa, 26.5% (95% CI 18.7–36.4) of people who inject drugs (PWID) reported recent receptive syringe sharing, based on data from three countries. Additionally, 21.1% (95% CI 12.7–31.4) reported recent unprotected sex with a casual partner, and 7.8% (95% CI 5.1–11.2) reported recent engagement in sex work, based on data from two countries.[51]

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[44] Ibid
[45] Ibid
[46] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. https://doi.org/10.1016/S2214-109X(23)00267-X
[47] Ibid
[48] Ibid
[49] Ibid
[50] Ibid
[51] Degenhardt, L., Webb, P., Colledge-Frisby, S., et al. (2023). Epidemiology of injecting drug use, prevalence of injecting-related harm, and exposure to behavioural and environmental risks among people who inject drugs: A systematic review. *The Lancet Global Health, 11*(4), e659–e672. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00057-8/fulltext

This risk is compounded by limited access to sexual health education and condom distribution services in many parts of the region. Opioids dominate injecting drug use in MENA, with 96.2% of PWID in the region primarily injecting opioids like heroin. This high dependence on opioids is associated with elevated risks of overdose, with 18.5% (95% CI 13.7–24.3) of PWID in MENA experiencing recent non-fatal overdoses.[52] The lack of access to naloxone, an opioid overdose reversal medication, further exacerbates mortality risks.[53]

Table 3. Estimates and age profile of PWID in the MENA region per country

Countries	Estimated number of PWID[54]	Mean age, years (95% CI)[55]
Afghanistan	57 207	32·2 (30·5–33·9)
Algeria		
Bahrain	5100	NR (32·7, 31·3–34·2)
Egypt	96 230	32·2 (27·9–36·5)
Iran	138 250	35·7 (33·9–37·5)
Iraq	39 277	NR (33·7, 32·5–34·8)
Jordan	10 488	NR (33·7, 32·5–34·8)
Kuwait	12 000	32·3 (31.4-33.2)
Lebanon	9000	31·8 (31·0–32·6)
Libya	6677	NR (33·5, 29·9–37·2)
Morocco	17 750	38·9 (38·1–39·6)
Oman	2922	NR (32·7, 31·3–34·2)
Pakistan	430 000	31·4 (30·7–32·1)
Palestine	5000	40·3 (38·2–42·3)
Qatar	1827	NR (32·7, 31.3-34.2)
Saudi Arabia	3400	40 (39·1–40·9)
Syria	10 000	32·1 (31.1-33.1)
Tunisia	11 000	36·4 (34·0–38·9)
UAE	6247	NR (32·7, 31.3-34.2)
Yemen	844	NR (32·7, 31·3–34·2)

[52] Degenhardt, L., Webb, P., Colledge-Frisby, S., et al. (2023). Epidemiology of injecting drug use, prevalence of injecting-related harm, and exposure to behavioural and environmental risks among people who inject drugs: A systematic review. *The Lancet Global Health, 11*(4), e659–e672. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00057-8/fulltext

[53] Ibid

[54] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health*. Retrieved from https://pubmed.ncbi.nlm.nih.gov/37474230/

[55] Ibid

HIV and Viral Hepatitis Epidemics in the Region

Despite substantial progress in reducing new infections and mortality, HIV remains a significant global public health challenge. According to WHO most recent data[56], In 2023, approximately 39.9 million people worldwide were living with HIV, including 1.4 million children (0–14 years) and 38.6 million adults (15+ years).[57] Significant progress has been made in the fight against HIV, with 86% of people living with the virus aware of their status, 77% receiving antiretroviral therapy, and 72% achieving viral load suppression. However, gaps remain, as an additional 3.4 million people need to know their status, 5.4 million require treatment, and 5.6 million need viral load suppression to meet the 95-95-95 targets by 2025.[58] In 2023, 1.3 million new infections were recorded, a 39% reduction since 2010, and the rate of HIV acquisition fell from 0.32 per 1,000 uninfected individuals in 2010 to 0.17 per 1,000 in 2023. HIV-related deaths also declined significantly, with 630,000 deaths in 2023, a 51% reduction since 2010 and a 69% drop since the peak in 2004. Cumulatively, 42.3 million lives have been lost to HIV, highlighting the continued urgency of addressing this global public health challenge.

According to WHO (2024), the MENA region faces significant challenges in responding to the HIV epidemic, despite having one of the lowest prevalence rates globally.[59]

The Middle East and North Africa (MENA) region is one of the two global regions experiencing an increase in new HIV infections. In the 20 UNICEF-prioritized countries within the region, the annual number of new HIV cases has risen by 43% since 2015 and by 65% since 2000.[60] In 2022 alone, approximately 20,000 [15,000–28,000] people acquired HIV, bringing the total number of people living with the virus in the region to an estimated 230,000.[61] Over 85% of these new infections are concentrated in five countries: Algeria, Egypt, Iran, Saudi Arabia, and Sudan.[62]

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[56] World Health Organization. (2024). *HIV statistics, globally and by WHO region.* Retrieved from j0482-who-ias-hiv-statistics_aw-1_final_ys.pdf

[57] Ibid
[58] Ibid
[59] Ibid

[60] UNICEF. (2024). *Ending the AIDS epidemic among young people in the Middle East and North Africa.* Retrieved from https://www.unicef.org/mena/media/24986/file/240530%20UNICEF%20MENARO%20Ending%20AIDs%20ReportFinal%20V3%20Web.pdf.pdf

[61] Ibid
[62] Ibid

According to UNAIDS 2022 data, while HIV incidence in the region remained stable at <0.1 per 1,000 uninfected population since 2010, with 67,000 new infections recorded in 2023.[63] Alarmingly, HIV-related deaths rose by 69% since 2010, reaching 20,000 deaths in 2023.[64]

In 2023, an estimated 530,000 people were living with HIV, with only 38% aware of their status, 28% receiving antiretroviral therapy (ART), and 24% achieving viral load suppression. Approximately 150,000 individuals were on ART.[65]

Structural barriers such as limited political will, inadequate funding, stigma, discrimination, and humanitarian crises exacerbate the situation. Conflicts have severely disrupted access to HIV services, leaving many healthcare centers inoperable. [66]

To achieve the 2025 HIV targets, the region must address structural and operational barriers, enhance community-led initiatives, and tailor responses to key populations' needs. Enhanced biobehavioral surveys and program data are critical to reversing current trends and achieving sustainable progress.

According to WHO (2024)[67], as of 2022 the Eastern Mediterranean Region faced a significant burden of hepatitis B (HBV) and hepatitis C (HCV), with approximately 15 million people living with HBV and 11.7 million with HCV, the highest global prevalence of hepatitis C. Annually, there were 86,000 new HBV infections and 183,000 new HCV infections, with 41,000 and 65,000 deaths attributed to HBV and HCV, respectively. Despite this burden, diagnosis and treatment rates remain critically low. Only 14.7% of people living with HBV have been diagnosed, and just 13.6% of those diagnosed, or 2.0% of the total population with HBV, receive treatment. For HCV, 49% of individuals are aware of their status, and 35% of those diagnosed have received treatment, largely due to Egypt's robust public health program for hepatitis C. While progress in Egypt is notable, the overall regional response falls short of elimination targets, underscoring the urgent need for expanded efforts to improve diagnosis and treatment access. The same report indicates, that access to hepatitis B (HBV) and hepatitis C (HCV) services in the Eastern Mediterranean Region is improving but remains uneven across countries. Several countries, including Egypt and Pakistan, manufacture generic viral hepatitis medicines locally, offering treatments at prices significantly lower than global benchmarks. For example, Egypt produces generic TDF, ETV, and TAF locally, with a 30-day supply of TDF priced at just $5.70. Similarly, Egypt and Pakistan reported 12-week generic SOF and DAC treatment prices of $36.80 and $33.60, respectively. Despite these advancements, the availability of medicines at the primary healthcare level is limited, and the number of in vitro diagnostic (IVD) products at decentralized

[63] UNAIDS. (2023). *2023 UNAIDS global AIDS update.* Retrieved from https://thepath.unaids.org/
[64] Ibid
[65] Ibid
[66] Ibid
[67] World Health Organization. (2024). *Global hepatitis report 2024: Action for access in low- and middle-income countries.* Retrieved from https://www.who.int/publications/global-hepatitis-report-2024

levels remains insufficient. Three out of five WHO focus countries in the region have incorporated hepatitis B birth-dose vaccination into their universal immunization programs. However, significant gaps in service delivery persist, including limited decentralization of hepatitis care, challenges in affordable testing and treatment access, and insufficient engagement of civil society.[68]

Table 4. HIV, HCV and HBV rates in the general population per country

Countries	HIV prevalence (15-49 years)[69]	Number of PLHIV (all ages)[70]	Number of persons living with HCV[71]	Estimated HBsAg prevalence[72] %	Number of persons living with chronic HBV infection[73]
Afghanistan	<0.1 (<0.1-0.2)	13000 (4200-54000)	211999	1.8	748800
Algeria	<0.1 (<0.1- <0.1)	26000 (23000-29000)	273188	1.3	588849
Bahrain	NR	NR	15949	0.9	13246
Egypt	<0.1 (<0.1- <0.1)	42000 (36000-50000)	484523	0.9	952159
Iran	<0.1 (<0.1- <0.1)	43000 (30000-77000)	205380	1.5	1321313
Iraq	<0.1 (<0.1- <0.1)	3400 (2800-4300)	147255	2.94	1310000
Jordan	<0.1 (<0.1- <0.1)	620 (510-730)	26787	1.76	199000
Kuwait	<0.1 (<0.1 - <0.10)	1100 (<1000 - 1500)	19212	1.5	65455
Lebanon	<0.1 (<0.1- <0.1)	2900 (2400-3300)	7665	1.3	71615
Libya	0.1 (0.1-0.1)	6700 (6100-7400)	62271	1.6	111125
Morocco	<0.1 (<0.1- <0.1)	23000(21000-26000)	125566	0.6	223645
Oman	<0.1 (<0.1 - <0.1)	2800 (2400 - 3100)	15679	2.5	112358
Pakistan	0.2 (0.2-0.2)	290000 (270000-310000)	8790812	1.61	3796372
Palestine	NR	NR	NR	1.3	68000
Qatar	<0.1 (<0.1 - <0.1)	<1000 (<1000 - 1000)	42170	1.12	30160
Saudi Arabia	<0.1 (<0.1 - <0.1)	11 000 (10 000 - 13 000)	100920	0.81	575956
Syria	<0.1 (<0.1- <0.1)	740 (650-840)	288767	1.7	1121632
Tunisia	<0.1 (<0.1- <0.1)	8000 (5700-12000)	44056	3.57	441000
UAE	<0.1 (<0.1 - <0.1)	1700 (1200 - 2400)	165254	0.9	84818
Yemen	<0.1 (<0.1- <0.1)	150000 (9600-24000)	257189	2.82	948579

[68] World Health Organization. (2024). *Global hepatitis report 2024: Action for access in low- and middle-income countries.* Retrieved from https://www.who.int/publications/global-hepatitis-report-2024
[69] UNAIDS. (2023). *Regions and countries.* Retrieved from https://www.unaids.org/en/regionscountries/countries
[70] Ibid
[71] Coalition for Global Hepatitis Elimination. (2024). *Country data profiles.* Retrieved from https://www.globalhep.org/data-profiles/countries
[72] Ibid
[73] Ibid

HIV and Viral Hepatitis Among PWID and Other Key Populations

PWID

The findings from Aghaei et al. (2023)[74] and Degenhardt et al. (2023)[75] reveal contrasting yet complementary insights into the prevalence of HIV, HCV, and HBV among people who inject drugs (PWID) in the Eastern Mediterranean Region (EMR). Aghaei et al. estimate a high HIV prevalence of 19.22%, equating to approximately 171,561 PWID, with HIV rates among PWID surpassing the global average in countries like Afghanistan, Bahrain, Iran, and Libya. In contrast, Degenhardt et al., excluding Afghanistan, Iran, and Pakistan, report a much lower HIV prevalence of 4.1%, reflecting significant geographic variability within the region. Similarly, Aghaei et al. estimate HCV prevalence at 44.82% (397,675 PWID), lower than global averages, while Degenhardt et al. provide a lower figure of 97,500 PWID with HCV in the remaining EMR countries. HBV prevalence was estimated at 2.66% (23,750 PWID) by Aghaei et al., compared to Degenhardt et al.'s higher estimate of 7.5% (139,000 PWID). These discrepancies highlight gaps in data collection and the heterogeneity of the region, with countries like Iran driving higher regional averages in Aghaei et al.'s findings. The studies underscore the urgent need for targeted harm reduction and treatment strategies, including needle exchange programs, opioid substitution therapy, and improved access to antiretroviral and antiviral treatments, particularly in high-burden countries. The data also emphasize the importance of enhanced surveillance and tailored policies to address the intersecting epidemics of HIV, HCV, and HBV among PWID in the EMR.

[74] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. https://doi.org/10.1016/S2214-109X(23)00267-X

[75] Degenhardt, L., Webb, P., Colledge-Frisby, S., et al. (2023). Epidemiology of injecting drug use, prevalence of injecting-related harm, and exposure to behavioural and environmental risks among people who inject drugs: A systematic review. *The Lancet Global Health, 11*(4), e659–e672. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00057-8/fulltext

Table 5. HIV, HCV, and HBV in PWID

Countries	HIV Prevalence among PWID[76] % (%95CI)	Number of people who inject drugs living with HIV [77](95% CI)	Prevalence of people who inject drugs with hepatitis C antibody [78] % (95% CI)	Number of people who inject drugs with hepatitis C virus antibody[79] (95% CI)	Prevalence of people who inject drugs with hepatitis B surface antigen[80] % (95% CI)	Number of people who inject drugs with hepatitis B virus [81] (95% CI)
Afghanistan	1·41% (0·15–3·60)	1091 (0–2441)	23·08% (9·08–41·04)	17 854 (6808–31 607)	2·77% (1·16–4·98)	2141 (851–3791)
Algeria	3.4% [82]	NR	NR	NR	NR	NR
Bahrain	3·89% (2·00–6·30)	199 (98–324)	NR (37·67%, 32·77–42·77)	1921 (1426–2475)	NR (3·43%, 1·84–5·80)	175 (83–289)
Egypt	3·73% (2·13–5·71)	5430 (3026–8290)	NR (58·18%, 52·12–64·06)	55 911 (45 251–67 557)	NR (4·37%, 2·28–7·50)	4198 (1975–6864)
Iran	8·30% (6·00–10·80)	11 496 (6976–17 039)	36·80% (30·84–42·98)	50 962 (33 189–71 398)	3·04% (1·97–4·30)	4207 (2364–6594)
Iraq	NR (0·01%, 0·00–0·33)	4 (0–40)	NR (18·86%, 14·04–24·50)	7406 (4348–11 134)	NR (1·98%, 0·56–4·59)	741 (148–1633)
Jordan	0·00% (0·00–0·34)	0 (0–31)	NR (18·86%, 13·85–24·75)	1976 (1100–3076)	NR (1·98%, 0·52–4·75)	198 (37–449)
Kuwait	0·10% (0·00–0·39)	12 (0–34)	30·87% (1·48–75·19)	3692 (0–8785)	1·52% (0·00–7·21)	182 (0–579)
Lebanon	0·05% (0·00–0·60)	5 (0–25)	23·59% (17·82–29·89)	2127 (1285–3159)	1·07% (0·35–2·10)	96 (30–190)

[76] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health*. Retrieved from https://pubmed.ncbi.nlm.nih.gov/37474230/

[77] Ibid

[78] Ibid

[79] Ibid

[80] Ibid

[81] Ibid

[82] Karbasi, A., Fordjuoh, J., Abbas, M., Iloegbu, C., Patena, J., Adenikinju, D., Vieira, D., Gyamfi, J., & Peprah, E. (2023). An evolving HIV epidemic in the Middle East and North Africa (MENA) region: A scoping review. *International Journal of Environmental Research and Public Health, 20*(5), 3844. https://doi.org/10.3390/ijerph20053844

Libya	87·10% (83·35–90·61)	5814 (3432–8514)	94·20% (91·39–96·50)	6290 (3743–9192)	4·50% (2·40–7·01)	301 (135–532)
Morocco	5·05% (1·02–11·67)	896 (154–2163)	63·13% (50·78–74·67)	11220 (5009–18 891)	NR (4·37%, 2·06–8·02)	776 (264–1528)
Oman	0·53% (0·24–0·93)	15 (6–32)	36·56% (21·52–53·09)	1117 (458–2036)	6·29% (4·96–7·76)	192 (89–319)
Pakistan	33·20% (22·00–45·45)	146 018 (89 413–215 253)	51·32% (27·82–74·53)	226 120 (118 520–350 481)	2·08% (0·00–8·73)	9137 (0–27 439)
Palestine	0·00% (0·00–0·30)	0 (0–15)	41·48% (37·13–45·89)	2075 (1355–2883)	6·15% (4·15–8·48)	308 (174–475)
Qatar	NR (1·32%, 0·43–3·05)	24 (5–55)	NR (37·67%, 32·77–42·77)	688 (304–1153)	NR (3·43%, 1·84–5·80)	63 (22–124)
Saudi Arabia	2·46% (0·07–7·54)	82 (0–321)	62·61% (30·49–89·53)	2083 (0–5537)	7·70% (5·19–10·59)	255 (0–707)
Syria	0·00% (0·00–0·22)	0 (0–20)	3·30% (1·73–5·32)	328 (120–627)	0·50% (0·01–1·52)	50 (0–137)
Tunisia	3·54% (2·23–5·10)	391 (196–651)	28·32% (25·23–31·52)	3127 (1815–4631)	4·30% (0·00–17·73)	474 (0–1502)
UAE	NR (1·32%, 0·43–3·05)	82 (16–190)	NR (37·67%, 32·77–42·77)	2353 (1017–3966)	NR (3·43%, 1·84–5·80)	214 (72–429)
Yemen	NR (0·01%, 0·00–2·00)	0 (0–1)	NR (18·86%, 13·70–25·00)	160 (0–647)	NR (1·89%, 0·49–4·90)	16 (0–74)

Other Key Populations

The state of bloodborne viruses (BBVs) among key populations in the MENA region highlights the disproportionate burden these groups face. Vulnerable populations, including people who inject drugs (PWID), female sex workers (FSWs), men who have sex with men (MSM), transgender individuals, and people in prison or other closed settings, account for the majority of new HIV infections in the region.[83] [84]

[83] UNICEF. (2024). *Ending the AIDS epidemic among young people in the Middle East and North Africa.* Retrieved from https://www.unicef.org/mena/media/24986/file/240530%20UNICEF%20MENARO%20Ending%20AIDs%20ReportFinal%20V3%20Web.pdf.pdf

[84] UNAIDS. (2023). *2023 UNAIDS global AIDS update.* Retrieved from https://thepath.unaids.org/

Despite the critical need for HIV health services, these populations experience severe stigma and discrimination, significantly limiting their access to care.[85]

Degenhardt et al. (2023) identified substantial data gaps in the Eastern Mediterranean Region (EMR), particularly regarding PWID identifying as transgender or LGB.[86] However, available data reveal an HIV prevalence of 6.6% among MSM (based on data from six countries), 1.1% among FSWs (based on data from six countries), and 0.9% among PWID (based on data from three countries).[87]

Additional data on HIV prevalence among key populations (KPs) reported by UNAIDS (2024) indicates a median prevalence of 1.2% among sex workers, 5.3% among gay men and other men who have sex with men, 7.1% among people who inject drugs, and 0.8% among people in prisons and other closed settings. These median prevalence rates among KPs are significantly higher than the estimated HIV prevalence of 0.07% among adults in the region.[88]

Most HIV transmission occurs within high-risk sexual and drug-injecting networks, with concentrated HIV epidemics (defined as 5% or higher prevalence in specific populations) documented among PWID and MSM in several countries.[89]

A review of studies over the past 20 years indicates a rising HIV prevalence among PWID, MSM, and FSWs, underscoring the growing vulnerability of these groups.[90]

Chemaitelly et al. (2022) further highlighted the significant role of heterosexual sex work networks in HIV transmission. Using simulation modeling, they estimated that in 2020, 28.1% of new adult HIV infections in 12 MENA countries occurred among FSWs, their clients, and spouses.

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[85] UNICEF. (2024). *Ending the AIDS epidemic among young people in the Middle East and North Africa.* Retrieved from https://www.unicef.org/mena/media/24986/file/240530%20UNICEF%20MENARO%20Ending%20AIDs%20ReportFinal%20V3%20Web.pdf.pdf

[86] Degenhardt, L., Webb, P., Colledge-Frisby, S., et al. (2023). Epidemiology of injecting drug use, prevalence of injecting-related harm, and exposure to behavioural and environmental risks among people who inject drugs: A systematic review. *The Lancet Global Health, 11*(4), e659–e672. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00057-8/fulltext

[87] UNAIDS. (2023). *2023 UNAIDS global AIDS update.* Retrieved from https://thepath.unaids.org/

[88] UNAIDS. (2024). UNAIDS data 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[89] UNICEF. (2024). *Ending the AIDS epidemic among young people in the Middle East and North Africa.* Retrieved from https://www.unicef.org/mena/media/24986/file/240530%20UNICEF%20MENARO%20Ending%20AIDs%20ReportFinal%20V3%20Web.pdf.pdf

[90] Ibid

This included 3,471 cases in FSWs, 6,416 in clients, and 4,717 in spouses. Notably, in Morocco, where the HIV prevalence among FSWs is 2%, these networks accounted for 24% of new cases due to their size and connectivity.[91] These findings underscore the urgent need for targeted prevention and treatment programs addressing the specific risks and barriers faced by key populations in the MENA region.

[91] Chemaitelly, H., Ayoub, H. H., Omori, R., El Feki, S., Hermez, J. G., Weiss, H. A., & Abu-Raddad, L. J. (2022). HIV incidence and impact of interventions among female sex workers and their clients in the Middle East and North Africa: A modelling study. *Lancet HIV, 9*(7), e496-e505. https://doi.org/10.1016/S2352-3018(22)00100-X. PMID: 35777411; PMCID: PMC9253890. Retrieved from https://pubmed.ncbi.nlm.nih.gov/35777411/

Table 6. HIV prevalence among other Key Populations

Countries	Estimated number**				HIV Prevalence (%) - Percentage of KPs living with HIV**			
	Sex workers [92]	MSM[93]	Transgender[94]	Prisoners[95]	Sex workers [96]	MSM[97]	Transgender[98]	Prisoners[99]
Afghanistan	11000	10000	NR	NR	NR	NR	NR	NR
Algeria	65 969	NR	NR	NR	4·9	2.4	NR	NR
Bahrain	NR	NR	NR	NR	NR	NR	NR	NR
Egypt	NR	NR	NR	NR	NR	NR	NR	NR
Iran	NR	NR	NR	NR	**1.6	NR	0.8	0.1
Iraq	NR	NR	NR	3000	NR	NR	NR	NR
Jordan	NR	NR	NR	NR	NR	NR	NR	NR
Kuwait	NR	NR	NR	NR	NR	NR	NR	NR
Lebanon	NR	NR	NR	NR	NR	18.6	NR	NR
Libya	NR	NR	NR	NR	NR		NR	NR
Morocco	72 000	NR	NR	102 700	2.2	5.3	NR	0.2
Oman	NR	NR	NR	3500	NR	NR	NR	0.8
Pakistan	NR	NR	NR	NR	NR	NR	NR	NR
Palestine	NR	NR	NR	NR	NR	NR	NR	NR
Qatar	NR	NR	NR	NR	NR	NR	NR	NR
Saudi Arabia	NR	NR	NR	10 600	NR	NR	NR	NR
Syria	NR	NR	NR	NR	NR	NR	NR	NR
Tunisia	25 500	NR	NR	NR	1·4	8.2	NR	NR
UAE	NR	NR	NR	NR	NR	NR	NR	NR
Yemen	58 934	NR	NR	NR	0.7	NR	NR	NR

[92] Chemaitelly, H., Ayoub, H. H., Omori, R., El Feki, S., Hermez, J. G., Weiss, H. A., & Abu-Raddad, L. J. (2022). HIV incidence and impact of interventions among female sex workers and their clients in the Middle East and North Africa: A modelling study. *Lancet HIV, 9*(7), e496-e505. https://doi.org/10.1016/S2352-3018(22)00100-X. PMID: 35777411; PMCID: PMC9253890. Retrieved from https://pubmed.ncbi.nlm.nih.gov/35777411/

[93] UNAIDS. (2024). UNAIDS data 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[94] Ibid

[95] Ibid

[96] Chemaitelly, H., Ayoub, H. H., Omori, R., El Feki, S., Hermez, J. G., Weiss, H. A., & Abu-Raddad, L. J. (2022). HIV incidence and impact of interventions among female sex workers and their clients in the Middle East and North Africa: A modelling study. *Lancet HIV, 9*(7), e496-e505. https://doi.org/10.1016/S2352-3018(22)00100-X. PMID: 35777411; PMCID: PMC9253890. Retrieved from https://pubmed.ncbi.nlm.nih.gov/35777411/

[97] UNAIDS. (2024). UNAIDS data 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[98] Ibid

[99] Ibid

HIV Testing and Treatment Cascade

Available evidence, indicates that the MENA region struggles with the lowest global treatment coverage (50%) and delayed HIV diagnoses, resulting in poor health outcomes and slow reductions in AIDS-related deaths.[100] Treatment coverage is lowest among women (49%) and children (34%).[101]

According to a recent UNICEF report (2024)[102] based on UNAIDS data and government records, the HIV testing and treatment cascade in the MENA region shows significant progress since 2015, with the number of people receiving antiretroviral therapy (ART) doubling to approximately 110,000 in 2022. Despite this improvement, the region lags behind global averages. In 2022, only 67% of adults living with HIV knew their status, compared to 86% globally, while just 50% were receiving ART, compared to 76% globally. Viral suppression rates stood at 45%, far below the global average of 71%. A third of people living with HIV in the region were unaware of their infection, and community-led testing services remain inconsistently available.

Challenges persist in linking diagnosed individuals to treatment, as 20% of those aware of their status were not receiving ART.[103] Treatment coverage varies significantly across countries, exceeding 90% in Saudi Arabia and Kuwait and surpassing 70% in Lebanon, Morocco, and Oman. However, countries with the largest populations of people living with HIV struggle with diagnosis and linkage to care. Encouragingly, more than 90% of individuals who begin ART achieve viral suppression, protecting their health and preventing transmission. The report highlights the need for enhanced awareness campaigns, particularly targeting young key populations, through digital platforms and traditional outreach. However, gaps in data, especially among marginalized populations hesitant to engage with official health services, remain a significant barrier to progress (UNICEF, 2024).

[100] UNAIDS. (2023). *2023 UNAIDS global AIDS update.* Retrieved from https://thepath.unaids.org/

[101] Ibid

[102] UNICEF. (2024). *Ending the AIDS epidemic among young people in the Middle East and North Africa.* Retrieved from https://www.unicef.org/mena/media/24986/file/240530%20UNICEF%20MENARO%20Ending%20AIDs%20ReportFinal%20V3%20Web.pdf.pdf

[103] Ibid

Table 7. HIV testing and treatment MENA

Countries	PLHIV who know their status[104] %	PLHIV on treatment % [105]	PLHIV who are virally suppressed % [106]	PWID who know their HIV status[107] %
Afghanistan	28	9	6	NR
Algeria	88	76	NR	3.4
Bahrain	NR	314	NR	NR
Egypt	64	46	40	2.5
Iran	51	72	90	3.1
Iraq	43	71	NR	NR
Jordan	65	77	95	NR
Kuwait	94	98	98	0.1
Lebanon	86	93	95	NR
Libya[108]	90	54	NR	NR
Morocco	79	94	93	7.1
Oman	85	85	91	1.1
Pakistan	23	15	11	100
Palestine	NR	NR	NR	NR
Qatar	58	72	96	NR
Saudi Arabia	91	98	98	NR
Syria	78	66	NR	0.5
Tunisia [109]	26	25	24	8.8
UAE	49	96	NR	NR
Yemen	52	75	NR	NR

[104] UNICEF. (2024). *Ending the AIDS epidemic among young people in the Middle East and North Africa.* Retrieved from https://www.unicef.org/mena/media/24986/file/240530%20UNICEF%20MENARO%20Ending%20AIDs%20ReportFinal%20V3%20Web.pdf.pdf

[105] Ibid

[106] Ibid

[107] Ibid

[108] UNAIDS. (2023). Regions and countries. Retrieved from https://www.unaids.org/en/regionscountries/countries

[109] Ibid

Harm Reduction Response in The MENA Region

According to Harm Reduction International (2024) [110], Harm reduction services in the Middle East and North Africa (MENA) region remain significantly limited, with notable gaps in coverage and accessibility. As of 2024, nine countries (38%) in the region provide needle and syringe programs (NSP)—Afghanistan, Algeria, Egypt, Iran, Lebanon, Morocco, Pakistan, and Tunisia—representing no change from 2022.[111] Meanwhile, opioid agonist therapy (OAT) is available in 11 countries (45%), an increase from seven countries in 2022, with Egypt, Jordan, Kuwait, and the United Arab Emirates recently joining Afghanistan, Algeria, Iran, Lebanon, Morocco, and Palestine in offering such services.[112] However, no countries in the MENA region provide drug consumption rooms or safer smoking kits.

According to HR1 (2024), socio-cultural barriers, including stigma, discrimination, religious norms, and lack of public understanding, continue to hinder the availability and accessibility of harm reduction services in the region. For example, in Egypt, healthcare providers often stigmatize people who use drugs, affecting their ability to access NSP, OAT, and HIV services. Religious narratives in countries such as Algeria, Iran, and Egypt further restrict harm reduction efforts by framing drug use as a major sin or an ethical failing, discouraging individuals from seeking support.

Despite harm reduction being mentioned in the national policies of 11 MENA countries, only Egypt, Iran, Lebanon, and Morocco have included supportive measures in their National HIV Strategic Plans.[113] Implementation remains inadequate, exacerbated by centralized health systems and policymakers' reluctance to prioritize harm reduction. Punitive drug laws and criminalization further undermine these efforts, fostering stigma and discouraging individuals from accessing services.

In prisons, harm reduction services are even more limited. OAT is available in prisons in only six MENA countries—Afghanistan, Algeria, Iran, Israel, Lebanon, and Morocco—but with significant accessibility challenges. For instance, Moroccan prisons do not provide NSP or condoms, as authorities fear these measures might incentivize drug use or sexual activity. Women who use drugs face additional barriers, such as being denied harm reduction services and experiencing humiliating treatment while in prison.[114]

Budget cuts and the closure of UNAIDS' MENA regional office have further disrupted harm reduction initiatives, raising concerns about the sustainability of leadership and advocacy efforts.

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[110] Harm Reduction International (HRI). (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[111] Ibid
[112] Ibid
[113] Ibid
[114] Ibid

This has particularly impacted community organizations, which play a critical role in supporting key populations, including people who use drugs. Representation of affected communities in decision-making remains weak, with inconsistent and often minimal involvement reported across the region.[115] To scale up harm reduction services and address these gaps, a focus on community-led initiatives, supportive policy frameworks, and addressing socio-cultural barriers is essential. However, current efforts remain insufficient to meet the needs of people who use drugs in the MENA region.

Table 8. Harm Reduction Response in MENA countries[116]

Countries	Mention of harm reduction/PWID in national policy documents	Availability of needle and syringe program	Needles and Syringes distributed per person who injected	Availability of opioid agonist treatment	Coverage of OAT % (year) [117]	Availability of drug consumption rooms	Availability of naloxone through community/ peer distribution	Availability of OAT in prisons	Availability of NSP in prisons
Afghanistan	Yes	Yes	NR	Yes	NR	No	No	Yes	No
Algeria	Yes	Yes	NR	Yes	NR	NR	No	Yes	No
Bahrain	NR	No	NR		NR	No	No	No	No
Egypt	Yes	Yes	NR	Yes	NR	No	Yes	no	No
Iran	Yes	Yes	80	Yes	5.4 (2021)	No	Yes	Yes	Yes
Iraq	No	No	NR	No	NR	No	No	No	No
Jordan	Yes	No	NR	Yes	NR	No	No	No	No
Kuwait	NR	No	NR	Yes	NR	No	No	No	No
Lebanon	Yes	Yes	NR	Yes	NR	No	Yes	Yes	No
Libya	NR	No	NR	No	NR	No	No	No	No
Morocco	Yes	Yes	90	Yes	34 (2021)	No	No	Yes	No
Oman	NR	No	NR	No	NR	No	No	No	No
Pakistan	Yes	Yes	73	No	NR	No	No	No	No
Palestine	Yes	No	NR	Yes	NR	No	No	No	No
Qatar	NR	No	NR	No	NR	No	No	No	No
Saudi Arabia	NR	No	NR	No	NR	No	No	No	No
Syria	NR	No	NR	No	NR	No	No	No	No
Tunisia	Yes	Yes	49	No	NR	No	No	No	No
UAE	NR	No	NR	Yes	NR	No	No	No	No
Yemen	NR	No	NR	No	NR	No	No	No	No

[115] Ibid

[116] Harm Reduction International. (2024). Global overview 2023: The death penalty for drug offences. Retrieved from https://hri.global/wp-content/uploads/2024/03/HRI-GO2023-finalfinal-WEB.pdf

[117] UNAIDS. (2024). *Data book 2024*. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

Drug Laws and Policies

The Middle East and North Africa (MENA) region operates within a framework of drug laws deeply rooted in prohibition, as influenced by global conventions like the 1961 Single Convention on Narcotic Drugs and regional agreements such as the Arab Convention against Illicit Trafficking in Narcotic Drugs and Psychotropic Substances.[118]

Drug laws and policies in the MENA region range from strict enforcement and punitive measures to emerging harm reduction strategies and limited reforms (see Table 10). Countries like Iran, Iraq, Libya, and Qatar maintain harsh penalties, including long prison sentences and, in some cases, the death penalty for drug-related offenses. Others, such as Algeria, Jordan, and the UAE, allow for treatment options or rehabilitation, particularly for first-time offenders or those seeking help voluntarily. Tunisia and Lebanon are progressing toward health-based approaches, with Tunisia drafting a bill to reframe addiction as a chronic disease and Lebanon's NGOs advocating for decriminalization. Confidentiality in addiction treatment is prioritized in countries like Egypt and Kuwait, while Oman emphasizes rehabilitation as a public health strategy. In contrast, Pakistan and Syria face challenges with inconsistent enforcement, with Syria's enforcement weakening amid its civil war. Cultural exceptions, like Yemen's legality of khat, further illustrate the diversity of approaches. Despite the dominance of punitive policies, the region shows gradual movement toward recognizing addiction as a medical issue and integrating harm reduction efforts.

Table 9. Drug use legislation and mandatory treatment per country

Country	Legal Provisions	Mandatory Treatment
Afghanistan	In recent years, the enforcement of drug laws has reportedly become stricter, leading to an increase in arrests and prosecutions for activities such as cultivating illicit drugs, drug use, or possession. A Drug Law, finalized in 2023,stipulates that individuals identified as addicts will undergo examination and, based on a court's ruling, may face imprisonment ranging from one to six months.[119] In Afghanistan, possession of small amounts of drugs is criminalized and constitutional prohibitions of discrimination in the country do not extend to include PWUD, as neither courts nor government policies have interpreted them to provide such protections[120].	

[118] Fattouh Al-Shazly, & Khalid Tinasti. (2016). Incarceration or mandatory treatment: Drug use and the law in the Middle East and North Africa. *International Journal of Drug Policy, 31*, 172-177. https://doi.org/10.1016/j.drugpo.2016.02.003

[119] ALCIS. (n.d.). Drug law. Retrieved from https://www.alcis.org/drug-law

[120] Joint United Nations Programme on HIV/AIDS (UNAIDS). (2024). Laws and policies analytics: Afghanistan. Retrieved from https://lawsandpolicies.unaids.org/jointanalysis?id=pwid&a=AFG&lan=en

Algeria	In Algeria, drug-related laws allow extended detention for suspects involved in drug trafficking, with prosecutors authorized to extend police custody up to three times while gathering evidence[121]. Under the 2004 law, no distinction is made between drug use and drug possession for personal use, with both offenses punishable by imprisonment ranging from 2 months to 2 years and/or a fine.[122] Possession of small amounts of drugs is criminalized, reflecting a punitive approach to drug use. Constitutional nondiscrimination provisions exist for PWID, offering some legal protection to this vulnerable group[123]	Alternatives to prosecution and sentencing are provided for drug users who accept treatment in a specialized health center by judicial order. Ensuring complete confidentiality is a key aspect of supporting young drug addicts in seeking treatment.
Bahrain	Personal drug use and possession remain criminalized under national law[124]. In 2023 and 2022, there were at least four individuals on death row for drug offenses, making up 15% of the total for each year[125].	
Egypt	Egyptian law includes the death penalty for drug-related offenses under the Anti-Drug Law No. 182 of 1960[126], with drug-related death sentences constituting 2.3% of total death sentences in 2023; however, no executions for drug offenses were reported to be carried out that year[127]. All data and information obtained by personnel involved in the treatment of drug addicts and abusers must be kept confidential. Any disclosure is punishable under Article 310 of the Penal Code.[128]	If a person is determined to be a drug addict, the court has the option to send them to a specialized treatment center for medical, psychological, and social rehabilitation instead of imprisonment. Upon successfully overcoming their addiction, they may be released.

[121] U.S. Department of State. (2022). 2022 country reports on human rights practices: Algeria. Retrieved from https://www.state.gov/reports/2022-country-reports-on-human-rights-practices/algeria/

[122] ASJP. (n.d.). Retrieved from https://asjp.cerist.dz/en/downArticle/512/7/1/239631

[123] Joint United Nations Programme on HIV/AIDS (UNAIDS). (2024). UNAIDS data 2024. Geneva: Author. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[124] HIV Policy Lab. (2024). Bahrain country profile. Retrieved from https://hivpolicylab.org/bh/

[125] Harm Reduction International. (2024). Global overview 2023: The death penalty for drug offences. Retrieved from https://hri.global/wp-content/uploads/2024/03/HRI-GO2023-finalfinal-WEB.pdf

[126] Egyptian Front for Human Rights. (2024, February). Decrease in the implementation of the death penalty or increase in restrictions on access to information? Monitoring report on the status of the death penalty in Egypt during the year 2023. Retrieved from https://egyptianfront.org/2024/02/decrease-in-the-implementation-of-the-death-penalty-or-increase-in-restrictions-on-access-to-information-monitoring-report-on-the-status-of-the-death-penalty-in-egypt-during-the-year-2023/

[127] Harm Reduction International. (2024). Global overview 2023: The death penalty for drug offences. Retrieved from https://hri.global/wp-content/uploads/2024/03/HRI-GO2023-finalfinal-WEB.pdf

[128] Law No 122

Iran	Iran's national HIV policy includes harm reduction strategies, yet the country enforces strict drug laws, including criminalization of possession of small amounts of drugs. In 2023, 459 people were executed for drug-related offenses, marking the highest number since 2015.[129] [130]	
Iraq	Iraq's drug-related laws and policies reflect a stringent approach to combating the escalating drug crisis, emphasizing severe penalties. The core legislation, the **Drug and Psychotropic Substances Law No. 50 of 2017**, introduced reforms aimed at addressing increasing drug smuggling, distribution, and even cultivation within Iraq. Key provisions, such as **Article 27**, impose the death penalty or life imprisonment for offenses like drug trafficking, importation, and production. Recent amendments propose further intensifying these measures by replacing life imprisonment with the death penalty for certain drug-related crimes.[131]	Court may impose mandatory treatment up to 6 months in a health center assigned by the ministry as an alternative to custody if drug dependence caused by a medical condition. If drug use is not a result of a medical condition, admission into treatment can be ordered but criminal sanctions will also be imposed.
Jordan	The law criminalizes activities such as the import, export, transportation, production, and possession of illicit drugs and psychotropic substances.[132] However, recent amendments have introduced provisions that recognize addiction as a medical condition requiring treatment rather than solely criminalizing drug users.[133]	Law requires PWUD to voluntarily inform official authorities of a request for treatment before being caught by illegal activity.
Kuwait	Kuwait retains the death penalty as a punishment for drug offenses in its legislation.[134] Drug law specifies professional confidentiality for people in addiction treatment.	
Lebanon	The current legal framework continues to criminalize the possession and use of small amounts of drugs. In a joint effort, NGOs including Skoun, MENAHRA, Legal Agenda, the MENA Network of People who Use Drugs (MENANPUD),	In Lebanon, individuals arrested for drug use are often presented with a choice between imprisonment and treatment[136].

[129] Harm Reduction International. (2024). Global overview 2023: The death penalty for drug offences. Retrieved from https://hri.global/wp-content/uploads/2024/03/HRI-GO2023-finalfinal-WEB.pdf

[130] https://www.iranbestlawyer.com/drug-related-crimes-and-drug-trafficking-under-iranian-law/

[131] https://en.964media.com/25068/

[132] Alhrerat, K. A., Zakaraya, Z., Abu Dayyih, W., Hailat, M., Hamad, M., & Alabbadi, I. (2023). Decriminalization of narcotics in Jordanian legislation: Theory and practice. *Jordan Journal of Pharmaceutical Sciences, 16*(3), 541–549. https://doi.org/10.35516/jjps.v16i3.722

[133] Ibid

[134] Harm Reduction International. (2024). Global overview 2023: The death penalty for drug offences. Retrieved from https://hri.global/wp-content/uploads/2024/03/HRI-GO2023-finalfinal-WEB.pdf

[136] International Society of Substance Use Professionals (ISSUP). (2023). ISSUP Lebanon. *International Society of* Tinasti, K. (2022). Toward the emergence of compulsory treatment for drug use in Morocco? *Health and* ***Human***

	SIDC, and Association Justice et Miséricorde (AJEM) are advocating for the decriminalization of drug use.[135]	
Libya	Penalties for the possession, use, or trafficking of illegal drugs in Libya are extremely harsh, with convicted offenders facing lengthy prison sentences and substantial fines. Additionally, alcohol is strictly prohibited, and violations involving its possession, use, or trafficking are met with similarly severe penalties.[137]	
Morocco	In 2021, Morocco legalized the medical use of cannabis, aiming to address the social and economic challenges faced by cannabis farmers[138]. Recreational use, however, is still illegal. The country's drug policies remain largely centered on prohibiting illegal drugs and enforcing abstinence, with limited focus on alleviating the adverse effects of prohibition on people who use drugs. Those charged with possession for personal use risk prison sentences ranging from five to ten years, regardless of the quantity carried[139].	In Morocco, drug use is regulated by Dahir No. 1-73-282 (the Narcotic Act), a law enacted in 1974. Under Article 8, individuals arrested for drug use (but not possession) are compelled to undergo a urine drug test and enroll in a treatment program at residential facilities, where they are detained for a sentence ranging from one to three months. This provision was effectively enforced for the first time in November 2021.[140]
Oman	In Oman, the legal framework for narcotics and psychotropic substances is outlined by the Royal Decree No. 17/99, which combats drug-related crimes, including manufacturing, trafficking, and possession. The law is enforced through various regulations and amendments, with severe penalties for violations, including life imprisonment or even the death penalty for drug smugglers, producers, and traffickers.[141]	As for users, Oman prioritizes public health by mandating the referral of drug users to specialized treatment centers for rehabilitation.

Rights, 24(1), 171.*Substance Use Professionals*. Retrieved from https://www.issup.net/national-chapters/issup-lebanon

[135] International Drug Policy Consortium (IDPC). (2022, July). Drug law reform should be among the priorities of the Lebanese parliament. *International Drug Policy Consortium*. Retrieved from https://idpc.net/news/2022/07/drug-law-reform-should-be-among-the-priorities-of-the-lebanese-parliament

[137] CountryReports. (n.d.). *Libya - Criminal penalties*. Retrieved from https://www.countryreports.org/country/Libya/criminal-penalties.htm

[138] Tinasti, K. (2022). Toward the emergence of compulsory treatment for drug use in Morocco? *Health and Human Rights, 24*(1), 171.

[139] Ibid

[140] Ibid

[141] Oman Observer. (2024). *Royal decree amends provisions of law on combating narcotic drugs and psychotropic substances*. Retrieved from https://www.omanobserver.om/article/1135928/oman/his-majesty/royal-decree-amends-provisions-of-law-on-combating-narcotic-drugs-and-psychotropic-substances

Pakistan	Pakistan's legal framework for drug control is robust, encompassing laws like the Control of Narcotics Substances Act (1997), which prescribes harsh penalties, including life imprisonment or the death sentence for the possession and trafficking of significant quantities of narcotics.[142] However, enforcement remains inconsistent. imprisoning individuals for drug-related offences exacerbates the strain on Pakistan's already overcrowded jails. Pakistani prisons operate at 152.2% capacity as of December 2023.[143]	
Palestine		
Qatar	Drugs are illegal in Qatar. The country imposes severe penalties for the possession, use, and trafficking of illegal drugs. Offenders can face long-term imprisonment and pay heavy fines, followed by deportation. Drug trafficking also carries a possible death sentence.[144]	
Saudi Arabia	The laws distinguish between first-time drug dealers and repeat offenders. First-time offenders may face penalties such as imprisonment, flogging, financial fines, or a combination of these, based on judicial discretion. However, for repeat offenders, the penalties are significantly harsher and can include the death penalty, reflecting the serious nature of repeated offenses and their impact on society. Drug users, in contrast, are subject to imprisonment for up to two years, along with additional disciplinary measures as determined by judicial authorities. Foreign nationals found using drugs are deported.[145]	Those who voluntarily seek treatment. In such cases, individuals are not prosecuted but are admitted to specialized rehabilitation facilities
Syria	The cultivation, sale, and possession of cannabis for recreational or medical purposes are illegal in Syria. cannabis was illegal and punishable by up to 20 years in prison in large drug trafficking offenses, if someone is	

[142] International Society of Substance Use Professionals (ISSUP). (n.d.). *ISSUP in Pakistan: Country profile*. Retrieved from https://www.issup.net/national-chapters/issup-in-pakistan/country-profile

[143] Justice Project Pakistan. (2024). *Narcotics offences dataset: Statistical analysis & qualitative overview for Pakistan – 2024*. Retrieved from https://jpp.org.pk/report/narcotics-offences-dataset/

[144] Expatica. (n.d.). *Laws on drugs and alcohol in Qatar*. Retrieved from https://www.expatica.com/qa/living/gov-law-admin/laws-on-drugs-and-alcohol-in-qatar-73014/

[145] Ministry of Interior, Saudi Arabia. (n.d.). *WPS Portal - Ministry of Interior*. Retrieved from https://www.moi.gov.sa/wps/portal/Home/sectors/moidiwan/contents/%D9%88%D8%B9%D9%85%D9%84%D8%A7%D9%8B%20%D8%B9%D9%84%D9%89

	considered an addict by the Syrian government then they face no criminal penalties for drug use and possession. Since the start of the Syrian civil war cannabis laws had become widely unenforced by the Syrian government. On multiple occasions Al Assad granted general amnesties to multiple crimes which included drug trafficking offenses.[146]	
Tunisia	Tunisia's strict drug laws have led to a significant number of incarcerations for cannabis-related offenses, sparking public debate and increasing calls for legal reform[147]. In a progressive move, the Ministry of Health announced in 2024 that it is drafting a bill to reframe drug addiction as a treatable chronic disease rather than a criminal offense[148].	
UAE	The UAE enforces strict drug laws under Federal Law No. 14 of 1995, which categorizes drug offenses into personal use, promotion, and trafficking. Penalties range from up to four years in prison for personal use to life imprisonment or the death penalty for trafficking. Expatriates face deportation after serving their sentences.[149]	In 2021, reforms shifted first-time offenders and those who voluntarily seek help toward rehabilitation instead of prosecution. Emiratis arrested for drug offenses may complete a two-year rehabilitation programme.[150]
Yemen	Yemen enforces strict drug laws with severe penalties for illegal substances, while khat remains a legal and culturally significant exception. In Yemen, the use, possession, and trafficking of illegal drugs are strictly prohibited and subject to severe penalties. Convicted offenders can expect long prison sentences and heavy fines.[151]	

[146] Wikipedia contributors. (n.d.). *Cannabis in Syria*. Wikipedia. Retrieved from https://en.wikipedia.org/wiki/Cannabis_in_Syria#cite_note-4

[147] Global Organized Crime Index. (2023). *Profile: Tunisia*. Retrieved from https://ocindex.net/country/tunisia

[148] Agenzia Nova. (2024). *Tunisia: The Ministry of Health – drug addiction is considered a treatable chronic disease*. Retrieved from https://www.agenzianova.com/en/news/tunisia-the-ministry-of-health-drug-addiction-is-considered-a-treatable-chronic-disease/

[149] Al Riyami Advocates. (n.d.). *Drug possession in the UAE: Criminal law*. Retrieved from https://alriyamiadvocates.com/our-expertise/criminal-law/drug-possession/#:~:text=Even%20the%20possession%20of%20small,death%20penalty%20may%20be%20imposed.

[150] Fouché, A., Albrithen, A., AlNuaimi, M., Al Riyami, K., Aruldoss, V., Cooper, K., Marta, R., & Tedam, P. (2023). Alcohol and substance dependence in the United Arab Emirates: A scoping review protocol. *BMJ Open, 13*(5), e071208. https://doi.org/10.1136/bmjopen-2022-071208.

[151] CountryReports. (n.d.). *Yemen criminal penalties*. Retrieved from https://www.countryreports.org/country/Yemen/criminal-penalties.htm?utm_source=chatgpt.com

NGO Involvement

The engagement of non-governmental organizations (NGOs) and civil society organizations (CSOs) in addressing HIV and harm reduction across the Middle East and North Africa (MENA) region is marked by both progress and significant challenges.[152] In some countries, these organizations have played a pivotal role in shaping policy, delivering essential services, and advocating for the rights of key populations, including people who inject drugs (PWID), men who have sex with men (MSM), female sex workers (FSWs), and transgender individuals. Regional networks such as MENAHRA, MENAROSA, MCoalition, and MENANPUD have emerged as critical platforms for advocacy, capacity building, and service coordination.[153] MENAROSA focuses on women living with HIV, while MCoalition advocates for MSM rights, and MENANPUD represents PWUD, promoting harm reduction and health rights despite challenging legal and social environments.[154]

Resource constraints, legal barriers, and stigma remain significant obstacles to effective NGO operations in the region.[155] Despite these challenges, NGOs and CSOs in the MENA region continue to play a critical role in addressing public health issues (See Table 11).

In countries like Morocco, Lebanon, and Iran, highlight the importance of community-led responses in overcoming structural barriers and ensuring the delivery of essential health services to marginalized populations.

In Algeria and Lebanon, NGOs have been instrumental in delivering harm reduction services, including the distribution of harm reduction kits and provision of opioid agonist therapy (OAT). In Iran, NGOs work closely with government bodies to implement comprehensive drug demand and harm reduction strategies. However, in countries like Bahrain, Libya, and Saudi Arabia, NGO engagement is minimal or non-existent due to restrictive legal and policy environments.

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[152] Aaraj, E., & Jreij Abou Chrouch, M. (2016). Drug policy and harm reduction in the Middle East and North Africa: The role of civil society. *International Journal of Drug Policy, 31*, 168-171. https://doi.org/10.1016/j.drugpo.2016.03.002.

[153] UNAIDS. (2015). *UNAIDS engagement with civil society*. Retrieved from https://open.unaids.org/sites/default/files/documents/MENA%20-%20Case%20Study%20on%20UNAIDS%20Engagement%20with%20Civil%20Society.pdf

[154] Ibid

[155] Alkan, C., & Timothy, A. (2019). Challenges and opportunities for civil society engagement in Global Fund processes in the MENA region. *Journal of Global Health, 9*(1), 32-41.

In Egypt and Yemen, limited funding and technical capacity hinder the sustainability of HIV and harm reduction initiatives. Meanwhile, in Pakistan, financial burdens challenge the impact of NGO-run harm reduction programs.

Table 10. NGO involvement in HIV and HR Response per country

Country	Role of NGOs
Afghanistan	Prior to the Taliban takeover, NGOs collaborated with international partners to establish treatment centers offering residential, outpatient, and home-based services. However, post-2021, the withdrawal of international support caused a drastic reduction in active centers, with only 10% operational by 2023.[156] [157] NGOs in Afghanistan have been pivotal in providing opioid agonist therapy (OAT), drug prevention, rehabilitation, and harm reduction services, including in prisons, despite significant challenges and mass arrests of drug users under the Taliban regime.
Algeria	NGOs, in partnership with UNODC and UNAIDS, have driven harm reduction efforts by distributing harm reduction kits and condoms and organizing training workshops on evidence-based OAT for health officials. Organizations like MENAROSA and MENANPUD lead advocacy and program implementation for people who use drugs (PWUD). A recent collaboration in 2024 established the MENA Learning Hub, focusing on community engagement and Global Fund processes. The COVID-19 pandemic has underscored the leading role civil society organizations play in ensuring the continuity of HIV services among vulnerable people living with HIV.[158]
Bahrain	NGO and CSO operations in Bahrain are limited due to significant legal and policy barriers. These restrictions prevent organizations from registering, seeking funding, and functioning freely, hindering their ability to support key populations.
Egypt	Approximately seven NGOs are involved in providing HIV services, such as community-based counseling and testing, targeting key populations, including sex workers, men who have sex with men (MSM), and PWID. These organizations also assist vulnerable groups like refugees and asylum seekers. However, the low service coverage and declining resources jeopardize the sustainability of these initiatives. Egypt established the emerging Network of Associations for Harm Reduction (NAHR). This is hosted by Family Health International (FHI). Members include people living with HIV and key

[156] Basij-Rasikh, M., Dickey, E. S., & Sharkey, A. (2024). Primary healthcare system and provider responses to the Taliban takeover in Afghanistan. *BMJ Global Health, 9*(2), e013760. https://doi.org/10.1136/bmjgh-2023-013760

[157] United Nations Office on Drugs and Crime (UNODC). (2024). *Afghanistan Drug Insights (Vol. 3): Mapping of facilities for treatment of substance use disorders: Addressing service provision challenges in a humanitarian crisis*. Retrieved from https://www.unodc.org/documents/crop-monitoring/Afghanistan/Afghanistan_Drug_Insights_V3.pdf

[158] UNAIDS. (2022). *MENA Regional report 2021*. Retrieved from https://open.unaids.org/sites/default/files/documents/MENA_Regional%20report_2021_0.pdf

	populations groups and it focuses on service delivery, civil society coordination and capacity building, particularly for key populations.[159]
Iran	NGOs are key players in Iran's drug demand reduction and harm reduction strategies, actively encouraged by the Drug Control Headquarters. These organizations contribute significantly to HIV control and harm reduction initiatives across the country.
Iraq	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Jordan	CSOs, including FOCCEC, Curve, Confront, and RAFD, complement the National AIDS Program (NAP) by focusing on prevention and awareness for key populations, such as MSM, sex workers, and PWID.
Kuwait	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Lebanon	NGOs are at the forefront of addiction treatment and harm reduction in Lebanon. Organizations such as Skoun, SIDC, Médecins du Monde, and El Rahma Medical Center have expanded their services to underserved areas like Tripoli, Baalbek, and Beirut. These NGOs provide comprehensive addiction treatment, including mental health support and harm reduction services. Between 2019 and 2022, SIDC reported a 169% increase in patients served, underscoring the growing demand for these services. Additionally, NGOs such as Bonheur du Ciel operate rehabilitation centers for young men and women, integrating physical activities and offering safe environments for recovery. NGOs also engage in prevention and awareness campaigns, capacity-building workshops, and training programs for community and frontline workers.
Libya	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Morocco	NGOs play a central role in Morocco's public health challenges, with l'Association de Lutte Contre le Sida (ALCS) leading HIV-related services, including prevention and testing.
Oman	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Pakistan	Organizations like Nai Zindagi are instrumental in harm reduction, providing outreach, counseling, and healthcare services to PWID and other vulnerable groups.[160] However, NGO-operated facilities face financial burdens and low recovery success rates, with recovery rates as low as 32%.[161]

[159] UNAIDS. (2015). *UNAIDS engagement with civil society*. Retrieved from https://open.unaids.org/sites/default/files/documents/MENA%20-%20Case%20Study%20on%20UNAIDS%20Engagement%20with%20Civil%20Society.pdf

[160] NGObase. (n.d.). *Drug addiction recovery and support in Pakistan*. Retrieved from https://ngobase.org/cswa/PK/HLT.DA/drug-addiction-recovery-and-support-pakistan?page=2

[161] The Express Tribune. (2016, May 23). *Missing rehab facilities: Failing the drug abuse victims*. Retrieved from https://tribune.com.pk/story/1108303/missing-rehab-facilities-failing-drug-abuse-victims

Palestine	In Palestine, non-governmental organizations (NGOs) played an instrumental role in the HIV and Harm reduction response.[162]
Qatar	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Saudi Arabia	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Syria	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Tunisia	Several NGOs and associations are actively working with HIV-positive individuals and other key and vulnerable populations.
UAE	NGO involvement is either non-existent or extremely limited, with little to no documented evidence of their contributions to HIV or harm reduction efforts.
Yemen	A few NGOs contribute to the HIV response in Yemen, but their efforts are hampered by limited resources and inadequate technical capacities.

COUNTRY PROFILES

Afghanistan

Afghanistan, officially known as the Islamic Emirate of Afghanistan, has endured over four decades of war and instability. In August 2021, the Taliban regained control of the country and its government in Kabul. Under Taliban rule, the population has faced significant rollbacks in liberal and democratic rights, with particularly harsh restrictions on women's rights to education, employment, free speech, and movement[163].

Afghanistan has long been recognized as one of the world's leading producers of illicit drugs, particularly opiates, which constitute a billion-dollar industry. While opium production was curtailed during the Taliban's rule in the 1990s, it has since rebounded to record highs, with the drug being exported globally[164]. In April 2022, the Taliban, citing religious ideology, banned again the cultivation, trade, and consumption of drugs (including opium, alcohol, heroin, methamphetamine, Tablet K, and cannabis), framing it as their responsibility under an Islamic system to protect people from harm. Their strategy centers on three priorities: reducing domestic

[162] Palestinian National Institute of Public Health. (2017). *Illicit drug use in Palestine: A qualitative investigation formative phase study report*. Retrieved from https://www.unodc.org/documents/publications/Illicit_Drug_Use_in_Palestine.pdf

[163] Amnesty International. (2023). Afghanistan 2023. Retrieved from https://www.amnesty.org/en/location/asia-and-the-pacific/south-asia/afghanistan/report-afghanistan/

[164] Global Organized Crime Index. (2023). Profile: Afghanistan. Retrieved from https://ocindex.net/country/afghanistan

drug consumption, targeting smugglers, and discouraging farmers from cultivating narcotics, particularly opium, the country's primary crop[165].

However, the effectiveness of these efforts remains uncertain, given challenges such as the Taliban's potential involvement in production and trade. Despite the Taliban's ban on methamphetamine, ephedra cultivation and meth labs continue to operate, leading to increased production and lower domestic prices[166]. The ban on opium cultivation has profoundly impacted nearly seven million people, with Afghan rural women among the most adversely affected[167].

Total HIV expenditure in 2024 was $3.8 million, with $220,000 from domestic sources and $3.5 million from international funding[168].

Drug Use

According to the 2015 Afghanistan National Drug Use Survey commissioned by the Colombo Plan, an estimated 2.9 to 3.6 million Afghans—roughly 10% of the population—were drug users[169]. While these figures remain outdated, a new survey was launched in 2023, though its results have yet to be published[170].

Afghanistan has the highest rates of illicit drug use in the EMR, with 26.8% of males and 13.6% of females reporting usage. Opioids are the most used drugs (17.2% of males and 8.4% of females), followed by cannabis (10.2% in males and 3% in females). Heroin use is lower, reported by 1.4% of males and 0.05% of females, while amphetamine-type stimulants (ATS) are used by 1.3% of males and 0.1% of females[171].

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[165] International Crisis Group. (2024). Trouble in Afghanistan's opium fields: The Taliban war on drugs. Retrieved from https://www.crisisgroup.org/sites/default/files/2024-09/340-afghanistan-opium-fields.pdf

[166] Global Organized Crime Index. (2023). Profile: Afghanistan. Retrieved from https://ocindex.net/country/afghanistan

[167] International Crisis Group. (2024). Trouble in Afghanistan's opium fields: The Taliban war on drugs. Retrieved from https://www.crisisgroup.org/sites/default/files/2024-09/340-afghanistan-opium-fields.pdff

[168] Joint United Nations Programme on HIV/AIDS (2023). Country factsheets- Afghanistan 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/afghanistan

[169] SGI Global. (2015). Afghanistan national drug use survey 2015. Colombo Plan. Retrieved from https://colombo-plan.org/wp-content/uploads/2020/03/Afghanistan-National-Drug-Use-Survey-2015-compressed.pdf

[170] United Nations Development Programme. (2024). National survey on drug use in Afghanistan (NSDA). Retrieved from https://www.undp.org/afghanistan/projects/national-survey-drug-use-afghanistan-nsda

[171] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

A study among 299 drug addicts reported using heroin (44.8%), opium (20.7%), methamphetamine (15.4%), cocaine (9%) ad marijuana (7%)[172].

The primary reasons for drug use in Afghanistan include peer influence, family or social exposure to drug use, easy access through cultivation and trafficking, use for pain relief due to unregulated pharmacies, widespread trauma, mental health challenges, and limited awareness of drug dangers[173,174,175].

For women, factors such as persistent unemployment, illiteracy, poor maternal and child health, poverty, and strict gender-based restrictions further heighten their vulnerability to substance abuse, with few protective measures in place[176].

By mid-2023, the visible presence of drug users in Kabul and other cities had notably decreased. However, it is unclear whether this reflects a true reduction in drug use or if the Taliban's measures have driven users into hiding[177]. The Taliban's actions have had far-reaching implications both within Afghanistan and beyond. In Afghanistan, these measures could result in a decline in heroin purity, prompting users to transition to harmful alternative opioids such as fentanyl analogues or nitazenes[178]. These synthetic opioids heighten the risk of overdoses. Internationally, the reduction in Afghan opioid production may help curb trafficking and use, but it will also fuel the rise of synthetic opioids[179].

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[172] Shayan, N. A., Moheb, H., Mohammadi, H., Saddiqi, K. W. A., Osman, D. A. G., & Ozcebe, H. (2022). Epidemiology of drug use in Herat–Afghanistan. Addiction & Health, 14(2), 68.

[173] Bjelica, J., & Sorush, M. (2024). Treating drug users in Afghanistan: How to respond to a massive problem. Afghanistan Analysts Network. Retrieved from https://www.afghanistan-analysts.org/en/reports/rights-freedom/treating-drug-users-in-afghanistan-how-to-respond-to-a-massive-problem/

[174] Shayan, N. A., Moheb, H., Mohammadi, H., Saddiqi, K. W. A., Osman, D. A. G., & Ozcebe, H. (2022). Epidemiology of drug use in Herat–Afghanistan. Addiction & Health, 14(2), 68.

[175] Schweinhart, A., Shamblen, S., Shepherd, C., Courser, M. W., Young, L., Morales, B., & Redpath, B. (2022). Gender differences in patient outcomes following drug abuse treatment in Afghanistan: results from a new evaluation. Journal of Substance Abuse Treatment, 134, 108475.

[176] Ibid

[177] International Crisis Group. (2024). Trouble in Afghanistan's opium fields: The Taliban war on drugs. Retrieved from https://www.crisisgroup.org/sites/default/files/2024-09/340-afghanistan-opium-fields.pdf

[178] United Nations Office on Drugs and Crime (UNODC). (2024). World Drug Report 2024: Contemporary issues on drugs. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR24_Contemporary_issues.pdf

[179] Ibid

Afghanistan has seen, in recent years, a shift from traditional methods such as inhalation and oral ingestion to the more hazardous practice of injecting drugs[180]. The country has also been identified as having one of the highest global rates of PWID, accounting for 72% of cases in the EMR, alongside Iran and Pakistan[181].

In 2019, approximately 57,207 adults in Afghanistan, most of them aged less than 25, were estimated to engage in injecting drug use, with men comprising the majority[182]. The most commonly injected drugs are heroin and tranquilizers. Alarmingly, over 40% of people with HIV in Afghanistan are PWID, highlighting the significant public health impact of injection drug use[183].

Risk factors for IDU include unemployment, initiating drug use abroad, a history of incarceration, stronger physical effects and lower costs of injecting, and fear of arrest, with injecting perceived as less conspicuous than smoking[184]. The social impact of IDU was substantial, marked by high rates of incarceration, criminalization, and stigma, along with community and intimate partner violence, economic hardships, and marginalization at both family and societal levels[185].

Prior to the Taliban takeover, various NGOs alongside initiatives by international partners, had operated numerous treatment centers offering residential, outpatient, and home-based services[186]. However, the withdrawal of international support post-2021 severely impacted these efforts, leading to significant challenges in accommodating new patients and delivering adequate

[180] Nafeh, F., Fusigboye, S., & Sornpaisarn, B. (2022). Understanding injecting drug use in Afghanistan: A scoping review. Substance abuse treatment, prevention, and policy, 17(1), 65.

[181] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., ... & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: a systematic review and meta-analysis. The Lancet Global Health, 11(8), e1225-e1237.

[182] Rasheed, A., Sharifi, H., Wesson, P., Pashtoon, S. J., Tavakoli, F., Ghalekhani, N., ... & Mirzazadeh, A. (2022). Mapping and population size estimates of people who inject drugs in Afghanistan in 2019: Synthesis of multiple methods. Plos one, 17(1), e0262405.

[183] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., ... & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: a systematic review and meta-analysis. The Lancet Global Health, 11(8), e1225-e1237.

[184] Nafeh, F., Fusigboye, S., & Sornpaisarn, B. (2022). Understanding injecting drug use in Afghanistan: A scoping review. Substance abuse treatment, prevention, and policy, 17(1), 65.

[185] Rasikh, A. S. (2022). Factors associated with HIV risk and vulnerability among injecting drug users in Afghanistan: a narrative review. HIV/AIDS (Auckland, NZ), 14, 331.

[186] Bjelica, J., & Sorush, M. (2024). Treating drug users in Afghanistan: How to respond to a massive problem. Afghanistan Analysts Network. Retrieved from https://www.afghanistan-analysts.org/en/reports/rights-freedom/treating-drug-users-in-afghanistan-how-to-respond-to-a-massive-problem/

treatment[187]. By 2023, only 10% of the country's 113 centers remained active, with 44% closed and the remainder operating on limited budgets[188].

Following the Taliban's rise, initial efforts focused on mass arrests of drug users, many of whom were confined to prisons rather than receiving appropriate care[189]. The approach primarily targeted severely addicted and homeless individuals[190], often overlooking the majority of users who consumed drugs privately, including significant numbers of women[191]. Those sent to treatment centers faced rudimentary and rights-violating methods, such as involuntary "cold turkey" treatments[192], involving harsh conditions like cold baths, restricted movement, and denial of painkillers[193]. These approaches proved largely ineffective, with high relapse rates. The Taliban later established larger rehabilitation facilities, counseling services, vocational training centers, and voluntary treatment programs, and reported having treated 110,450 drug users, supported by funding from mining profits and international donors[194].

By 2023, 82,000 PWUD from all 34 provinces were sent mostly to government-managed centers or various drug treatment centers (DTCs). Public DTCs are primarily funded by the MoPH, while NGO-based facilities rely on international agencies for funding. NGOs continue to play a critical role in providing a range of services, including drug prevention, treatment, rehabilitation, harm reduction, and OAT in eight provinces, with five programs operating within prison settings. Despite their efforts, public facilities generally report higher bed occupancy rates than those funded by

[187] United Nations Office on Drugs and Crime. (2024). Afghanistan Drug Insights (Vol. 3)- Mapping of Facilities for Treatment of Substance Use Disorders: Addressing Service Provision Challenges in a Humanitarian Crisis. Retrieved from https://www.unodc.org/documents/crop-monitoring/Afghanistan/Afghanistan_Drug_Insights_V3.pdf

[188] Bjelica, J., & Sorush, M. (2024). Treating drug users in Afghanistan: How to respond to a massive problem. Afghanistan Analysts Network. Retrieved from https://www.afghanistan-analysts.org/en/reports/rights-freedom/treating-drug-users-in-afghanistan-how-to-respond-to-a-massive-problem/

[189] International Crisis Group. (2024). Trouble in Afghanistan's opium fields: The Taliban war on drugs. Retrieved from https://www.crisisgroup.org/sites/default/files/2024-09/340-afghanistan-opium-fields.pdf

[190] Ibid

[191] Nafeh, F., Fusigboye, S., & Sornpaisarn, B. (2022). Understanding injecting drug use in Afghanistan: A scoping review. Substance abuse treatment, prevention, and policy, 17(1), 65.

[192] International Crisis Group. (2024). Trouble in Afghanistan's opium fields: The Taliban war on drugs. Retrieved from https://www.crisisgroup.org/sites/default/files/2024-09/340-afghanistan-opium-fields.pdf

[193] United Nations entities. (2012). Joint statement on compulsory drug detention and rehabilitation centres. UNODC. Retrieved from https://www.unodc.org/roseap/uploads/archive/documents/2012/03/drug-detention-centre/JC2310_Joint_Statement6March12FINAL_En.pdf

[194] International Crisis Group. (2024). Trouble in Afghanistan's opium fields: The Taliban war on drugs. Retrieved from https://www.crisisgroup.org/sites/default/files/2024-09/340-afghanistan-opium-fields.pdf

NGOs or private organizations, underscoring the ongoing challenges in meeting the increasing demand for treatment services in Afghanistan[195].

BBV

Between 2015 and 2023, new HIV infections in Afghanistan increased from 930 to 1,700 cases. The total number of PLHIV more than doubled during the same period, rising from 6,500 in 2015 to 13,000 in 2023. Despite this rise, the HIV prevalence rate among adults aged 15 to 49 remains low at less than 0.1%. In 2023, the estimated number of TB cases among PLHIV in Afghanistan was 19[196].

Only 28% of PLHIV were aware of their status, 9% were on ART, and just 6% achieved viral suppression in 2023. ART coverage for children aged 0-14 was 27%, compared to 9% for adults[197]. In 2023, the coverage of pregnant women receiving ART for the PMTCT in Afghanistan increased to 21% (from 7% in 2015), but this remains not on track to meet the 2025 targets. Early infant diagnosis, reported for the first time in 2023, was at a low 2.9% and is similarly not on track for 2025 goals[198]. The final vertical transmission rate, including during breastfeeding, decreased slightly from 44.1% in 2015 to 39.02% in 2023[199], indicating gradual progress but highlighting significant gaps in PMTCT coverage.
Barriers to accessing HIV-related services in Afghanistan include limited HIV awareness, poor infrastructure in remote communities, violence and discrimination against women, and the stigmatization of PWID and people living with HIV. Conversely, access is improved through

[195] United Nations Office on Drugs and Crime. (2024). Afghanistan Drug Insights (Vol. 3)- Mapping of Facilities for Treatment of Substance Use Disorders: Addressing Service Provision Challenges in a Humanitarian Crisis. Retrieved from https://www.unodc.org/documents/crop-monitoring/Afghanistan/Afghanistan_Drug_Insights_V3.pdf

[196] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[197] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[198] WHO, UC, HHS, & SIA. (2023). (2024). Afghanistan HIV Country Profile 2024. Retrieved from https://cfs.hivci.org/index.html

[199] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

community and family support, outreach initiatives, and the integration of harm reduction services with HIV testing and care programs[200].

HBV and HCV remain a significant public health challenge in Afghanistan, with various risk factors contributing to its spread. For HBV, key risk factors include being male, younger age, tobacco use, low education levels, rural residence, family history of infection, weak social networks, and underlying chronic diseases[201]. According to Shayan and colleagues (2024), these factors not only heighten susceptibility to infection but also correlate with a significantly reduced quality of life (QoL) for those affected. Initiating injection of drugs abroad significantly heightened the risk of HCV infection[202].

Among PWID in Afghanistan, the prevalence rates of infectious diseases were reported by the Global State of Harm Reduction International (HRI) as follows: 1.41% for HIV, 23.08% for HCV, and 2.77% for HBV[203]. A study in 2021 reported a slightly higher pooled prevalence of HCV at 30.6% among 124 participants[204]. PWID engage in risk behaviors that heighten the potential of HIV transmission, including needle and syringe sharing and reusing, paying for sex, engaging in MSM, low condom use, and reinjecting blood[205,206].

IDUs in Afghanistan face multiple levels of vulnerability to HIV infection beyond the individual level. At the network level, limited HIV knowledge and low uptake of harm reduction services increase their susceptibility. Community-level factors include widespread drug production, easy access to

[200] Sidhu, H., Gebreweldi, F., Davis, A., Jonbekov, J., Bahramov, M., Dasgupta, A., ... & Dehghani, K. (2024). The tale of two Badakhshans: Determinants of access and utilization of HIV preventive services along the Afghan-Tajik border. International journal of STD & AIDS, 35(13), 1025-1031.

[201] Shayan, N. A., Rahimi, A., Stranges, S., & Thind, A. (2024). Factors affecting quality of life in hepatitis B patients in Herat, Afghanistan: A case–control study. Journal of Viral Hepatitis.

[202] O'Brien, S., Kyaw, K. W. Y., Jaramillo, M. M., Roberts, B., Bijl, M., & Platt, L. (2022). Determinants of health among people who use illicit drugs in the conflict-affected countries of Afghanistan, Colombia and Myanmar: a systematic review of epidemiological evidence. Conflict and health, 16(1), 39.

[203] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[204] Zheng, Y., Ying, M., Zhou, Y., Lin, Y., Ren, J., & Wu, J. (2021). Global burden and changing trend of hepatitis C virus infection in HIV-Positive and HIV-Negative MSM: a systematic review and meta-analysis. Frontiers in Medicine, 8, 774793.

[205] Nafeh, F., Fusigboye, S., & Sornpaisarn, B. (2022). Understanding injecting drug use in Afghanistan: A scoping review. Substance abuse treatment, prevention, and policy, 17(1), 65.

[206] Rasikh, A. S. (2022). Factors associated with HIV risk and vulnerability among injecting drug users in Afghanistan: a narrative review. HIV/AIDS (Auckland, NZ), 14, 331.

illicit substances, armed conflicts, large-scale migration, unemployment, poverty, stigma and discrimination, and unsafe injecting locations. Public policy challenges, such as punitive drug laws and weak national responses to HIV and IDU, exacerbate these risks. Additionally, the concentrated HIV epidemic among IDUs heightens the potential for transmission to uninfected individuals and broader populations[207].

An estimated 10,000 MSM live in Afghanistan, with a co-infection rate of 0.02% for hepatitis B and HIV (2021)[208]. Still, LGBT+ individuals often face significant barriers to accessing adequate HIV/AIDS prevention and treatment in a discriminatory environment, including limited awareness or availability of safe sex practices, prejudice from healthcare professionals, restrictive legal frameworks, and heteronormative societal attitudes[209].

Child laborers, especially those engaged in scavenging or street work, are exposed to barriers to healthcare and additional risks, such as cuts and injuries that can lead to hepatitis B and C infections[210].

Screening of Afghan migrants in destination countries for infectious diseases has identified new cases of HBV, HCV, and TB[211,212], underscoring the broader implications of migration dynamics and public health gaps in Afghanistan.

Gaps in healthcare practices are also evident. A cross-sectional survey of 502 HCWs in Kabul revealed significant gaps in knowledge, attitude, and practice (KAP) regarding HBV prevention. Alarmingly, only 6.77% of participants had completed the recommended three-dose vaccine series, leaving them at increased risk of infection[213]. In contrast, a broader study showed that

[207] Ibid

[208] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Afghanistan 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/afghanistan

[209] Razai, M. S., Berry-Hart, T., Tawakoli, A. R., Ahmad, A., & Hargreaves, S. (2023). Silent suffering of Afghanistan's LGBT+ community. The Lancet Global Health, 11(9), e1331-e1332.

[210] Ziapour, A., Chaboksavar, F., Ahmadi, A., Lebni, J. Y., Kianipour, N., Janjani, P., & Mehedi, N. (2024). A qualitative study on the challenges of Afghan child labourers in Tehran. Plos one, 19(7), e0306318.

[211] Macfarlane, L., Brij, S., Child, F., Turnbull, L., Lee, A., Barrera, M., & Hogan, C. (2023). Active and latent TB screening in recently arrived persons from Afghanistan: feasibility and lessons learned. Clinical Medicine, 23(2), 164-169.

[212] Karaşahin, E. F., Karaşahin, Ö., & Kalkan, İ. A. (2021). Results of Viral Hepatitis and Human Immunodeficiency Virus Screening in Afghan Irregular Migrants: A Cross-sectional Study (2011-2019). Viral Hepatit Dergisis, 27(2), 98.

[213] Roien, R., Mousavi, S. H., Ozaki, A., Baqeri, S. A., Hosseini, S. M. R., Ahmad, S., & Shrestha, S. (2021). Assessment of knowledge, attitude, and practice of health-care workers towards hepatitis B virus prevention in Kabul, Afghanistan. Journal of Multidisciplinary Healthcare, 3177-3186.

HCWs had received the required doses of HBV vaccines. Notably, nurses and midwives, as well as other healthcare professionals, were significantly more likely to be vaccinated compared to medical doctors[214].

Afghanistan has no laws criminalizing HIV non-disclosure, exposure, or transmission, nor does it restrict the entry, stay, or residence of PLHIV. Significant gaps remain in protecting the rights of PLHIV. Parental consent is also required for adolescents under 18 to access HIV testing, and mandatory HIV testing is enforced for marriage, work, or residence permits[215].

Afghanistan has adopted DTG as a preferred first-line ART regimen for adults, adolescents, women of childbearing age, pregnant or breastfeeding women and children older than four weeks and weighing more than 3 kg. For second-line ART, DTG is included in alternative regimens. However, viral load monitoring is implemented in fewer than 50% of treatment sites, and PrEP is yet to be adopted in national guidelines[216].

Harm Reduction

A systematic review and meta-analysis (2010–2022) assessed OAT and NSPs in Afghanistan, revealing significant gaps in harm reduction services for PWID. OAT coverage remains very low, reaching only 2% of PWID. Similarly, NSP coverage is inadequate, with only 30% of PWID receiving needles or syringes in the past year and an average distribution of 50 needles or syringes per PWID annually[217].

In 2021, the coverage of harm reduction services, such as syringe distribution, was found to be inconsistent, with Afghanistan providing an average of 157 needles per PWID annually. This is below the World Health Organization's (WHO) recommended 300 needles per person per year[218].

[214] Duodu, P. A., Darkwah, E., Agbadi, P., Duah, H. O., & Nutor, J. J. (2022). Prevalence and geo-clinicodemographic factors associated with hepatitis B vaccination among healthcare workers in five developing countries. BMC infectious diseases, 22(1), 599.

[215] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[216] WHO, UC, HHS, & SIA. (2023). Afghanistan HIV Country Profile 2024. Retrieved from https://cfs.hivci.org/index.html

[217] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., ... & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: a systematic review and meta-analysis. The Lancet Global Health, 11(8), e1225-e1237.

[218] Burrows, D., Falkenberry, H., McCallum, L., Parsons, D., Ngoksin, E., Zhao, J., & Kunii, O. (2021). Design, implementation, and monitoring of HIV service packages for people who inject drugs: An assessment of programs supported by the Global Fund in 46 countries. International Journal of Drug Policy, 88, 103036.

As part of HIV prevention programs in 2023, 504 condoms were distributed in prisons, and 95 prisoners received OSP[219]. Efforts to expand these services have progressed, with WHO providing operational support to two OST clinics in Kabul and Helmand and UNODC supporting clinics in Herat and Nimrooz[220].

By 2024, harm reduction services included explicit supportive references in national policy documents, eight NSPs, and OST using methadone. Additional measures included peer distribution of naloxone and OST availability in at least one prison[221].

Algeria

Algeria is a North African country located on the Mediterranean coast, classified as a lower-middle-income nation. Cannabis remains the most widely consumed drug in Algeria, with rising hashish and kif use. The synthetic drug market is expanding rapidly, with tramadol, codeine, and pregabalin becoming more popular, especially among youth, due to their low cost and accessibility. Cocaine trafficking has grown significantly, establishing Algeria as a key transit hub for Latin American cartels, with domestic availability also rising, particularly in the capital. The heroin market remains small but shows signs of increased trafficking[222].

In 2023, media reports highlighted that Algerian criminal networks coerced Algerian and Moroccan children into committing criminal acts in Europe, often using drugs to create dependency and manipulate their actions[223].

Efforts to combat drug trafficking are ongoing. The Algerian government seized significant quantities of cannabis, cocaine, heroin, and psychotropic tablets as part of its crackdown on drug-

[219] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Afghanistan 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/afghanistan

[220] World Health Organization Regional Office of the Eastern Mediterranean. (2024). Saving lives, protecting the vulnerable and responding to life-threatening emergencies in Afghanistan: WHO Health Emergencies Programme report 2023 / World Health Organization. Licence: CC BY-NC-SA 3.0 IGO. Retrieved from https://applications.emro.who.int/docs/9789292742928

[221] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024

[222] Global Organized Crime Index. (2023). Profile: Algeria. Retrieved from https://ocindex.net/country/algeria

[223] U.S. Embassy in Algeria. (2024). 2024 Trafficking in Persons Report: Algeria. https://dz.usembassy.gov/2024-trafficking-in-persons-report-algeria/

related crimes[224,225]. In 2022, authorities handled 85,538 drug-related crime cases involving 97,863 people, with approximately 2.5 million people detained. During the first quarter of 2023 alone, 32,742 cases were addressed, involving 37,352 individuals[226].

Drug Use

A retrospective analysis of 40 cases presented to the medical and surgical emergency departments over three months starting July 2023, revealed key insights into drug-related emergencies. Cocaine was the most commonly involved drug (35.5%), followed by buprenorphine (27.5%), pregabalin (22.5%), and cannabis (17.5%). In half of the cases, cocaine was combined with other toxic agents[227].

A scoping review (2007-2022) estimated the population of PWID at 40,961 [26,333–55,590], with an HIV prevalence of 3.4% among this group[228]. However, more recent data from the HRI report (2024) suggest a much lower estimate of 17,000 PWID[229].

BBV

The HIV prevalence rate among Algerian adults aged 15 to 49 remains low at less than 0.1%. In 2023, an estimated 26,000 people in Algeria are living with HIV, marking a significant increase from the 15,000 reported in 2015. Among those currently living with HIV, 88% are aware of their status,

[224] Middle East Monitor. (2023). Algeria Interior Minister: We are facing a drug war. https://www.middleeastmonitor.com/20230415-algeria-interior-minister-we-are-facing-a-drug-war/

[225] Algerian People's National Army. (2024, January 10). Operational Report of PNA from 01st to 09th January, 2024. https://www.mdn.dz/site_principal/sommaire/actualites/an/2024/janvier/lutte10012024an.php

[226] Middle East Monitor. (2023, April 15). Algeria Interior Minister: We are facing a drug war. https://www.middleeastmonitor.com/20230415-algeria-interior-minister-we-are-facing-a-drug-war/

[227] Ait Mouheb, T., Ait Mokhtar, L., & Amine, Z. (2023). Recreational drug use in Algeria: A short cohort study. EPRA International Journal of Research and Development (IJRD), 8(12), 11. https://doi.org/10.36713/epra15064

[228] Karbasi, A., Fordjuoh, J., Abbas, M., Iloegbu, C., Patena, J., Adenikinju, D., ... & Peprah, E. (2023). An evolving HIV epidemic in the Middle East and North Africa (MENA) region: A scoping review. International journal of environmental research and public health, 20(5), 3844.

[229] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

and 76% are on ART[230]. Condom use during the last high-risk sexual encounter among adults aged 15 to 49 is reported at 45.8%[231], indicating a significant high-risk behavior for HIV transmission.
An estimated 27% of pregnant women living with HIV received antiretrovirals for PMTCT in 2023, an improvement from 19% in 2015. The final HIV transmission rate decreased from 26.7% in 2015 to 23.72% in 2023. Both indicators are not on track to meet the 2025 global targets[232].
The most recent available data on HIV prevalence of KP from 2022 were reported as follow: 3.5% among sex workers, 2.4% among MSM and 0.9% among PWID. HIV testing and status awareness were also reported, with the lowest percentage among sex workers at 27.7, followed by 63.2 among PWID and the highest 98.9 among MSM[233].
Significant challenges persist in Algeria's efforts to address HIV and drug-related issues. Between 2019 and 2023, approximately 65% of women and men aged 15–49 reported discriminatory attitudes towards PLHIV[234]. Social stigmas surrounding people who engage in commercial sex, MSM, and PWUD deter these vulnerable groups from accessing HIV testing and treatment[235]. Additionally, gaps in timely post-exposure treatment for HIV are concerning; in one study, 68.5% of HCWs did not adhere to guidelines for initiating treatment of ART within the recommended timeframe[236].
Studies highlight key public health concerns related to HIV, HBV, and HCV in various contexts, including among blood donors, migrants, detainees, and healthcare settings. A decade-long study of 140,168 Algerian blood donors revealed low overall prevalence rates for HIV (0.077%), HCV

[230] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[231] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Algeria 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/afghanistan

[232] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[233] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Algeria 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/afghanistan

[234] Joint United Nations Programme on HIV/AIDS. (2024). The Urgency of Now- Aids at a Crossraods- Global AIDS update 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/global-aids-update-2024

[235] U.S. Department of State. (2023). 2023 Country Reports on Human Rights Practices: Algeria. https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/algeria/

[236] Derkaoui, D. K., Dali-Ali, A., Abdelaziz, Z., Midoun, N., & Zina, M. (2022). Accidents exposing blood to the staff of a hospital and university establishment in Algeria: Assessment and risk factors. African Health Sciences, 22(4), 641-647.

(0.083%) and HBV (0.102%), although notable increases in HCV among rural populations highlight the need for targeted interventions[237].

In a French administrative detention center, a screening study involving 345 participants revealed an HCV prevalence of 4.64% and HBV prevalence of 2.32%, primarily among male detainees, with Algeria being the most common country of origin (34%)[238].

HIV nondisclosure, exposure, or transmission is criminalized within a broader disease law or prosecutions. Additionally, there are no laws explicitly protecting against discrimination based on HIV status, and no constitutional provisions for the protection of sex workers, sexual orientation, or gender identity[239].

Harm Reduction

Harm reduction efforts in Algeria have made significant progress, with explicit references in national policy documents and the operation of three NSPs and one OAT program using methadone[240]. Introduced in 2022, the OAT program aims to scale up harm reduction services and reduce the risk of HIV and hepatitis C among PWUD and PWID. Approximately 300 PWID have accessed OAT through five designated centers. Additionally, 50 medical professionals received training on psychosocial support for people enrolled in OAT[241].

However, take-home naloxone and safer smoking kits are not available, and while OAT is operational in at least one prison, there are no NSP services available in prisons. Religious barriers further hinder access to NSP services, as drug use is considered a major sin, discouraging individuals from seeking harm reduction support[242].

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[237] Djoudi, F., Amir, N., & Chouikh, M. T. (2023). Transfusion-transmissible infections among blood donors in Bejaia, Algeria: ten years retrospective and comparative study. The Journal of Infection in Developing Countries, 17(06), 840-845.

[238] Mancy, S., Fabbro-Peray, P., Alonso, S., Berkaoui, H., Lambremon, L., Vidal, H., ... & Kinné, M. (2024). Prevalence of HIV, Hepatitis C and Hepatitis B Infection Among Detainees in a French Administrative Detention Centre. Journal of Epidemiology and Global Health, 1-10.

[239] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[240] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[241] Joint United Nations Programme on HIV/AIDS. (2022). Algeria 2022: Summary of the Joint Programme's support to the national HIV response in 2022. https://open.unaids.org/sites/default/files/documents/Algeria_Country%20Report_formatted_EN.pdf

[242] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

Harm reduction efforts in Algeria have advanced with support from the MoH. Civil society organizations, along with UNODC and UNAIDS, have played a key role in harm reduction efforts by delivering harm reduction kits and condoms and organizing a series of training workshops on harm reduction and evidence-based OAT for health officials[243,244]. NGOs, including MENAROSA and MENANPUD, have been central to advocacy, planning, and program implementation for PWUD. In 2024, these organizations collaborated for the first time to develop a joint advocacy plan and launched the MENA Learning Hub, focusing on community engagement and the Global Fund's procedures. The hub's first project will assess the learning needs of marginalized communities, including people who use drugs, women living with HIV, and those living with TB, across Global Fund-eligible countries in the region, including Algeria[245]. Algeria, in partnership with UNODC, has launched the 'Youth 4 Impact' programme to empower young people and build resilience against drugs, violence, and crime[246]. As a beneficiary of the EU-funded EU4Monitoring Drugs II project, Algeria is also working with the EMCDDA to enhance cooperation and expertise-sharing within the European Neighborhood Policy area[247].

Bahrain

Bahrain, officially the Kingdom of Bahrain, is a small island nation in the Arabian and part of the Gulf Cooperation Council (GCC) countries, including Kuwait, UAE, Qatar, Saudi Arabia and Oman. Bahrain has made significant strides in combating drug-related issues and safeguarding the community from associated risks. Drug-related cases have remained stable over the past three years, accounting for just 3% of all reported crimes, according to the Interior Minister[248]. Bahrain

[243] Joint United Nations Programme on HIV/AIDS. (2022). Algeria 2022: Summary of the Joint Programme's support to the national HIV response in 2022. https://open.unaids.org/sites/default/files/documents/Algeria_Country%20Report_formatted_EN.pdf

[244] United Nations Office on Drugs and Crime. (2022). Algeria: Addressing the Needs of People Who Inject Drugs. https://www.unodc.org/romena/en/Stories/2022/June/algeria_-addressing-the-needs-of-people-who-inject-drugs.html

[245] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[246] United Nations Office on Drugs and Crime (UNODC). (2023, May). Press Release: Algerian Government and UNODC Launch the 'Youth 4 Impact' Programme to Empower and Strengthen Resilience of Its Youth Against Drugs, Violence, and Crime. https://www.unodc.org/romena/en/press/2023/May/press-release-algerian-government-and-unodc-launch-the-youth-4-impact-programme-to-empower-and-strengthen-resilience-of-its-youth-against-drugs-violence-and-crime.html

[247] European Union Drugs Agency. (n.d.). Algeria. EU4MD. Retrieved from https://www.euda.europa.eu/about/partners/eu4md/algeria_en

[248] Bahrain News Agency. (2023). Interior Minister: Narcotics cases represent less than 3% of crimes. Retrieved from https://www.bna.bh/en/InteriorMinisterNarcoticscasesrepresentlessthan3ofcrimes.aspx?cms=q8FmFJgiscL2fwIzON1%2BDld3Dk0K9ytW3kApHD0w4Cc%3D

is among the few countries in the region, alongside Qatar, Kuwait, Egypt, and Lebanon, that demonstrated decreased HIV mortality rates by 2030[249].

Drug Use

According to the only found resource on drug use (2021), heroin use is minimal due to stigma, while cocaine use is rare and confined to a wealthy minority. Cannabis is the most-seized drug, with Bahrain serving as both a destination and transit point, especially for drugs originating from Saudi Arabia, Iran, and North Africa. The synthetic drug market, led by Captagon and methamphetamine, is the largest in Bahrain. Captagon is reportedly used by truck drivers to stay alert and by women for weight loss, though detailed demographic data on synthetic drug users is limited. Methamphetamine, often sourced from Southeast Asia or Afghanistan, is popular among youth[250].
A systematic review reports 3.2% of male youth using drugs. Cannabis and ATS are each used by 3.2% of males, while 2.9% report the use of inhalants[251].

The most recent data from Bahrain, captured in 2015, shows an estimated number of PWID at 5,100 with a prevalence of 48.4 per 10,000 people. Since the mean age of PWID was not reported in Bahrain, an extrapolated estimate was calculated at 32.7 years (31.3 to 34.2). Heroin was noted as the most commonly injected drug among PWID[252].
Bahrain has a single inpatient specialized DTC exclusively for males, Mohammed Almoayyed Drug & Alcohol Rehabilitation Center, in Manama, focusing on detoxification and rehabilitation

[249] Khorrami, Z., Balooch Hasankhani, M., Khezri, M., Jafari-Khounigh, A., Jahani, Y., & Sharifi, H. (2023). Trends and projection of incidence, mortality, and disability-adjusted life years of HIV in the Middle East and North Africa (1990–2030). Scientific Reports, 13(1), 13859.

[250] Global Organized Crime Index. (2021). Profile: Bahrain. Retrieved from https://ocindex.net/country/Bahrain

[251] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

[252] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., ... & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: a systematic review and meta-analysis. The Lancet Global Health, 11(8), e1225-e1237.

services[253]. More recently, the need to specifically address women's access to and inclusion in drug treatment programs emerged[254].

BBV

According to a review by Awaidy, Ghazy, & Mahomed (2023), HIV incidence in Bahrain, Kuwait, and Oman remained below 0.1% up to 2021, with no significant increases in cases reported over the years. The estimated number of PLHIV in 2021 was less than 500, with 37 newly reported cases. Awareness of HIV status among PLHIV rose dramatically from 41% in 2015 to 94% in 2021 (on track to achieve the first 95 target by 2025, ensuring that 95% of HIV-positive individuals are aware of their status). Among PLHIV aware of their status (2021), 68% were on ART, and 55% of those receiving ART had achieved viral suppression. This improvement is likely due to Bahrain's comprehensive HIV free testing to all strategy. The country has also adopted the WHO 2017 recommendation for rapid initiation of ART, ensuring treatment begins within seven days of diagnosis. The implementation of the recommended ART CD4 initiation threshold is extensive, with more than 95% of treatment sites complying nationwide. Additionally, Bahrain has a national policy on routine viral load testing for adults and adolescents, which is fully implemented, with 100% of ART facilities offering viral load testing[255].

It is estimated that there were between 1,369 and 15,506 PWID in Bahrain from 2007 to 2022, with a central estimate of 1,937. The HIV prevalence among this group was reported at 4.6%. These figures are closely aligned with findings from a systematic review and meta-analysis, which estimates that there are approximately 5,100 PWID in Bahrain with an HIV prevalence of 3.89% (2015). In this study, the prevalence of hepatitis B was not reported but an extrapolated estimate showed a prevalence of 3.43% among PWID, with an estimated 175 individuals (83–289) having hepatitis B virus surface antigen. For hepatitis C antibody, the extrapolated estimated showed a prevalence of 37.67%, with an estimated 1,921 PWID (1,426–2,475) carrying the hepatitis C virus

[253] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

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[255] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the gulf cooperation council (gcc) countries towards achieving the 95-95-95 UNAIDS targets: a review. Journal of epidemiology and global health, 13(3), 397-406.

antibody[256]. The HRI 2024 report indicates that 3.89% of PWID in Bahrain are reported to be living with hepatitis C (anti-HCV)[257].

A modeling study examined HIV epidemic dynamics within heterosexual sex work networks, highlighting significant risks for FSWs, particularly those who inject drugs. In Bahrain, the overall HIV prevalence among FSWs was 0.9% (0.3-1.8%), but this increased sharply to 21.0% for those who inject drugs. Among clients of sex workers and clients' spouses, the prevalence of HIV was low at 0.03 (0-0.08%) and 0.01 (0-0.0.3%) respectively[258].

A study on HBV patients in Bahrain (2011–2016) revealed that 18.9% tested positive for HBeAg, which was associated with distinct laboratory profiles[259]. Similarly, Alabdulali et al. (2023) found significant positive correlations between BMI and markers such as CD4+ T cell count and white blood cells, indicating a link between BMI and HIV/AIDS progression[260].

In Bahrain, laws explicitly criminalize individuals who don't disclose or expose and transmit HIV. Laws and policies in Bahrain restrict the entry, stay, and residence of people living with HIV, including deportation, prohibition of short- or long-term stays, and mandatory HIV testing or disclosure for certain permits[261].

While all individuals living with HIV are eligible to start treatment under national policy, access to HIV services and primary healthcare is not provided to migrants under the same conditions as citizens. Self-testing for HIV has not been adopted, and although one form of PrEP has received national regulatory approval, KPs at substantial risk of HIV are not identified as eligible for PrEP under national policy. Harm reduction measures for PWID are included in national policies and service packages, but condoms and syringe access programs are not available to prisoners.

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[256] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., ... & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: a systematic review and meta-analysis. The Lancet Global Health, 11(8), e1225-e1237.

[257] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[258] Chemaitelly, H., Ayoub, H. H., Omori, R., El Feki, S., Hermez, J. G., Weiss, H. A., & Abu-Raddad, L. J. (2022). HIV incidence and impact of interventions among female sex workers and their clients in the Middle East and north Africa: a modelling study. The Lancet HIV, 9(7), e496-e505.

[259] Abdulla, M., Ghuloom, M., Nass, H., Mohammed, N., Farid, E., & ALQamish, J. (2021). Prevalence of hepatitis B e antigenemia in Bahraini hepatitis B patients: A retrospective, single-center study. JGH Open, 5(3), 337-342.

[260] Alabdulali, F., Freije, A., Al-Mannai, M., Alsalman, J., Buabbas, F. A., Rondanelli, M., & Perna, S. (2023). Influence of HIV/AIDS Infection on Immunological and Nutritional Status in Adults and Older Adults: A Cross-Sectional Study in Kingdom of Bahrain. Geriatrics, 8(5), 88.

[261] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

Additionally, national laws lack explicit protections from discrimination based on sexual orientation, gender identity, and HIV status[262].

Harm Reduction

A scoping review conducted from 2007 to 2022 identified that fourteen countries in the region, including Bahrain, mentioned harm reduction and PWID as a KP to target, in their national policy documents[263]. However, the HRI 2024 report presents conflicting information, indicating that explicit supportive references to harm reduction in Bahrain's national policy documents could not be determined. Furthermore, it notes that Bahrain does not have operational harm reduction programs such as NSP, OAT, drug consumption rooms, or the availability of take-home naloxone[264].

Egypt

Egypt, officially known as the Arab Republic of Egypt, is located in the northeastern corner of Africa, connecting to the Middle East through the Sinai Peninsula.

Egypt's geographic location makes it a critical hub for drug trafficking, serving as both a destination and transit point for various narcotics. Heroin from Asia transits through Egypt to Europe, Africa, and the US, while cannabis trafficking and improved illegal cultivation in Sinai serve both local and transit markets. Meanwhile, synthetic drugs present a growing challenge. Synthetic drugs, including smuggled Tramadol from Libya and via maritime routes, Captagon from Lebanon and Syria, and methamphetamine from Afghanistan, are emerging challenges[265].

Over the past decade, significant progress has been made globally toward achieving the goal of infectious diseases elimination. Egypt has been at the forefront of this effort, becoming one of the few countries globally and one of only two in the region alongside Saudi Arabia that are on track to achieve the WHO viral hepatitis elimination targets[266]. Egypt is also extending its expertise in hepatitis elimination by supporting global efforts, such as providing HCV treatment drugs to

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[262] HIV Policy Lab. (2024). Bahrain Country Profile. Retrieved from https://hivpolicylab.org/bh/

[263] Karbasi, A., Fordjuoh, J., Abbas, M., Iloegbu, C., Patena, J., Adenikinju, D., ... & Peprah, E. (2023). An evolving HIV epidemic in the Middle East and North Africa (MENA) region: A scoping review. International journal of environmental research and public health, 20(5), 3844.

[264] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[265] Global Organized Crime Index. (2023). Profile: Egypt. Retrieved from https://ocindex.net/country/egypt

[266] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

Ghana, enabling the launch of the STOP Hep C Ghana Project, which offers free nationwide treatment and has reached 50,000 people[267].

Drug Use

According to a systematic review from 2010 to 2022, Egypt stands out in the MENA region for high rates of opioid and inhalant use among its young population and heroin among its adult population. Data indicate that in the past 12 months, 16.9% of the adult male general population and 0.4% of adult females reported tramadol use, while among young people, 2.6% of males and 0.6% of females reported usage. Among people seeking treatment for drug use, tramadol was the most commonly cited primary drug, followed by heroin[268].

Hospital emergency data provided insights into emerging drug use patterns and high-risk trends. Tramadol was the most frequently reported substance in adults, while cannabis was more common among children and adolescents. Opioids, however, accounted for the highest case fatality rate, contributing to 162 fatalities (1.4% of all cases)[269].

Among 2,252 university students, 8.9% reported smoking cigarettes, followed by tranquilizers (4.3%), hashish (3.6%), alcohol (2.7%), bhang (1.4%), and tramadol (1.0%), with men and students in practical colleges reporting higher usage rates[270]. Among this sample of students, knowledge of services for drug rehabilitation or HIV/AIDS counseling was limited, with only 20.4% of students aware of HIV/AIDS hotline services and 26.2% of VCT[271].

According to a study among 142 women, during the first half of 2022, the reported use of heroin was 54.9%, hashish 18.3%, and tramadol 14.8%, with 9.9% of participants reported IDU without needle sharing. Heroin remains the most commonly used drug among women, alongside tramadol, cannabis, and synthetic cannabis. Women in focus groups highlighted various contexts for drug use, often involving close relationships and shared settings. Drug use typically occurred at home with husbands, partners, sex work clients, friends, or siblings, and occasionally on the

[267] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[268] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

[269] Azab, S. M., Tawfik, H., & Hayes, B. D. (2022). Intoxication related to substances use in patients presenting to Ain Shams University poisoning treatment center, Cairo, Egypt (2015–2019). Drug and alcohol review, 41(5), 1109-1118.

[270] Kabbash, I., Zidan, O., & Saied, S. (2022). Substance abuse among university students in Egypt: prevalence and correlates. Eastern Mediterranean Health Journal, 28(1), 31-40.

[271] Kabbash, I. A., Atalla, A. O., & Atlam, S. A. (2023). Perception of the problem of tobacco smoking and drug use among Kafr El-Sheikh University students, Egypt. Journal of Substance Use, 28(3), 342-348.

street. Contextual pathways to drug use were diverse, with some women introduced to drugs through emotional distress, domestic violence, or sex work. Cultural norms in conservative Egyptian society further exacerbate stigma, discrimination, and marginalization of women who use drugs. Key informants emphasized that stigma is heightened if the woman is living with HIV, injecting drugs, or engaging in commercial sex work[272].

The estimated number of PWID in Egypt is approximately 96,230, with an HIV prevalence rate of 3.73% among this population[273]. Married and unemployed PWID were more likely to engage in high-risk behaviors and share needles or syringes[274]. IDU (44.5%) was identified as the most common transmission route for HIV[275].

BBV

[272] Van Hout, M. C., Elsayed, H., Elgamil, R., Rabie, M. A., Aly, R., & Sonnan, M. T. (2023). 'Secrecy, Trust, Safety': A multi-stakeholder situation assessment of gendered and contextual vulnerabilities and service level responsiveness to the needs of women who use drugs in Egypt. International Journal of Mental Health and Addiction, 1-24.

[273] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[274] Anwar, S., El Kharrat, E., Bakhoum, A., El-Sadr, W. M., & Harris, T. G. (2022). Association of sociodemographic factors with needle sharing and number of sex partners among people who inject drugs in Egypt. Global Public Health, 17(8), 1689-1698.

[275] Tharwat, M., Moustafa, E., El Sharkawy, A., Medhat, M., Sayed, H., Hassany, M., & Salem, M. (2024). Sociodemographic and clinical profile of HIV/AIDS patients in Upper Egypt: A multi-center study. Microbes and Infectious Diseases, 5(3), 961-971.

HIV prevalence in Egypt has consistently remained below 0.01% since 1990[276], but the number of PLHIV has significantly risen, increasing from fewer than 500 individuals in 1990 to 30,000 by 2021[277]. UNAIDS estimates indicate approximately 42,000 PLHIV in 2023[278].

From 1990 to 2021, the number of children living with HIV increased from fewer than 100 to 1,100 and by 2023, it is estimated that fewer than 1,000 children are living with HIV[279].

The number of pregnant women requiring ART to PMTCT increased from fewer than 500 during 2010-2014 to 780 in 2021. ART coverage for pregnant women also rose, from 3% in 2010 to 18% in 2021[280], with a further increase to 19% by 2023[281].

In 2023, 64% of PLHIV were aware of their status, 46% on ART, and 40% achieving viral suppression[282]. According to 2024 projections, these numbers are expected to rise with 77% of the population that would know their HIV status, and 71% of them on ART[283]. A cross-sectional study of 785 PLHIV attending an ART clinic in Alexandria in 2021 found an overall ART adherence rate of 66.7%. Independent predictors of poor adherence included female sex, IDU, and only fair satisfaction with ART clinic services[284].

[276] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[277] Ghazy, R. M., Al Awaidy, S., & Taha, S. H. N. (2023). Trends of HIV indicators in Egypt from 1990 to 2021: time-series analysis and forecast toward UNAIDS 90–90–90 targets. BMC Public Health, 23(1), 625.

[278] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[279] Ibid

[280] Ghazy, R. M., Al Awaidy, S., & Taha, S. H. N. (2023). Trends of HIV indicators in Egypt from 1990 to 2021: time-series analysis and forecast toward UNAIDS 90–90–90 targets. BMC Public Health, 23(1), 625.

[281] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[282] Ibid

[283] Ghazy, R. M., Al Awaidy, S., & Taha, S. H. N. (2023). Trends of HIV indicators in Egypt from 1990 to 2021: time-series analysis and forecast toward UNAIDS 90–90–90 targets. BMC Public Health, 23(1), 625.

[284] Magdy, M., Zaki, A., Osman, S. O., Abd El-Wahab, E. W., & Abd Elhameed, A. (2024). Predictors of Adherence to Antiretroviral Therapy among People Living with HIV in Northern Egypt. Annals of Global Health, 90(1).

PLHIV face numerous challenges that affect their daily lives and hinder access to healthcare, including inadequate counseling, knowledge and practice, overcrowded healthcare facilities, long waiting times, stigma, and discriminatory practices by healthcare workers[285,286,287].

The prevalence of HIV-HCV co-infection in Egypt is notably higher compared to other African countries[288]. A retrospective cohort study of 218 HIV-positive patients found an HCV seroconversion incidence rate of 4.06 cases per 100 person-years, rising to 7.08 per 100 person-years among those with a history of IDU[289].

The legal framework restricts the entry, stay, and residence, including deportation and mandatory disclosure for certain permits. It also mandates HIV testing for marriage, work, and residence permits or specific groups. Parental consent is required for HIV testing in adolescents under 18, but spousal consent is not needed for married women to access sexual and reproductive health services[290].

Egypt's recognition as the first country to receive the "Path to Elimination Certificate" is well-supported by its extensive efforts to combat viral hepatitis. In 2008, infectious diseases were placing the disease among Egypt's top public health challenges. In 2014, an ambitious elimination action plan was launched in 2014, culminating in a nationwide mass screening campaign in 2018 that treated over 4 million patients with antivirals. A 2021 survey revealed a 93% reduction in HCV infections and a 20% decrease in HBV chronic infections compared to 2015. These efforts

[285] Aziz, M. M., Abdelrheem, S. S., & Mohammed, H. M. (2023). Stigma and discrimination against people living with HIV by health care providers in Egypt. BMC health services research, 23(1), 663.

[286] Elsharkawy, A., Salem, M. R., Asem, N., Ibrahim, W. K., Ramadan, E. G., Abdelaziz, M. A., ... & Hassany, M. (2022). Perceived stigma and healthcare services in healthcare settings among people living with HIV in Egypt: a qualitative study. Transactions of The Royal Society of Tropical Medicine and Hygiene, 116(9), 868-873.

[287] Farouk, M., Hetta, H. F., Abdelghani, M., Ezzat, R., Moustafa, E. F., Hassany, S., ... & El-Kassas, M. (2024). Knowledge, Attitude, and Practice (KAP) Study of Egyptian physicians towards HIV infection: a multicentre study. The Journal of Infection in Developing Countries, 18(07), 1100-1107.

[288] Elsharkawy, A., Alem, S. A., Cordie, A., Mohamed, R., Meshaal, S., & Esmat, G. (2022). Current status of hepatitis C virus among people living with human immunodeficiency virus in Egypt. Transactions of The Royal Society of Tropical Medicine and Hygiene, 116(6), 571-578.

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[290] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

underscore Egypt's leadership in achieving and sustaining low rates of viral hepatitis through infection control, community health education, and strengthened patient care[291].

A systematic review conducted in Egypt from 2000 to 2022, estimated the pooled national HBV prevalence based on HBsAg to be 3.67%, with higher prevalence in males compared to females. Among children under 20 with a history of HBV vaccination during infancy, the prevalence was notably lower at 0.69%. Pregnant women, blood donors, and HCWs had prevalence of 2.95%, 1.8%, and 1.1%, respectively. Higher prevalences were observed among patients with hemolytic anemia (6.34%), those undergoing HD (25.5%), patients with malignancies (18.6%), HCC patients (34%), and chronic liver disease patients (34%)[292].

A comprehensive analysis of occult HBV prevalence in HBsAg-negative individuals showed the highest rates in multi-transfused patients (41%), followed by HCC patients (24%), those with chronic hepatitis C (10%), HD patients (17%), and liver cirrhosis patients (13%). Among HBsAg-negative and anti-HBc-positive individuals, prevalence was 12% in blood donors, 15% in chronic hepatitis C patients, and 31% in HCC patients[293].

Among refuges in Egypt, there are intermediate-to-high HBV rates (28.3% anti-HBs and 4.2% HBsAg), and a low HCV prevalence (0.8% anti-HCV IgG). Poor HBV immunity and ongoing HBV transmission risks are also prevalent among this vulnerable group[294].

The primary modes of HBV transmission in Egypt are community-based, with significant risks associated with cultural and behavioral practices. Shaving at barbershops increases HBV risk due to the reuse of unsterilized razors and scissors, with 64% of males opting for such practices. Other risky practices include "hijama" (wet cupping), IDU, dental treatments, sutures, acupuncture, tattoos, body piercing, in vitro fertilization, vertical and horizontal transmission[295].

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[291] Kandeel, A., Fahim, M., Abukamar, S., BahaaEldin, H., Abuelsood, H., Samy, S., ... & Abdelghaffar, K. (2024). Evidence for the elimination of viral hepatitis B and C in Egypt: Results of a nationwide survey in 2022. Liver International, 44(4), 955-965.

[292] Azzam, A., Khaled, H., Elbohy, O. A., Mohamed, S. A., Mohamed, S. M. H., Abdelkader, A. H., ... & Rizk, S. M. A. (2023). Seroprevalence of hepatitis B virus surface antigen (HBsAg) in Egypt (2000–2022): a systematic review with meta-analysis. BMC Infectious Diseases, 23(1), 151.

[293] Azzam, A., Khaled, H., El-Kayal, E. S., Gad, F. A., & Omar, S. (2023). Prevalence of occult hepatitis B virus infection in Egypt: a systematic review with meta-analysis. Journal of the Egyptian Public Health Association, 98(1), 13.

[294] El-Ghitany, E. M., Ashour, A., Fekry, M. M., Elrewany, E., Farghaly, A. G., & Omran, E. A. (2022). Seroprevalence of Hepatitis A, B and C Among a Sample of Refugees in Egypt: An Exploratory Survey. Journal of Epidemiology and Global Health, 12(4), 430-440.

[295] Abdelhamed, W., & El-Kassas, M. (2024). Hepatitis B virus in Egypt: the whole story. Egyptian Liver Journal, 14(1), 56.

Given these risks, vaccination emerges as a key preventive tool. Universal hepatitis B vaccination in Egypt demonstrates excellent effectiveness, likely enhanced by the recent implementation of a birth dose, with protection rates surpassing previous local and global studies[296]. Additionally, 96.5% of facilities have safe injection and post-exposure needle stick injury policies in place, further strengthening the overall healthcare infrastructure[297].

In its effort to eradicate HCV by 2030, Egypt has implemented ambitious treatment programs, significantly reducing HCV prevalence[298]. In December 2018, a mass HCV screening campaign among 3,024,325 Egyptian students revealed an HCV antibody seroprevalence of 0.38%, with 78.7% testing HCV RNA-positive[299]. A 2024 study revealed low active HCV prevalence among HD patients, with 4.2% positive for HCV RNA and 20.4% achieving full recovery[300]. A systematic review (2011-2021) of 193,621 participants revealed an overall HCV antibody seroprevalence of 0.02[301]. HBV prevalence among HCV patients remains low at 0.8%, with comorbid conditions and IDU favoring coinfection[302].

[296] Bakr, R. A., El Sherbini, E., Aboulela, A. G., Abougabal, M., & Elsheredy, A. (2022). Assessment of hepatitis B virus immune status among hepatitis B virus vaccinated children. Microbes and Infectious Diseases, 3(4), 869-877.

[297] Ali, L., & Eldessouki, R. (2022). Assessment of safe injection awareness and practices among healthcare providers at primary health care facilities. Journal of the Egyptian Public Health Association, 97(1), 29.

[298] Abdallah, M., Waked, I., & El-Kassas, M. (2024). Global Hepatitis C Virus Elimination—Where Are We?. Current Hepatology Reports, 1-5.

[299] Kamal, E., Asem, N., Hassany, M., Elshishiney, G., Abdel-Razek, W., Said, H., ... & Zaid, H. (2022). Nationwide hepatitis C virus screening and treatment of adolescents in Egyptian schools. The Lancet Gastroenterology & Hepatology, 7(7), 658-665.

[300] Sarhan, I. I., ELSharkawy, M. M., El Gaafary, M. M., Hendam, D. M., & Gouda, K. (2024). The burden of HCV among prevalent hemodialysis patients after the National Egyptian HCV Eradication program. The Egyptian Journal of Immunology, 31(2), 112-121.

[301] Abdel-Gawad, M., Nour, M., El-Raey, F., Nagdy, H., Almansoury, Y., & El-Kassas, M. (2023). Gender differences in prevalence of hepatitis C virus infection in Egypt: a systematic review and meta-analysis. Scientific Reports, 13(1), 2499.

[302] Eldeen, H. G., Hassany, M., Elakel, W., AbdAllah, M., Abdel-Razek, W., Elshazly, Y., ... & Hashem, A. (2022). Seroprevalence of HBV/HCV coinfection among patients with HCV screened during the national campaign for HCV eradication in Egypt. Arab Journal of Gastroenterology, 23(4), 259-262.

Harm Reduction

Across the MENA, 10 countries explicitly reference harm reduction in their national policies. However, only four- Egypt, Iran, Morocco and Lebanon- have integrated supportive harm reduction strategies into their National HIV Strategic Plans[303].

Egypt has recently made progress in harm reduction efforts, with OAT becoming available in 2022 and at least one NSP operational. However, the reach of these strategies remains restricted, with harm reduction services yet to be extended to prisons[304].

Egypt's National Strategic Plan (2021-2025) seeks to fully implement comprehensive harm reduction and HIV services, ensuring they are easily, voluntarily, and confidentially accessible to all PWUD, including those in prisons and other closed settings. Approximately seven NGOs were reported to be actively involved in providing HIV services, including community-based counseling and testing, primarily targeting KPs such as sex workers, MSM, and PWID. These organizations also extend services to vulnerable groups like refugees and asylum seekers, incorporating HIV counseling and testing into their intervention packages[305].

Iran

Iran, officially the Islamic Republic of Iran and historically known as Persia, is located in Western Asia. Due to Afghanistan's opium ban, some opium users in Iran shifted to heroin injection[306]. Indeed, Iran is a global hotspot for heroin trafficking, with high addiction rates due to its low price[307]. However, heroin availability declined in late 2023 as traffickers prioritized exporting to more lucrative markets, causing domestic heroin prices to rise. This spurred increased demand for illicit opium tincture, an unofficial OST[308]. Cannabis, the second most consumed drug, is

[303] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[304] Ibid

[305] WHO, Ministry of Health and Population & UNAIDS (2021). Egypt National Strategic Plan on HIV 2021-2025. Retrieved from https://hivpreventioncoalition.unaids.org/sites/default/files/attachments/egypt_hiv_nsp_2021-2025_final.pdf

[306] United Nations Office on Drugs and Crime. (2024). World Drug Report 2024: Contemporary issues on drugs. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR24_Contemporary_issues.pdf

[307] Global Organized Crime Index. (2023). Profile: Iran. Retrieved from https://ocindex.net/country/iran

[308] United Nations Office on Drugs and Crime. (2024). World Drug Report 2024: Contemporary issues on drugs. Retrieved from https://www.unodc.org/documents/data-and-analysis/WDR_2024/WDR24_Contemporary_issues.pdf

increasingly cultivated domestically, with resin also imported from Afghanistan. Meanwhile, methamphetamine production and supply remain substantial[309,310].

Drug Use

For PWID, gender-specific analyses reveal distinct patterns. For females, IDU was associated with being a housewife and lower education. Condomless sexual contact in females was more common among younger and married individuals[311]. For males, IDU was associated with being single, unemployed, and having lower education[312]. A survey of 2,399 men who inject drugs in Iran found that 32.9% experienced sexual intercourse before the age of 18, which was significantly associated with drug use before the age of 16, and higher risk behaviors such as condomless sex in the past 12 months[313].

Women with substance use disorder (SUD) are particularly vulnerable to risky sexual behaviors. A 2022 review identified multiple influencing factors; notably, drug use and injectable heroin were predictors of exchanging sex for drugs, with stimulants like methamphetamine and cocaine increasing the likelihood of multiple sexual partners and HIV-related behaviors[314]. A study of 300 women with SUD in Tehran (2017–2021) found that only 22% consistently used condoms, with barriers closely linked to the context of sexual encounters, such as group or casual sex[315].

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[310] Global Organized Crime Index. (2023). Profile: Iran. Retrieved from https://ocindex.net/country/iran

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FSWs in Iran face heightened risks. A cross-sectional study among 1,515 FSWs in eight Iranian cities (2019–2020) found a lifetime drug use prevalence of 29.3% and current drug use prevalence of 18.86%. Factors significantly associated with lifetime drug use included lower education, working in team houses, intentional abortion, condom use in last sex, imprisonment history, HIV positivity, alcohol use, and finding clients in public places[316]. A second study in 2015 among 1,337 FSWs in 13 Iranian cities found that 31.3% engaged in sexualized substance use (before or during sex) in the past month. Factors significantly associated with sexualized substance use included inconsistent condom use with clients, regular alcohol use, regular opioid use, regular stimulant use, and self-reported HIV-negative status[317].

Drug use within prisons has shown notable trends over the years. The prevalence of non-injection drug use in prisons decreased significantly from 39.7% in 2009 to 14.0% in 2017, with 24.1% overall prevalence. Despite this decline, only 44.0% of PWUD in prison were receiving OAT, and by 2017, 75.1% of OAT participants used stimulants. Several factors were positively associated with recent drug use in prisons, including earlier interview years, younger age, male sex, lower education, previous incarceration, and a history of HIV testing[318]. Analysis of data from 1,240 participants with a history of incarceration revealed that 15.08% had ever injected drugs while in prison.

Among PWID, 28% experience cognitive impairments, with key risk factors including longer durations of IDU, methamphetamine use, and alcohol consumption[319]. An analysis of 2,618 PWID revealed a nationwide lifetime prevalence of non-fatal overdose at 21.7% associated with older age, male gender, homelessness, younger age at injection initiation, recent stimulant injection, non-prescribed benzodiazepine use, lifetime suicide attempts, and HIV seropositivity[320]. Compared to those injecting in non-public places, public injectors had higher odds of non-fatal

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overdose, needle or syringe sharing, unsafe sexual practices with casual partners, suicidal ideation, and self-harm in the last three months[321].

Injection cessation and relapse rates were estimated at 26.1 and 32.7 per 100 person-years, respectively, with higher relapse among women and higher-income individuals, though no significant predictors of cessation were identified[322].

PWID have 5.7 times higher odds of HIV infection compared to non-injecting PWUD[323]. High-risk perception of HIV among PWID was associated with behaviors like injecting drugs more than twice daily and syringe sharing[324]. High HIV risk perception and amphetamine use in the past three months were positively associated with inconsistent condom use among PWID, while being single, widowed, or separated and participation in NSP reduced the likelihood of inconsistent condom use[325].

BBV

In 2023, there are an estimated 43,000 adults and children living with HIV, with 2,600 new infections reported in 2023. The HIV prevalence rate among adults aged 15 to 49 remains low, at less than 0.1%[326]. Factors such as a history of homelessness, incarceration, and longer injection careers remain strongly associated with higher odds of HIV seropositivity[327].

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According to UNAIDS 2023 estimates, there are 90,000 PWID in Iran with an HIV prevalence of 1.2%[328]. This figure is significantly lower than the 8.3% estimate among 138,250 PWID, reported in the HRI 2024 report. The study also reported the prevalence of HCV and HBV, which were 36.8% and 3.04%, respectively[329]. Between 2010 and 2020, significant reductions were observed in key risk behaviors among PWID, including receptive needle sharing from 25.2% to 3.9%, and unprotected sex from 79.4% to 65.2%. Also, the uptake of free needles or syringes increased substantially from 57.4% to 87.9%, although the use of free condoms remained relatively stable (34.3% to 32.6%)[330].

In 2023, 96.6% of the population of PWID in Iran were aware of their HIV status[331], reflecting significant progress compared to 67% awareness reported during 2019 and 2020[332]. However, the coverage of HIV prevention programs among this KP remains low at only 11.7%[333] and testing rates remain low, with 69.78% reporting lifetime testing[334]. For HIVST, only 16.2% of PWID had heard of it, but 73.6% showed high willingness to use it[335].

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FSWs are a KP in Iran, with a reported HIV prevalence of 1.6% in 2020[336]. Among 100 FSWs, 6% were infected with HIV, 1% with hepatitis B, 2% were anti-HCV positive, while 68% reported unprotected sex[337]. Condomless sex remains prevalent among FSW in Iran, with a condom use rate of 60.5% reported by the UNAIDS 2024 report[338]. A systematic review and meta-analysis found that 34.23% of FSWs did not use condoms during their last sexual encounter with clients, and half did not use condoms with nonpaying partners[339]. Condom use among FSW is influenced by factors like HIV knowledge, social support, self-efficacy, perceived norms, barriers, condom use negotiation, and environmental factors [340,341]. Among FSW, HIV testing and status awareness were reported at 67.1% and coverage of HIV prevention programs at 35.1%[342].

Among 10,000 transgender people in Iran (2022), HIV prevalence is 0.8%, with 98.4% aware of their HIV status and condom use reported at 64.6%. However, the coverage of HIV prevention programs remains low at 1.1%. Notably, 28.4% avoid healthcare due to stigma and discrimination, and 60.5% have experienced violence[343]. A study of transgender individuals revealed significant gaps in preventive healthcare: 62.5% had not received hepatitis B vaccination, 87.09% had never taken an HIV test, and 97.9% had not undergone a Pap test[344].

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[342] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[343] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

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Among 224,000 estimated people in prison, HIV prevalence in Iran was reported at 0.1% in 2023, with a prevalence of coinfection with HCV at 0.2% and of TB at 0.02% in 2019[345]. The estimated pooled prevalence rates of HIV, HBV, and HCV are respectively, 2.77%, 2.89%, and 21.57%[346]. From 2010 to 2017, HIV prevalence among incarcerated individuals in Iran declined from 2.1% to 0.8%, with prevalence among those with a history of IDU dropping from 8.1% to 3.9%. However, in 2017, only 64% of incarcerated PLHIV were aware of their status and 45% were on ART[347]. In 2023, ART coverage among prisoners in Iran reached 98%, with 53,747 condoms distributed and 78,129 prisoners receiving OST[348]. HIV testing inside prisons increased significantly from 23% in 2009 to 50.3% in 2017. Despite the increase, half of incarcerated individuals with high-risk behaviors had never been tested for HIV in prison[349].

HCWs face significant risks of blood-borne infections, with transmission probabilities estimated at 5.9% for HBV, 2.6% for HCV, and 0.5% for HIV, compounded by weak knowledge and practices[350]. HCWs are at increased risk of HIV due to high-risk behaviors, with 47% of HCWs in Iran experiencing needlestick injuries[351]. Nurses often experience significant challenges, fears, and stress when caring for PLHIV[352].

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Students in Iran also have low to moderate knowledge about HIV/AIDS, generally negative attitudes and risk perception ranging from 6.5% to 60%. Premarital sexual relationships were reported by 8 to 50% of participants, with less than 50% using condoms consistently[353]. Another cross-sectional study of 1,450 students revealed that 29.8% respected the social rights of PLHIV, while only 12.6% reported condom use[354]. Among specific student groups, midwifery students had adequate knowledge and attitudes toward caring for HIV/AIDS patients, however, none demonstrated a fully positive attitude, and their willingness to provide care was moderate or neutral[355].

Among PLHIV, 56% are aware of their HIV status, 43% are reported to be receiving ART, and 40% are virally suppressed[356]. Significant barriers such as late diagnosis (LD) and advanced HIV disease (AHD) persist, with over half of patients experiencing LD and nearly one-third facing AHD[357]. A cohort study of 1,326 PLHIV in southern Iran (1997–2021) revealed late ART initiation in 81.9%, with factors like male gender, older age, single status, drug use, earlier ART initiation years and IDU transmission contributing to delays[358]. Non-adherence to ART was linked to factors such as

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drug and alcohol use, imprisonment, depression and sociodemographic factors[359,360,361], while longer ART duration and self-efficacy improved adherence[362,363].

Access to HIV testing and treatment in Iran is impeded by barriers such as personal and financial constraints, stigma (around migration, gender, and drug addiction), mistrust in the healthcare system, and poor service quality[364,365,366,367].

Iran's legal framework regarding HIV includes laws protecting against discrimination on the basis of HIV status but lacks constitutional or other nondiscrimination provisions for KPs[368].

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Among PLHIV, the prevalence of TB ranges from 0.1% to 3.2%[369,370]. Coinfected TB/HIV patients were shown to have a lower treatment success rate than new TB patients (65.02% vs. 83.41%) and longer treatment durations[371].
A 2024 systematic review and meta-analysis estimated the prevalence of HBV (13%), HCV (54%), and TB (19%) among PLHIV in Iran. HCV prevalence was found to be significantly linked to PWID[372].

HBV infection frequency (from 2004 to 2021) was estimated at 6%, with 19% undergoing pharmaceutical therapy. Key risk factors included narcotic use (27%), blood-related factors (32%), and transmission from infected individuals (25%)[373].
Among 1,425 pregnant women in southern Iran, the prevalence of HBsAg was 1.05%, HBcAb was 2.88%, and HBV viremia was 0.35%. Tattooing, Afghan immigrant status, illiteracy among women, and no prior HBV vaccination were identified as significant risk factors for HBcAb seropositivity, highlighting the need for routine HBV screening, vaccination, and treatment during pregnancy[374]. Similarly, a study in Sari (2018–2020), reported low prevalence rates of HBsAg (0.2%), HCV (0.09%) and HIV (0.09%) among 1,092 pregnant women[375]. In Kermanshah (2014–2021), a study of 95 HIV-positive mothers demonstrated the effectiveness of PMTCT programs, with 82.1% of pregnancies

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adhering to national guidelines. All infants received post-birth antiretroviral prophylaxis and remained HIV-free, showcasing the critical role of early diagnosis and timely interventions[376].

A review of 18 studies involving 5,646 street children reported prevalence rates of HIV at 0.79%, HBV at 1.97%, and HCV at 1.88%. Among them, lifetime drug use prevalence was 8.32%, and sexual abuse prevalence was 10.18%[377].

According to multiple studies, the prevalence of HBV among HD patients ranged from 0.09% to 13.8%, while HCV prevalence varied from 0.18% to 15%[378,379,380].

In 2018, a study of 1,308,284 blood donors in Iran found the prevalence of HIV, HBV, and HCV in donated blood to be 2, 53, and 26 per 100,000 population, respectively[381]. The prevalence of occult HBV infection varies across Iranian blood donors, with rates reported as 0% in Mashhad, Ahvaz, and Tehran, and highest rates in Kerman (2.36%)[382]. Among 4,313 HBsAg-negative blood donors in Golestan province, 8.9% were found to be anti-HBc positive. Of these, 0.9% were anti-

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[378] Shamsdin, S. A., Fatahi, M. R., Ansari, A. R., & Safarpour, A. R. (2022). Prevalence of HBV, HCV, and HIV Infections among Patients Undergoing Hemodialysis in Fasa, Iran: A Six-Year Follow-up Study. Middle East Journal of Digestive Diseases, 14(3), 317.

[379] Khorrami, M. B., Amali, A., Sadeghi, M., & Riahi-Zanjani, B. (2023). The prevalence of HBV, HCV, and HIV among hemodialysis patients in a tertiary care hospital in Mashhad, Iran. The Journal of Infection in Developing Countries, 17(08), 1146-1151.

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[382] Ahmadi, M. H., Sharifi, Z., Ghasemi, A., & Abbasian, S. (2023). Occult hepatitis B in Iranian blood donors, an overview of the challenges: A narrative review. Health Science Reports, 6(8), e1466.

HBs negative and anti-HBe negative[383], and in the Mashhad, among 540 HBsAg-negative donors, 5.4% were seroreactive for anti-HBc[384], patterns potentially suggestive of occult HBV infection.
In thalassemia patients, the evidence of contamination through donated blood is highlighted by the relatively high prevalence of occult HBV infection (1.59%)[385].
Among 1,475 patients with hereditary bleeding disorders (hemophilia and severe bleeding disorders), the prevalence of HBcAb, HCV-Ab, and HIV-Ab was found to be 22.9%, 59.8%, and 1.2%, respectively[386].
HCV prevalence is estimated at 1.26%, with primary transmission risks including unsafe injection practices, MSM, and injecting drug use, despite reduced transfusion-related transmission due to strict screening protocols[387].
The overall HCV coinfection prevalence among PLHIV was 64%, higher among older individuals (69%) and PWID (77%). Coinfection prevalence was higher in studies conducted between 2000–2014 (67%) compared to 2015–2020 (57%)[388].
Regional comparisons show HCV prevalence among prisoners in Iran (37.8%) to be higher than in Afghanistan (1.7%), Pakistan (15.6%) and Egypt (23.6%)[389].

[383] Bahrami, A., Pourfathollah, A. A., Parsania, M., Habibabadi, H. M., & Sharifi, Z. (2022). Prevalence of occult hepatitis B virus infection among the blood donors in Golestan province: cross-sectional study. Iranian Journal of Microbiology, 14(3), 410.

[384] Hedayati-Moghaddam, M. R., Tehranian, F., Mosavat, A., Miri, R., & Ghezeldasht, S. A. (2024). Low Prevalence of Anti-HBc Antibody and Lack of HBV DNA Among HBsAg-Negative Blood Donors in Iran: A Cross-sectional Study and Review of Literature. Archives of Iranian Medicine, 27(6), 305-312.

[385] Farshadpour, F., Taherkhani, R., & Farajzadeh, H. (2023). Hepatitis B infection among β-thalassemia major patients in Bushehr province of southern Iran. Journal of Immunoassay and Immunochemistry, 44(2), 147-161.

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[388] Razavi-Amoli, S. K., & Alipour, A. (2022, October). Hepatitis C Virus Coinfection in People With Human Immunodeficiency Virus in Iran: A Systematic Review and Meta-Analysis. In Open Forum Infectious Diseases (Vol. 9, No. 10, p. ofac477). US: Oxford University Press.

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Harm Reduction

Iran has a range of harm reduction programs in place, including operational NSPs and OAT programs using buprenorphine and methadone, both available in community settings and at least one prison[390]. However, coverage of harm reduction services was below 30% in Iran, where a substantial HIV epidemic persists within KPs[391]. OST coverage stood at just 5.4% in 2021, and an average of 80 needles and syringes were distributed per person who injects drugs[392]. 2023 data on harm reduction indicates that 89.4% of the population reported safe injecting practices, whereas condom use remained significantly lower at 30.4%.

Accurate program planning and resource allocation are complicated by double counting in harm reduction services, with substantial overlaps noted in HIV testing (10%), NSP (17%), and methadone maintenance (7%)[393].

Iraq

Iraq's strategic location and long history of conflict and corruption have made it a pivotal node in the global drug trafficking ecosystem. With over 3,637 kilometers of shared borders with Iran, Jordan, Kuwait, Saudi Arabia, Syria, and Türkiye, Iraq serves as a major conduit for drug flows between Southwest Asia, the Arabian Peninsula, and Europe[394]. Recent years have seen a sharp rise in the trafficking and use of methamphetamine and Captagon, with seizures of the latter increasing by 3,380% from 2019 to 2023. In 2023 alone, over 4.1 tons of Captagon tablets were seized. Methamphetamine trafficking has also surged, with seizures increasing sixfold over the same period[395].

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[390] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[391] Joint United Nations Programme on HIV/AIDS. (2024). The Urgency of Now- Aids at a Crossraods- Global AIDS update 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/global-aids-update-2024

[392] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Iran 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/iran

[393] Tavakoli, F., McFarland, W., Ghalekhani, N., Khezri, M., Haghdoost, A. A., Gouya, M. M., ... & Sharifi, H. (2023). Double counting of clients using services in Iran: Implications for assessing the reach of harm reduction programs. *Harm Reduction Journal, 20*(1), 111. https://doi.org/

[394] United Nations Office on Drugs and Crime. (2024). *Drug trafficking dynamics across Iraq and the Middle East: Trends and responses.* Retrieved from https://www.unodc.org/romena/uploads/documents/2024/UN_Iraq_ExSum_240318.pdf

[395] Ibid

Reports of clandestine drug production facilities in cities like Kirkuk and Tuz Khurmatu, as well as the southern province of Al Muthanna, suggest Iraq may be emerging as a source of methamphetamine production[396].

The Government of Iraq and its international partners have acknowledged the urgent need for collective efforts to combat the security, social, and economic repercussions of drug trafficking. This includes tackling the involvement of armed groups in drug-related activities and addressing the rising domestic consumption of drugs. While increased interdiction efforts have led to record seizures, the country faces significant challenges, including corruption, governance erosion, and social harm associated with drug use, necessitating robust treatment and rehabilitation programs[397].

Drug Use

The trend in drug use in Iraq has shown a significant increase in recent years, fueled by rising trans-shipment of narcotics and economic challenges across the country. The number of people with drug use disorders registered by public health services doubled from 2,979 in 2017 to 6,101 in 2021, highlighting a growing domestic consumption problem[398]. Among individuals arrested for drug-related offenses, the number more than doubled between 2017 and 2021, rising from 6,393 to 14,391. This trend is particularly pronounced in urban areas like Baghdad, Basrah, and Al Anbar, where unemployment and poverty exacerbate vulnerability to drug use, especially among youth aged 15 to 35[399].

A study by Al Imam et al.[400] explores predisposing factors for suicidal ideation among substance users in Iraq, focusing on 165 patients from Baghdad Medical City and Ibn-Rushd Teaching Hospital. Most participants were young adults (mean age: 26.62 years), predominantly male (92.1%), urban residents (94.5%), and engaged in blue-collar work or military/security roles. Educational levels varied, with the majority having primary or intermediate education (79.4%). Key findings highlight that chronic methamphetamine use exceeding one year (OR = 6.15, p = 0.001), absence of psychological trauma (OR = 4.58, p = 0.006), and visual hallucinations (OR = 4.52, p =

[396] Ibid
[397] Addiction in Iraq: Towards a new drug control strategy (2024). Retrieved from https://www.bayancenter.org/en/2023/07/4000/
[398] Substance abuse in Iraq: Quantifying the picture. (2023). *Journal of Population Therapeutics and Clinical Pharmacology, 30*(12), 302–313. https://doi.org/10.47750/jptcp.2023.30.12.036
[399] Ibid
[400] Al-Imam, A., Motyka, M. A., Hoffmann, B., Al-Ka'aby, H., Younus, M., Al-Hemiary, N., & Michalak, M. (2023). Risk factors of suicidal ideation in Iraqi crystal methamphetamine users. *Brain Sciences, 13*(9), 1279. https://doi.org/10.3390/brainsci13091279

0.001) significantly increased the risk of suicidal ideation. Most patients reported daily methamphetamine use (67.9%) for over a year (61.8%), primarily via snorting (55.8%). Use often occurred in solitude (69.7%) or combined with alcohol (24.8%) and other drugs (20%). The study's provided valuable insights into the complex interplay between methamphetamine use and mental health risks in Iraq.

As of 2024, the prevalence of methamphetamine consumption in Basrah and Captagon in areas like Baghdad, Al Anbar, and Ramadi underscores a shift toward synthetic drugs, with methamphetamine priced at $11.50 to $19 per gram and Captagon at about $2 per pill[401].

Official data shows that drug-related arrests in 2022 included 14,000 individuals, among them women and juveniles exploited by trafficking networks[402]. A study estimates that Iraq has 34,673 PWID, a population at high risk for health and social complications[403]. Another study by Karbasi et al. (2023), indicated that an estimated 39,277 PWID. The same study also indicated that the prevalence of HIV infection among PWID is low at 0.01%, this translates to approximately 4 individuals living with HIV in this population. HCV infection is more prevalent among PWID, with an estimated prevalence of 18.86%, corresponding to approximately 7,406 individuals who are antibody positive. Additionally, an estimated 741 individuals among PWID have HBV infection[404].

Alcohol and medications also remain significant substances of abuse, accounting for 37.8% and 22.6%, respectively, of treated cases[405]. A recent 2023 study examining SUD from the perspective of pharmacists in Baghdad found that Pregabalin is the most commonly requested drug due to its availability and affordability[406]. These trends reflect an urgent need for integrated responses addressing prevention, treatment, and socioeconomic factors to combat the growing drug problem in Iraq.

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[401] Latest developments in Iraq's drug law amendment: Double penalties up to "execution." (2024). Retrieved from https://al-aalem.com/en/latest-developments-in-iraqs-drug-law-amendment-double-penalties-up-to-execution/

[402] Addiction in Iraq: Towards a new drug control strategy. (2024). Retrieved from https://www.bayancenter.org/en/2023/07/4000/

[403] Karbasi, A., Fordjuoh, J., Abbas, M., Iloegbu, C., Patena, J., Adenikinju, D., Vieira, D., Gyamfi, J., & Peprah, E. (2023). An evolving HIV epidemic in the Middle East and North Africa (MENA) region: A scoping review. *International Journal of Environmental Research and Public Health, 20*(5), 3844. https://doi.org/10.3390/ijerph20053844

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[405] Substance abuse in Iraq: Quantifying the picture. (2023). *Journal of Population Therapeutics and Clinical Pharmacology, 30*(12), 302–313. https://doi.org/10.47750/jptcp.2023.30.12.036

[406] Mikhael, E. M., Jebur, N. J., Jamal, M. Y., & Hameed, T. A. (2024). Perception, experience, and practice of Iraqi community pharmacists towards customers with substance use disorder. *SAGE Open Medicine, 12*, 20503121241275472. https://doi.org/10.1177/20503121241275472

Rehabilitation services for people who use drugs in Iraq remain limited but are gradually expanding. As of 2022, over 3,308 individuals were receiving treatment for substance use disorders, with more than two-thirds seeking help for ATS[407]. Until recently, Iraq relied heavily on criminalizing drug use, with minimal health-focused responses[408]. In 2024, the Government of Kurdistan announced that they will open thefirst public-private rehabilitation center in Erbil, marking a significant step forward.[409]

Despite these advances, challenges persist. Many rehabilitation centers lack critical resources, such as pharmacies and consultancy clinics, and often face difficulties in managing patients who are involuntarily admitted by their families[410]. Additionally, the ongoing focus on counter-narcotics enforcement and the dismantling of trafficking networks highlights the government's dual approach to combating drug-related issues. However, the growing prevalence of drug use and trafficking underscores the need for a more robust health-centered response alongside enforcement efforts to address the social and medical dimensions of substance abuse.

BBV

Iraq faces significant challenges in its HIV response, exacerbated by political instability, social stigma, and limited surveillance. The HIV prevalence among adults (15-49 years) remains low at <0.1% in 2022, consistent with the rate reported in 2015[411].

However, underreporting and stigma obscure the true scale of the epidemic. While the official number of PLHIV is approximately 2,000, experts suggest the real number may be as high as 20,000, reflecting severe gaps in case identification and reporting[412].

The first HIV case in Iraq was identified in 1986 among hemophilic patients. From 1986 to 2011, 615 cases were documented, with 50% of infections linked to hemophilic men and 74.6% of new cases attributed to sexual transmission. Stigma surrounding sensitive routes like injection drug use and unprotected sex has led to 20% of cases being reported with "unspecified" transmission, contributing to data biases[413].

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[407] Information on people in treatment in 2022, provided by the Iraqi Ministry of Health in December 2023. Also see https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4431571/ and for surveys on drug use in Iraq between 2024 and 2023, see https://jptcp.com/index.php/jptcp/article/view/1984

[408] Rudaw. (2023, July 10). Retrieved from https://www.rudaw.net/english/middleeast/iraq/100720232

[409] Kurdistan Chronicle. (n.d.). Retrieved from https://kurdistanchronicle.com/babat/3532

[410] Kurdistan24. (n.d.). Drug addiction getting higher in Iraq. Retrieved from https://www.kurdistan24.net/en/story/396562

[411] UNAIDS. (n.d.). Retrieved from https://dsd.unaids.org/

[412] Al Rafidain. (n.d.). Retrieved from https://alrafidain.tv/77710/

[413] Koubaisy, H., & Noaman, H. (2021). HIV/AIDS research. *Medico-Legal Update, 20*(4), 1704. https://doi.org/10.37506/mlu.v20i4.1904. Retrieved from https://www.researchgate.net/publication/349063651_HIVAIDS_research

According to UNAIDS, Iraq has an estimated 4,000 PLHIV, with significant gaps in treatment and awareness. Only 30% of PLHIV are on treatment, revealing pronounced gender disparities: just 12% of women living with HIV are receiving treatment compared to 43% of men. Similarly, awareness of HIV status is uneven, with only 43% of all PLHIV knowing their status, including 25% of women and 56% of men[414]. The majority of PLHIV in Iraq are male (83.5%), with ages ranging from 16 to 68 years and an average age of 36.8 years, underscoring the need for targeted interventions to address these inequities and improve access to HIV services[415].

Iraq lacks a nationwide surveillance system for HIV due to decades of political instability and mass displacement of its population. Routine data collection is hindered by social stigma and societal barriers, resulting in incomplete reporting of key transmission routes. Surveys among refugees, such as the 2007-2009 study of 18,990 Iraqi refugees in Jordan, found no HIV cases. However, localized studies in Iraq indicate an upward trend in HIV incidence, with sexual transmission being the dominant route[416].

Viral suppression data and outcomes for PLHIV are unavailable, complicating efforts to measure treatment success[417]. Iraq does not have a national HIV self-testing policy, limiting early diagnosis efforts. Restrictions on community-based and civil society testing services further hinder case detection[418].

Based on UNAIDS, six-month ART pickups, are not implemented, adding logistical barriers for PLHIV, and community-based ART delivery is absent, leaving PLHIV reliant on centralized health facilities[419]. HIV education in Iraq remains inadequate[420]. Social stigma prevents many individuals from seeking diagnosis or treatment, contributing to delayed care and hidden cases[421].

Furthermore, punitive policies and stigma deter open engagement with healthcare systems. The punitive laws in Iraq acts as a major deterring factor for seeking HIV services in the country.

[414] UNAIDS. (n.d.). Retrieved from https://dsd.unaids.org/

[415] Koubaisy, H., & Noaman, H. (2021). HIV/AIDS research. *Medico-Legal Update, 20*(4), 1704. https://doi.org/10.37506/mlu.v20i4.1904. Retrieved from https://www.researchgate.net/publication/349063651_HIVAIDS_research

[416] Koubaisy, H., & Noaman, H. (2021). HIV/AIDS research. *Medico-Legal Update, 20*(4), 1704. https://doi.org/10.37506/mlu.v20i4.1904. Retrieved from https://www.researchgate.net/publication/349063651_HIVAIDS_research

[417] UNAIDS. (n.d.). Retrieved from https://dsd.unaids.org/

[418] Ibid

[419] Ibid

[420] Massah, O., Moradi, A., Farhoudian, A., Amini-Lari, M., Joulaei, H., & Daneshmand, R. (2016). HIV programs in Iran (Persia), Iraq, and Saudi Arabia: A brief review of current evidence in West and Southwest Asia. *Addiction and Health, 8*, 136–144. Retrieved from [PMC free article] [PubMed] [Google Scholar]

[421] 964Media. (n.d.). Retrieved from https://en.964media.com/19000/

Authorities deport foreign nationals diagnosed with HIV, as seen in Kurdistan's 2023 deportation measures while Iraqi citizens receive care. [422]

Harm Reduction

Iraq lacks availability of key harm reduction services such as OAT and NSPs, as well as coverage indicators for these interventions. This absence of essential harm reduction programs highlights a critical gap in the public health response for mitigating drug-related risks, including the transmission of blood-borne infections like HIV and HCV among PWID[423].

Jordan

Jordan's geographical location as a transit route for drug trafficking, combined with socio-economic factors, has positioned the country as both a pathway and increasingly a destination for illicit drug use. Despite a traditionally low prevalence of drug addiction, recent years have seen alarming increases in substance abuse and drug-related crimes, especially among youth[424].

Drug Use

Jordan lacks a comprehensive national surveillance system to collect epidemiological data on drug use, resulting in limited and sporadic information. Official figures suggest drug addiction affects less than 1% of the population, but this likely underrepresents the true extent due to stigma and underreporting. According to the Anti-Narcotics Department (AND), drug-related cases increased by 32% between 2017 and 2020, and by 25% in 2023 compared to the previous year[425].

The most commonly used substances in Jordan include, Synthetic cannabinoids, Alcohol, Benzodiazepines, Captagon, and Crystal meth[426]. Prescription medications like Pregabalin and Lyrica have also seen a rise in misuse[427]. Captagon, in particular, has transitioned from being primarily trafficked through Jordan to becoming widely consumed domestically. Interviews with

[422] HIV Justice Network. (n.d.). Majority of Kurdistan's new HIV cases are foreigners now facing deportation. Retrieved from https://www.hivjustice.net/news-from-other-sources/iraq-majority-of-kurdistans-new-hiv-cases-are-foreigners-now-facing-deportation/

[423] Harm Reduction International. (2024). *The global state of harm reduction 2024.* Retrieved from https://hri.global/wp-content/uploads/2024/10/HRI-GSHR-24_full-document_1411.pdf

[424] Jordan Strategy Forum (JSF). (2023). *The reality in Jordan.* Retrieved from https://www.jsf.org/uploads/2023/06/25/The%20Reality%20of%20Drug%20Crimes%20in%20Jordan-1687702165.pdf

[425] Jordan Times. (2023). Drug-related cases increased 25% in 2023. Retrieved from https://jordantimes.com/news/local/drug-related-cases-increased-25-2023-%E2%80%94-and

[426] Yasin, H., Bulatova, N., & Wazaify, M. (2020). Patterns of substance use among patients in addiction rehabilitation in Jordan. *Substance Use & Misuse, 55*(7), 1035–1044. https://doi.org/10.1080/10826084.2020.1722697

[427] Middle East Eye. (n.d.). Jordan's Captagon epidemic ruins lives. Retrieved from https://www.middleeasteye.net/news/jordan-captagon-epidemic-ruins-lives

users and rehabilitation centers indicate that 21% of patients in treatment centers are Captagon users[428].

Drug users in Jordan are predominantly youth aged 16-25, who are particularly susceptible to substances such as hashish and synthetic drugs[429]. Many exhibit patterns of poly-drug use, with an average of two substances consumed per individual[430]. A recent systematic meta-review and meta-analysis examining IDU across countries in the MENA region estimated that Jordan has 10,488 PWID (6,634–15,795), with most aged between 25 and 30 years. Among PWID in Jordan, 97% are men and 3% are women. Heroin is reported as the most commonly used drug among this population. The study also estimated that 1,976 PWID (1,100–3,076) in Jordan have hepatitis C virus antibodies, and 198 PWID (37–449) have hepatitis B virus[431]. The prevalence of Hepatitis B and C among people who inject drugs in Jordan is not determined[432].

Available evidence indicates that social stigma toward PWUD/PWID due to conservative societal attitudes, and criminalizing laws are deterring individuals from seeking help and families from reporting cases[433].

Jordan faces several barriers to addressing substance use effectively due to Limited Treatment Infrastructure: Only three main rehabilitation centers exist, including the National Centre for the Rehabilitation of Addicts (NCRA). These facilities offer inpatient and outpatient services, but their capacity is insufficient for the rising number of cases[434].

The absence of a national surveillance framework makes it difficult to assess the full scope of drug use in Jordan/or design evidence-based interventions.

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[428] Steenkamp, C. (2024). Captagon and conflict: Drugs and war on the border between Jordan and Syria. *Mediterranean Politics,* 1–25. https://doi.org/10.1080/13629395.2023.2297121

[429]ITN Source. (2010, July 28). Jordan: Authorities face uphill battle combating growing drug use. Retrieved from http://www.itnsource.com/shotlist/RTV/2010/07/28/RTV1922110/?v=0&a=1

[430] Yasin, H., Bulatova, N., & Wazaify, M. (2020). Patterns of substance use among patients in addiction rehabilitation in Jordan. *Substance Use & Misuse, 55*(7), 1035–1044. https://doi.org/10.1080/10826084.2020.1722697. Retrieved from https://pubmed.ncbi.nlm.nih.gov/32013654/

[431] Aghaei, A. M., et al. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00267-X/fulltext

[432] Harm Reduction International. (2024). *The global state of harm reduction.* Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[433] Middle East Eye. (n.d.). Jordan's Captagon epidemic ruins lives. Retrieved from https://www.middleeasteye.net/news/jordan-captagon-epidemic-ruins-lives

[434] Albawaba News. (2021). With over 12,000 cases, Jordan's drug problem soars in 2021. Retrieved from https://www.albawaba.com/news/over-12000-cases-jordans-drug-problem-soars-2021-1445477

Several CSOs, including FOCCEC, Tamkeen, and the Arab Society for Public Awareness, play a role in prevention and awareness campaigns. However, their involvement is limited to educational efforts, with no direct participation in treatment or rehabilitation.[435]

BBV

Jordan is classified as a low HIV epidemic country, with an estimated HIV prevalence of 0.02% among the general population in 2022. However, the number of cases has doubled in the last 15 years, raising concerns that the actual prevalence might be underestimated due to limited awareness and suboptimal testing practices[436].

According to the latest integrated bio-behavioral survey (IBBS 2012-2013) that was carried out in three major cities in Jordan, the prevalence of HIV in Jordan was estimated at a rate of 0.02% among the general population and a prevalence rate of about 0.05% among KPs[437]. However, evidence also suggests the underreporting of HIV prevalence in the country due to the absence of a national HIV surveillance system/ the limited availability of HIV surveillance studies in the country[438].

According to NAP (2020)[439] data a total of 1688 HIV/AIDS cases were reported in 2020 compared to 1,408 cases in 2017[440]. Thus, indicating the increase in HIV prevalence in the country.

According to UNAIDS, approximately 640 people in Jordan were living with HIV in 2022, with a prevalence of less than 0.1% among adults aged 15-49 years[441]. Despite the low prevalence, challenges persist in treatment and viral suppression. About 50% of all age groups living with HIV were on treatment, and only 47% achieved viral suppression. Gender-specific data show that 61% of women with HIV knew their status, 53% were on treatment, and 51% achieved viral

[435] Middle East and North Africa Harm Reduction Association (MENAHRA). (2022). *The impact of COVID-19 on PLHIV and PWID in Jordan.*

[436] Saad, R. K., Khader, Y., Aqel, A. J., Satyanarayana, S., Wilson, N., & Abaza, H. (2024). HIV-related knowledge, attitude, practices, and stigma among healthcare providers caring for HIV in Jordan: Identification of several organizational challenges. *Heliyon, 10*(2), e24423.

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[438] High Health Council. (2015). *The National Strategy for Health Sector in Jordan 2015–2019.* Retrieved from https://jordankmportal.com/system/resources/attachments/000/000/311/original/Jordan_National_Health_Sector_Strategy_2015-2019_.pdf?1455799625

[439]EMPHNET. (2020). *HIV/AIDS-related knowledge, attitude, practices, perceived stigma and discrimination, and satisfaction among patients living with HIV* (Unpublished report).

[440] Rahhal, A. (2018). *Evaluation of HIV/AIDS activities in Jordan.* Retrieved from https://data2.unhcr.org/en/documents/download/67753

[441] Joint United Nations Programme on HIV/AIDS (UNAIDS). (2023). Retrieved from https://www.unaids.org/en/regionscountries/countries/jordan

suppression, compared to 66%, 49%, and 47%, respectively, among men. Among KPs, HIV prevalence was 0.5% among sex workers, 0.2% among MSM, and negligible among prisoners and PWID[442]. However, PWID exhibited significant vulnerabilities to other infections, with an estimated hepatitis C antibody prevalence of 18.86% and 198 individuals affected by hepatitis B[443]. These figures highlight the need for targeted interventions to improve testing, treatment, and prevention efforts for both the general population and at-risk groups.

Jordan's HIV response faces persistent challenges that hinder its ability to address the epidemic effectively. Key issues include limited testing outreach, high levels of stigma, insufficient infrastructure, and a fragmented surveillance system.[444]

Approximately 35% of people living with HIV in Jordan are unaware of their status, largely due to limited outreach, cultural stigma, and barriers to accessing healthcare. Testing services are centralized in Amman, where the Voluntary Counseling and Screening Center (VCT) operates as the sole diagnostic and therapeutic hub under the Jordanian National AIDS Program (NAP).[445] Testing in other provinces relies on referral systems through liaison officers, creating accessibility barriers for individuals outside Amman. Furthermore, the lack of systematic follow-up for patients lost to care exacerbates gaps in diagnosis and retention.[446]

The NAP, established in 1986, provides free ART and health services to PLHIV through its VCT center. However, the VCT lacks adequate capacity, relying on manual and unstandardized record-keeping practices. Many patients lost to follow-up are tracked through outdated Excel sheets without consistent inter-clinic communication[447].

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[442] Ibid

[443] Aghaei, A. M., et al. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00267-X/fulltext

[444] MENAHRA. (2023). *Emergency preparedness plans for HIV and harm reduction service providers (Jordan).* Retrieved from https://www.menahra.org/works/emergency-preparedness-plans-hiv/

[445] Saad, R. K., Khader, Y., Aqel, A. J., Satyanarayana, S., Wilson, N., & Abaza, H. (2024). HIV-related knowledge, attitude, practices, and stigma among healthcare providers caring for HIV in Jordan: Identification of several organizational challenges. *Heliyon, 10*(2), e24423. https://doi.org/10.1016/j.heliyon.2024.e24423.

[446] MENAHRA. (2023). *Emergency preparedness plans for HIV and harm reduction service providers (Jordan).* Retrieved from https://www.menahra.org/works/emergency-preparedness-plans-hiv/

[447] Al-Rahamneh, M. J., Khader, Y., Aqel, A. J., et al. (2024). Evaluation of the national AIDS program and HIV/AIDS surveillance system in Jordan. *SAGE Open Medicine, 12*. https://doi.org/10.1177/20503121241263694.

HIV/AIDS diagnosis is conducted at the Central Public Health Laboratory (CPHL), a separate entity from the VCT, which complicates coordination. The lack of national guidelines on HIV treatment protocols further weakens service consistency. Additionally, insufficient human and technical resources limit the scale and quality of interventions.[448]

CSOs such as FOCCEC, Curve, Confront, and RAFD complement the NAP by focusing on prevention and awareness among KPs, including MSM, sex workers, and PWID. These groups face heightened HIV risks but are underserved by mainstream health services. CSOs conduct rapid diagnostic testing (RDT) but are not involved in ART provision, limiting their role in comprehensive care.

Available evidence indicates that Stigma and discrimination toward PLHIV are widespread, contributing to underutilization of services[449]. Lack of political will and limited funding restrict the expansion of HIV-related services and the adoption of intersectoral approaches[450]. Poor coordination between the NAP, provincial health directorates, and other stakeholders hampers data collection and reporting, hindering evidence-based policymaking[451]. Surveillance systems rely on passive case-finding rather than proactive outreach, leading to underestimation of infection rates[452].

Harm Reduction

Harm reduction services continue to be very modest / absent in the country. According to HRI (2024), there is an Explicit supportive reference to harm reduction in national policy documents, and at least one opioid agonist therapy programme is operational[453]. However, the NSP program was suspended due to gaps in financial funding.[454]

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[448] MENAHRA. (2023). *Emergency preparedness plans for HIV and harm reduction service providers (Jordan).* Retrieved from https://www.menahra.org/works/emergency-preparedness-plans-hiv/

[449] Human Rights Watch. (2020). *Foreigners living with HIV in Jordan face impossible choice.* Retrieved from https://www.hrw.org/news/2020/10/26/foreigners-living-hiv-jordan-face-impossible-choice

[450] Rahhal, A. (2018). *Evaluation of HIV/AIDS activities in Jordan.* Retrieved from https://data2.unhcr.org/en/documents/download/67753

[451] Al-Rahamneh, M. J., Khader, Y., Aqel, A. J., et al. (2024). Evaluation of the national AIDS program and HIV/AIDS surveillance system in Jordan. *SAGE Open Medicine, 12.* https://doi.org/10.1177/20503121241263694.

[452] Ibid

[453] Harm Reduction International. (2024). *The global state of harm reduction.* Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[454] MENAHRA. (2023). Emergency Preparedness Plans for HIV and Harm Reduction Service Providers (Jordan). Retrieved from https://www.menahra.org/works/emergency-preparedness-plans-hiv/

Kuwait

Kuwait, officially the State of Kuwait, part GCC countries and is recognized as one of the richest countries in the world, primarily due to its vast oil reserves and robust economy.

Kuwait is a destination for cannabis and synthetic drugs, with traffickers using land borders and seaports to smuggle cannabis into the country. Synthetic drugs, particularly Spice (synthetic cannabis), are the most prevalent. Heroin and cocaine have a relatively low presence in Kuwait, with a small domestic market primarily supplied through the al-Abdali border crossing with Iraq[455]. In 2022, Kuwaiti courts processed approximately 6,000 drug-related cases, half involving Kuwaiti nationals, encompassing activities such as drug manufacturing and trafficking[456]. In 2023, Kuwait intensified its efforts, seizing narcotics worth $242.4 million and addressing 2,666 cases involving over 3,500 defendants. The majority of offenses (77.2%) were linked to addiction, primarily among males aged 18–39, while trafficking constituted 22.5%. The year also saw 42 drug-related deaths and 12 death sentences for major drug dealers, highlighting Kuwait's strict stance against smuggling and trafficking[457].

Drug Use

A systematic review summarized the prevalence of drug use in the country, highlighting data primarily among men. Among adult males, 8.0% reported using any illicit drug, with cannabis being the most common at 7.3%, followed by ATS at 5.2%, cocaine at 1.7%, and heroin at 1.0%. For the younger population, 3.2% of males reported using illicit drugs, with cannabis use also at 3.2%, ATS at 3.8%, and inhalant use at 2.9%. Amphetamine use among young females was notably lower at 0.5%. Cocaine use in the young population was negligible, with prevalence estimates close to zero for both males and females. Kuwait reported the highest prevalence of ATS use among young males in the EMR, with a regional estimate of 2.1%, underscoring a particular concern for stimulant use in the country[458].

A scoping review (from 2007 to 2022) estimated that the population of PWID in Kuwait ranges between 1,850 and 8,750, with a midpoint of 4,050 individuals. However, the review found no

[455] Global Organized Crime Index. (2023). Profile: Kuwait. Retrieved from https://ocindex.net/country/kuwait

[456] Hisham, P. (2024). Why fighting drug trafficking and consumption alone isn't enough. Kuwait Times. Retrieved from https://kuwaittimes.com/article/17568/kuwait/other-news/why-fighting-drug-trafficking-and-consumption-alone-isnt-enough/

[457] Al Sherbini, R. (2024). Kuwait busted KD74m drugs in 2023. Gulf News. Retrieved from https://gulfnews.com/world/gulf/kuwait/kuwait-busted-kd74m-drugs-in-2023-1.1727602019402

[458] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

sufficient data reported on HIV prevalence among PWID[459], highlighting significant gaps in surveillance and research.

Among PWID, data from the HRI 2022 Report revealed varying HIV prevalence rates among PWID across the region: 4.6% in Bahrain, 0.8% in Kuwait, 11.8% in Oman, and 9.8% in Saudi Arabia[460]. These figures highlight a relatively low burden of HIV among PWID in Kuwait compared to its neighbors.

More recent data, according to the UNAIDS report, in 2022, the estimated number of PWID in Kuwait is approximately 2,300[461]. However, the HRI 2024 report suggests a higher estimate, indicating there may be as many as 12,000 PWID in the country[462].

BBV

In 2021, the prevalence of HIV among adults aged 15 to 49 in Kuwait was estimated at 0.1%, with 66 PLHIV of all ages compared to 346 in 2015. Among those living with HIV, 93% were receiving ART, and 92% had suppressed viral loads, indicating strong progress in treatment coverage and viral suppression[463].

By 2023, the estimated number of adults living with HIV had increased to 1,100, with less than 200 women and less than 1,000 men aged 15 and over affected. The HIV prevalence rate among adults aged 15 to 49 remained below 0.1%, with fewer than 200 new infections and an HIV incidence rate of 0.08 per 1,000 population in this age group. Among PLHIV, 85% knew their status, and 79% of them were on ART, with 79% also achieving viral suppression. The co-management of TB and HIV treatment in Kuwait was at 87%[464].

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[459] Karbasi, A., Fordjuoh, J., Abbas, M., Iloegbu, C., Patena, J., Adenikinju, D., ... & Peprah, E. (2023). An evolving HIV epidemic in the Middle East and North Africa (MENA) region: A scoping review. International journal of environmental research and public health, 20(5), 3844.

[460] Harm Reduction International, 2022 as cited in Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the gulf cooperation council (gcc) countries towards achieving the 95-95-95 UNAIDS targets: a review. Journal of epidemiology and global health, 13(3), 397-406.

[461] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Kuwait 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/kuwait

[462] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[463] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the gulf cooperation council (gcc) countries towards achieving the 95-95-95 UNAIDS targets: a review. Journal of epidemiology and global health, 13(3), 397-406.

[464] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Kuwait 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/kuwait

Among PWID in Kuwait, the prevalence of HCV was 30.87%, while HBV prevalence was 1.52%[465]. The low prevalence of HBV might be attributed to the country's robust vaccination program.

Alongside Bahrain, Kuwait provides an additional fifth dose of the hepatitis B vaccine at 18 months as part of a combination vaccine[466,467], which likely contributes to improved immunity within the population. Kuwait was reported to be among eight countries in the region (along with Algeria, Bahrain, Iran, Lebanon, Qatar, Saudi Arabia, and the UAE) that have achieved the WHO's target of less than 0.1% HBV prevalence among children under five years of age[468].

Five pregnant women received antiretroviral therapy for PMTCT in 2023[469]. Kuwait has implemented comprehensive policies for the testing and treatment of pregnant women during antenatal care to PMTCT of infectious diseases. Pregnant women in Kuwait receive HIV testing and treatment, syphilis testing, and HBsAg testing as part of routine antenatal care. Additionally, tenofovir disoproxil fumarate prophylaxis is provided to pregnant women living with HIV to reduce the risk of vertical transmission. Early infant diagnosis is also available to identify and treat infections in newborns promptly. However, family planning services are not explicitly integrated into this framework[470].

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[465] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[466] Al Awaidy, S., Tohme, R. A., Al Romaihi, H. E., Ezzikouri, S., & Mahomed, O. (2024). Elimination of Mother-to-Child Transmission of Hepatitis B Virus in Gulf Cooperation Council Countries: Current Status and Future Prospects. The American Journal of Tropical Medicine and Hygiene, 110(1), 32-35.

[467] UNICEF MENARO/WHO EMRO (2024). Progress Report and Road Map for the Triple Elimination of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B in the Middle East and North Africa/Eastern Mediterranean Region. Retrieved from https://www.unicef.org/mena/media/25666/file/240626%20UNICEF%20Baseline%20Report%20and%20Road%20Map%20for%20the%20Triple%20Elimination%20Web.pdf.pdf

[468] UNICEF MENARO/WHO EMRO (2024). Progress Report and Road Map for the Triple Elimination of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B in the Middle East and North Africa/Eastern Mediterranean Region. Retrieved from https://www.unicef.org/mena/media/25666/file/240626%20UNICEF%20Baseline%20Report%20and%20Road%20Map%20for%20the%20Triple%20Elimination%20Web.pdf.pdf

[469] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[470] UNICEF MENARO/WHO EMRO (2024). Progress Report and Road Map for the Triple Elimination of Mother-to-Child Transmission of HIV, Syphilis and Hepatitis B in the Middle East and North Africa/Eastern Mediterranean Region. Retrieved November 17, 2024, from https://www.unicef.org/mena/media/25666/file/240626%20UNICEF%20Baseline%20Report%20and%20Road%20Map%20for%20the%20Triple%20Elimination%20Web.pdf.pdf

In Kuwait, HIV is explicitly criminalized in relation to HIV nondisclosure, exposure or transmission. Parental or guardian consent is required for adolescents aged 17 and 18 years to access HIV testing. HIV testing is mandatory for marriage, employment, residence permits or for individuals from specific groups[471].

Harm reduction

Alongside the United Arab Emirates, Kuwait is one of the few countries in the region offering buprenorphine maintenance treatment services, although only one center provides this service, and its coverage remains limited[472].

The lack of explicit supportive references to harm reduction in national policy documents further underscores the gaps in Kuwait's approach to addressing drug use through evidence-based, health-oriented strategies. Kuwait has recently established its first OAT program, but access and availability are still varied and insufficient to meet the needs of all individuals requiring treatment. Other essential harm reduction measures, such as NSPs, peer distribution of naloxone, drug consumption rooms, safer smoking equipment, and take-home naloxone, are entirely absent. There is no provision for harm reduction services within prisons[473].

Lebanon

Lebanon is facing a profound and multifaceted crisis, marked by an unprecedented socio-economic collapse, prolonged political stagnation, and the enduring impact of the Syrian migration crisis. These challenges have been further compounded by the recent regional war, which has unleashed a large-scale humanitarian crisis, displacing millions from regions like the South, Dahiye, and the Bekaa Valley.

The repercussions of these crises are evident across multiple sectors. Lebanon's healthcare system, already strained, is struggling to cope with a surge in mental health challenges, particularly among young people. Rising levels of stress and uncertainty have led to an increase in risky

[471] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[472] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

[473] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

behaviors, substance abuse, and addiction[474]. Relapse rates are climbing as access to treatment becomes increasingly difficult[475].

At the same time, Lebanon has become a critical node in the regional drug trade. Alongside Syria, it serves as one of the primary departure points for Captagon shipments, with GCC countries being the main destinations[476].

Drug Use

Insights into drug use in Lebanon were provided by the European Web Survey on Drugs, conducted between March and May 2021, during a period when Lebanon, like many neighboring countries, was under COVID-19-related restrictions. The survey included 274 respondents living in Lebanon who reported using at least one illicit drug in the 12 months prior to the survey. The data reveal that cannabis is by far the most widely used substance, with 92% of respondents reporting use in the previous year. Other commonly used drugs include cocaine (42%), MDMA/ecstasy (32%), and NPS (26%). Additional reported substances include ketamine (21%), amphetamines (20%), methamphetamine (16%), LSD (10%), and heroin (5%)[477]. In addition to these findings, a separate study involving 80 participants, including Lebanese nationals, refugees, and non-citizen permanent residents, reported the use of a broad spectrum of substances. Nearly half of the participants reported either current or past injection drug use[478].

With the collapse of the local currency and ongoing inflation, drug consumption patterns in Lebanon have shifted in 2023, with cheaper and more accessible substances like cannabis, salvia,

[474] UNICEF Lebanon. (2022). Searching for hope: Grim outlook as youth in Lebanon teeters on brink of collapse. Retrieved from https://reliefweb.int/report/lebanon/searching-hope-grim-outlook-youth-lebanon-teeters-brink-collapse-enar

[475] Gibon, C. (2023). Lebanon: Drug addicts recovering at risk of falling back amid economic crisis. Middle East Eye. Retrieved from https://www.middleeasteye.net/news/lebanon-drug-addicts-recovering-risk-falling-back-economic-crisis#:~:text=Alarming%20increase%20in%20drug%20use&text=Between%202019%20and%202022%2C%20SIDC,in%20their%20addiction%20programme%20skyrocket.

[476] United Nations Office on Drugs and Crime. (2023). World Drug Report 2023: Executive summary. UNODC. Retrieved from https://www.unodc.org/res/WDR-2023/WDR23_Exsum_fin_DP.pdf

[477] European Monitoring Centre for Drugs and Drug Addiction. (2021). European Web Survey on Drugs 2021: Emerging findings - Lebanon. EU Drugs Agency. Retrieved December 10, 2024, from https://www.euda.europa.eu/publications/data-fact-sheets/european-web-survey-drugs-2021-emerging-findings-lebanon_en

[478] Khoshnood, K., Smoyer, A. B., Maviglia, F., Kara, J., Khouri, D., Fouad, F. M., & Heimer, R. (2022). Stress, Marginalization, and Disruption: A Qualitative Rapid Situational Assessment of Substance Users and HIV Risk in Lebanon. International Journal of Environmental Research and Public Health, 19(15), 9242.

alcohol, and crystal meth becoming common, while pricier drugs like cocaine and MDMA are now limited to those with sufficient financial means[479].

Drug use in Lebanon spans a spectrum of motivations, from recreational indulgence to coping mechanisms in the face of escalating personal and societal stressors. Data from the European Web Survey on Drugs further underscores the psychological motivations behind cannabis use, with relaxation, getting high, and managing anxiety being the most commonly reported reasons. Home was by far the most common setting for drug use, reported by 83% of respondents. The COVID-19 pandemic, along with national lockdown measures, significantly influenced substance use patterns, with cannabis resin consumption notably increasing. Similarly, the devastating Beirut explosion in 2020 led to heightened cannabis use, while the consumption of cocaine, MDMA, and amphetamines declined during this period[480].

According to a yet-to-be-published study by the Skoun Center, Lebanese adults diagnosed and treated for substance abuse often present with underlying mental health conditions. Among these individuals, 55.1% were found to have mild to moderate depression, 50.7% experienced mild to moderate anxiety, and 61.8% suffered from PTSD[481].

Among 2,083 unmarried women who voluntarily attended a sexual health clinic in Lebanon between 2015 and 2019, 33% reported recreational drug use, which was significantly linked to age and smoking status. Recreational drug use was also associated with inconsistent condom use (81%) and unwanted pregnancies (11%), highlighting its influence on sexual health behaviors and outcomes[482].

Roumieh Prison, Lebanon's largest detention facility, has long been notorious for its culture of drug use and trafficking. Despite claims by authorities that security forces have taken measures to curb drug smuggling, recent incidents of smuggling and seizures suggest otherwise. Hashish,

[479] Gibon, C. (2023). Lebanon: Drug addicts recovering at risk of falling back amid economic crisis. Middle East Eye. Retrieved from https://www.middleeasteye.net/news/lebanon-drug-addicts-recovering-risk-falling-back-economic-crisis#:~:text=Alarming%20increase%20in%20drug%20use&text=Between%202019%20and%202022%2C%20SIDC,in%20their%20addiction%20programme%20skyrocket.

[480] European Monitoring Centre for Drugs and Drug Addiction. (2021). European Web Survey on Drugs 2021: Emerging findings - Lebanon. EU Drugs Agency. Retrieved from https://www.euda.europa.eu/publications/data-fact-sheets/european-web-survey-drugs-2021-emerging-findings-lebanon_en

[481] Gibon, C. (2023). Lebanon: Drug addicts recovering at risk of falling back amid economic crisis. Middle East Eye. Retrieved from https://www.middleeasteye.net/news/lebanon-drug-addicts-recovering-risk-falling-back-economic-crisis#:~:text=Alarming%20increase%20in%20drug%20use&text=Between%202019%20and%202022%2C%20SIDC,in%20their%20addiction%20programme%20skyrocket.

[482] Zaki, S. A., Naous, J., Ghanem, A., Abou Abbas, D., Tomb, R., Ghosn, J., & Assi, A. (2021). Prevalence of STIs, sexual practices and substance use among 2083 sexually active unmarried women in Lebanon. Scientific reports, 11(1), 9855.

Captagon, and other substances are reportedly easier to obtain than basic necessities like medication for sick prisoners. Social pressures, gang dominance, and the complicity of prison staff contribute to an environment where drug use thrives[483].

The estimated number of PWID in Lebanon is approximately 9,000[484]. The analysis of a study involving 382 eligible PWID revealed that drug overdose was significantly associated with a history of incarceration, prior drug treatment, and a higher number of lifetime arrests for drug-related offenses, underscoring the interconnected risks faced by this population[485].

Lebanon's ongoing crises have severely impacted its capacity to combat drug addiction, leading to a sharp rise in relapse rates among individuals with substance use disorders. Limited access to medical care and the scarcity of OAT medications like buprenorphine and suboxone leave many without proper treatment options. These medications, when available on the black market, are prohibitively expensive, making heroin a cheaper and more accessible alternative, further fueling cycles of reuse and relapse[486].

Addiction treatment in Lebanon is largely driven by NGOs, private clinics, and hospitals with services ranging from OST programs, detoxification and overdose treatment in hospitals, to outpatient options[487].

NGOs such as Skoun, Society for Inclusion and Development in Communities and Care for All (SIDC), Médecins du Monde, and El Rahma Medical Center have significantly expanded their services in recent years, reaching underserved cities like Tripoli. This new community mental health and drug addiction center has pioneered a harm reduction model, providing specialized support for individuals with SUD. Across their centers in Tripoli, Baalbek, and Beirut, 232 people

[483] Al-Othman, F. (2024). Pathway to addiction: Tracing drug trafficking networks in Lebanon's Roumieh prison. The Washington Institute for Near East Policy. Retrieved from https://www.washingtoninstitute.org/policy-analysis/pathway-addiction-tracing-drug-trafficking-networks-lebanons-roumieh-prison

[484] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[485] Khoshnood, K., Shebl, F., Khouri, D., Aaraj, E., Barbour, R., Crawford, F., ... & Heimer, R. (2021). Reported history and correlates of drug overdose among people who inject drugs in Lebanon. Eastern Mediterranean Health Journal, 27(6), 571-579.

[486] Gibon, C. (2023). Lebanon: Drug addicts recovering at risk of falling back amid economic crisis. Middle East Eye. Retrieved from https://www.middleeasteye.net/news/lebanon-drug-addicts-recovering-risk-falling-back-economic-crisis#:~:text=Alarming%20increase%20in%20drug%20use&text=Between%202019%20and%202022%2C%20SIDC,in%20their%20addiction%20programme%20skyrocket.

[487] International Society of Substance Use Professionals (ISSUP). (2023). ISSUP Lebanon. Retrieved from https://www.issup.net/national-chapters/issup-lebanon

have enrolled, with commonly reported substances including cannabis, cocaine, heroin, Captagon, amphetamine, THC, tramadol, alcohol, and benzodiazepines[488].

Similarly, the Oum el Nour association established the Forsa Center for Drug Rehabilitation and Prevention in Tripoli in 2021. By 2022, their Reception Center reported that 514 individuals had sought help[489]. Between 2019 and 2022, SIDC also reported a 169% increase in the number of patients served. Both these cases highlight the growing demand for addiction services[490].

In addition to treatment, NGOs actively work on prevention and awareness through youth-focused campaigns, capacity-building workshops, and training programs for community focal points and frontline workers[491,492].

BBV

In 2015, 2,400 [2,100-2,600] people were reported to be living with HIV in Lebanon. In 2023, this number increased to 2,900 [2,400-3,300], with fewer than 500 new infections reported[493]. The adult HIV prevalence remains low at less than 0.1%, with KP such as PWID, reporting a prevalence of HIV at 0.05%, while hepatitis C (23.59%) and hepatitis B (1.07%) rates highlight additional health concerns in this group[494].

Stigma continues to be a significant barrier for PLHIV. In this context, being Muslim or Druze was significantly associated with lower HIV/AIDS knowledge compared to Christians, while having a secondary or university education correlated with higher knowledge. Greater knowledge was in

[488] Skoun. (2022). Impact report 2022. Retrieved from https://www.skoun.org/en/publications

[489] Oum el Nour. (2022). Annual report 2022. Retrieved from https://www.oumelnour.org/wp-content/uploads/2023/06/LEB-OeN-Annual-Report-2022-1-1.pdf

[490] Gibon, C. (2023). Lebanon: Drug addicts recovering at risk of falling back amid economic crisis. Middle East Eye. Retrieved from https://www.middleeasteye.net/news/lebanon-drug-addicts-recovering-risk-falling-back-economic-crisis#:~:text=Alarming%20increase%20in%20drug%20use&text=Between%202019%20and%202022%2C%20SIDC,in%20their%20addiction%20programme%20skyrocket.

[491] International Society of Substance Use Professionals (ISSUP). (2023). ISSUP Lebanon. Retrieved from https://www.issup.net/national-chapters/issup-lebanon

[492] Skoun. (2022). Impact report 2022. Retrieved from https://www.skoun.org/en/publications

[493] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[494] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

turn linked to better attitudes and improved practices towards PLHIV, whereas being Muslim was significantly associated with worse attitudes and care[495].

A 2022 study among PWUD in Lebanon revealed general HIV knowledge, but misconceptions, particularly among Syrian refugees, persisted. While half of PWUD were tested for HIV, testing rates were lower among refugees, and less than half were aware of effective HIV treatments. Participants reported accessing syringes through pharmacies and NSP, with no current syringe sharing reported, though some admitted to reusing their own syringes during times of scarcity. However, as these participants were clients of harm reduction programs, the findings may not represent the broader Lebanese PWID population[496].

The dynamics of HIV and STI transmission in Lebanon became more complex during the COVID-19 pandemic, as closures significantly reduced access to sexual health services, leading to increased STI positivity rates, particularly among MSM. Post-pandemic, 1.7% of patients tested positive for STIs compared to 1.1% pre-pandemic, with the prevalence among MSM for HIV, HBV, and HCV reported at 2.1%, 0.4%, and 0.3%, respectively[497].

By 2023, MSM reported a much higher HIV prevalence of 18.6%[498]. Among this group, HIV testing and awareness rates were high at 90.1%[499], with those engaging in risky sexual behaviors, such as substance use, using apps to find sexual partners, and frequent unprotected sex, being more likely to get tested, especially if they perceived themselves at high risk[500].

[495] Youssef, L., Hallit, S., Sacre, H., Salameh, P., Cherfan, M., Akel, M., & Hleyhel, M. (2021). Knowledge, attitudes and practices towards people living with HIV/AIDS in Lebanon. PLoS One, 16(3), e0249025.

[496] Khoshnood, K., Smoyer, A. B., Maviglia, F., Kara, J., Khouri, D., Fouad, F. M., & Heimer, R. (2022). Stress, Marginalization, and Disruption: A Qualitative Rapid Situational Assessment of Substance Users and HIV Risk in Lebanon. International Journal of Environmental Research and Public Health, 19(15), 9242.

[497] Sunji, N., Boufadel, P., Fakih, I., Ahmad, J. H., Choufani, M., Habib, N., ... & Mumtaz, G. R. (2024). Impact of the COVID-19 pandemic on sexually transmitted infection testing and diagnosis in Lebanon: A retrospective chart review. Heliyon, 10(20).

[498] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

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[500] Maatouk, I., Assi, M., & Jaspal, R. (2021). How can we enhance sexual health outcomes in men who have sex with men in Lebanon?. BMJ Sexual & Reproductive Health, 47(2), 152-153.

However, awareness and testing efforts for other STIs remain limited. Among MSM with HIV, a high prevalence of HPV was reported, coupled with low awareness of the condition[501], underscoring the need for improved education and routine screening within this population.
Research into peer communication among MSM revealed nuanced dynamics, where judgmental attitudes toward peers' risky sexual behavior were surprisingly correlated with discussions about HIV prevention. This suggests that individuals who internalize judgmental attitudes may be more vigilant in advocating for safer sex to avoid further criticism, reflecting the complex interplay of stigma, norms, and health advocacy within this community[502]. Further complicating matters, foreign-born MSM, predominantly from Syria, face significantly higher levels of discrimination and violence than their native-born counterparts, creating additional barriers to accessing care and support[503].

HIV rates among men and transgender women who have sex with men (MTWSM) in Lebanon indicate a concentrated epidemic, with higher stigma, depression, severe anxiety, and post-traumatic stress disorder among Syrian MTWSM compared to their Lebanese counterparts[504,505]. This mental health burden is mirrored among homosexual or bisexual individuals living with HIV, who face high rates of psychiatric disorders due to double stigma, coupled with limited access to psychotropic medication despite the protective role of ART against depression[506]. These compounded challenges intersect with additional vulnerabilities, as gay and bisexual men who are

[501] Abi Aad, Y., Ballouz, T., Faysal, H., Mahfouz, R., Shabb, N., Sader, G., ... & Rizk, N. A. (2024). Prevalence of human papilloma virus infection and anal dysplasia among men with HIV in Lebanon: a cross-sectional study. HIV Research & Clinical Practice, 25(1), 2425548.

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[504] Orr, L. V., Crawford, F. W., Khoshnood, K., Khouri, D., Fouad, F. M., Seal, D. W., & Heimer, R. (2022). Sociodemographic characteristics and HIV risk behaviors of native-born and displaced Syrian men and transgender women who have sex with men in Lebanon. AIDS and Behavior, 26(12), 4004-4011.

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[506] Abou Kassm, S., Naja, W., Haddad, R., Baddoura, R., Mdawar, B., Riachy, N., ... & Mokhbat, J. (2021). Lebanese people living with HIV: psychiatric co-morbidities and psycho-social environment. Community Mental Health Journal, 57(7), 1400-1408.

immigrants or refugees report lower educational attainment, higher engagement in sex work, greater healthcare and employment stigma, and a higher prevalence of syphilis, alongside poorer STI knowledge and a higher number of male sex partners[507].

A study among 250 undergraduate students revealed that religiosity was associated with fewer risky sexual behaviors, while psychological distress increased such behaviors. Key factors like sex under the influence of alcohol or drugs and discussing contraception methods were linked to condomless sex, and being female and alcohol use predicted STI screening[508].

In Lebanon, 82% of PLHIV are aware of their status, 79% are receiving ART, and 74% have achieved viral load suppression. However, PMTCT remains a challenge, with only 5 pregnant women living with HIV receiving antiretrovirals in 2023[509]. Additionally, prenatal HIV services remain inadequate, with only 9% of 1,500 women screened for HIV and 1.5% testing positive. In pregnant women, testing rates for HBV were 93.8% and 1.9 for HCV, highlighting missed opportunities for comprehensive screening[510].
HIV testing in Lebanon reveals significant gaps, with half of the 150 newly diagnosed patients presenting late and one-third having advanced HIV at the time of their diagnosis [511].

Beyond infectious disease concerns, HIV trends in Lebanon highlight a high prevalence of comorbid conditions such as hypertension, hyperlipidemia, and diabetes among older PLHIV, with prolonged combined ART use being associated with increased hyperlipidemia risk[512].

[507] Gay and bisexual male (GBM) who are immigrants/refugees were more likely to report non-university level of education, heterosexual marriage, engagement in sex work, past diagnosis of syphilis, healthcare and employment stigma, lower STI knowledge, and a higher number of male sex partners. Being foreign and feeling sufficiently informed about STIs were indicators of STI knowledge. This study highlights the roles of education and immigrant/refugee status in STI knowledge in migrant GBM in Lebanon.

[508] Maatouk, I., Assi, M., & Jaspal, R. (2023). Predicting sexual risk and sexual health screening in a sample of university students in Lebanon: a cross-sectional study. Journal of American college health, 71(2), 593-599.

[509] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[510] Abi Zeid Daou, C., Rizk, N., Mirza, F. G., Lakissian, Z., Banat, R., Chahine, E., & Sharara-Chami, R. (2021). A review of prenatal HIV screening practices among physicians at a tertiary care center in Lebanon: is it culture?. AIDS care, 33(10), 1255-1261.

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Despite these challenges, living with HIV and ART does not appear to increase susceptibility to or severity of COVID-19 among PLHIV in Lebanon[513], offering reassurance regarding ART's role during the pandemic.

While the COVID-19 pandemic presented significant challenges for community-based organizations supporting HIV services, many demonstrated resilience and adaptability. A study involving 53 community health workers in Burundi, Mauritania, and Lebanon revealed that community-based organizations successfully maintained HIV services while integrating COVID-19 prevention and awareness into their activities[514]. For instance, HIV prevention efforts in Lebanon included the introduction of HIVST in 2018, with 625 kits distributed by mid-2020 during the pandemic[515].

Separate from the pandemic, programs like Tayf, a two-year intervention targeting young MSM, focused on promoting condom use and HIV testing[516]. Condom use was reported at 52.3% overall[517], with 64% among FSWs and 92–98% among their clients[518]. However, behavior change has been reported as a limiting factor due to high stigma levels[519].

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[513] Noureldine, H. A., Chedid, G., Abdessamad, H., Costanian, C., Maamari, J., Al Nakib, M., ... & Mokhbat, J. (2023). COVID-19 among people living with HIV in Lebanon. Eastern Mediterranean Health Journal, 29(10), 775-782.

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[515] Maatouk, I., Assi, M., & Jaspal, R. (2021). How can we enhance sexual health outcomes in men who have sex with men in Lebanon?. BMJ Sexual & Reproductive Health, 47(2), 152-153.

[516] Wagner, G. J., Ghosh-Dastidar, B., Tebbetts, S., Ballan, E., Mutchler, M. G., Green, H., ... & Kegeles, S. (2021). A pilot evaluation of "Tayf", a cultural adaptation of Mpowerment for young men who have sex with men (YMSM) in Beirut, Lebanon, and its effects on condomless sex and HIV testing. AIDS and Behavior, 1-12.

[517] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

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[519] Wagner, G. J., Ghosh-Dastidar, B., Tebbetts, S., Ballan, E., Mutchler, M. G., Green, H., ... & Kegeles, S. (2021). A pilot evaluation of "Tayf", a cultural adaptation of Mpowerment for young men who have sex with men (YMSM) in Beirut, Lebanon, and its effects on condomless sex and HIV testing. AIDS and Behavior, 1-12.

PrEP use remains limited, with 517 people reported to be on PrEP[520]. While 50% of young MSM expressed willingness to take PrEP[521], actual utilization remains low, as demonstrated in a study where 57.1% were willing, but only 5.5% had used it[522]. Willingness to take PrEP was influenced by substance use during sex, awareness of HIV risk, which itself was shaped by factors such as age, social circles, and broader social dynamics[523,524]. This underscores the need for targeted interventions that address stigma, substance use, and community influences to close the gap between willingness and actual PrEP uptake.

The country has implemented a national policy on HIVST and monitors viral loads across more than 95% of treatment sites. Additionally, PrEP is included in Lebanon's national guidelines, demonstrating a commitment to integrating evidence-based strategies into its HIV response[525]. However, HIV is criminalized under broader disease laws or through general criminal law prosecutions, which do not specifically mention HIV but pose challenges for people living with the condition. Moreover, policies restrict the entry, stay, and residence of PLHIV, requiring HIV testing or disclosure for certain permits and prohibiting short or long-term stays for some individuals[526].

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[523] Storholm, E. D., Mutchler, M. G., Ghosh-Dastidar, B., Balan, E., Mokhbat, J., Kegeles, S. M., & Wagner, G. J. (2021). Gearing up for PrEP in the Middle East and North Africa: An initial look at willingness to take PrEP among young men who have sex with men in Beirut, Lebanon. Behavioral Medicine, 47(2), 111-119.

[524] Azzi, A., Chartouni, C., Ibrahim, R., Chebel, Z. B., Haddad, E., Chehata, N., ... & Saliba, G. (2024). Breaking barriers: Assessing pre-exposure prophylaxis awareness and willingness to use in the Lebanese community. International journal of STD & AIDS, 09564624241240799.

[525] WHO, UC, HHS, & SIA. (2023). Country factsheets: Lebanon. Country Factsheets HIVCI. Retrieved from https://cfs.hivci.org/index.html

[526] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

As for HCV and HBV, their prevalence in Lebanon is among the lowest globally, with genotype 1 being the most predominant[527,528]. However, HCV elimination efforts are hindered by economic challenges, lack of comprehensive screening policies, poor surveillance, stigma, and insufficient healthcare access, especially for high-risk groups[529].

HBC and HCV remain significant yet neglected health concerns in Lebanon, particularly among Syrian refugees. In the general population, the 20–39 age group accounts for 40% of HBV and 30% of HCV cases, while among Syrian refugees, 57% of HBV and 28% of HCV cases occur within the same age group. The prevalence of HBV and HCV among Syrian refugees in Lebanon is significantly lower than in Syria. This discrepancy suggests underdiagnosis or underreporting among refugee populations[530].

A study among Lebanese dentists revealed high HBV vaccination rates and strong knowledge of HBV prevention strategies, such as immunization and infection control measures[531]. 86.7% of them were immune to HBV, compared to 36.0% of those not vaccinated[532]. These findings highlight the importance of focused education and policy initiatives to improve vaccination rates and reinforce preventive practices among healthcare professionals.

Moreover, TB has seen a sharp increase in Lebanon over the past decade, alongside other communicable diseases[533]. Among PLHIV, TB co-management remains limited, with only 41% receiving integrated treatment. The Global Fund Community, Rights, and Gender assessment on TB in Lebanon highlighted the need for patient-centered care, community inclusion, and the protection of patient rights. Despite these recommendations, the Lebanon National Strategic Plan to End Tuberculosis (2023–2030) failed to integrate community participation, leaving a critical gap

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in policy implementation. The assessment further emphasized the importance of involving PWUD and addressing their specific needs to better connect KPs to essential TB services and support networks[534].

Harm Reduction

Harm reduction efforts in Lebanon have seen progress, largely led by NGOs offering NSP, condom distribution, and VCT services for HIV/AIDS[535]. Lebanon has explicitly incorporated harm reduction into its national policy documents and adopted supportive policies in its National HIV Strategic Plans. Operational programs include OAT using buprenorphine and naloxone peer distribution. However, key services such as drug consumption rooms and safer smoking kit distribution remain unavailable, and while harm reduction services are technically available in prisons, they are often inaccessible in practice[536]. Gaps persist, including the absence of a national overdose prevention program, a lack of evidence-based prevention initiatives, limited monitoring of the quality or effectiveness of existing harm reduction efforts, and inconsistent involvement of PWUD in planning and implementing harm reduction services in Lebanon[537,538].

[534] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[535] International Society of Substance Use Professionals (ISSUP). (2023). ISSUP Lebanon. Retrieved from https://www.issup.net/national-chapters/issup-lebanon

[536] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[537] International Society of Substance Use Professionals (ISSUP). (2023). ISSUP Lebanon. Retrieved from https://www.issup.net/national-chapters/issup-lebanon

[538] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

Libya

Libya, the fourth largest in Africa by land area, continues to face serious internal challenges. Political instability, divisions, and corruption have fueled conflicts across the country; militia influence has worsened violence and led to increasing levels of exploitation, human trafficking, drug trafficking, money laundering, fuel smuggling, and other criminal activities [539,540,541].

Drug trafficking in Libya has reached unprecedented levels, becoming the fastest-growing sector of the country's underground economy. According to a recent report by The Sentry (an American investigative and policy organization), Libya has evolved into an integrated hub for intercontinental drug trafficking, connecting neighboring countries with regions as far as Europe, Latin America, and Syria[542]. Migrants often play a pivotal role in these trafficking networks, as criminal groups exploit them to transport pharmaceutical drugs and cannabis. In other cases, migrants carry small quantities of cocaine or other drugs to pay for their journey[543]. Within Libya, the drug trade is primarily concentrated in three regions: Tripolitania, Fezzan, and Cyrenaica, with increasingly interconnected networks facilitating its expansion[544].

In Libya, the expansion of drug trade networks has led to greater availability of drugs and a significant drop in prices. Cocaine, once confined to specific groups and towns, is now being used more widely across the country[545]. Cannabis resin remains a popular drug, particularly in major coastal cities, where its consumption is notably high[546]. Heroin is not considered among the mostly consumed drugs as its consumption has decreased over the years[547]. However, since heroin

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[540] Herbert, M., Horsley, R., & Badi, E. E. (2023). Illicit economies and peace and security in Libya. Global Initiative Against Transnational Organized Crime. https://globalinitiative.net/wp-content/uploads/2023/04/Matt-Herbert-et-al-Illicit-economies-and-peace-and-security-in-Libya-GI-TOC-July-2023-1.pdf

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[542] Ibid

[543] International Narcotics Control Board. (2022). Report of the International Narcotics Control Board for 2021. United Nations. https://www.incb.org

[544] Herbert, M., Horsley, R., & Badi, E. E. (2023). Illicit economies and peace and security in Libya. Global Initiative Against Transnational Organized Crime. https://globalinitiative.net/wp-content/uploads/2023/04/Matt-Herbert-et-al-Illicit-economies-and-peace-and-security-in-Libya-GI-TOC-July-2023-1.pd

[545] Global Organized Crime Index. (2023). Profile: Libya. Retrieved from https://africa.ocindex.net/country/libya

[546] Ibid

[547] Ibid

trafficking is still ongoing in and through the country, it is possible that heroin consumption in Libya is still high but underreported[548]. There has also been a sharp increase in the use of synthetic drugs and prescription medications like benzodiazepines, Pregabalin, and Tramadol. These substances are often consumed recreationally and smuggled within Libya and across its borders to neighboring North African countries[549].

Libya's efforts to address HIV are hindered by criminalizing KPs, failing to meet international drug reporting obligations, and a largely non-operational judicial system since 2014, which limits law enforcement and access to justice[550,551].

Drug Use

Despite the concerning rise in drug use, no quantitative studies have been conducted to accurately determine the prevalence of major substance abuse among Libya's populations. In a study published in the Lancet, the pooled estimate for the subregion has been imputed. Prescription drugs like benzodiazepines were reported to be commonly used. Among adults, any illicit drug use was reported at 14.2% for males and 1.0% for females, with cannabis being the most commonly used drug (15.0% for males and 1.0% for females). Usage of other substances was significantly lower, including opioids (1.3% for males and 0.1% for females), heroin (0.7% for males and 0.0% for females), amphetamines (0.9% for males and 0.3% for females), and cocaine (0.4% for males and 0.0% for females). Among youth, drug use rates were generally lower but still notable. Any illicit drug use was reported at 4.3% for males and 1.7% for females. Cannabis remained the most prevalent substance (6.9% for males and 0.8% for females), followed by opioids (1.8% for males and 0.9% for females), heroin (1.4% for males and 0.2% for females), ATS (1.9% for males and 0.7% for females), inhalants (3.4% for males and 1.4% for females), and cocaine (1.4% for males and 0.2% for females)[552].

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[548] United Nations Interregional Crime and Justice Research Institute (UNICRI). (2021). Illicit financial flows and asset recovery in the state of Libya. United Nations Interregional Crime and Justice Research Institute. Retrieved from https://unicri.it/Publications/Illicit-Financial-Flows-and-Asset-Recovery-in-Libya

[549] Ibid

[550] U.S. Department of State. (2024). 2024 trafficking in persons report: Libya. U.S. Department of State. Retrieved from https://www.state.gov/reports/2024-trafficking-in-persons-report/libya/

[551] International Narcotics Control Board. (2023). Narcotic drugs: Estimated world requirements for 2024 – Statistics for 2022. United Nations. https://www.incb.org

[552] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., Taj, M., Saeed, K., Mojtabai, R., & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: A systematic review. The Lancet Psychiatry. https://doi.org/10.1016/S2215-0366(22)00435-7

Synthetic drugs have become popular in conflict zones for their perceived ability to alleviate the psychological strain of combat. In Libya, fighters are increasingly turning to these substances, driven by the widespread availability of prescription drugs through pharmacies and the black market[553,554].

Drug overdose deaths in Libya are also rising, exceeding four per 100,000 people[555]. Libyan men also have some of the highest suicide-related disability-adjusted life years rates in the MENA region, largely due to drug and alcohol use[556].

Similarly, IDPs in Libya face a heightened risk of substance abuse due to factors such as coping with trauma, co-existing mental health disorders, social and economic inequality, and challenges associated with adjusting to new environments[557]. A study focusing on IDPs, particularly men, revealed that 20% reported alcohol use, and nearly half admitted to using marijuana at least occasionally[558].

BBV

BBVs pose significant public health challenges in Libya, exacerbated by ongoing conflict, healthcare gaps, and high-risk behaviors. In 2023, an estimated 6,700 people of all ages were living with HIV in Libya, including fewer than 200 children aged 0 to 14. Among adults aged 15 and older, 6,500

[553] Global Organized Crime Index. (2023). Profile: Libya. Retrieved from https://africa.ocindex.net/country/libya

[554] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., Taj, M., Saeed, K., Mojtabai, R., & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: A systematic review. The Lancet Psychiatry. https://doi.org/10.1016/S2215-0366(22)00435-7

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[558] Elamouri, F., Rockstroh, J. K., Kratoo, W., Miyahara, Y., & Pumpaibool, T. (2024). HIV/AIDS knowledge and attitudes towards HIV and condom use among internally displaced Libyan males. Is there a need to implement sex education?. HIV Research & Clinical Practice, 25(1), 2305554.

were affected, with 2,600 women and 3,900 men. The overall HIV prevalence rate among adults aged 15 to 49 remains low at 0.1%[559].

KP such as people PWID face much higher rates, with 87.1% of PWID living with HIV and 94.2% affected by HCV[560]. A 2022 study of 4,539 HIV/AIDS patients during Libya's armed conflict (2011–2020) found that the majority of cases were among IDUs (42.5%), followed by sexual transmission (27.7%)[561].

A study conducted at Tobruk Medical Center reported an HCV positivity rate of 0.17% among tested individuals, while a retrospective review in Eastern Libya found a 0.09% positivity rate for HBV[562,563]. It is important to note that, compared to similar international studies and even previous studies conducted in Libya, the frequency of HBV infection in this study was found to be very low. The authors attributed this decline to improvements in the HBV infection control program in recent years, particularly the implementation of the universal newborn vaccination program[564].

HBV and HCV infections remain widespread, particularly among high-risk groups such as HD patients, prisoners, intravenous drug users, and HCWs[565]. Libyan HCW's inadequate knowledge about the disease[566] heightens their risk of exposure and contraction. Other KP such as MSM report alarmingly high HIV prevalence rates of 83.3%[567], while FSW have an HIV incidence rate of

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[559] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[560] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[561] Daw, M. A., El-Bouzedi, A. H., & Ahmed, M. O. (2022). The impact of armed conflict on the prevalence and transmission dynamics of HIV infection in Libya. Frontiers in Public Health, 10, 779778.

[562] Ismail, F., Haq, S., El-Garawani, I., & Abdelsameea, E. (2022). Hepatitis C virus infection in eastern Libya: Efforts needed to improve HCV testing and linkage to care in the resource-limited setting. Tropical Medicine and Infectious Disease, 7(2), 14.

[563] Ismail, F., Haq, S., Hasan, T. S., Juoda, D., Abdelsameea, E., El-Garawani, I., & Hathout, H. M. (2024). Hepatitis B Virus Infection in Eastern Libya: Current Efforts for Overcoming Regional Barriers for Its Elimination. Journal of Community Health, 1-7.

[564] Ibid

[565] Khalaf, A. A. (2024). Hepatitis B and C virus epidemic in Libya: A systematic review. Biomedical and Biotechnology Research Journal, 8(Supplement), S49. https://doi.org/10.4103/bbrj.bbrj_185_24

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[567] Zheng, Y., Ying, M., Zhou, Y., Lin, Y., Ren, J., & Wu, J. (2021). Global burden and changing trend of hepatitis C virus infection in HIV-Positive and HIV-Negative MSM: a systematic review and meta-analysis. Frontiers in Medicine, 8, 774793.

2.6 per 1,000 person-years, one of the highest in the region[568]. Migrants and IDPs are also at increased risk due to displacement, lack of access to healthcare, and exposure to physical and sexual violence. Among migrants in Italy, migration routes through Libya were a significant contributor to most of the positive reactive cases of HCV and HBV[569,570,571]. African migrants in Libya from Sub-Saharan countries have reported high prevalence rates of HCV and HBV, at 23.4% and 31.2%, respectively[572]. A biobehavioral survey of 390 male IDPs in Libya, including 2.8% who identified as MSM, revealed critical gaps in HIV knowledge and prevention practices, particularly condom use. Factors such as interactions with armed forces, experiences of sexual violence, and risky behaviors linked to displacement further heighten their vulnerability to HIV[573]. Additionally, migration dynamics during war have played a key role in the spread and dissemination of infectious diseases; with Benghazi, the biggest city in Eastern Libya, identified as a significant nexus for disseminating HIV strains to other regions of the country[574].

Despite notable progress, such as 78% of pregnant women living with HIV receiving medications to PMTCT[575]- a milestone on track for 2025 targets- significant gaps in screening and treatment remain.

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[572] Saaed, F. M., & Ongerth, J. E. (2023). Prevalence of hepatitis b and hepatitis c in migrants from sub-saharan africa before onward dispersal toward Europe. Journal of Immigrant and Minority Health, 25(4), 882-888.

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Universal screening guidelines for HBsAg include at-risk groups such as HCWs, HD patients, infants of HBV-positive mothers, blood donors, and individuals undergoing pre-marriage and pre-employment checkups[576], a similar level of comprehensive screening has yet to be applied. The percentage of infants born to women living with HIV receiving a virological test within two months of birth 48% country is very far off from meeting 2025 targets[577].

Until 2019, there was no formal linkage to care or treatment for individuals testing positive for HBV in Libya. In recent years, however, the Libyan health authorities established a Chronic Hepatitis B (CHB) registry in the Tobruk region. The registry aims to confidentially document, test, monitor, and treat eligible CHB patients, adhering to both national guidelines and WHO standards. While the registry has improved management and follow-up for CHB patients, it faces several challenges. These include shortages of diagnostic tools, trained personnel, and antiviral therapies, with supply delays often forcing patients to purchase expensive medications from private pharmacies. Additionally, limited awareness among the public and HCWs about HBV infection, screening, and follow-up procedures hampers efforts to improve care[578]. Currently, fewer than 10 HIV testing centers exist nationwide, further limiting access to timely diagnosis and treatment[579]. An estimated 90% of people living with HIV know their status, but only 54% of adults and 60% of children are receiving ART[580]. These gaps are driven by significant systemic challenges. The availability of treatment services is limited, with only four of the country's eight ART centers fully operational[581]. Access to essential medications is further constrained by repeated stockouts, causing frequent treatment interruptions. While ART is provided free of charge, these interruptions force physicians to prescribe non-guideline-compliant drug combinations or leave patients without treatment entirely. Consequently, many PLHIV are admitted to healthcare

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[578] Ismail, F., Haq, S., Hasan, T. S., Juoda, D., Abdelsameea, E., El-Garawani, I., & Hathout, H. M. (2024). Hepatitis B Virus Infection in Eastern Libya: Current Efforts for Overcoming Regional Barriers for Its Elimination. Journal of Community Health, 1-7.

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facilities with advanced stages of disease, contributing to increased morbidity, earlier mortality, and rising levels of drug resistance[582]. As a matter of fact, high levels of drug resistance and associated mutations have been detected among PLHIV in Libya and across other African countries, posing a significant threat to ART effectiveness and necessitating urgent regional strategies to combat resistance and improve treatment outcomes[583].

To effectively reach all segments of the population, it is crucial to account for the cultural, social, and systemic factors that shape access to HIV-related services. Women in Libya face unique barriers, such as limited sexual health education, inadequate medical care, and cultural stigma that discourages testing and treatment. Patriarchal norms often restrict women from negotiating safe sex practices, while fears of social repercussions, security concerns, and inaccessible healthcare further limit their ability to seek care[584]. Religion, deeply embedded in Libyan society, also influences the response to HIV. While promoting low-risk behaviors, its associated stigma around behaviors deemed sinful creates additional obstacles for at-risk individuals seeking help[585].

Harm Reduction

As of 2021, there was no confirmation of harm reduction measures being included in the country's policies. Notably, key harm reduction interventions such as NSP and OAT are not available in Libya[586]. Prevention programs in Libya are currently lacking, with no initiatives in place for distributing condoms, and the Ministry of Health does not provide free condom distribution[587].

[582] WHO. (2023). WHO country office, Libya: Annual report 2022. WHO Regional Office for the Eastern Mediterranean. Retrieved from https://unicri.it/Publications/Illicit-Financial-Flows-and-Asset-Recovery-in-Libya.

[583] Shalaka, N. (2024). Retrospective study of the prevalence of acquired drug resistance after failed antiretroviral therapy in Libya. Information for authors, 1.

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[585] Ibid

[586] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[587] Elamouri, F., Rockstroh, J. K., Kratoo, W., Miyahara, Y., & Pumpaibool, T. (2024). HIV/AIDS knowledge and attitudes towards HIV and condom use among internally displaced Libyan males. Is there a need to implement sex education?. HIV Research & Clinical Practice, 25(1), 2305554.

The UNODC and the National Centre for Disease Control have been actively supporting Libya on drug and health-related matters through various programs and interventions [588,589,590]. Representatives from Libya also called for the establishment of a National Multi-Stakeholder Accountability Framework to improve the availability and accessibility of harm reduction services[591].

Morocco

Morocco is located in North Africa and part of the Maghreb region. The country sits at the crossroads of Europe, Africa, and the Atlantic Ocean, granting it a strategic position for regional trade, migration, and international relations.

Morocco ranks among the world's top producers of cannabis, with significant local consumption alongside broad international distribution. Additionally, the country has a small but growing cocaine market, with prices dropping sharply over the last decade, likely due to increased availability. There is also a rising trend in the use of other drugs such as ecstasy, crystal methamphetamine, and Karkoubi, a dangerous mixture of synthetic drugs, solvents, and benzodiazepines. Its widespread availability and extremely low cost make it particularly accessible to lower-income and middle-class populations[592].

Drug Use

Morocco reports the highest cannabis use estimates in the EMR region, alongside the lowest rates of methamphetamine-type stimulant use, while cocaine use among young females is the highest in the region[593].

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[588] Hamidi, A. (2022). HIV prevention–Challenges in reaching Libyan women: A narrative review. Women's Health, 18, 17455057221080832.

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[593] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

A survey of 500 polydrug users in Casablanca revealed widespread misuse of psychotropic medicines, with clonazepam (96.8%), diazepam (82%), nordazepam (55.6%), and tramadol (47.8%) being the most commonly misused, particularly from street markets. The study highlighted alarming patterns of misuse, including increased doses with polydrug use and alcohol consumption, with 96.4% of participants reporting health discomfort linked to their misuse[594].

Benzodiazepines are widely used to treat conditions such as anxiety, insomnia, and psychomotor agitation. However, many people lack proper knowledge of their use, leading to a high risk of poisoning, that is 1,544 cases, with 31.5% of them related to suicide attempts. Nearly all cases (97.1%) involved oral ingestion of the substance[595].

Karkoubi, a well-known drug in Morocco often referred to as "the drug of the poor," has recently appeared in Spain. This has alerted authorities due to its harmful side effects[596].

BBV

In 2023, an estimated 23,000 individuals of all ages were living with HIV in the region, marking an increase from 19,000 in 2015. The prevalence of HIV among adults aged 15 to 49 remained below 0.1%, and new HIV infections were reported to be around 970, with an estimate range between 760 and 1,300[597].

When considering pregnant women, 23 were identified as aware of their HIV status. However, only 60% of pregnant women living with HIV received antiretroviral therapy for the PMTCT, a rate that is not on track to meet the 2025 targets. The final transmission rate, which includes the breastfeeding period, stands at 15.72%, a stark contrast to the target of less than 5% by 2025[598].

A cross-sectional survey conducted between January 2022 and June 2022 assessed the knowledge and attitudes of 384 pregnant women randomly selected from 20 health districts in Essaouira province. The findings revealed that 75.8% of the participants demonstrated low knowledge regarding the prevention of PMTCT of HIV, while 72.7% held negative attitudes toward PMTCT measures. The study highlighted that both knowledge and attitudes varied significantly based on

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[598] WHO, UC, HHS, & SIA. (2023). Country factsheets: Morocco. Country Factsheets HIVCI. Retrieved from https://cfs.hivci.org/index.html

factors such as the participants' education level, the number of children they had, and their primary sources of information. A very strong correlation was found between knowledge levels and attitudes, indicating that improved understanding of PMTCT could potentially foster more positive attitudes among pregnant women[599].

Additionally, the most recent data, from 2013, indicates that only 32% of infants born to women living with HIV received a virological test within two months of birth, far below the 95% target set for 2025. This highlights a pressing need for improved linkage to care for children born to mothers with HIV. A study conducted at the Hassan II Regional Hospital Center between 2012 and 2023 examined the primary OIs affecting children with HIV. Among 76 complete medical records analyzed, 37% of participants had OIs, with diarrhea (11%), TB (9%), and pneumonia (7%) being the most common. A significant correlation was found between OIs and the clinical stage of HIV, as well as with age and anemia. These findings emphasize the importance of early detection, prevention, and adherence to treatment to reduce the burden of OIs in this population[600].

The prevalence of TB in the general population was not reported. However, a retrospective study conducted between 2020 and 2021 reviewed 240 medical records of patients with TB. Among these, 9 cases demonstrated drug resistance, and 4 were HIV-positive[601]. Another study on pulmonary tuberculosis patients hospitalized between January 2019 and June 2021 identified 140 cases. Younger individuals aged 15 to 34 years and male patients were more likely to be affected. Risk factors for developing TB included smoking, contact with individuals who have tuberculosis, and a significant association with HIV-positive status[602]. In this population, PTB patients exhibited more clinical signs, and higher rates of tobacco and alcohol consumption[603].

[599] Nezha, N. A. C. E. R., Nadia, O. U. Z. E. N. N. O. U., Najat, E. F., & Samia, R. K. H. A. (2023). Knowledge and Attitudes about Mother-to-Child Transmission of the Human Immunodeficiency Virus in a Context of Social Vulnerability: The Case of the Province of Essaouira, Morocco. Ethiopian Journal of Health Sciences, 33(3).

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[603] Oubaasri, A., Labyad, A., Belokda, W., Madkour, A., El Ghoulam, N., Daoudi, D., ... & Benaich, S. (2024). Epidemiological, clinical and evolutive profile of tuberculosis patients: Case of the region of Guelmim in Morocco. Clinical Epidemiology and Global Health, 29, 101769.

The prevalence of HIV among KPs in Morocco highlights specific vulnerabilities and challenges. Among PWID, the HIV prevalence is estimated at 5.05%[604] or 5.3%[605], reflecting a significant risk factor within this group. The prevalence among sex workers was reported at 2.3% in 2022, while MSM demonstrated an HIV prevalence of 5.3% in 2023. In contrast, the prevalence among people in prisons is significantly lower, at 0.2%[606].

A 2023 study investigated the factors affecting HIV knowledge, stigma, and violence among FSW in four Moroccan cities across three rounds of HIV surveillance surveys conducted in 2012, 2016, and 2019. The findings revealed significant associations between several variables and heightened vulnerability. Key factors included the reasons for engaging in sex work, methods of soliciting clients, familial involvement in sex work, experiences of forced sex, and histories of arrest or incarceration. The study also highlighted differences across cities and trends over time. While HIV transmission knowledge among FSW has improved, incidences of being denied health services and physical violence have declined[607].

Migrants, refugees, and immigrants in Morocco face significant health vulnerabilities, particularly related to HIV. A study identified high-risk sexual behaviors among Moroccan migrants and refugees, with 72.8% of respondents reporting intercourse without condoms with casual or commercial partners. Risk factors include homelessness, difficulty accessing condoms, and low education levels, emphasizing the need for targeted public health interventions and support from non-governmental organizations. Although the prevalence of HIV in this population was low (0.2%), precarious living conditions heighten their susceptibility to risky behaviors and related health outcomes, necessitating vigilant monitoring and prioritization of their health in public health strategies[608]. In a separate study of 495 migrants in Oujda, the prevalence of HCV and HIV was 1% and 0.2%, respectively, while chronic conditions like diabetes (3.8%) and hypertension

[604] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[605] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[606] Ibid

[607] Phatak, G., Johnston, L. G., Khoudri, I., Rhilani, H. E., Kettani, A. E., & McLaughlin, K. R. (2023). Trends and factors affecting knowledge of and stigma and violence towards female sex workers in Morocco. International journal of behavioral medicine, 1-11.

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(27.7%) were notable concerns[609]. Additionally, a cross-sectional study among Moroccan Dutch migrants highlighted low knowledge of chronic HBV, with only 23% aware of HBsAg screening and fewer understanding the asymptomatic nature of chronic HBV infection. Misconceptions about the disease, such as associating the absence of symptoms with good health, deterred screening participation[610].

A cross-sectional study was conducted at Mohammed Premier University in Oujda during the 2023-2024 academic year to evaluate students' KAP regarding viral hepatitis. Out of 503 students who completed an online survey, hepatitis B and C were more widely recognized than hepatitis A and E. Most participants understood that HBV could be transmitted through blood (78.0%) and sexual contact (62.0%), while 69.0% identified blood contact as the primary mode of hepatitis C transmission. Students' knowledge levels were significantly linked to education level, medical school affiliation, and socio-economic status. While their preventive practices were positive, their attitudes towards individuals with viral hepatitis were largely negative[611].

A second study, conducted between November and December 2022, compared knowledge levels among middle and high school students from public and private institutions. Results showed that 64.43% had prior awareness of hepatitis B, 33.58% understood its nature and global prevalence, and 13.68% knew about the chronicity rate in Morocco. Awareness of HBV transmission routes (51.5%), vertical transmission (57.7%), and vaccine availability (56.1%) was moderate, but only 23% reported being vaccinated and 16.3% knew their HBV serostatus. Age and type of education were associated with better knowledge, while the only gender difference was in awareness of the hepatitis B vaccine[612].

HBV is not receiving adequate attention in Morocco, with no reported prevalence data for HBV among PWID and limited research on HBV in the general population. A ten-year study (2014–2023) aimed to update the virological profile of CHB patients. Among 804 HBsAg-positive patients,

[609] Essayagh, F., Essayagh, T., Essayagh, M., Khouchoua, M., Lemriss, H., Rattal, M., ... & Essayagh, S. (2023). Disease burden among migrants in Morocco in 2021: A cross-sectional study. Plos one, 18(1), e0281129.

[610] Hamdiui, N., van Steenbergen, J., Rocha, L. E., Meiberg, A., Urbanus, A., Hammou, N. A., ... & Stein, M. L. (2021). Hepatitis B screening among immigrants: how to successfully reach the Moroccan community. Journal of Viral Hepatitis, 28(12), 1759.

[611] Lekfif, A., Atassi, M., Salah, A., Rahhaoui, S., Sabbar, S., Aissaoui, H., ... & Abda, N. (2024). Study of the knowledge, practices and attitudes of students at Mohammed First University in Oujda regarding viral hepatitis in Morocco. La Tunisie medicale, 102(11), 850-857.

[612] Madihi, S., Boukaira, S., Bouafi, H., & Benani, A. (2024). Assessment of hepatitis B knowledge among Moroccans. Vacunas, 25(4), 462-469.

58.24% were confirmed HBV-positive. Patients aged less than 24 years constituted 5% of HBsAg-positive and 4.34% of HBV-positive cases[613].

The HBV population in Morocco exhibits genetic diversity, with genotype D, particularly subtype D7, being the most prevalent and potentially originating in the region[614]. Studies classify Morocco as a low-endemic region, with an HBV seroprevalence of approximately 1.8%. Males demonstrated a higher prevalence than females across all age groups, particularly among individuals aged 30–50 years[615].

HBV also presents with diverse viral effects and resistance mutations[616]. To address these challenges, the first quantitative real-time PCR assay in the Mediterranean region was developed and validated, marking a significant advancement in HBV diagnostics and monitoring[617].

HBV co-infection is notably common among HIV-1-infected individuals in Morocco[618]. Given the heightened risk of HBV exposure in this group, the hepatitis B vaccine is strongly recommended for PLHIV. However, a study has revealed a higher prevalence of HBsAg in hospital-based populations compared to the general population in Morocco, as well as alarmingly low HBV immunization coverage[619].

The immune response to HBV vaccination varies depending on the vaccine type, adjuvants, dosing regimen, and population characteristics. High-risk groups, such as individuals with diabetes,

[613] Madihi, S., Charoute, H., Boukaira, S., Bouafi, H., Baha, W., Zyad, A., & Benani, A. (2024). Virological characterization of hepatitis b virus infection in morocco: a ten-years study (2014–2023). Diagnostic Microbiology and Infectious Disease, 110(4), 116502.

[614] Athamneh, R. Y., Arıkan, A., Sayan, M., Mahafzah, A., & Sallam, M. (2021). Variable proportions of phylogenetic clustering and low levels of antiviral drug resistance among the major hbv sub-genotypes in the middle east and North Africa. Pathogens, 10(10), 1333.

[615] Abouqal, R., Beji, M., Chakroun, M., Marhoum El Filali, K., Rammaoui, J., & Zaghden, H. (2022). Trends in Adult and Elderly Vaccination: Focus on Vaccination Practices in Tunisia and Morocco. Frontiers in Public Health, 10, 903376.

[616] Chihab, H., Elmessaoudi-Idrissi, M., Kitab, B., Elfihry, R., Jadid, F. Z., Zaidane, I., ... & Benjelloun, S. (2021). Molecular and computational analysis of natural drug resistance mutations among Moroccan chronic hepatitis B carriers. Gene Reports, 23, 101197.

[617] Madihi, S., Laassili, C., Boukaira, S., Baha, W., Khyatti, M., Zyad, A., ... & Benani, A. (2024). Development and validation of the first HBV qRT-PCR assay in the Mediterranean area targeting the X region. Journal of Virological Methods, 326, 114913.

[618] Belbacha, I., Bensghir, R., Marhoum, K. F., Laboudi, M., Hajoutt, K., Elharti, E., ... & Oumzil, H. (2024). Prevalence of HBsAg among Moroccan HIV-1 infected patients and APOBEC3G variant frequencies in HIV-1/HBV co-infection. The Journal of Infection in Developing Countries, 18(05), 779-786.

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obesity, chronic kidney disease, immunocompromised conditions, and HIV co-infection, often exhibit reduced vaccine effectiveness[620].

While the hepatitis B vaccine is included in Morocco's National Immunization Program (NIP) for children, vaccination rates among adults remain low, particularly among healthcare workers, for whom the vaccine is strongly recommended[621].

The prevalence of HCV in Morocco has not been updated recently but is estimated to range from 1.5% to 3.5%, reflecting a moderate prevalence[622]. Chaabna et al. previously highlighted a high prevalence of HCV among IDUs in Morocco, Tunisia, and Egypt between 2009 and 2012, indicating the vulnerability of this population group[623]. Among HD patients in Morocco, the overall prevalence of hepatitis C was estimated at 35.8%[624].

Genetic factors also play a significant role in HCV outcomes. Research has identified distinct patterns of HLA alleles in the Moroccan population, revealing genetic variations that influence susceptibility to and the progression of HCV infection[625].

A retrospective study of 2,101 HCV-positive patients conducted between 2003 and 2020 provided comprehensive data on HCV genotypes, viral loads, and liver disease progression in Morocco. The findings showed that genotypes 1 and 2 are the most prevalent, with genotype 1b being linked to higher virulence and advanced liver fibrosis. Genotype 3 was first identified in 2013 and has shown a gradual increase in prevalence since then. The study also revealed that females are more affected than males, with an average patient age of 59.5 years[626].

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[620] Abouqal, R., Beji, M., Chakroun, M., Marhoum El Filali, K., Rammaoui, J., & Zaghden, H. (2022). Trends in Adult and Elderly Vaccination: Focus on Vaccination Practices in Tunisia and Morocco. Frontiers in Public Health, 10, 903376.

[621] Ibid

[622] Athamneh, R. Y., Abudalo, R., Sallam, M., Alqudah, A., Alquran, H., Amawi, K. F., & Abu-Harirah, H. A. (2023). Sub-genotypes of hepatitis C virus in the Middle East and North Africa: Patterns of distribution and temporal changes. Infection, Genetics and Evolution, 109, 105412.

[623] Chaabna et al., 2018 as cited in Athamneh, R. Y., Abudalo, R., Sallam, M., Alqudah, A., Alquran, H., Amawi, K. F., & Abu-Harirah, H. A. (2023). Sub-genotypes of hepatitis C virus in the Middle East and North Africa: Patterns of distribution and temporal changes. Infection, Genetics and Evolution, 109, 105412.

[624] Bidarne, L., Obtel, M., EL Hilali, S., Razine, R., Kharbach, A., & Najdi, A. (2024). The seroprevalence of hepatitis C virus among haemodialysis patients in Morocco: a systematic review with meta-analysis. International Journal of Environmental Studies, 1-12.

[625] Machraoui, S., Errafii, K., Oujamaa, I., Belghali, M. Y., Hakmaoui, A., Lamjadli, S., ... & Admou, B. (2024). Frequency of the Main Human Leukocyte Antigen A, B, DR, and DQ Loci Known to Be Associated with the Clearance or Persistence of Hepatitis C Virus Infection in a Healthy Population from the Southern Region of Morocco: A Preliminary Study. Diseases, 12(5), 106.

[626] Boukaira, S., Madihi, S., Baha, W., Belkadi, B., & Benani, A. (2024). Hepatitis C viral load and genotypes distribution among chronically infected patients in Morocco. Gene Reports, 34, 101874.

Among the estimated 17,750 PWID, Hepatitis C (anti-HCV) prevalence is alarmingly high at 63.13%, yet only 52.1% of PWID in Morocco have ever been tested for HCV[627].

Access to hepatitis C virus treatment for PWID is hindered by a combination of individual factors, including limited knowledge, perceived stigma, and low self-esteem, as well as structural barriers like poor interactions with health workers and mistrust in healthcare institutions[628].

As of the latest data (2023), 16,979 PLHIV are on ART, representing approximately 74% of the total PLHIV population. Among those on ART, 15,960 or 69% have achieved viral suppression[629].

HIV testing and awareness of HIV status among KPs remain limited. In 2022, only 53% of sex workers were aware of their HIV status. Similarly, awareness was 43% among MSM in 2023 and 49.3% among PWID in the same year. These gaps highlight the need for more effective testing strategies targeting these populations[630].

A study conducted in 2022 assessed the acceptability and usability of HIVST among 492 participants, including 257 MSM and 233 FSW in Morocco. The findings revealed high acceptability rates (90.6%) despite only 18% of participants being previously aware of HIVST. While 92.2% of MSM and 80.6% of FSW found the HIVST "very easy" to use, challenges were noted among participants with low literacy, particularly among FSW, 28.8% of whom were illiterate compared to just 6.1% of MSM. The study reported a notable HIV positivity rate of 3.8% and 100% concordance between participants' HIVST results and standard testing performed by ALCS-trained lay providers, affirming the reliability of HIVST[631]. Building on these findings, a larger and more comprehensive study was conducted in 2024. This scaled-up study included 3,465 participants and expanded to additional vulnerable populations, such as partners of PLHIV. The study further validated the high acceptability of HIVST, with rates of 90.2% among FSW, 86.2% among MSM, and 80.4% among partners of PLHIV. However, a significant proportion of participants (between 44.0% and 73.4%) had never been tested for HIV prior to this study, underscoring gaps in testing access and awareness. The study also highlighted the persistent challenges faced by FSW with low

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[627] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[628] Belrhiti, Z., & Serghini, F. Z. (2023). Perceived barriers to access to hepatitis C for people who inject drugs in Morocco: A qualitative explorative study. Drug Science, Policy and Law, 9, 20503245231199163.

[629] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[630] Ibid

[631] Moussa, A.B., Belhiba, O., Hajouji, F. Z., El Kettani, A., Youbi, M., Alami, K., ... & Karkouri, M. (2022). Acceptability and usability of oral fluid-based HIV self-testing among female sex workers and men who have sex with men in Morocco. BMC public health, 22(1), 2266.

literacy levels in using the HIVST effectively, as usability issues were most pronounced in this group[632].

Condom use among KPs in Morocco varies, reflecting gaps in effective prevention strategies. In 2022, only 54% of sex workers reported using condoms, compared to 56% of MSM and a significantly lower 33.3% among PWID in 2023. Coverage of HIV prevention programs also remains inconsistent. In 2019, 54.9% of sex workers accessed these programs, compared to 53.3% of MSM and 49.3% of PWID by 2023[633].

Access to HIV care for PLHIV in Morocco is hindered by multiple barriers, including limited access to ART and systemic challenges. Women in particular face disproportionate obstacles. Those who are not referred for HIV testing and those excluded from decision-making processes in local PLHIV projects are significantly more likely to avoid healthcare services altogether[634].

PWID in Morocco continue to face significant challenges in accessing healthcare and living free from violence. In 2022, 13.9% of sex workers avoided healthcare due to stigma and discrimination. Similarly, 10% of MSM and 10.8% of PWID reported avoiding healthcare for the same reasons in 2023[635]. Stigma and discrimination do not only come from external sources but are often internalized by PLHIV, further compounding the barriers they face. Belonging to a KP, such as sex workers, MSM, or PWID, was a significant determinant. This internalized stigma manifests as feelings of shame, fear, and exclusion which deter PLHIV from seeking care or engaging with their communities[636,637]. Avoidance of healthcare services due to stigma and discrimination among PWID is nearing the 10% target set for 2025. However, this progress is overshadowed by the

[632] Moussa, A. B., Mjidila, S., El Kettani, A., Khoudri, I., Youbi, M., Alami, K., ... & Sodqi, M. (2024). Acceptability and feasibility of HIV self-testing distribution modes among key populations in Morocco. Eastern Mediterranean health journal= La revue de sante de la Mediterranee orientale= al-Majallah al-sihhiyah li-sharq al-mutawassit, 30(10), 671-681.

[633] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[634] Delabre, R. M., Moussa, A. B., Villes, V., Elkhammas, M., Ouarsas, L., Castro Rojas Castro, D., & Karkouri, M. (2022). Fear of stigma from health professionals and family/neighbours and healthcare avoidance among PLHIV in Morocco: results from the Stigma Index survey Morocco. BMC Public Health, 22(1), 1705.

[635] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[636] Moussa, A. B., Delabre, R. M., Villes, V., Elkhammas, M., Bennani, A., Ouarsas, L., ... & Castro, D. R. (2021). Determinants and effects or consequences of internal HIV-related stigma among people living with HIV in Morocco. BMC Public Health, 21, 1-11.

[637] Delabre, R. M., Moussa, A. B., Villes, V., Elkhammas, M., Ouarsas, L., Castro Rojas Castro, D., & Karkouri, M. (2022). Fear of stigma from health professionals and family/neighbours and healthcare avoidance among PLHIV in Morocco: results from the Stigma Index survey Morocco. BMC Public Health, 22(1), 1705.

alarming prevalence of physical and/or sexual violence, with 30% of PWID reporting such experiences within the past 12 months[638].

Another barrier to HIV care lies in missed opportunities for HIV testing. Among 323 individuals with HIV-related clinical conditions, 22% did not seek care, and 69% who sought care were not offered HIV testing by their healthcare provider. This represents a significant gap in recognizing clinical indicators of HIV and addressing at-risk populations. Similarly, among MSM, 83% did not disclose their sexual behavior to their healthcare provider, and only 6% were offered HIV testing after doing so[639].

A study in the Marrakech region revealed a therapeutic failure rate of 18.2% among HIV-infected patients under treatment, primarily due to poor adherence and low CD4+ counts at the initiation of ART. The authors argue that immunological monitoring alone is insufficient for predicting virological suppression and therapeutic success. Routine accessibility to HIV plasma viral load testing is strongly recommended to improve monitoring and treatment outcomes[640].

A study by Titou, Boui, and Hjira (2022) highlights the complexity of managing HIV in Morocco, emphasizing the critical need to address comorbidities alongside ART. According to the study, 71.6% of HIV patients in Morocco received at least one non-antiretroviral drug during their treatment[641].

Morocco has been a pioneer in harm reduction, becoming the first country in the Arab region to introduce PrEP as part of its HIV prevention strategy in 2017. A study highlighted disparities in enrollment among KPs, revealing that FSWs, a primary target group, had lower enrollment rates compared to MSM. A reflexive thematic analysis identified seven key barriers to PrEP uptake: stigma surrounding PrEP use, the criminalization and stigmatization of sex work, the need for tailored approaches rather than a universal strategy, gaps in knowledge and misconceptions about PrEP, the economic burden of accessing PrEP, inconvenience associated with daily pill-taking, and a preference for alternative PrEP modalities[642]. A pilot program was conducted between May and

[638] Joint United Nations Programme on HIV/AIDS. (2024). The urgency of now: AIDS at a crossroads. Retrieved from https://www.unaids.org/en/resources/documents/2024/global-aids-update-2024

[639] Marih, L., Sawras, V., Pavie, J., Sodqi, M., Malmoussi, M., Tassi, N., ... & Weiss, L. (2021). Missed opportunities for HIV testing in patients newly diagnosed with HIV in Morocco. BMC Infectious Diseases, 21, 1-8.

[640] Echchakery, M., Boumezzough, A., & Boussaa, S. (2023). Biological parameters determining the effectiveness of monitoring of HIV/AIDS infected patients in Morocco. African Health Sciences, 23(2), 109-20.

[641] Titou, H., Boui, M., & Hjira, N. (2022). Cost and factors associated with the prescription of non-antiretroviral drugs among HIV-infected patients under antiretroviral therapy in a reference hospital in Morocco. Medecine Tropicale et Sante Internationale, 2(1), mtsi-2022.

[642] Moussa, A. B., Badahdah, A. M., Hidous, K., Barakad, R., Diallo, F., Traoré, M., ... & Karkouri, M. (2024). Barriers to Oral PrEP: A Qualitative Study of Female Sex Workers, PrEP Prescribers, Policymakers, and Community Advocates in Morocco. Journal of the International Association of Providers of AIDS Care (JIAPAC), 23, 23259582241266691.

December 2017 in Morocco's highest HIV prevalence cities to assess the feasibility and acceptability of a community-based PrEP program for FSWs and MSM. The program involved 373 eligible participants and demonstrated an 86% PrEP uptake, with retention rates of 78% after three months and 37% overall at the study's end[643].

In Morocco, NGOs play a crucial role in addressing public health challenges, with l'Association de Lutte Contre le Sida (ALCS) serving as the primary organization for HIV-related services.

No restrictions exist on the entry, stay, or residence of people living with HIV, and mandatory HIV testing is not required for marriage, work, or residence permits, nor for people from specific groups. However, adolescents aged 17–18 years require parental or guardian consent to access HIV testing, which may hinder early diagnosis and treatment. Spousal consent is also not required for married women to access sexual and reproductive health services, reflecting a partial acknowledgment of women's autonomy in this domain. Notably, there are no laws protecting against discrimination based on HIV status, sex work, sexual orientation, or gender identity[644].

Harm Reduction

A 2023 study highlighted a critical gap in balancing public health needs and drug control and harm reduction programs in Morocco, which remain constrained by outdated laws and systemic inefficiencies[645].

The harm reduction services currently available in Morocco include three NSP, and OAT using methadone[646], operational at seven sites since 2019 with 2030 clients treated[647]. These services, however, are not yet reaching the 2025 targets. In 2021, the average number of NSP kits distributed per person who injects drugs was 90, far below the target of 200. Similarly, the coverage of OAT for PWID was 35%, falling short of the 2025 target of 50%. Additionally, in 2023,

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[643] Ben Moussa, A., Belhiba, O., Sodqi, M., Hajouji, F. Z., Salah, N. E. I., Sakhri, N., ... & Karkouri, M. (2024). PrEPare_Morocco a successful community-based PrEP delivery demonstration program for men who have sex with men and female sex workers in Morocco. AIDS care, 36(4), 508-516.

[644] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/en/resources/documents/2024/2024_unaids_data

[645] Tinasti, K., & Outaleb, L. (2023). An overview of legal and policy barriers to opioid analgesics access and opioid agonist therapy in Morocco. Drugs, Habits and Social Policy, 24(4), 252-258.

[646] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[647] Rostam-Abadi, Y., Gholami, J., Jobehdar, M. M., Ardeshir, M., Aghaei, A. M., Olamazadeh, S., ... & Rahimi-Movaghar, A. (2023). Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review. The Lancet Psychiatry, 10(4), 282-295.

only 76.7% of PWID reported using sterile equipment during their last injection. Naloxone availability was reported for the first time in 2024[648].

In prisons, harm reduction efforts face significant barriers. While OAT is technically available, it remains largely inaccessible. NSP and condoms are not provided to prisoners, as authorities believe these measures would encourage drug use and sexual activity[649].

Oman

Oman has a notable market for synthetic drugs and, to a lesser extent, for heroin and cannabis. Its strategic geographical location makes it a key transit point for transnational drug trafficking. The Gulf of Oman serves as a major hub connecting the Gulf region with Asia and Africa, facilitating drug smuggling operations. The Makran Coast of Iran, situated across the Gulf of Oman, is a critical source for heroin shipments that enter Oman through Iran and Pakistan, often a route to Europe via Africa. However, Oman's domestic heroin consumption market remains relatively small[650].

Cocaine is reportedly consumed in Oman, but its market is limited in scale[651]. In contrast, the country acts as a destination for smuggled cannabis, typically brought in by foreign nationals collaborating with local groups. The synthetic drug trade, particularly involving Captagon and psychotropic substances, has surged in recent years. Among Oman's affluent population, especially its youth, the demand for Captagon has created a highly lucrative market[652].

Drug use

Substance use trends, as reported by Abri et al.[653], reveal that 6,453 cases were registered with the National Rehabilitation Association (NRA) in Musact between 2004 and 2018, overwhelmingly among males (98.7%) with an average age of 32 years. The majority of cases (76.6%) involved individuals aged 21–40, with unemployment (50.2%) and low educational attainment (81% with only primary or secondary education) being common among users. Muscat Governorate accounted for 62% of the cases, and opiates (66.6%), alcohol (66.0%), cannabis (56.8%), and

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[648] Joint United Nations Programme on HIV/AIDS. (2024). *The urgency of now: AIDS at a crossroads*. Retrieved from https://www.unaids.org/en/resources/documents/2024/global-aids-update-2024

[649] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[650] Global Initiative Against Transnational Organized Crime. (2023). *Organized crime index: Oman profile 2023*. Retrieved from https://ocindex.net/assets/downloads/2023/english/ocindex_profile_oman_2023.pdf

[651] Ibid

[652] Ibid

[653] Abri, M., Farag, M., Mosawi, A., & Awaidy, S. (2020). Socio-demographic characteristics and patterns of substance use disorder in Oman: A retrospective study of the national surveillance programme between 2004 and 2018. *Sultan Qaboos University Medical Journal, 20*(4), e296–e303. https://doi.org/10.18295/squmj.2020.20.04.004.

sedatives (36.2%) were the most commonly abused substances. Polysubstance use was prevalent, with 51% of individuals consuming more than one drug and 20% using four or more drugs.
IDU has risen sharply, from 23% of cases in 2004 to 45% in 2018, peaking at 71% in 2013. Among morphine users, 82% were IDUs. Blood-borne infections are a critical concern, with HCV being the most prevalent (46.9% of tested cases), followed by hepatitis B (HBV) at 5.1% and HIV at 3.7%[654].
Al Wahibi's findings further highlight mental health challenges, with 35% of patients reporting depression and 18% experiencing suicidal tendencies. Younger users (15–19 years old) displayed higher rates of IDU (74%), polysubstance use (92%), and opioid, cannabis, and heroin abuse compared to older users, indicating riskier behaviors in this demographic.[655]
A more recent regional estimates from Aghai et al.[656] suggest that Oman has a prevalence of 9 IDUs per 10,000 population, translating to approximately 2,922 individuals. Heroin is the primary drug injected, with high rates of HCV antibody prevalence (36.56%), followed by HBV (6.29%) and HIV (0.53%). The vast majority of IDUs are men (97.7%), reflecting broader gender disparities in substance use patterns.
Despite the rising trends in drug use and associated health risks, Oman enforces strict legal measures against drug possession, use, and trafficking. These laws emphasize the country's commitment to social order and public health. However, the increasing prevalence of polysubstance use, IDU, and related infections underscores the urgent need for targeted harm reduction interventions. These should include comprehensive prevention and treatment strategies for HIV and hepatitis, alongside educational and support services to address the growing public health burden.

BBV

The situation of BBVs in Oman reflects a combination of significant progress and ongoing challenges. The HIV epidemic in Oman remains low, with an estimated 2,800 PLHIV in 2022 and a prevalence rate of less than 0.1% among adults aged 15–49[657].
Since the first case was identified in 1984, Oman has made considerable strides, including the establishment of the National AIDS Programme (NAP) in 1987 and the provision of free HIV care

[654] Ibid
[655] Al Wahaibi, N., Al Lawati, A., Al Ruqeishy, F., Al Khatri, A., Al-Farsi, Y., Juma, T. M. A., Al Hinai, F., Al-Sibani, N., Mahadevan, S., & Al-Adawi, S. (2019). The characteristics and patterns of utilization of healthcare services among Omanis with substance use disorders attending therapy for cessation. PLOS ONE, 14(1), e0210532.
[656] Aghaei, Ardavan Mohammad et al. (2023. Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: a systematic review and meta-analysis. The Lancet Global Health, Volume 11, Issue 8, e1225 - e1237. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00267-X/fulltext
[657] UNAIDS 2023 https://www.unaids.org/en/regionscountries/countries/oman

across 14 public treatment centers[658]. These centers offer ART, as well as advanced diagnostic services like HIV viral load (VL) testing, genotyping, and CD4 count assessments. The adoption of the "treatment for all" policy in 2015, irrespective of CD4 count, marked a significant milestone in improving HIV care[659].

Despite these efforts, the number of new HIV cases has been rising, with notifications increasing from 174 in 2019 to 221 in 2023[660]. This upward trend may be attributed to improved testing infrastructure, heightened awareness, and persistent high-risk behaviors, such as IDU.

The distribution of new HIV cases in Oman for 2023 reflects regional variations in the notification of cases. The highest number of cases (72) were reported in Muscat, the capital and most urbanized area in Oman, followed by Dhofar (40 cases) a region with cultural and economic dynamics that may influence behaviors linked to HIV risk, and Al Batinah North and South, these regions reported 41 and 28 cases, respectively[661].

According to the Ministry of Health (MoH) annual health report[662], the age distribution of HIV diagnoses in Oman has shifted over time. Among individuals aged 25–34 years, the proportion of cases increased from 31% (44 out of 143) in 2010 to 46% (92 out of 202) in 2021, before slightly declining to 43% (95 out of 221) in 2023. For those aged 35–44 years, the percentage decreased from 26% (37 out of 143) in 2010 to 19% (39 out of 202) in 2021 but subsequently rose to 29% (63 out of 221) in 2023. Meanwhile, the proportion of cases among individuals aged 45 years and older remained stable at 18% in both 2010 and 2021 but dropped to 14% (30 out of 221) in 2023. These findings suggest a shifting age profile, with an increasing share of diagnoses occurring in the 35–44 age group and a decreasing proportion among older individuals in recent years[663].

Sexual transmission remains the primary driver of the epidemic, accounting for 94% of cases in 2010 and 97% in 2021[664]. Late-stage diagnosis continues to be a significant concern, with approximately 70% of PLHIV diagnosed between 2010 and 2021 having a baseline CD4 count of <350 cells/mm³, and 41% having <200 cells/mm³ at diagnosis[665].

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[658] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397–406. https://doi.org/10.1007/s44197-023-00097-1. Erratum in *Journal of Epidemiology and Global Health, 13*(3), 589. https://doi.org/10.1007/s44197-023-00129-w.

[659] Ibid

[660] Department of Health Information and Statistics, Ministry of Health. (2023). *Annual health report*. Retrieved November 2024, from https://www.moh.gov.om/en/web/statistics/annual-reports

[661] Ibid.

[662] Ibid

[663] Ibid

[664] Elgalib, A., Shah, S., Al-Habsi, Z., Al-Fouri, M., Lau, R., Al-Rawahi, B., & Al-Abri, S. (2023). Recent increase in HIV cases in Oman. *Sultan Qaboos University Medical Journal, 23*(3), 285–287. https://doi.org/10.18295/squmj.3.2023.015.

[665] Ibid

Oman has achieved impressive ART coverage and viral suppression rates, with 81% of PLHIV on ART and 90% of those achieving viral suppression[666]. This has contributed to a reduction in community HIV viral load, yet it has not led to a decline in HIV incidence, highlighting the impact of late diagnoses on transmission dynamics. Efforts to expand ART access, reduce AIDS-related deaths by 28% since 2010, and eliminate mother-to-child transmission of HIV and syphilis—certified by WHO in 2022—underscore Oman's commitment to combating HIV[667].

However, challenges persist. KPs, such as PWID and prisoners, bear a disproportionately high burden of HIV, with prevalence rates of 11.8% among PWID and 0.6% among prisoners[668]. Co-infections with HCV and TB remain significant concerns, compounded by low treatment rates for HIV-HCV coinfections, with only 25% receiving HCV treatment[669]. Furthermore, low HIV prevention knowledge, particularly among young women (9.8%), and gaps in community-based ART delivery and self-testing policies limit the effectiveness of prevention and care strategies[670].

Oman's HIV response demonstrates a robust health system capable of delivering high-quality care, yet addressing gender disparities, improving outreach to vulnerable groups, and expanding prevention and education campaigns will be critical for sustaining progress and achieving long-term epidemic control.

Harm Reduction

Oman lacks widespread harm reduction measures such as NSPs or supervised injection facilities[671]. Substance use treatment in Oman is primarily managed by the National Rehabilitation Association (NRA), focusing on detoxification and abstinence-based rehabilitation. However, OST therapy, such as methadone or buprenorphine, is not widely available, creating gaps in evidence-based treatment options for opioid dependence.

[666]Department of Health Information and Statistics, Ministry of Health. (2021). *Annual health report*. Retrieved from https://www.moh.gov.om/en/web/statistics/annual-reports.

[667] World Health Organization. (2022). *Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022–2030*. Geneva, Switzerland: World Health Organization. Retrieved March 2023, from https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/full-final-who-ghss-hiv-vh-sti_1-june2022.pdf?sfvrsn=7c074b36_13

[668] Joint United Nations Programme on HIV/AIDS. (2023). Oman. Retrieved from https://www.unaids.org/en/regionscountries/countries/oman

[669] Ibid

[670] Ibid

[671] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

Pakistan

Pakistan, the sixth most populous country globally with over 208 million people[672], has a youthful demographic profile, with 64% of its population below the age of 29[673]. While this young population represents a significant potential for national growth, it also highlights a critical vulnerability to the escalating problem of drug use.

Strategically located near Afghanistan, the world's largest producer of illicit opium, Pakistan plays a pivotal role in the global drug trade. This geographical proximity has made Pakistan not only a major transit country for heroin, morphine, and cannabis but also highly susceptible to the proliferation of domestic drug misuse[674]. Despite significant strides in reducing opium poppy cultivation to near zero by 1999, the country remains a key conduit for drug trafficking, with routes passing through Balochistan, Khyber Pakhtunkhwa, and major seaports in Karachi and Port Qasim[675]. The increased production of opium in Afghanistan—growing by 87% between 2016 and 2017 alone—has compounded Pakistan's challenges as both a transit hub and a consumer market for illicit drugs[676].

The domestic implications of this transit role are severe. Drug misuse in Pakistan has escalated into a multifaceted public health crisis, with cannabis, heroin, and synthetic drugs increasingly consumed. Weak coordination among federal and provincial ministries responsible for interdiction, rehabilitation, and reintegration exacerbates the problem[677].

Police departments face significant capacity gaps in identifying precursor chemicals and synthetic drugs, hindering effective law enforcement[678].

Pakistan's legal framework for drug control is robust, encompassing laws like the Control of Narcotics Substances Act (1997), which prescribes harsh penalties, including life imprisonment or the death sentence for the possession and trafficking of significant quantities of narcotics[679]. However, enforcement remains inconsistent, and the complex interplay of legal, health, and socioeconomic factors requires a more integrated response. While specialist drug courts exist, and

[672] Government of Pakistan. (2017). *Pakistan statistical year book 2017*. Islamabad, Pakistan: Government of Pakistan.
[673] United Nations Office on Drugs and Crime. (2021). *The world drug report 2021*. Vienna, Austria: United Nations Office on Drugs and Crime.
[674] Ibid
[675] United Nations Office on Drugs and Crime. (2021). *Pakistan programme*. Retrieved from https://www.unodc.org/pdf/pakistan_programme.pdf
[676] National Initiative Against Organized Crime. (2019). *Drug trafficking in Pakistan: Policy brief*. Retrieved from https://globalinitiative.net/wp-content/uploads/2020/07/Drugs-Trafficking-in-Pakistan.pdf
[677] Ibid
[678] Ibid
[679] International Society of Substance Use Professionals. (n.d.). *ISSUP Pakistan country profile*. Retrieved from https://www.issup.net/national-chapters/issup-in-pakistan/country-profile

the government supports rehabilitation programs, a lack of coordinated policymaking and resource allocation limits the impact of these initiatives[680].

Drug use

Since the 2013 UNODC report, no comprehensive national survey on drug use has been conducted in Pakistan, thus limiting the ability to track emerging trends effectively. The trend in drug use in Pakistan over time reflects significant shifts in substance preferences, usage patterns, and public health challenges. The 2013 UNODC report estimated 6.7 million drug users in Pakistan, with a prevalence of 5.8% among adults aged 15–64 years[681]. A more recent report reveals that over nine million people in Pakistan are classified as drug addicts, with approximately two million of them aged between 15 and 25 years. A significant portion of this demographic consists of students attending colleges and universities[682].

Ochani et al. (2023) highlight growing concerns in Pakistan over opioid and recreational drug overdoses. The report estimates that around 700 individuals die daily from drug-related complications and overdoses, resulting in an alarming 250,000 deaths annually. Additionally, approximately 7 million people in the country are regular drug users, with 4 million using cannabis and 2.7 million relying on opiates[683].

Another 2024 study highlights a shift toward more diverse substances, including synthetic drugs and prescription medications, alongside traditional drugs like cannabis and heroin[684].

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[680] National Initiative Against Organized Crime. (2019). *Drug trafficking in Pakistan: Policy brief*. Retrieved from https://globalinitiative.net/wp-content/uploads/2020/07/Drugs-Trafficking-in-Pakistan.pdf

[681] United Nations Office on Drugs and Crime. (2013). *Drug use in Pakistan 2013: Summary report*. Retrieved from https://www.unodc.org/unodc/en/frontpage/2013/March/Key-findings-of-the-drug-use-in-pakistan-2013-technical-summary-report.html

[682] Sajid, M. A. (2021). *Drug abuse among university students: Variations by students, gender, socioeconomic status (SES), locale, and type* [Internet]. Retrieved from https://journals.lww.com/ijsgh/fulltext/2023/09010/implementing_telemedicine_for_opioid_addiction.64.aspx#JCL-P-8

[683] Ochani, S. M. B., Athar, F. B., Nazar, M. W., Rani, S., Ochani, K., Hasibuzzaman, M. A., & Ullah, K. (2023). Drug overdose in Pakistan, a growing concern: A review. *International Journal of Surgery: Global Health, 6*(5), e0356. Retrieved from https://journals.lww.com/ijsgh/fulltext/2023/09010/drug_overdose_in_pakistan,_a_growing_concern__a.63.aspx#:~:text=In%20Pakistan%2C%20an%20estimated%207,more%20than%2014%20000%20patients

[684] Siddiqui, S., Khalid, F., Khalid, M., Towheed, A., Ahmed, S., Paracha, H., Naqvi, T., Hassan, T., & Owais, A. (2024). *Exploring the prevalence and determinants of substance use among drug addicts in Pakistan*. https://doi.org/10.21203/rs.3.rs-4644279/v1. Retrieved from https://www.researchgate.net/publication/382403880_Exploring_the_Prevalence_and_Determinants_of_Substance_Use_Among_Drug_Addicts_in_Pakistan

Cannabis use remains high due to easy availability through networks linked to Afghanistan, its low cost, and cultural misconceptions regarding its addictive potential and religious permissibility[685]. Approximately 500,000 chronic heroin users were identified in a recent UNODC-supported assessment, underscoring a persistent and severe heroin abuse issue[686]. Recent studies also emphasize an increase in polysubstance use, with many individuals using multiple substances such as cannabis (69%), heroin (56.9%), and methamphetamine (52.5%)[687].

In 2011, crack cocaine was the most abused drug in Karachi[688]. By 2024, marijuana had become the most widely used drug nationwide, suggesting a notable shift in drug preferences[689]. There is also a marked rise in synthetic drugs and nonmedical use of prescription medications like benzodiazepines and narcotic analgesics. Alprazolam, buprenorphine, and diazepam are now commonly used, reflecting a growing trend toward prescription drug dependency[690]. A significant proportion of users initiate drug use during adolescence or early adulthood, with the most vulnerable age group being 26–30 years (37.3% in recent studies)[691]. Many users have low educational attainment, with a substantial proportion below secondary school education. Additionally, a large fraction of users reported skilled labor as their occupation, while 8% were students[692].

[685] National Initiative Against Organized Crime (NIOC) Pakistan. (2020). *Drug situation in Karachi*. Retrieved from https://globalinitiative.net/wp-content/uploads/2020/07/Drug-Situation-in-Karachi-PB-1.pdf

[686] United Nations Office on Drugs and Crime. (n.d.). *Pakistan programme*. Retrieved from https://www.unodc.org/pdf/pakistan_programme.pdf

[687] Siddiqui, S., Khalid, F., Khalid, M., Towheed, A., Ahmed, S., Paracha, H., Naqvi, T., Hassan, T., & Owais, A. (2024). *Exploring the prevalence and determinants of substance use among drug addicts in Pakistan*. https://doi.org/10.21203/rs.3.rs-4644279/v1. Retrieved from https://www.researchgate.net/publication/382403880_Exploring_the_Prevalence_and_Determinants_of_Substance_Use_Among_Drug_Addicts_in_Pakistan

[688] Ali, H. (2011). As cited in Siddiqui, S., Khalid, F., Khalid, M., Towheed, A., Ahmed, S., Paracha, H., Naqvi, T., Hassan, T., & Owais, A. (2024). *Exploring the prevalence and determinants of substance use among drug addicts in Pakistan*. https://doi.org/10.21203/rs.3.rs-4644279/v1.

[689] Siddiqui, S., Khalid, F., Khalid, M., Towheed, A., Ahmed, S., Paracha, H., Naqvi, T., Hassan, T., & Owais, A. (2024). *Exploring the prevalence and determinants of substance use among drug addicts in Pakistan*. https://doi.org/10.21203/rs.3.rs-4644279/v1. Retrieved from https://www.researchgate.net/publication/382403880_Exploring_the_Prevalence_and_Determinants_of_Substance_Use_Among_Drug_Addicts_in_Pakistan

[690] Nawaz, A., Nielsen, S., Mehmood, T., Abdullah, A., Ahmed, A., Ullah, W., & Khan, A. (2023). Prescription drug dependence with and without concurrent illicit drug use: A multicenter cross-sectional survey among an addiction treatment-seeking population. *Frontiers in Psychiatry, 14*, 1133606. https://doi.org/10.3389/fpsyt.2023.1133606.

[691] Ghazal, P. (2019). Rising trend of substance abuse in Pakistan: A study of sociodemographic profiles of patients admitted to rehabilitation centres. *Public Health, 167*, 34–37. https://doi.org/10.1016/j.puhe.2018.10.020

[692] Ibid

Available evidence indicates that the prevalence of injection drug use has increased, heightening the risk of blood-borne infections like hepatitis B and C[693]. However, recent prevalence is not reported. Substance use in Pakistan is linked with severe health problems, including memory impairment and comorbid depression, as well as social challenges such as legal troubles, family disputes, and violence[694].

The high prevalence of hepatitis B and C among drug users significantly exacerbates Pakistan's public health burden, with injectable drug use serving as a major driver of infections. Pakistan has the second-largest number of HCV infections globally[695]. A review of 90 studies conducted across the country found that the overall prevalence of HCV infection in the adult population was 11.55%, while drug users exhibited an alarmingly high prevalence of 51%, highlighting the critical need for targeted interventions in this vulnerable group[696]. In summary, Pakistan is experiencing a concerning escalation in drug use, marked by shifts in preferred substances, increased diversity of drug types, and rising health and social consequences. Addressing this requires targeted interventions, improved surveillance, and robust public health strategies.

Drug rehabilitation services in Pakistan are gradually expanding, though they face challenges in accessibility and coverage. The Anti-Narcotics Force operates Model Addicts Treatment and Rehabilitation Centers in cities like Karachi, Islamabad, Sukkur, and Hyderabad[697]. These centers primarily focus on rehabilitation, addressing a gap in most hospitals, which often provide only detoxification services. However, these facilities are limited to urban areas, leaving individuals in remote regions underserved[698]. The IRADA Clinic, or the Institute of Rehabilitation and Drug Addiction, offers tailored treatment programs that address individual needs and include extended care to ease patients' transition back into everyday life, reducing the risk of relapse by targeting addiction's root causes. More recently, the Center for Drug Addiction and Rehabilitation at Sheikh Zayed Medical College in Rahim Yar Khan was established in 2020, providing diverse services, including a psychiatric ICU, a ketamine clinic, a 21-day inpatient detoxification program, and

[693] Jabeen, S., et al. (2022). Drug abuse in Pakistan. In V. B. Patel & V. R. Preedy (Eds.), *Handbook of substance misuse and addictions*. Springer, Cham. https://doi.org/10.1007/978-3-030-92392-1_145

[694] Ghazal, P. (2019). Rising trend of substance abuse in Pakistan: A study of sociodemographic profiles of patients admitted to rehabilitation centres. *Public Health, 167*, 34–37. https://doi.org/10.1016/j.puhe.2018.10.020

[695] Farhan, M., Fazal, F., Dave, T., et al. (2023). National hepatitis registry in Pakistan: A dire need for hepatitis surveillance and control. *Tropical Medicine and Health, 51*, 41. https://doi.org/10.1186/s41182-023-00534-8.

[696] Ibid

[697] Kasbati, M., Rahman, U. A., Kabir, A., Qamar, K., Naveed, A. K., & Malikzai, A. (2023). Implementing telemedicine for opioid addiction amongst youth of Pakistan. *International Journal of Surgery: Global Health, 6*(5), e0350. Retrieved from https://journals.lww.com/ijsgh/fulltext/2023/09010/implementing_telemedicine_for_opioid_addiction.64.aspx#JCL-P-8

[698] Ibid

subsequent rehabilitation services[699]. These efforts reflect progress but also underline the need for a more comprehensive and geographically inclusive approach to combat substance use disorders effectively.

A 2019 cross-sectional study on drug rehabilitation services in Peshawar revealed critical gaps in accessibility and effectiveness[700]. The study assessed four centers, with an equal split between government-run and private facilities. Admission policies were inclusive, accommodating individuals regardless of age, sex, social status, psychiatric condition, or legal status; however, all admitted patients were male. Private centers benefited from international cooperation, unlike government facilities, which lacked such support. Detoxification services were universally available across public and private centers but varied in delivery settings, with residential detoxification offered only by private centers and no services for short-term, non-residential patients. Outpatient rehabilitation was limited to a single facility, leaving employed individuals unable to access treatment without disrupting their jobs.[701]

The study concluded that the overall availability of rehabilitation services was insufficient, with limited treatment slots and a predominant focus on inpatient care, excluding many from receiving benefits. Additionally, the high cost of services, coupled with ineffective fee waiver mechanisms, prevented many individuals from accessing care[702]. Government-run centers lacked vocational training programs, contributing to frequent treatment failures and high relapse rates[703]. These findings underscore the need for expanded, affordable, and comprehensive rehabilitation services, including outpatient care and vocational training, to better support recovery efforts.

BBV

As of September 2024, the National AIDS Control Program (NACP) in Pakistan reported registering 72,515 HIV cases, with 49,939 individuals receiving ART across 94 ART centers nationwide[704]. Available evidence indicates that Pakistan is experiencing a growing HIV epidemic, with an estimated 165,000 PLHIV as of 2019. However, only 53,718 cases were officially registered with

[699] Ibid

[700] Kasbati, M., Rahman, U. A., Kabir, A., Qamar, K., Naveed, A. K., & Malikzai, A. (2023). Implementing telemedicine for opioid addiction amongst youth of Pakistan. *International Journal of Surgery: Global Health, 6*(5), e0350. Retrieved from https://journals.lww.com/ijsgh/fulltext/2023/09010/implementing_telemedicine_for_opioid_addiction.64.aspx#JCL-P-8

[701] Ibid

[702] Ibid

[703] Ibid

[704] National AIDS Control Programme. (n.d.). Retrieved from https://www.cmu.gov.pk/nacp-national-aids-control-programme/

the NACP during that period[705]. Only 21% of people living with HIV in Pakistan are aware of their status and just 12% are on treatment[706].

While the country has access to various HIV prevention methods, the number of new infections continues to rise, with 8,262 cases diagnosed between January and September 2022 alone[707]. Children (ages 0-14) living with HIV numbered 6,700 in 2022, highlighting the epidemic's impact on vulnerable populations[708].

The HIV epidemic is predominantly concentrated within KPs, including PWID, transgender individuals, sex workers, and MSM. Among these groups, needle remains the primary mode of transmission. However, without intensified intervention efforts, sexual transmission among MSM who are not engaged in sex work is projected to become the leading driver of new infections[709].

Available evidence also suggests that cultural norms and resistance to discussing non-marital sexual activity leads to underreporting of symptoms and reluctance to seek treatment[710] in addition to limited ART coverage and adherence[711,712].

In 2020, the National and Provincial AIDS Control Programs, in partnership with communities (including KPs and PLHIV), community-based organizations (CBOs), the Joint UN Team on AIDS, UNAIDS, and bilateral partners, developed the Pakistan AIDS Strategy IV (2021–2025). This strategy aims to: expand testing coverage and reduce risk behaviors among KPs and their partners; enhance ART initiation and retention, ensuring proportional coverage for KPs, their

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[705] Ahmed, A., et al. (2019). As cited in Marfani, W. B., Khan, H. A., Sadiq, M., & Outani, O. (2022). The rise in HIV cases in Pakistan: Prospective implications and approaches. *Annals of Medicine and Surgery (London)*, *81*, 104492. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC9464852/

[706] Samarasekera, U. (2022). Pakistan's growing HIV epidemic. *The Lancet, 400*(10368), 2031. https://doi.org/10.1016/S0140-6736(22)02530-2

[707] Samarasekera, U. (2022). As cited in Khan, A. M. (2023). The surge of HIV in Pakistan: An epidemic or a progressive transmission in denial? An editorial. *Annals of Medicine and Surgery (London), 85*(2), 76–77. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC9949777/#R1

[708] Trading Economics. (n.d.). Children aged 0–14 living with HIV in Pakistan. Retrieved from https://tradingeconomics.com/pakistan/children-0-14-living-with-hiv-wb-data.html

[709] Samarasekera, U. (2022). Pakistan's growing HIV epidemic. *The Lancet, 400*(10368), 2031. https://doi.org/10.1016/S0140-6736(22)02530-2

[710] Aizaz, M., Abbas, F. A., Abbas, A., Tabassum, S., & Obeagu, E. I. (2023). Alarming rise in HIV cases in Pakistan: Challenges and future recommendations at hand. *Health Science Reports, 6*(8), e1450. https://doi.org/10.1002/hsr2.1450.

[711]Nasrullah, M. (2012). Concentrated HIV epidemic in Pakistan: An opportunity to prevent a generalized epidemic. *International Journal of Preventive Medicine, 3*(12), 824. https://doi.org/10.4103/2008-7802.104851

[712] Missing rehab facilities: Failing the drug abuse victims. (n.d.). Retrieved from https://tribune.com.pk/story/1108303/missing-rehab-facilities-failing-drug-abuse-victims

spouses/partners, and children; and foster an enabling environment to support an effective and sustainable AIDS response[713].

The strategy document offers a comprehensive review of the HIV/AIDS situation in Pakistan, highlighting the challenges faced in efforts to control its spread. Below are the key indicators cited in the document, derived from various national resources and studies as of 2020[714].

HIV in Pakistan is characterized by a rapidly expanding epidemic, with incidence rising by 57% from 2010 to 2018.[715] Pakistan is among the 10 countries globally with an incidence-prevalence ratio above 10, reflecting a severe disparity between new infections and access to treatment. The country aims to achieve a 63% reduction in new infections by 2025, but this goal is challenged by insufficient prevention and treatment programs, particularly for KPs such as PWID, MSM, transgender individuals, and sex workers.[716]

KPs bear the brunt of the epidemic. PWID (22.9%) and MSM (17.2%) represent the largest proportions of PLHIV. HIV prevalence rates in Larkana, a high-burden area, highlight systemic issues. For instance, prevalence among PWID has been reported as high as 28% since 2006, while transgender sex workers have consistently shown rates above 15% since 2008. Despite this data, effective prevention programs have been limited in scale and reach. By 2018, only 14% of PLHIV knew their status, and prevention program coverage for KPs was below 10%.

Unsafe healthcare practices, such as syringe reuse, have exacerbated the epidemic, particularly among children. The 2019 Larkana outbreak revealed over 930 HIV cases, with 82% being children under 16 years old. This points to a spillover of the concentrated epidemic in KPs into the general population. Broader systemic challenges include limited ART centers—only present in one-fifth of districts—and long travel distances that hinder access to treatment.

Treatment coverage remains alarmingly low, with only 12.5% of PLHIV receiving antiretroviral therapy (ART) in 2019. Retention rates are poor, with only 26% of patients retained after 12 months and 11% after 24 months. For KPs, the situation is even more dire; MSM, who represent 17.4% of the total PLHIV, have a treatment coverage of just 1.1%.

Pakistan has undertaken several initiatives to combat the epidemic, including shifting prevention programs for KPs to community settings and targeting spouses and family members, expanding ART adherence support, piloting PrEP, and addressing longstanding treatment barriers like travel distance to ART centers.

While progress has been made, significant gaps remain, including limited Prevention programs coverage in priority cities for KPs, limited reach to the spouses and partners of KPs, as well as

[713] Pakistan AIDS Strategy IV 2021–2025. (2020). Retrieved from https://hivpreventioncoalition.unaids.org/sites/default/files/attachments/aids_strategy_pakistan_iv_2021-2025.pdf.pdf

[714] Ibid

[715] Ibid

[716] Ibid

expanding coverage for prevention of parent-to-child transmission (PTCT), and the lack of OST and other harm reduction services limits effective interventions for PWID.

In addition to HIV, BBVs, particularly HBV and HCV, present a substantial public health burden in Pakistan. These infections affect millions of individuals nationwide and have been linked to a variety of high-risk behaviors and inadequate healthcare practices[717].

Wait et al study in 2016, estimated 4.55 million people in Pakistan live with HBV, while 8.74 million are affected by HCV. Across the country, the prevalence of HCV ranges from 1.2% to as high as 15.9%[718]. A more recent 2020 population-based study conducted in Nawabshah, Sindh, identified a prevalence rate of 14.3% for HCV and 6.7% for HBV[719]. Other regional studies found that prevalence rates align with this pattern, such as 12.9% in Peshawar and 11.7% in Mardan, with urban areas often showing higher infection rates[720].

Hepatitis contributes to significant mortality and morbidity in Pakistan. It is estimated that approximately 700 people die daily from hepatitis-related complications[721]. The prevalence among specific high-risk groups, such as drug users, is alarmingly high at 51%[722]. Public awareness about the routes of transmission remains insufficient, exacerbated by low literacy rates and inadequate healthcare infrastructure.

Faran et al reported regional disparities in HCV prevalence in Pakistan. The percentage prevalence of HCV found for all of the provinces was Punjab: 5.46%, Sindh: 2.55%, Khyber Pakhtunkhwa: 6.07%, Baluchistan: 25.77%, and federally administrated tribal areas: 3.37%.[723] These disparities highlight the need for region-specific strategies to address hepatitis transmission and care.

Harm Reduction

The harm reduction framework in Pakistan is limited in scope, focusing primarily on HIV prevention through NSPs. The lack of OAT, naloxone distribution, and safer smoking equipment indicates a

[717] Nawaz, A., Nielsen, S., Mehmood, T., Abdullah, A., Ahmed, A., Ullah, W., & Khan, A. (2023). Prescription drug dependence with and without concurrent illicit drug use: A multicenter cross-sectional survey among an addiction treatment-seeking population. *Frontiers in Psychiatry, 14*, 1133606. https://doi.org/10.3389/fpsyt.2023.1133606.

[718] Wait, S., et al. (2016). Hepatitis B and hepatitis C in Southeast and Southern Asia: Challenges for governments. *The Lancet Gastroenterology & Hepatology, 1*(4), 248–255. https://doi.org/10.1016/S2468-1253(16)30031-0.

[719] Samo, A. A., Laghari, Z. A., Baig, N. M., & Khoso, G. M. (2020). Prevalence and risk factors associated with hepatitis B and C in Nawabshah, Sindh, Pakistan. *The American Journal of Tropical Medicine and Hygiene, 104*(3), 1101–1105. https://doi.org/10.4269/ajtmh.20-1228. Retrieved from https://pubmed.ncbi.nlm.nih.gov/33350368/

[720] Ibid

[721] Farhan, M., Fazal, F., Dave, T., et al. (2023). National hepatitis registry in Pakistan: A dire need for hepatitis surveillance and control. *Tropical Medicine and Health, 51*, 41. https://doi.org/10.1186/s41182-023-00534-8.

[722] Ibid

[723] Ibid

narrow approach that excludes non-injection drug users and broader harm reduction measures. This limited focus may fail to address emerging drug trends and associated health risks comprehensively[724].

Both government initiatives and NGOs like Nai Zindagi play a significant role in harm reduction. These organizations provide outreach, counseling, and access to healthcare services for PWID and other vulnerable groups.

Drug rehabilitation services in Pakistan, particularly in Khyber Pakhtunkhwa (K-P), face significant challenges due to stigma, limited capacity, and uneven accessibility. Despite a rising need—exemplified by the approximately 15,000 people struggling with drug addiction in Peshawar alone—the province's 11 rehabilitation centers can collectively accommodate only 2,000 individuals. Many tribal districts lack rehabilitation facilities altogether, forcing residents to seek treatment in urban centers like Peshawar, often only to face long waiting lists or rejection due to overcrowding[725].

Private centers, while offering comprehensive services, are prohibitively expensive for many. Available data indicates that there are around 15 NGOs, non-profits and charities working on providing support to those addicted to drugs[726]. However, NGO-operated facilities remain financially burdensome and yield limited success, with recovery rates as low as 32%[727]. Juvenile and female drug addiction is also on the rise, with thousands of affected youth and a tenfold increase in female addiction rates reported. However, the lack of dedicated government facilities for women and juveniles exacerbates the issue, leaving these vulnerable populations underserved[728].

In 2024, Mainline, in collaboration with Research and Development Solutions (RADS), implemented a Rapid Assessment and Response (RAR) approach aimed at enhancing harm reduction interventions and services for people who use drugs in Pakistan. The initiative focused on health promotion and harm reduction by identifying and understanding underserved groups of

[724] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[725] Missing rehab facilities: Failing the drug abuse victims. (n.d.). *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1108303/missing-rehab-facilities-failing-drug-abuse-victims

[726] Drug addiction recovery and support in Pakistan. (n.d.). *NGO Base*. Retrieved from https://ngobase.org/cswa/PK/HLT.DA/drug-addiction-recovery-and-support-pakistan?page=2

[727] Missing rehab facilities: Failing the drug abuse victims. (n.d.). *The Express Tribune*. Retrieved from https://tribune.com.pk/story/1108303/missing-rehab-facilities-failing-drug-abuse-victims

[728] Ibid

people who use and inject drugs, assessing their specific needs and challenges, and recommending strategies to improve outreach and service delivery.

The findings revealed a diverse and complex drug scene, with people who use drugs frequenting various hotspots based on factors like privacy from authorities, access to preferred substances, the presence of supportive peers, and proximity to free food[729]. These hotspots included locations such as abandoned buildings, graveyards, parks, crowded neighborhoods, and busy streets. While some hotspots were predominantly for PWID, others were mixed or primarily used by non-injecting drug users. A significant number of non-injecting drug users were observed, highlighting a group that is largely underserved by harm reduction services, which tend to focus on PWID. The findings also underscored the vulnerability and violence faced by people who use drugs, including stigma, abuse, and violence from police, communities, and drug dealers[730]. Overdose incidents and bacterial infections were reported as common challenges, compounded by limited awareness of prevention and treatment options among this population[731]. According to this study, Harm reduction efforts in Pakistan should adapt to emerging drug use patterns by including services for people who smoke heroin and methamphetamines to mitigate associated HIV risks. Programs should go beyond addressing HIV and infectious diseases by incorporating comprehensive health services, such as wound care, mental health support, dental care, and hygiene. Integrated care packages must include primary healthcare, OAT, educational materials, peer support, ART, PreP, and overdose prevention tools like Naloxone. Outreach efforts should expand to underserved populations, reintroduce safe spaces, strengthen prison and family support systems, and leverage peer-based models. Additionally, policy reforms are essential to establish rehabilitation standards, reduce incarceration for drug use, and curb arbitrary arrests through changes in law enforcement practices[732].

Palestine

The Palestinian State, often referred to as Palestine, encompasses the West Bank, including East Jerusalem, and the Gaza Strip. These territories are situated in the Middle East, bordering Israel, Jordan, and Egypt, with the Mediterranean Sea to the west of Gaza[733]. As of mid-2024, the Palestinian Central Bureau of Statistics estimated the population at approximately 5.61 million, with 2.85 million males and 2.76 million females[734]. According to the same sources, as of mid-

[729] Mainline. (n.d.). *RAR Karachi, Pakistan*. Retrieved from https://mainline.nl/en/projects/rar-karachi-pakistan/
[730] Ibid
[731] Ibid
[732] Mainline. (n.d.). *RAR Karachi, Pakistan*. Retrieved from https://mainline.nl/en/projects/rar-karachi-pakistan/
[733] Wikipedia contributors. (n.d.). *Occupied Palestinian territories*. Wikipedia. Retrieved from https://en.wikipedia.org/wiki/Occupied_Palestinian_territories

[734] Palestinian Central Bureau of Statistics. (2024). Retrieved from https://www.pcbs.gov.ps/post.aspx?ItemID=5791&lang=en&utm

2023, approximately 2.2 million Palestinians resided in the Gaza Strip, covering an area of 365 km² and representing around 41% of Palestine's population[735]. The estimated population of the West Bank was 3.19 million (1.62 million males and 1.57 million females)[736]. The population in Palestine is predominantly young, as of mid-2022, individuals aged 0–14 years accounted for 38% of Palestine's total population, with 36% in the West Bank and 41% in the Gaza Strip. The elderly population (65 years and above) made up 3% of the total, comprising 4% in the West Bank and 3% in the Gaza Strip[737].

Palestine's political status has been contentious since the mid-20th century, following the establishment of Israel in 1948 and subsequent conflicts. The Oslo Accords of the 1990s marked a pivotal moment, establishing the Palestinian Authority (PA) as an interim governing body in parts of the West Bank and Gaza, though full statehood remains unachieved. The PA exercises partial administrative control in the West Bank, while the Gaza Strip has been governed by Hamas since 2007, leading to a bifurcated political system and periodic tensions between the two entities[738].

In October 2023, the Gaza Strip experienced one of its deadliest conflicts to date. Following a surprise large-scale attack by Hamas on Israeli territory, Israel launched a comprehensive military offensive on Gaza, resulting in widespread destruction and an unprecedented humanitarian crisis. According to Gaza's health ministry, more than 45,000 Palestinians were killed, including women and children, while the region's already fragile infrastructure, including hospitals, schools, and homes, was severely damaged. The conflict displaced hundreds of thousands, exacerbating existing socio-economic challenges in Gaza, which already faces severe economic isolation due to long-standing blockades and recurrent hostilities[739].

Following October 7, 2023, the West Bank too has experienced heightened instability, marked by the increased use of live ammunition, air and drone strikes, and off-shoulder missiles, including in densely populated urban areas and refugee camps. Reports of escalating settler violence have further intensified the coercive environment across the region[740].

Despite the functional status of healthcare facilities in the West Bank, significant challenges hinder the delivery and accessibility of essential health services. Financial constraints have led to reduced salaries for healthcare workers, contributing to decreased availability at health facilities. The healthcare sector faces frequent stockouts of medicines as suppliers lose confidence in the

[735] Palestinian Central Bureau of Statistics (2024). Retrieved from https://www.pcbs.gov.ps/post.aspx?ItemID=5791&lang=en&utm

[736] Palestine Palestinian Central Bureau of Statistics (2022). Retrieved from https://www.pcbs.gov.ps/portals/_pcbs/PressRelease/Press_En_InterPopDay2022E.pdf

[737] Ibid

[738] https://en.wikipedia.org/wiki/Occupied_Palestinian_territories

[739] United Nations (2024). Retrieved from https://press.un.org/en/2024/sc15944.doc.htm

[740] Ibid

authorities' ability to pay. Rising prices for essential medications further limit access for ordinary citizens, intensifying the strain on both healthcare providers and patients[741].

The World Bank's latest report on *The Impact of the Conflict in the Middle East on the Palestinian Economy*[742] highlights severe economic challenges facing Palestine. The fiscal situation of the Palestinian Authority has significantly deteriorated, with a financing gap of $682 million at the end of 2023, projected to double to $1.2 billion within months. Since October 2023, the Palestinian economy has lost nearly half a million jobs, including 200,000 in Gaza, 144,000 in the West Bank, and 148,000 cross-border jobs in Israel. Poverty rates have risen sharply, reaching 32.8% in mid-2023, with significant disparities between Gaza (64%) and the West Bank (12%). Gaza's GDP per capita dropped by 28% in 2023, the lowest ever recorded, highlighting its deepening economic crisis. Overall, GDP per capita across Palestinian territories fell to $3,360 in 2023, a 12% decline from 2022. The Palestinian economy remained under severe strain in early 2024, with a projected contraction of 6.5% to 9.6%, underscoring the enduring impact of the conflict.[743]

Regrettably, the information presented here on drug use and BBVs in Palestine is now outdated, as no data is available on the situation following the devastating Gaza conflict. According to WHO, the ongoing conflict in Gaza is unparalleled in its scale of death, destruction, and human suffering, surpassing previous escalations and leaving repercussions that will resonate for generations. The intensifying military operations, coupled with an almost total siege, have created a catastrophic humanitarian crisis[744].

Drug use

Drug use in Palestine has been on the rise, shaped by a mix of political, economic, social, and regulatory factors[745]. According to Massad et al. (2023), a 2017 survey estimated that 26,500 males, or 1.8% of the male population aged 15 and older, are high-risk drug users (HRDUs).[746] Polydrug use is a significant issue, especially in the West Bank, where synthetic marijuana is

[741] World Health Organization (WHO). (2024). *Public health situation analysis in the occupied Palestinian territory (oPt).* Retrieved from https://www.un.org/unispal/wp-content/uploads/2024/05/WHO-PHSA-oPt-020524-FINAL.pdf

[742] World Bank. (2024). *World Bank issues new update on the Palestinian economy.* Retrieved from https://www.worldbank.org/en/news/press-release/2024/05/23/world-bank-issues-new-update-on-the-palestinian-economy

[743] Ibid

[744] World Health Organization (WHO). (2024). *Public health situation analysis in the occupied Palestinian territory (oPt).* Retrieved from https://www.un.org/unispal/wp-content/uploads/2024/05/WHO-PHSA-oPt-020524-FINAL.pdf

[745] Damiri, B., Sayeh, W., Odeh, M., & Musmar, H. (2018). Drug use and possession, emerging of new psychoactive substances in the West Bank, Palestine. *Egyptian Journal of Forensic Sciences, 8*(1), 1–8. https://doi.org/10.1186/s41935-018-0074-6

[746] Massad, S., Dalloul, H., Adwan, L., Saman, K. A., Kafri, R., Alia, W. A., Tucktuck, M., & Johnston, L. G. (2023). Alarmingly high prevalence of high-risk drug use among Palestinian males: A cross-sectional study. *BMC Psychiatry, 23*(1), 700. https://doi.org/10.1186/s12888-023-05190-0

prevalent among teenagers and young adults[747]. The same survey revealed regional variations in drug preferences, with Tramadol dominant in Gaza, while benzodiazepines, amphetamines, marijuana, and cocaine were prevalent across the West Bank[748].

Cannabis, hashish, and marijuana were the most commonly used substances, followed by synthetic cannabinoids. Lifetime prevalence of self-reported cannabis use among men aged 18–65 years was reported at 15.9%[749].

A 2022 cross-sectional study in the West Bank revealed an increased frequency of substance use among Palestinians, with cannabis often linked to other substances, such as amphetamines, benzodiazepines, and alcohol[750]. Individuals with higher education levels were also found more likely to use THC[751].

Another cross-sectional study conducted from September to November 2022 in refugee camps in the northern West Bank, Palestine, assessed substance use among street refugee adolescents aged 13 years and older, aiming to represent all geographical and demographic categories of the Palestinian population in this region. The study found that 3.4% of the participants tested positive for at least one drug. The substances detected included Phencyclidine (5%), Methylenedioxymethamphetamine (1.8%), Marijuana (1.6%), Benzodiazepines (0.5%), and Methamphetamine (0.5%)[752].

With the aim to understand the epidemiology of substance use in the West Bank, Damiri et al (2023) study found that 19.1% of the study participants tested positive for drug use, with the highest prevalence among refugees (25.9%), followed by rural (13.6%) and urban participants (10.9%) ($P < 0.001$). Approximately half of the drug users were multidrug users. Refugees were 3.8 times more likely and urban participants 2.3 times more likely to use drugs compared to rural participants. Additionally, socio-demographic factors such as being under 30 years of age, single marital status, alcohol consumption, and vape-smoking were associated with an increased risk of illicit drug use in the West Bank[753].

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[747] Ibid

[748] Ibid

[749] Damiri, B., Bilbeisi, S., MohammedAli, M., & Najjar, M. (2024). Cannabis use associated with high-risk drug use among Palestinians: An emerging health risk. *Population Medicine, 6*(January), 2. https://doi.org/10.18332/popmed/180979

[750] Ibid

[751] Ibid

[752] Snoubar, M., Kasim, S., Badawi, M., Shaban, Q., AbuAlrub, I., Hunjul, M., Khelfeh, N., Abuhassan, A., Hanani, A., Bilbeisi, S., & Damiri, B. (2023). High-risk drug use among Palestinian adolescent refugees in the North West Bank, Palestine. *Journal of Ethnicity in Substance Abuse*, 1–20. https://doi.org/10.1080/15332640.2023.2255850

[753] Damiri, B., & Daraghma, M. (2023). The epidemiology of substance use in the West Bank: Who is at risk? *Journal of Ethnicity in Substance Abuse*, 1–14. https://doi.org/10.1080/15332640.2023.2204464

Damiri et al. (2018) analyzed data from files of persons convicted of illegal drug possession in all anti-narcotic departments in the West Bank from the year 2010 to 2014, revealed that cannabis, hashish, and marijuana were the most seized substances, with synthetic cannabinoids becoming increasingly prominent[754]. The study also reported the emergence of new psychoactive substances like liquid methamphetamine, known locally as "GG," and attempts to cultivate marijuana on a large scale starting in 2013[755].

Cannabis use remains widespread among Palestinian youth, who often turn to pills upon recognizing the harms of cannabis[756].

Palestine's drug use landscape is further complicated by limited border control, weak enforcement mechanisms, and internal political turmoil, which facilitate the trafficking and availability of illicit drugs[757].

Recent evidence, indicates that injection drug use was rare, reported by 8% of HRDUs in the West Bank and 2% in Gaza; cocaine was the most commonly injected drug in Gaza, while heroin dominated in the south and middle West Bank, with equal use of heroin and cocaine in the north[758]. The population of PWID is estimated at 1,850 individuals, with an HCV prevalence of 36.1–44.8%[759].

UNODC assessments in 2021 highlighted alarming trends, including a rise in drug-related arrests in the West Bank, where 75% of those arrested were under 25 years old, and only 2% were

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[754] Damiri, B., Sayeh, W., Odeh, M., & Musmar, H. (2018). Drug use and possession, emerging of new psychoactive substances in the West Bank, Palestine. *Egyptian Journal of Forensic Sciences, 8*(1). https://doi.org/10.1186/s41935-018-0074-6

[755] Ibid

[756] Al-Afifi, M., Abushams, L., Sakka, M., & others. (2019). Perspectives of frontline professionals on Palestinian children living with sibling and parental drug use in the West Bank and Gaza Strip. *International Journal of Mental Health and Addiction, 18*(4), 1097–1112. https://doi.org/10.1007/s11469-019-00120-2

[757] Damiri, B., Sayeh, W., Odeh, M., & Musmar, H. (2018). Drug use and possession, emerging of new psychoactive substances in the West Bank, Palestine. *Egyptian Journal of Forensic Sciences, 8*(1). https://doi.org/10.1186/s41935-018-0074-6

[758] Massad, S., Dalloul, H., Adwan, L., Saman, K. A., Kafri, R., Alia, W. A., Tucktuck, M., & Johnston, L. G. (2023). Alarmingly high prevalence of high-risk drug use among Palestinian males: A cross-sectional study. *BMC Psychiatry, 23*(1), 700. https://doi.org/10.1186/s12888-023-05190-0

[759] World Health Organization (WHO). Regional Office for the Eastern Mediterranean. (2020). *Epidemiology of hepatitis C virus in the WHO Eastern Mediterranean Region: Implications for strategic action.* World Health Organization. Regional Office for the Eastern Mediterranean. Retrieved from https://applications.emro.who.int/docs/9789290222866-eng.pdf

female[760]. The emergence of new trafficking methods, including the use of technology and messenger apps for drug sales, further complicates enforcement efforts[761].

According to the Palestinian National Institute of Public Health's mapping of drug rehabilitation services[762], Palestine faces significant challenges in providing accessible, high-quality, and gender-equitable drug use rehabilitation services. Cultural expectations and the lack of gender-sensitive treatment services have created disparities in access; although one in three drug users in Palestine is female, only one in five individuals receiving treatment is a woman. The stigma associated with drug dependence, coupled with low awareness of mental health and substance abuse issues within families, further limits the likelihood of individuals seeking treatment. Mental health services in Palestine, including addiction and substance abuse treatment, are limited and largely confined to specific areas. The fragmentation of Palestinian territories and restrictions on movement exacerbate these limitations, restricting individuals to services within their immediate area of residence. Services are primarily provided by the Palestinian Ministry of Health, private sectors, NGOs, and the United Nations Relief and Works Agency (UNRWA). The Ministry of Health operates two psychiatric hospitals, one in Bethlehem (Dr. Kamal Psychiatric Hospital) and one in Gaza. However, these facilities predominantly focus on mental illnesses, with less emphasis on community-based rehabilitation services.

Community mental health centers exist in both the West Bank and Gaza, but they remain insufficient to meet the demand. Additionally, there are about 20 private psychiatrists in the West Bank and 10 in Gaza, offering medication management and psychotherapy. Despite these resources, treatment options are widely regarded as expensive and of poor quality. Reports from PWUD highlight inhumane practices at some treatment centers, including humiliation, physical abuse, and inadequate care. Many individuals reported running away from treatment centers or relapsing shortly after discharge, pointing to a lack of effective counseling and long-term rehabilitation support. There is also a notable absence of services tailored to the families of PWUD, who often play a critical role in recovery[763].

A recent damage assessment report issued on March 29,2024 by the World Bank, EU, and UN revealed that most of the 980 NGOs registered in Gaza have ceased operations, severely affecting

[760] United Nations Office on Drugs and Crime. (2021). *Annual achievement report Palestine.* Retrieved from https://www.unodc.org/romena/uploads/documents/Publications/ENGLISH/PalestineAR2021/Annual_Achievements_Report_Palestine2021_Final.pdf

[761] Ibid

[762] Palestinian National Institute of Public Health. (2017). *Illicit drug use in Palestine: A qualitative investigation. Formative phase study report.* Retrieved from https://www.unodc.org/documents/publications/Illicit_Drug_Use_in_Palestine.pdf

[763] Ibid

vulnerable groups such as children, women, and persons with disabilities, who were heavily dependent on their services[764].

BBV

The prevalence of HIV in Palestine remains low compared to global standards, with the Palestinian MoH reporting a cumulative total of 98 HIV/AIDS cases between 1988 and 2017, comprising 79 AIDS patients and 19 HIV-positive individuals[765]. There are No updates on HIV cases since October 7, 2023[766]. Evidence indicates, that the lack of systematic HIV surveillance likely results in under-detection and under-reporting. Social and cultural barriers hinder comprehensive assessment and response, particularly for high-risk groups such as PWID, displaced populations, and others experiencing marginalization[767].

WHO's 2020 profile for Palestine indicates a lack of available data on key indicators such as adult HIV prevalence, the number of adults and children living with HIV, new HIV infections, and AIDS-related deaths[768].

Stigma remains one of the most significant challenges, with societal judgment often creating greater barriers to care than the disease itself. According to Dr. Randa Abu Rabie of the WHO, this stigma prevents effective prevention, testing, and treatment efforts[769]. Efforts to Address HIV/AIDS have included national strategies focusing on prevention, treatment, and stigma reduction. Key interventions included, establishing specialized clinics within primary healthcare settings, introducing voluntary testing and counseling services across all districts, and raising awareness to counter stigma and discrimination[770].

An ecological study by Khorrami et al. (2023) predicts a 26% increase in the age-standardized HIV incidence rate (from 0.42 per 100,000 in 2019 to 0.53 by 2030)[771]. Palestine has substantial gaps

[764] World Health Organization (WHO). (2024). *Public health situation analysis in the occupied Palestinian territory (oPt).* Retrieved from https://www.un.org/unispal/wp-content/uploads/2024/05/WHO-PHSA-oPt-020524-FINAL.pdf

[765] Ibid

[766] Ibid

[767] Ibid

[768] World Health Organization (WHO). (2020). *Country activities in Palestine.* Retrieved from https://www.emro.who.int/asd/country-activities/palestine.html

[769] World Health Organization (WHO). (n.d.). *HIV/AIDS and TB programme in Palestine.* Retrieved from https://www.emro.who.int/pse/programmes/hiv-aids-tb-programme.html

[770] Joint United Nations Programme on HIV/AIDS (UNAIDS). (2014). *Country progress report.* Retrieved from https://www.unaids.org/sites/default/files/country/documents/file%2C99737%2Ces..pdf

[771] Khorrami, Z., Balooch Hasankhani, M., Khezri, M., & others. (2023). Trends and projection of incidence, mortality, and disability-adjusted life years of HIV in the Middle East and North Africa (1990–2030). *Scientific Reports, 13*, 13859. https://doi.org/10.1038/s41598-023-40743-z

in interventions for the prevention of mother-to-child transmission of HIV, syphilis, and hepatitis B (triple EMTCT goals), as reported by UNICEF[772].

Hepatitis B prevalence among the general population is low[773]. However, specific groups face higher risks. Among PWID, the prevalence of hepatitis B (anti-HBsAg) was found to be 6.15%[774]. In 2022, the MoH in Gaza reported 146 known cases of hepatitis B[775].

Hepatitis C data in Palestine indicate severe challenges in assessing and managing the disease. In Gaza, there were zero reported cases of HCV in 2022; however, the absence of medical testing capabilities limits accurate reporting[776]. The prevalence of hepatitis C antibodies (anti-HCV) among PWID is 41.48%[777], with an overall estimated prevalence of 40% among PWID based on meta-analyses[778,779].

The general population's estimated hepatitis C antibodies (anti-HCV) prevalence among individuals exposed to high-risk healthcare ranges between 6.4% and 39.6%, reflecting significant variability and uncertainty due to limited testing infrastructure[780].

While the overall burden of BBVs in Palestine appears low, significant gaps in data collection, surveillance, and healthcare infrastructure obscure the true scale of the issue. Social stigma and cultural barriers further complicate prevention and treatment efforts. To mitigate the spread of BBVs, particularly among high-risk groups, Palestine must strengthen its healthcare infrastructure, enhance surveillance systems, and address stigma through community-driven initiatives.

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[772] UNICEF. (2023). *Progress report and road map for the triple elimination of mother-to-child transmission of HIV, syphilis and hepatitis B.* Retrieved from https://www.unicef.org/mena/media/25666/file/240626%20UNICEF%20Baseline%20Report%20and%20Road%20Map%20for%20the%20Triple%20Elimination%20Web.pdf.pdf

[773] World Health Organization (WHO). (2024). *Public health situation analysis.* Retrieved from https://www.un.org/unispal/wp-content/uploads/2024/05/WHO-PHSA-oPt-020524-FINAL.pdf

[774] Harm Reduction International. (2024). *The global state of harm reduction 2024.* Retrieved from https://idpc.net/publications/2024/11/the-global-state-of-harm-reduction-2024

[775] World Health Organization (WHO). (2024). *Public health situation analysis.* Retrieved from https://www.un.org/unispal/wp-content/uploads/2024/05/WHO-PHSA-oPt-020524-FINAL.pdf

[776] Ibid

[777] Harm Reduction International. (2024). *The global state of harm reduction 2024.* Retrieved from https://idpc.net/publications/2024/11/the-global-state-of-harm-reduction-2024

[778] World Health Organization (WHO). (2020). *Epidemiology of hepatitis C virus in the WHO Eastern Mediterranean Region: Implications for strategic action.* Retrieved from https://applications.emro.who.int/docs/9789290222866-eng.pdf

[779] UNICEF. (2023). *Progress report and road map for the triple elimination of mother-to-child transmission of HIV, syphilis and hepatitis B.* Retrieved from https://www.unicef.org/mena/media/25666/file/240626%20UNICEF%20Baseline%20Report%20and%20Road%20Map%20for%20the%20Triple%20Elimination%20Web.pdf.pdf

[780] World Health Organization (WHO). (2020). *Epidemiology of hepatitis C virus in the WHO Eastern Mediterranean Region: Implications for strategic action.* Retrieved from https://applications.emro.who.int/docs/9789290222866-eng.pdf

Harm Reduction

According to the Palestinian National Institute of Public Health (2017) report on illicit drug use in Palestine, there are critical gaps in harm reduction and treatment services for HRDU across regions, marked by significant disparities in access, testing, and treatment. Preventive services, such as free condom distribution and HIV testing, remain limited, with less than 10% of HRDU in Gaza, the south, and the north ever having been tested for HIV and minimal awareness of where to access free, confidential testing[781]. Hepatitis C testing shows stark regional differences, with high rates in the south (86%) and middle region (90%) but very low rates in Gaza (7%) and the north (5%)[782]. Awareness of harm reduction services for PWID is generally low, with limited access to overdose treatment, particularly in Gaza (10%) and the north (11%). The middle region reports the highest percentage of HRDU seeking treatment for injection drug use (46%) due to the presence of specialized facilities, while the north records the lowest (7%)[783]. Most treatment seeking occurred over six months ago, highlighting gaps in sustained care. In prison settings, HRDU report little to no access to treatment services, with withdrawal symptoms common among those arrested, underscoring systemic neglect in correctional facilities[784].
The most recent report on the global state of harm reduction services did not confirm the availability of OAT in Palestinian prisons[785].

However, a survey by the Permanent Observer Mission to the United Nations (2023) reported that the Palestinian Ministry of Health provides harm reduction policies and programs, including OST, NSP, regular screening for HIV, HCV, and HBV, as well as access to naloxone nasal spray. Of the approximately 3,000 SUD patients registered in Ministry of Health treatment centers, nearly 2,400 have access to harm reduction services[786].

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[781] Palestinian National Institute of Public Health. (2017). *Illicit drug use in Palestine: A qualitative investigation. Formative phase study report.* Retrieved from https://www.unodc.org/documents/publications/Illicit_Drug_Use_in_Palestine.pdf
[782] Ibid
[783] Ibid
[784] Palestinian National Institute of Public Health. (2017). *Illicit drug use in Palestine: A qualitative investigation. Formative phase study report.* Retrieved from https://www.unodc.org/documents/publications/Illicit_Drug_Use_in_Palestine.pdf
[785] Harm Reduction International. (2024). *The global state of harm reduction 2024.* Retrieved from https://idpc.net/publications/2024/11/the-global-state-of-harm-reduction-2024
[786] Permanent Observer Mission to the United Nations. (2023). *Drug policies and responses: Submission by the State of Palestine.* Retrieved from https://www.ohchr.org/sites/default/files/documents/issues/health/cfis/drug-policies-responses/subm-drug-policies-responses-sta-state-palestine.pdf

Qatar

Qatar, a Persian Gulf nation with a population of 3 million[787], has experienced rapid economic and demographic growth since the discovery of oil in the 1960s and independence in 1971. Its high per capita GDP[788] and large-scale infrastructure projects have attracted a diverse workforce, with foreign nationals comprising over 80% of the population, half of whom are lower-skilled migrants[789]. While Qatar does not produce opium or cannabis, its location in the MENA region—known for psychoactive substance production—positions it as a transit hub for heroin trafficking from the Golden Crescent to Europe, with some leakage into local illicit markets[790].

Despite these challenges, there is limited published evidence on substance use disorders in Qatar, and no nationwide epidemiological studies on alcohol or substance use currently exist[791].

Drug Use

SUDs in Qatar have emerged as a critical public health issue, becoming the leading cause of disability between 2007 and 2017[792]. The number of individuals using substances increased sharply, rising from 594 in 2011 to 4,202 in 2016, accompanied by a significant rise in drug-related offenses during the same period[793]. Data from the WHO in 2018 reported 12 drug-related deaths in Qatar, accounting for 0.33% of total deaths, with an age-adjusted death rate of 0.73 per 100,000 population, ranking Qatar 131st globally for drug-related mortality[794].

A recent study by Alabdulla et al. (2024) based on a retrospective review of patient records from 163 individuals admitted to the Umm Slal Treatment and Rehabilitation Center between January

[787] Planning and Statistics Authority. (2024). *Monthly figures on total population in Qatar.* Retrieved from https://www.psa.gov.qa/en/statistics1/StatisticsSite/pages/population.aspx?p=2

[788] Global Finance. (n.d.). *Qatar GDP country report.* Retrieved from https://gfmag.com/country/qatar-gdp-country-report/#:~:text=One%20of%20the%20world's%20wealthiest,highest%20per%20capita%20incomes%20globally

[789] International Labour Organization (ILO). (n.d.). *Labour migration.* Retrieved from https://www.ilo.org/beirut/areasofwork/labour-migration/lang--en/index.htm

[790] United Nations Office on Drugs and Crime. (2018). *Analysis of drug markets: Opiates, cocaine, cannabis, synthetic drugs.* Vienna: United Nations Office on Drugs and Crime.

[791] Alabdulla, M., Samarasinghe, N., Tulley, I., & others. (2022). Evolution of policy for the treatment of substance use disorders in Qatar. *Substance Abuse Treatment, Prevention, and Policy, 17*(3). https://doi.org/10.1186/s13011-021-00428-0

[792] Ibid

[793] Ibid

[794] Al-Kuwari, K. J. (2022). Drug addiction in Qatar: Rehabilitation/intervention practices. *Journal of Psychology & Clinical Psychiatry, 13*(3), 57–58. https://doi.org/10.15406/jpcpy.2022.13.00714

2022 and October 2023, indicated that the majority of patients (61.3%) were aged 20 to 29, with 54% being unemployed or students[795]. All patients reported using multiple substances[796].

The primary substances included methamphetamine (77.3%), cannabis (76.1%), pregabalin (68.7%), and alcohol (59.5%). Other substances used were amphetamines (57.6%), benzodiazepines (28.8%), cocaine (19%), tramadol (18.4%), heroin (17.7%), MDMA (14.7%), quetiapine (11.6%), gabapentin (4.3%), flakka (4.3%), hydro morphine (3.7%), inhalants (1.8%), gamma hydroxybutyrate (1.2%), phencyclidine (0.6%), and fentanyl (0.6%)[797]. The majority admitted to mixing methamphetamine with other substances.[798]

The same study also highlighted the effectiveness of the Recovery Journey model, which incorporates court-mandated detoxification and stabilization, residential rehabilitation, and community-based continuing care. This approach enabled 91 out of 149 patients progressing from detoxification to successfully complete rehabilitation. However, significant challenges were noted, including managing complex co-occurring disorders and ensuring alignment among multidisciplinary teams[799].

Another retrospective, population-based cross-sectional study by Alabdulla et al (2021) analyzed electronic patient records from all state-funded emergency departments (EDs) in Qatar over a 22-month period (January 1, 2019, to October 31, 2020). The study revealed that 95.5% of the 1,495 substance abuse cases involved alcohol, with only 2.1% of cases being females. Among these cases, 70% were of Asian (non-Arab) origin, while Qataris accounted for the highest proportion (23%) of non-alcohol-related substance abuse cases[800].

Overall, alcohol and substance abuse represented 2.26% of all ED presentations, translating to three ED visits per 10,000 population annually. More than half of these cases (56.6%) occurred over weekends. Despite the significant number of cases, less than 1% were referred for psychiatric care, and no substantial rehabilitative interventions were provided to other patients[801].

A recent systematic review and meta-analysis of data from the EMR between 2010 and 2022, focusing on the prevalence of HIV, HCV, and HBV among PWID, provides critical insights. Based on 2019 estimates and a regional population aged 15–64 years of 2,403,888, approximately 1,827 individuals (889–3,317) were identified as PWID. Among them, an estimated 24 individuals (5–55)

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[795] Alabdulla, M., Reagu, S. M., Chandrappa, N., Sheikh, Z., Alater, A., Yousuf, S., & Samarasinghe, N. (2024). Mandated substance use disorder treatment in Qatar: An innovative model of care. *Substance Use & Addiction Journal*. Advance online publication. https://doi.org/10.1177/29767342241288433

[796] Ibid

[797] Ibid

[798] Ibid

[799] Ibid

[800] Alabdulla, M., Reagu, S., Elhassan, N. M., & others. (2021). Emergency department presentations of alcohol and other substance misuse: First cross-sectional national study in Qatar. *BMJ Open, 11*(10), e055181. https://doi.org/10.1136/bmjopen-2021-055181

[801] Ibid

were living with HIV, corresponding to a prevalence of 1.32% (0.43–3.05). HCV prevalence was significantly higher, with 688 individuals (304–1,153) or 37.67% (32.77–42.77) testing positive for HCV antibodies. The prevalence of HBV among PWID was estimated at 3.43% (1.84–5.80), with 63 individuals (22–124) testing positive for HBV surface antigens[802].

Qatar's policy responses have evolved significantly, shifting from punitive approaches to treating addiction as a health, social, and human rights issue[803]. Law No. 9 of 1987 allows substance users to access treatment as an alternative to criminal penalties, with mandated rehabilitation available at the Naufar Center[804].

In response to the growing need for drug treatment and rehabilitation services, the Emiri Decision No. 17 of 2015 led to the establishment of the Naufar Center, a state-of-the-art, medically led facility designed to provide comprehensive care for individuals with substance use disorders. The center features 127 residential rooms and offers inpatient, outpatient, and residential treatment services. With its creation, the Supreme Council of Health's Treatment and Rehabilitation Center was disbanded, as Naufar assumed responsibility for its services[805].

A key objective of the Naufar Center, as outlined in the Emiri decision, is "to work on improving the image of the addict as being a patient who needs assistance and care." This marked a significant milestone as it was the first instance of a Qatari government document formally recognizing addiction as a disease and situating treatment for substance use disorders within the health sector[806].

The lack of nationwide epidemiological studies and limited integration of healthcare and treatment systems pose ongoing challenges.

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[802] Aghaei, A. M., & others. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00267-X/fulltext

[803] Ministry of Development Planning and Statistics. (2015). *Qatar's fourth national human development report: Realizing Qatar national vision 2030 the right to development.* Qatar: Ministry of Development Planning and Statistics. Retrieved from https://www.psa.gov.qa/en/knowledge/Doc/HDR/Qatar_Fourth_National_HDR_Realising_QNV2030_The_Right_to_Development_2015_EN.pdf

[804] Alabdulla, M., Samarasinghe, N., Tulley, I., & others. (2022). Evolution of policy for the treatment of substance use disorders in Qatar. *Substance Abuse Treatment, Prevention, and Policy, 17*(3). https://doi.org/10.1186/s13011-021-00428-0

[805] Ibid

[806] Ibid

Qatar has recognized the need for improved data collection, enhanced service accessibility, and culturally appropriate treatment models. Strengthening collaborative efforts between healthcare, education, and criminal justice systems, along with public awareness campaigns, are key to addressing the growing prevalence and impact of substance use disorders in Qatar[807].

BBV

The burden of BBVs in Qatar, including HIV, HBV, and HCV, highlights the country's complex public health challenges. Qatar is part of the WHO EMR, where the estimated number of PLHIV reached 420,000 in 2020[808].

HIV surveillance in Qatar involves routine testing during health screenings, such as pre-employment and pre-marital assessments, university admissions, and antenatal care. Foreign nationals intending to reside in Qatar are also required to undergo HIV testing[809]. Despite these measures, stigma, discrimination, and a lack of targeted data collection hinder the understanding of the true extent of HIV prevalence, especially among KPs and migrant workers[810,811].

According to UNAIDS 2023 data, Qatar had an estimated 760 PLHIV in 2022, with an adult prevalence of <0.1% and an incidence rate of 0.06 per 1,000 population. However, gaps in the HIV care cascade are evident, with only 58% of PLHIV aware of their status, 41% on ART, and 40% achieving viral suppression[812].

Farag et al. (2023) reviewed HIV data from Qatar's Ministry of Public Health (MoPH) case reporting registry for the period 2015–2020 and identified a significant increase in annual HIV cases, which more than tripled from 16 in 2015 to 58 in 2020. Of these cases, 21 were among Qataris and 37 among non-Qataris. Among the reported cases, 41.4% were on ART, 31.1% had died, and 27.5% had left the country. The study highlighted rising HIV prevalence, notable gender and age disparities, and a significant increase in the male-to-female ratio among newly reported cases in

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[807] Ministry of Development Planning and Statistics. (2015). *Qatar's fourth national human development report: Realizing Qatar national vision 2030 the right to development.* Qatar: Ministry of Development Planning and Statistics. Retrieved from https://www.psa.gov.qa/en/knowledge/Doc/HDR/Qatar_Fourth_National_HDR_Realising_QNV2030_The_Right_to_Development_2015_EN.pdf

[808] Al Soub, H., Al-Khal, L., Al Maslamani, M., Dousa, K., Ahmed, A., & Fabella, A. (2018). Epidemiology and the changing face of HIV infection in Qatar. *Infectious Diseases in Clinical Practice, 26*, 220–223. https://doi.org/10.1097/IPC.0000000000000626

[809] Farag, E., Bozicevic, I., Tartour, A. I., Nasreldin, H., Daghfal, J., Himatt, S., Sallam, M. A., Ismail, A., Al Shamali, M., Coyle, P. V., Abdelmajid, A., Al Mawlawi, N., Al Thani, M. H., Al-Romaihi, H. E., Al Soub, H. A. R., Al Maslamani, M., & Al Khal, A. (2023). HIV case reporting and HIV treatment outcomes in Qatar. *Frontiers in Public Health, 11*, 1234585. https://doi.org/10.3389/fpubh.2023.1234585

[810] Ibid

[811] UNAIDS. (2023). *Global AIDS monitoring 2023.* Retrieved from https://dsd.unaids.org/

[812] Ibid

Qataris, which rose from 7:1 in 2015 to 13.5:1 in 2020. While there were improvements in ART coverage and viral load suppression, the study emphasized gaps in testing and care coverage, particularly among women. Most cases during this period were attributed to sexual transmission, with individuals aged 25–49 years comprising the majority, and no cases were linked to injecting drug use[813]. Additionally, Farag et al. (2023) reported a significant proportion of individuals diagnosed with HIV at a late stage[814].

According to Al Awaidy et al. (2023)[815] based on a study analyzing data from Global AIDS Monitoring (GAM), UNAIDS AIDS Info, the HIV case reporting database, and the WHO global policy uptake to assess the HIV/AIDS burden and progress toward the 95-95-95 targets in six GCC countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. In Qatar, HIV incidence was 0.02% in 1990, dropped to 0.01% in 1992, and remained constant until 1999, after which it steadily rose to 0.04% in 2004 and increased further to 0.06% in 2019 and 0.07% in 2020. By 2021, 58% of PLHIV in Qatar were on ART, and the proportion of patients diagnosed with HIV knowing their HIV status rose from 41% in 2015 to 66% in 2021. However, the study highlighted that Qatar has not fully achieved the 95-95-95 targets, as a significant proportion of HIV-positive individuals remain unaware of their status. The findings underscore that Qatar is lagging in its efforts to meet the global 95-95-95 goals.

The evidence suggests that challenges in data collection prevent the accurate construction of the full HIV care cascade, leaving many aspects of the epidemic, such as sources of transmission, poorly understood.[816]

Hepatitis B and C also present significant health concerns. A 2020 study among migrant craft and manual workers (CMWs), who comprise 60% of Qatar's population, found a 0.4% prevalence of current HBV infection and a 0.8% prevalence of lifetime HCV infection[817].

[813] Farag, E., Bozicevic, I., Tartour, A. I., Nasreldin, H., Daghfal, J., Himatt, S., Sallam, M. A., Ismail, A., Al Shamali, M., Coyle, P. V., Abdelmajid, A., Al Mawlawi, N., Al Thani, M. H., Al-Romaihi, H. E., Al Soub, H. A. R., Al Maslamani, M., & Al Khal, A. (2023). HIV case reporting and HIV treatment outcomes in Qatar. *Frontiers in Public Health, 11*, 1234585. https://doi.org/10.3389/fpubh.2023.1234585

[814] Ibid

[815] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397–406. https://doi.org/10.1007/s44197-023-00097-1

[816] Ibid

[817] Nasrallah, G. K., Chemaitelly, H., & others. (2024). Prevalence of hepatitis B and C viruses among migrant workers in Qatar. *Scientific Reports, 14*(1), 11275. https://doi.org/10.1038/s41598-024-61725-9

Despite gaps in harm reduction programming and targeted interventions, Qatar has made strides in some areas, including contributing $110 million to the Global Fund since 2016[818] and partnering with UNAIDS and WHO to reduce stigma and discrimination[819]. However, the lack of structured harm reduction programs, including NSP or OAT, and limited access to PrEP, remain critical barriers. Addressing these issues requires robust surveillance, enhanced data collection, and targeted interventions to improve outcomes for people living with or at risk of BBVs in Qatar.

Harm Reduction

Harm reduction services in Qatar are in the early stages of development, with the country focusing more on prevention and rehabilitation rather than strategies aimed at directly reducing the risks associated with substance use. Although initiatives such as the establishment of the Naufar Center and recent legislative reforms represent progress, significant gaps persist in implementing comprehensive harm reduction programs. Qatar's national policies do not explicitly reference harm reduction, and there are no harm reduction interventions such as NSP, OAT, drug consumption rooms (DCR), naloxone distribution, or prison-based OAT/NSP[820]. Additionally, there is no structured PrEP program for KPs. PrEP is provided only on a limited basis to a small number of individuals attending clinics for sexually transmitted infections or to contacts of people living with HIV. Both TDF-FTC (Truvada) and TAF-FTC (Descovy) are available for this purpose[821].

Saudi Arabia

KSA has a geographic area of approximately 2240,000 km^2 and occupies most of the Arabian Peninsula. Latest Saudi census report, 2021, reported that the population was 35 million, including 5.6 million non-nationals[822]. The increase in Substance Misuse Disorder (SMD) in Saudi Arabia can be partly attributed to drug smuggling from neighboring countries such as Syria, Lebanon, and

[818] The State of Qatar and the Global Fund to Fight AIDS, Tuberculosis and Malaria. (2024, October). *ReliefWeb*. Retrieved from https://reliefweb.int/report/world/state-qatar-and-global-fund-fight-aids-tuberculosis-and-malaria-october-2024-enar

[819] The Peninsula Qatar. (2022, December 1). MOPH teams up with UNAIDS & WHO to raise awareness on ending HIV/AIDS. *The Peninsula Qatar*. Retrieved from https://thepeninsulaqatar.com/article/01/12/2022/moph-teams-up-with-unaids-who-to-raise-awareness-on-ending-hivaids

[820] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[821] Farag, E., Bozicevic, I., Tartour, A. I., Nasreldin, H., Daghfal, J., Himatt, S., Sallam, M. A., Ismail, A., Al Shamali, M., Coyle, P. V., Abdelmajid, A., Al Mawlawi, N., Al Thani, M. H., Al-Romaihi, H. E., Al Soub, H. A. R., Al Maslamani, M., & Al Khal, A. (2023, November 3). HIV case reporting and HIV treatment outcomes in Qatar. *Frontiers in Public Health, 11*, 1234585. https://doi.org/10.3389/fpubh.2023.1234585

[822]Al-Mozaini, M., Al-Rahabani, T., Dirar, Q., Alashgar, T., Rabaan, A. A., Murad, W., Alotaibi, J., & Alrajhi, A. (2023). Human immunodeficiency virus in Saudi Arabia: Current and future challenges. *Journal of Infection and Public Health, 16*(9), 1500–1509. https://doi.org/10.1016/j.jiph.2023.06.012

Yemen, which are plagued by mafia activities and conflict. Saudi Arabia faces significant challenges as a target for drug trafficking due to several factors, including high societal demand, a lucrative market driven by its wealth, and its strategic geographical location. Contributing factors include restricted domestic production, black market demand, and regional instability along its southern and northern borders[823]. Additionally, there are concerns that regional rivals may leverage drug trafficking networks as a means to destabilize the Kingdom.

Drug use

Substance use in Saudi Arabia has emerged as a critical public health challenge, with a rising prevalence across diverse demographic groups. While comprehensive data on SMD remain limited[824], the MOH reported in early 2024 that approximately 200,000 individuals in the Kingdom are drug-dependent, with only a small percentage seeking treatment[825]. Illicit drug use affects 3–7% of the population[826], primarily among youth aged 12–22 years, who constitute 70% of users[827]. Peer pressure, family dynamics, and social stressors significantly contribute to adolescent substance use. A 2021 survey of male high school students in grades 10 to 12, conducted across eight randomly selected public schools and three private schools in Riyadh, revealed that smoking often began before the age of 15, drinking before 20, and drug use as early as 14[828].

A recent review of data from 43 studies conducted in Saudi Arabia between March 2008 and May 2024, encompassing over 20,000 individuals from various demographic groups—including psychiatric patients, individuals with substance use disorders, general hospital patients, DUI cases,

[823] Politics Today. (n.d.). Saudi Arabia's war on drugs and foreign influence. *Politics Today*. Retrieved from https://politicstoday.org/saudi-arabias-war-on-drugs-and-foreign-influence/

[824] Tobaiqy, M., & Al-Asmari, A. I. (2024). Substance misuse disorder in Saudi Arabia: A comprehensive examination of current demographic patterns, trends, and intervention requirements. *Saudi Pharmaceutical Journal, 32*(10), 102163. https://doi.org/10.1016/j.jsps.2024.102163. Epub 2024 Aug 16. PMID: 39262681; PMCID: PMC11387691.

[825] Alyaum. (n.d.). *Article on substance use disorder in Saudi Arabia*. Retrieved from https://www.alyaum.com/articles/6508839

[826]Saquib, N. (2019). Substance use disorder: A growing but understudied mental health condition. *International Journal of Health Sciences (Qassim), 13*(6), 1–2. PMID: 31745391; PMCID: PMC6852503. Retrieved November 20, 2024, from https://pmc.ncbi.nlm.nih.gov/articles/PMC6852503/#:~:text=Substance%20use%20disorder%20(SUD)%20is,are%20addicted%20to%20multiple%20substances

[827] Ibid

[828]Alenazi, I., Alanazi, A., Alabdali, M., Alanazi, A., & Alanazi, S. (2023). Prevalence, knowledge, and attitude toward substance abuse, alcohol intake, and smoking among male high school students in Riyadh, Saudi Arabia. *Cureus, 15*(1), e33457. https://doi.org/10.7759/cureus.33457. PMID: 36751237; PMCID: PMC9899500.

and drug-related fatalities, highlighted the following trend of drug use in the kingdom indicating diverse regional and demographic patterns of substance abuse in the country[829].

Amphetamines, particularly Captagon, are the most widely used drugs, with 40% of individuals with substance use disorders reporting amphetamine abuse. Amphetamine-related intoxication accounts for 34% of hospitalizations in Riyadh, and nearly half (48%) of addiction center residents in Jeddah report amphetamine use, often linked to violent incidents and impaired driving. Hashish and cannabis are also frequently abused, especially among adolescents, with up to 20% admitting to use, and around 25% of treatment center patients reporting cannabis-related disorders. Despite being prohibited, alcohol remains a significant concern, contributing to 11% of intoxication-related emergency cases in Najran and appearing in 32% of postmortem toxicology results in Jeddah. Heroin use, while regionally variable, has increased since 2003 and is associated with fatal overdoses, particularly among middle-aged users. In the southern regions like Jazan, khat chewing is prevalent, especially during social gatherings, with some fatalities linked to its use alongside other substances. Methamphetamine abuse, particularly "Shabu," is rising at an alarming rate, associated with violent behavior and fatalities, prompting a nationwide campaign in 2023 to address this growing threat. These patterns highlight the complexity of substance use issues in the Kingdom, influenced by age, region, and social factors.[830]

Substance use among women has increased by 20% in recent years, with females disproportionately turning to volatile substances like glue, gasoline, and shisha due to limited access to traditional drugs[831].

Polysubstance abuse is also common, with an average of 2.5 drugs used per individual in some groups. Patterns of use highlight a growing problem among adolescents and young adults, exacerbated by the availability of smuggled drugs, particularly from conflict zones in neighboring countries[832].

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[829] Tobaiqy, M., & Al-Asmari, A. I. (2024). Substance misuse disorder in Saudi Arabia: A comprehensive examination of current demographic patterns, trends, and intervention requirements. *Saudi Pharmaceutical Journal, 32*(10), 102163. https://doi.org/10.1016/j.jsps.2024.102163. Epub 2024 Aug 16. PMID: 39262681; PMCID: PMC11387691. Retrieved November 2024 from https://pmc.ncbi.nlm.nih.gov/articles/PMC11387691/

[830] Ibid

[831] Saquib, N. (2019). Substance use disorder: A growing but understudied mental health condition. *International Journal of Health Sciences (Qassim), 13*(6), 1–2. PMID: 31745391; PMCID: PMC6852503. Retrieved November 20, 2024, from https://pmc.ncbi.nlm.nih.gov/articles/PMC6852503/#:~:text=Substance%20use%20disorder%20(SUD)%20is,are%20addicted%20to%20multiple%20substances

[832] Ibrahim et al., 2018 as cited in Tobaiqy, M., & Al-Asmari, A. I. (2024). Substance misuse disorder in Saudi Arabia: A comprehensive examination of current demographic patterns, trends, and intervention requirements. *Saudi Pharmaceutical Journal, 32*(10), 102163. https://doi.org/10.1016/j.jsps.2024.102163. Epub 2024 Aug 16. PMID: 39262681; PMCID: PMC11387691. Retrieved November 2024 from https://pmc.ncbi.nlm.nih.gov/articles/PMC11387691/

Efforts to combat substance misuse in Saudi Arabia include public awareness campaigns, policy enforcement, and treatment services, but gaps in data collection and inconsistent reporting hinder a comprehensive understanding of the problem. Enhanced monitoring, targeted interventions, and specialized services for underserved groups, including women and adolescents, are essential to address the evolving trends of drug use in the Kingdom.

SUD rehabilitation services in Saudi Arabia are governed by the National Committees for Tobacco and Narcotics Control, comprising representatives from various ministries[833].

Historically, therapeutic communities (TCs) for drug addiction treatment were limited, with only five operational as of 2014. The first TC was established in Dammam, followed by others, including the Riyadh TC, which opened in 2009. However, there was no TCs specifically for adolescents or women in 2014[834].

To improve access to treatment, the MoH launched a comprehensive guide in 2023, cataloging public and private rehabilitation facilities across the country[835]. Treatment services, including inpatient programs like those offered at the Eradah (Al Amal) Mental Health Complex, are provided free of charge. These programs offer a holistic approach to rehabilitation, incorporating medical, psychological, social, and spiritual care within a drug-free residential environment. Tobacco cessation is supported through walk-in, mobile, and telehealth clinics, though further development of behavioral therapy and relapse prevention strategies is needed[836].

Non-profit organizations licensed by the Ministry of Labor and Social Development also play a vital role in prevention and treatment, complementing government efforts with youth-targeted strategies, public awareness campaigns, and international policy adoption supported by the WHO and the UN[837].

Despite significant progress, future priorities include adopting recovery-oriented care models, creating specialized services for underserved groups such as women and adolescents,

[833] Alanazi, A. M., Almutairi, A. M., Aldhahi, M. I., Alotaibi, T. F., AbuNurah, H. Y., Olayan, L. H., Aljuhani, T. K., Alanazi, A. A., Aldriwesh, M. G., Alamri, H. S., Alsayari, M. A., Aldhahir, A. M., Alghamdi, S. M., Alqahtani, J. S., & Alabdali, A. A. (2023). The intersection of health rehabilitation services with quality of life in Saudi Arabia: Current status and future needs. *Healthcare, 11*(3), 389. https://doi.org/10.3390/healthcare11030389

[834] Alshomrani, A. T., Khoja, A. T., Alseraihah, S. F., & Mahmoud, M. A. (2017). Drug use patterns and demographic correlations of residents of Saudi therapeutic communities for addiction. *Journal of Taibah University Medical Sciences, 12*(4), 304-312. https://doi.org/10.1016/j.jtumed.2017.02.006

[835] Ministry of Health. (n.d.). *Addiction treatment and rehabilitation services guide*. Retrieved from https://www.moh.gov.sa/HealthAwareness/EducationalContent/AddictionandDrugs/Documents/Guide-Addicition-Treatment-Rehabilitation-Services.pdf

[836] Alanazi, A. M., Almutairi, A. M., Aldhahi, M. I., Alotaibi, T. F., AbuNurah, H. Y., Olayan, L. H., Aljuhani, T. K., Alanazi, A. A., Aldriwesh, M. G., Alamri, H. S., Alsayari, M. A., Aldhahir, A. M., Alghamdi, S. M., Alqahtani, J. S., & Alabdali, A. A. (2023). The intersection of health rehabilitation services with quality of life in Saudi Arabia: Current status and future needs. *Healthcare, 11*(3), 389. https://doi.org/10.3390/healthcare11030389

[837] Ibid

implementing long-term relapse prevention programs, and incorporating QoL assessments to enhance outcomes and align with national health objectives[838].

BBV

The situation of BBVs in Saudi Arabia reflects both significant progress and persistent challenges. In 2023, an estimated 11,000 PLHIV in the country [839], a slight decrease from 12,000 in 2021 but a marked increase compared to 7,500 in 2015[840].

HIV prevalence among adults aged 15–49 years has consistently remained low, at less than 0.1% from 2015 to 2022. However, the country has experienced a gradual increase in HIV incidence, rising from less than 0.01% in 1993 to 0.05% in 2021[841]. This trend is indicative of ongoing transmission, even as prevalence remains low due to successful treatment efforts.

New infections have also risen over time, with estimates showing fewer than 750 new cases in 2015, increasing to 1,000 in 2021[842] and reaching 1,500 in 2023[843]. Despite this rise in new infections, AIDS-related deaths have remained relatively low, with fewer than 100 deaths reported in 2015 and fewer than 200 in both 2021 and 2023. Saudi Arabia reported the highest number of HIV-related deaths among GCC countries in 2021, emphasizing its regional burden[844].

Heterosexual transmission remains the most common mode of HIV transmission among patients in Saudi Arabia, while transmission through homosexual activity appears less significant[845]. This was explained due a low prevalence of HIV-1 among MSM, underreporting due to the social stigma surrounding homosexuality, or both, as MSM in Saudi Arabia may not openly disclose their sexual orientation. Additionally, there has been a steady increase in HIV infections associated with IDU,

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[838] Alanazi, A. M., Almutairi, A. M., Aldhahi, M. I., Alotaibi, T. F., AbuNurah, H. Y., Olayan, L. H., Aljuhani, T. K., Alanazi, A. A., Aldriwesh, M. G., Alamri, H. S., Alsayari, M. A., Aldhahir, A. M., Alghamdi, S. M., Alqahtani, J. S., & Alabdali, A. A. (2023). The intersection of health rehabilitation services with quality of life in Saudi Arabia: Current status and future needs. *Healthcare, 11*(3), 389. https://doi.org/10.3390/healthcare11030389

[839] UNAIDS. (2023). *Saudi Arabia*. Retrieved from https://www.unaids.org/en/regionscountries/countries/saudiarabia

[840] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397-406. https://doi.org/10.1007/s44197-023-00097-1

[841] Ibid

[842] Ibid

[843] UNAIDS. (2023). *Saudi Arabia*. Retrieved from https://www.unaids.org/en/regionscountries/countries/saudiarabia

[844] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397-406. https://doi.org/10.1007/s44197-023-00097-1

[845]Al-Mozaini, M., Al-Rahabani, T., Dirar, Q., & Alashgar, T. (2023). Human immunodeficiency virus in Saudi Arabia: Current and future challenges. *Journal of Infection and Public Health, 16*(9), 1500-1509. https://doi.org/10.1016/j.jiph.2023.06.012

with the highest prevalence reported at 2.8% in 2003. This rise is likely linked to routine HIV screening conducted in DCTs, where individuals testing positive are referred for specialized HIV care[846].

Treatment and care for PLHIV have seen significant advancements. By 2023, 90% of PLHIV in Saudi Arabia were on ART, and 94% of those on ART achieved viral suppression[847], up from 85% in 2015 and 90% in 2021[848]. Testing and awareness have also improved significantly, with 95% of PLHIV aware of their status in 2023. These achievements demonstrate the effectiveness of Saudi Arabia's healthcare interventions in meeting global targets for HIV treatment and care. However, co-infections remain a concern, with 65 cases of tuberculosis reported among PLHIV in 2023, highlighting the need for integrated health services[849].

KPs face disproportionate risks and vulnerabilities in Saudi Arabia's HIV epidemic. PWID are particularly affected, with a reported HIV prevalence of 9.8% according to a 2022 report by Harm Reduction International[850]. However, UNAIDS data for 2023 showed a conflicting estimate of 0%[851]. This discrepancy underscores the need for accurate surveillance and targeted interventions. HCV prevalence among PWID is alarmingly high at 63%, alongside a HBV prevalence of 7.7%, indicating significant co-infection burdens[852]. Prisoners also represent a vulnerable group, with an HIV prevalence of 0.2% in 2022, with an ART coverage of 91.7%[853].

Within the GCC region, Saudi Arabia bears the highest burden of HIV, accounting for 65% of PLHIV among GCC countries by the end of 2021. Males aged 25–49 years make up the largest group of PLHIV in Saudi Arabia (47%), followed by females in the same age group (22%) and males over 50 years (20%)[854]. The documented number of PLHIV in Saudi Arabia has increased significantly over

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[846] Ibid

[847] UNAIDS. (2023). *Saudi Arabia*. Retrieved from https://www.unaids.org/en/regionscountries/countries/saudiarabia

[848] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397-406. https://doi.org/10.1007/s44197-023-00097-1

[849] UNAIDS. (2023). *Saudi Arabia*. Retrieved from https://www.unaids.org/en/regionscountries/countries/saudiarabia

[850] Harm Reduction International. (2022). *Regional overview: Middle East and North Africa*. https://hri.global/wp-content/uploads/2022/11/GSHR-2022_Middle-East-and-North-Africa.pdf

[851] UNAIDS (2023). https://www.unaids.org/en/regionscountries/countries/saudiarabia

[852] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397-406. https://doi.org/10.1007/s44197-023-00097-1

[853] UNAIDS. (2023). *Saudi Arabia*. Retrieved from https://www.unaids.org/en/regionscountries/countries/saudiarabia

[854] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397-406. https://doi.org/10.1007/s44197-023-00097-1

the years, from fewer than 500 in 1992 to 12,000 in 2020[855], with a slight decline to 11,000 in 2023[856]. These figures reflect both improved diagnostic capabilities and ongoing transmission.
While Saudi Arabia has made substantial progress in treatment coverage and viral suppression, it faces challenges in addressing rising new infections, particularly among KPs. The increase in new HIV infections since 2010, estimated at 1,550%, points to gaps in prevention strategies, despite a 68% reduction in AIDS-related deaths over the same period.[857] Additionally, high rates of HCV among PWID highlight the need for comprehensive harm reduction programs to address BBV co-infections and prevent further transmission. These efforts are crucial to curbing the HIV epidemic in Saudi Arabia and achieving sustained public health improvements.

Harm Reduction

Harm reduction services in Saudi Arabia are limited due to the country's strict drug laws and the associated social and legal stigma surrounding drug use. While there is growing awareness of harm reduction as an essential component of public health, its implementation in Saudi Arabia faces significant challenges.
KPs, such as PWID, are disproportionately affected by HIV and other BBVs due to limited access to evidence-based harm reduction services. According to reports, the prevalence of HIV among PWID in Saudi Arabia is 9.8%, highlighting an urgent need for interventions such as needle exchange programs and opioid substitution therapy. However, these services are either unavailable or underdeveloped in the country. The 2024 Harm Reduction International report identifies a lack of government-sanctioned harm reduction programs, a trend consistent with many countries in the MENA region[858].

[855] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397-406. https://doi.org/10.1007/s44197-023-00097-1

[856] UNAIDS. (2023). *Saudi Arabia*. Retrieved from https://www.unaids.org/en/regionscountries/countries/saudiarabia
[857] Ibid
[858] Harm Reduction International. (2024). The global State of Harm Reduction. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

Syria

The Syrian crisis, which began in 2011 as peaceful demonstrations calling for political reform, escalated into an armed conflict following brutal suppression by the Assad regime and its allies[859]. Amidst the chaos, terrorist groups and the regime itself were implicated in the use of chemical weapons on civilians[860].

Over the past decade, the war has displaced more than 14 million Syrians, with 6.8 million internally displaced and the vast majority living in poverty, as 90% of the population struggles to survive below the poverty line[861].

The Syrian conflict has caused profound psychological distress among civilians, with high prevalence rates of mental health conditions such as depression, anxiety, and post-traumatic stress disorder (PTSD), largely stemming from exposure to traumatic events like bombings, shootings, torture, and displacement[862]. Studies reveal alarming rates of mental health issues, 44% of Syrians in wartime exhibited severe mental illness, 36.9% showed full PTSD symptoms, a Syria Relief study in 2021 reported that 84% of participants displayed PTSD symptoms requiring specialized care, with young adults and children particularly affected[863]. Limited access to mental health services exacerbates this crisis, leaving many Syrians without necessary treatment.

Before 2011, Syria was not known for drug production or distribution, boasting strict regulations against narcotics[864]. However, economic sanctions imposed by the United States and Arab states in response to human rights abuses led the Assad regime to exploit the illicit drug trade as a source of revenue. Syria became the world's largest exporter of Captagon, a powerful amphetamine, and was dubbed a "narco-state" by international media[865]. By 2021, the Center for Operational Analysis and Research (COAR) identified Syria as the epicenter of the regional Captagon trade, serving both as a transit point and a key consumer market[866].

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[859] ShelterBox. (n.d.). *Syria conflict*. Retrieved from https://shelterbox.org/where-we-work/syria/conflict/

[860] ReliefWeb. (2023). *10th anniversary of the two Ghoutas attack: The largest chemical weapons attack by the Syrian regime on Syrian citizens*. Retrieved from https://reliefweb.int/report/syrian-arab-republic/10th-anniversary-two-ghoutas-attack-largest-chemical-weapons-attack-syrian-regime-syrian-citizens-enar

[861] UNHCR. (2024). *Syria refugee crisis explained*. Retrieved from https://www.unrefugees.org/news/syria-refugee-crisis-explained/

[862] Cheung, F., Kube, A., Tay, L., et al. (2020). The impact of the Syrian conflict on population well-being. *Nature Communications, 11*, 3899. https://doi.org/10.1038/s41467-020-17369-0

[863] Syria Relief. (n.d.). *99% of Syrian IDPs, 73% of Syrian refugees have PTSD symptoms*. Retrieved from https://syriarelief.org.uk/articles/99-of-syrian-idps-73-of-syrian-refugees-have-ptsd-symptoms/

[864] Carnegie Endowment for International Peace. (2024, July). *Border traffic: How Syria uses Captagon to gain leverage over Saudi Arabia*. Retrieved from https://carnegieendowment.org/research/2024/07/border-traffic-how-syria-uses-captagon-to-gain-leverage-over-saudi-arabia?lang=en

[865] Ibid

[866] Center for Operational Analysis and Research (COAR). (2021, April 27). *The Syrian economy at war: Captagon, hashish, and the Syrian narco state*. Retrieved from https://www.coar-global.org/2021/04/27/the-syrian-economy-at-war-captagon-hashish-and-the-syrian-narco-state/

By 2022, Captagon exports far exceeded Syria's legal exports combined, according to estimates by AFP[867]. A World Bank report indicated that Syria's gross national product plummeted from $60.04 billion in 2010 to $8.9 billion in 2021, underscoring both the economic devastation wrought by the war and the prominence of Captagon trafficking in the national economy[868].

Captagon has not only fueled drug abuse epidemics in wealthy Gulf states, threatening social stability, but also became a tool of political leverage[869]. The Assad regime reportedly used the drug trade to pressure Gulf nations, such as Saudi Arabia, to reintegrate Syria into the Arab League, an outcome realized in 2023[870].

The drug trade has left a lasting legacy in the region. Black-market Captagon is now primarily manufactured in Syria and neighboring Lebanon, with its use concentrated in the Middle East, including in recreational settings within Gulf states. Between 2020 and 2022, Captagon generated an estimated $7.3 billion in Syria and Lebanon, contributing approximately $2.4 billion annually to their economies[871].

Access to drugs in Syria has become increasingly easy as the volume of substance trafficking grows. This is largely attributed to widespread security chaos, inadequate legal enforcement, and weakened societal and familial oversight[872]. Additionally, reports indicate that drug dealers are leveraging social media platforms such as Facebook, Telegram, and WhatsApp to market and distribute narcotics directly to users, further exacerbating the issue[873].

Following the fall of the Assad regime in December 2024, large stockpiles of Captagon were uncovered by Syrian rebels, implicating the regime in its manufacture and distribution[874]. These discoveries have solidified the role of Captagon as a central element of Syria's war economy and a grim reminder of the lengths to which the regime went to sustain itself.

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[867] The Guardian. (2024, December 13). *Syrian rebels' Captagon drug haul exports fenethylline*. Retrieved from https://www.theguardian.com/world/2024/dec/13/syrian-rebels-captagon-drug-haul-exports-fenethylline

[868] World Bank. (n.d.). *GDP (current US$) - Syrian Arab Republic*. Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=SY

[869] Carnegie Endowment for International Peace. (2024, July). *Border traffic: How Syria uses Captagon to gain leverage over Saudi Arabia*. Retrieved from https://carnegieendowment.org/research/2024/07/border-traffic-how-syria-uses-captagon-to-gain-leverage-over-saudi-arabia?lang=en

[870] Ibid

[871] Observatory of Political and Economic Networks. (2023). *Sky high: The ensuing narcotics crisis in MENA and the role of the Assad regime*. Retrieved from https://www.opensyr.com/en/sky-high:-the-ensuing-narcotics-crisis-in-mena-and-the-role-of-the-assad-regime/b-82

[872] MedGlobal. (2024). *Under the surface: A decade of conflict and the drug use epidemic inside Syria*. Retrieved from https://medglobal.org/under-the-surface-a-decade-of-conflict-and-the-drug-use-epidemic-inside-syria/

[873] Ibid

[874] The Conversation. (2024, May 2). *What is the drug Captagon and how is it linked to Syria's fallen Assad regime?* Retrieved from https://theconversation.com/what-is-the-drug-captagon-and-how-is-it-linked-to-syrias-fallen-assad-regime-245935#:~:text=It%20is%20one%20of%20the,about%20%242.4%20billion%20a%20year

Drug use

According to MedGlobal report (2024), drug use in Syria has escalated significantly since the onset of the civil war, with a reported 300% increase in substance consumption[875]. The crisis affects all societal segments, with young adults aged 18–29 and adolescents as young as 14 being particularly vulnerable[876].

Captagon, crystal meth, heroin, cannabis, and volatile substances are the most commonly used drugs[877,878]. The estimated prevalence of drug use among males is disproportionately high, with post-2011 usage increasing by 266% compared to pre-2011 levels[879]. In government-controlled areas, the number of drug users is estimated at 840,000, approximately 9% of the population—far exceeding the global average of 5%[880].

Factors contributing to substance use include economic hardships, lack of education, unemployment, and trauma from war-related injuries[881,882]. Many users report incomes below $100 per month, and 76% link drug accessibility to well-established local networks[883,884].

The prevalence of PWID is estimated at 8.3 per 10,000 people, with a mean age of 32.1 years, and heroin identified as the most commonly injected[885]. Among PWID, the prevalence of hepatitis C antibodies is 3.3%, while the prevalence of hepatitis B surface antigen is 0.5%, with no recorded cases of HIV[886].

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[875] MedGlobal.(2024). *Under the surface: A decade of conflict and the drug use epidemic inside Syria*. Retrieved from https://medglobal.org/under-the-surface-a-decade-of-conflict-and-the-drug-use-epidemic-inside-syria/

[876] Ibid

[877] Ibid

[878] Pergolizzi, J. Jr., LeQuang, J. A. K., Vortsman, E., Magnusson, P., El-Tallawy, S. N., Wagner, M., Salah, R., & Varrassi, G. (2024). The emergence of the old drug Captagon as a new illicit drug: A narrative review. *Cureus, 16*(2), e55053. https://doi.org/10.7759/cureus.55053

[879] MedGlobal. (2024). *Under the surface: A decade of conflict and the drug use epidemic inside Syria*. Retrieved from https://medglobal.org/under-the-surface-a-decade-of-conflict-and-the-drug-use-epidemic-inside-syria/

[880] Ibid

[881] Ibid

[882] ACU (Assistance Coordination Unit). (2022). *Substance abuse and addiction in northern Syria: Report, edition no. 01 for 2022*. Assistance Coordination Unit/Information Management Unit. Retrieved from https://acu-sy.org/imu_reports/substance-abuse-addiction-northern-syria-01-narrative-2022/

[883] MedGlobal. (2024). *Under the surface: A decade of conflict and the drug use epidemic inside Syria*. Retrieved from https://medglobal.org/under-the-surface-a-decade-of-conflict-and-the-drug-use-epidemic-inside-syria/

[884] ACU (Assistance Coordination Unit). (2022). *Substance abuse and addiction in northern Syria: Report, edition no. 01 for 2022*. Assistance Coordination Unit/Information Management Unit. Retrieved from https://acu-sy.org/imu_reports/substance-abuse-addiction-northern-syria-01-narrative-2022/

[885] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *Lancet Global Health.* Retrieved from https://pubmed.ncbi.nlm.nih.gov/37474230/

[886] Ibid

Drug availability has expanded through local promoters, pharmacies, social media platforms, and educational institutions, further normalizing access. Alarmingly, treatment options remain severely limited, with only two addiction treatment centers in Damascus and Aleppo[887,888]. Social perceptions of drug use remain predominantly negative, with 74% of respondents deeming it unacceptable; however, attitudes vary regionally[889].

According to the MedGlobal report, 80% of the 300 inmates at the Juvenile Institute in Damascus, a rehabilitation facility for youth who have committed crimes, were found to use substances[890].

In 2022, MedGlobal, in collaboration with Physicians Across Continents, established the first dedicated unit for treating and rehabilitating substance users in Northwest Syria at Azzaz Specialty Psychiatric Hospital. This facility provides detoxification and rehabilitation services while also offering training programs for primary care physicians, nurses, and community healthcare workers on various related topics[891].

BBV

The management and prevalence of BBVs, particularly HIV/AIDS, present complex challenges in Syria, compounded by the ongoing civil war and societal stigma. According to a television interview in 2023 with Zuheir Al-Sahwi, Director of the Communicable and Chronic Diseases Directorate in Syria's Ministry of Health, the total number of HIV cases identified in the country from 1987 to the end of 2023 reached 1,245, including 882 Syrians. Of the non-Syrian cases (363 individuals), all were deported, while 313 of the Syrian cases have passed away[892]. The remaining 569 cases are under active follow-up. Al-Sahwi also noted the completion of a National Strategic Plan for Monitoring and Evaluation, which includes care and treatment cards for HIV patients, investigation forms, the adoption of self-testing methods (oral and blood-based), and efforts to maintain over 80% medication accessibility for patients within and outside Syria since 2011[893]. Additionally, he reported an increase in hepatitis B and C cases, with 553 recorded in 2022[894].

According to a study by Gushchina et al. (2020), the main modes of HIV transmission in Syria are heterosexual relations outside of marriage (51%), heterosexual relations within marriage (15%),

[887] MedGlobal.(2024). *Under the surface: A decade of conflict and the drug use epidemic inside Syria*. Retrieved from https://medglobal.org/under-the-surface-a-decade-of-conflict-and-the-drug-use-epidemic-inside-syria/

[888] ACU (Assistance Coordination Unit). (2022). *Substance abuse and addiction in northern Syria: Report, edition no. 01 for 2022*. Assistance Coordination Unit/Information Management Unit. Retrieved from https://acu-sy.org/imu_reports/substance-abuse-addiction-northern-syria-01-narrative-2022/

[889] MedGlobal.(2024). *Under the surface: A decade of conflict and the drug use epidemic inside Syria*. Retrieved from https://medglobal.org/under-the-surface-a-decade-of-conflict-and-the-drug-use-epidemic-inside-syria/

[890] Ibid

[891] Ibid

[892] Syrian Expert. (n.d.). A new statistic on the number of people infected with AIDS in Syria. Retrieved from https://syrianexpert.net/?p=77351 (Arabic)

[893] Ibid

[894] Ibid

men having sex with men (10%), injecting drug use (3%), mother-to-child transmission (3%), and blood transfusions (6%)[895].

According to UNAIDS data, there were an estimated 660 people living with HIV in Syria in 2022, with an HIV prevalence of <0.1% among adults aged 15–49, unchanged from 2015[896]. However, only 51% of those diagnosed were on treatment, and 78% were aware of their status[897].

KPs such as PWID and female sex workers are disproportionately affected by HIV[898], with a prevalence of 0.5% among PWID and 0% among prisoners[899].

Barriers to healthcare access for HIV/AIDS are exacerbated by societal stigma, lack of centralized facilities, and ongoing discrimination[900]. Studies indicate that 69% of individuals lack access to facilities for STI diagnosis and treatment, and only 5% believe those living with HIV can access essential medical care without financial burden[901].

LGBTQIA+ individuals face additional challenges due to criminalization under Article 520 of the Penal Code, which penalizes same-sex relationships with imprisonment of up to three years[902]. In areas such as Idlib, hospitals reportedly deny treatment to LGBTQIA+ individuals if their sexual identity is revealed[903]. Fear of exposure and arrest prevents many LGBTQIA+ individuals from seeking medical or psychological care, despite a reported ability among some to conceal their identities to access services[904].

Health awareness and preventative measures remain inadequate across Syria. A 2024 study reported that 70% of participants felt their gender identity impeded access to care, while knowledge of HIV/AIDS among female sex workers, PWID, and prisoners was below 30%[905]. These groups experienced minimal exposure to HIV/AIDS health campaigns, contributing to limited understanding of risk factors and prevention methods.

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[895] Gushchina, Y. Sh., Zyryanov, S. K., Butranova, O. I., Haitham, Y., Binenko, E., & Al Bawareed, O. A. (2020). Prevalence, risk factors, and monitoring of AIDS among Syrians under the civil war. *Pharmacophore, 11*(5), 77-83. Retrieved from https://pharmacophorejournal.com/article/prevalence-risk-factors-and-monitoring-of-aids-among-syrians-under-the-civil-war

[896] UNAIDS. (2023). Retrieved from https://dsd.unaids.org/

[897] Ibid

[898] Borgen Project. (n.d.). HIV/AIDS in Syria. Retrieved from https://borgenproject.org/hiv-aids-in-syria/

[899] UNAIDS. (2023). Retrieved from https://dsd.unaids.org/

[900] Borgen Project. (n.d.). HIV/AIDS in Syria. Retrieved from https://borgenproject.org/hiv-aids-in-syria/

[901] Guardians of Equality Movement (GEM). (2024). The Syrian LGBTQIA+ people in conflict and displacement, and their contribution to peace and accountability efforts. Retrieved from https://guardiansgem.org/wp-content/uploads/2024/06/Report-2.pdf

[902] Ibid

[903] Ibid

[904] Ibid

[905] Borgen Project. (n.d.). HIV/AIDS in Syria. Retrieved from https://borgenproject.org/hiv-aids-in-syria/

Swed et al. (2024) highlighted a generally acceptable level of knowledge about STIs and HIV among the broader Syrian population, but this was not reflected in high-risk groups[906].

The impact of the Syrian civil war has been profound, with healthcare infrastructure strained by human rights violations, financial decline, and environmental crises. Medical costs have risen significantly, making treatments inaccessible for many. In northwest Syria, approximately 2.3 million women and girls lack access to reproductive and sexual health services, including HIV/AIDS treatment[907].

Despite some integration of HIV/AIDS awareness into secondary school curricula and the adoption of self-testing options[908], Syria's healthcare response remains below global targets for prevention, diagnosis, and treatment[909]. Addressing these gaps requires targeted efforts to reduce stigma, improve healthcare infrastructure, and expand access to marginalized populations.

The prevalence of HBV and HCV in Syria reflects significant public health challenges. According to Al-Sahwi (2023), the number of hepatitis B and C cases has been increasing, with 553 cases reported in 2022 alone[910]. A systematic review and meta-analysis by Aghaei et al. (2023) estimated the prevalence of HCV antibodies among PWID in Syria at 3.30%, corresponding to approximately 328 PWID with HCV antibodies. Additionally, the prevalence of HBV surface antigen among PWID was reported at 0.50%, equating to an estimated 50 PWID living with HBV[911].

The escalating burden of hepatitis in Syria is further exacerbated by limited healthcare resources, poor access to medical services, and the stigma surrounding infectious diseases, which collectively hinder effective diagnosis, prevention, and treatment efforts.

Harm Reduction

Harm reduction services in Syria remain severely limited, reflecting significant gaps in addressing the needs of vulnerable populations, particularly PWID, sex workers, and other high-risk groups. The ongoing conflict, coupled with the collapse of healthcare infrastructure, has further constrained efforts to provide these essential services.

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[906] Swed, S., Alibrahim, H., Albakri, K., Rais, M. A., Al-Rassas, S., Hafez, W., … Khandaker, M. U. (2024). Evaluating knowledge, practice, and attitude of Syrian population on sexually transmitted infections and human immunodeficiency virus. *HIV Research & Clinical Practice, 25*(1). https://doi.org/10.1080/25787489.2024.2356409

[907] Borgen Project. (n.d.). HIV/AIDS in Syria. Retrieved from https://borgenproject.org/hiv-aids-in-syria/

[908] Syrian Expert. (n.d.). Retrieved from https://syrianexpert.net/?p=77351

[909] Borgen Project. (n.d.). HIV/AIDS in Syria. Retrieved from https://borgenproject.org/hiv-aids-in-syria/

[910] Syrian Expert. (n.d.). Retrieved from https://syrianexpert.net/?p=77351

[911] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *Lancet Global Health*. Retrieved from https://pubmed.ncbi.nlm.nih.gov/37474230/

According to Aghaei et al. (2023)[912], and HRI[913], harm reduction services such as NSPs, OST, and safe spaces for PWID are virtually absent. This lack of services contributes to the increased prevalence of BBV like HCV and HBV.
Furthermore, stigma and discrimination against drug users and other marginalized groups significantly deter individuals from seeking care or harm reduction support.

Tunisia

Tunisia is a North African country situated on the Mediterranean coast and is classified as a lower-middle-income nation.
Tunisia's dynamic tourism industry provides both a cover for drug smuggling and a potential market for these substances, as tourists and local consumers may contribute to demand. Cocaine trafficking has expanded across Tunisia, with some shipments smuggled from Europe for local consumption and others arriving from Maghreb countries or possibly South America, using Tunisia as a transit point for further smuggling to Europe. Domestically, while cocaine use has risen, it remains relatively rare and expensive compared to other drugs[914].

Drug Use

Cannabis remains the most widely used and easily accessible drug in Tunisia. According to the 2021 Mediterranean School Survey Project on Alcohol and Other Drugs (MedSPAD), cannabis use in the country has seen a dramatic increase, with prevalence tripling among students in Tunisia from 1.4% in 2013 to 7.9% in 2021, with usage significantly higher among boys. Early onset of cannabis use, at age 13 or younger, was reported by 8.6% of users[915]. Two studies based on the 2021 MedSPAD results found that cannabis use is strongly linked to alcohol, tobacco, and e-cigarette use, as well as behaviors like school absenteeism, nights spent away from home, and

[912] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *Lancet Global Health*. Retrieved from https://pubmed.ncbi.nlm.nih.gov/37474230/

[913] Harm Reduction International. (2024). *The global state of harm reduction 2024*. Retrieved from [HRI-GSHR-24_full-document_1411.pdf]

[914] Global Organized Crime Index. (2023). Profile: Tunisia. Retrieved from https://ocindex.net/country/tunisia

[915] Pompidou Group of the Council of Europe. (2023). *Enquête MEDSPAD III - Tunisie 2021*. Retrieved from https://rm.coe.int/rapport-medspad-iii-05-01-2023-tunisie/1680a9a100

enrollment in private schools[916,917]. Another study, a cross-sectional survey conducted in middle and high schools during the first trimester of the 2019-2020 school year, involved a randomly selected representative sample of 1,352 students. The findings revealed that tobacco was the most commonly experimented substance, with a prevalence rate of 17.5%, followed by alcohol use at 3.3%, while illicit drug use was reported at 2%. Key factors of substance use identified included academic failure, having peers who use illicit drugs and a history of tobacco or alcohol experimentation[918].

Opioid use is primarily represented in Tunisia by the use of buprenorphine (Subutex), a semi-synthetic opioid agonist. This contrasts with other North African countries in the MedNET network, where heroin is the most commonly used opioid, along with tramadol, opium, and morphine[919].

Heroin use in Tunisia remains among the lowest in the region and Europe (0.23%)[920], primarily concentrated in coastal urban areas but showing signs of emergence in rural regions such as Gafsa[921].

Among students surveyed in the MedSPAD 2021 study, cocaine consumption remained stable, with prevalence rates of 0.5% in 2013 and 0.52% in 2021. In the same year, the prevalence of amphetamine use was 0.39%, inhaled substances 5.2%, and non-medical use of anxiolytics reached 8.4%[922].

Synthetic drugs, including Pregabalin and Ecstasy (MDMA), are being smuggled into Tunisia from Europe and neighboring countries to Algeria and Libya[923]. Ecstasy, which was once primarily

[916] Mallekh, R., Rejaibi, S., Silini, A., Zid, M., Slema, I. B., Zoghlami, N., ... & Aounallah-Skhiri, H. (2023). Prevalence and associated factors to alcohol use in Tunisian high school adolescents: MedSPAD 2021. European Psychiatry, 66(S1), S866-S866.

[917] Mallekh, R., Rejaibi, S., Silini, A., Zid, M., Slema, I. B., Zoghlami, N., ... & Aounallah-Skhiri, H. (2023). Cannabis use in Tunisian high school adolescents: MedSPAD 2021. European Psychiatry, 66(S1), S530-S530.

[918] Amara, A., Omri, N., Sahli, J., Zedini, C., El Ouni, T., Mtiraoui, A., ... & Ghardalou, M. (2023). Prevalence and predictors of tobacco, alcohol and illicit drug experimentation among Tunisian middle and high school-adolescents. International Journal of Adolescent Medicine and Health, 35(4), 363-373.

[919] Pompidou Group of the Council of Europe. (2023). Enquête MEDSPAD III - Tunisie 2021. Retrieved from https://rm.coe.int/rapport-medspad-iii-05-01-2023-tunisie/1680a9a100

[920] Ibid

[921] Global Organized Crime Index. (2023). Profile: Tunisia. Retrieved from https://ocindex.net/country/tunisia

[922] Pompidou Group of the Council of Europe. (2023). Enquête MEDSPAD III - Tunisie 2021. Retrieved from https://rm.coe.int/rapport-medspad-iii-05-01-2023-tunisie/1680a9a100

[923] Global Organized Crime Index. (2023). Profile: Tunisia. Retrieved from https://ocindex.net/country/tunisia

consumed by wealthy youths, has become more accessible, with its use spreading to low-income neighborhoods. Ecstasy use increased from 0.2% in 2013 to 1.1% in 2021[924].

In 2023, the estimated population PWID in Tunisia was approximately 11,000[925].
A study by Moslah and colleagues (2024) analyzed 261 syringes collected from five sites of a mobile syringe exchange program to PWID. The objective was to examine the contents of the used syringes to gain insight into drug use patterns among this population. The analysis revealed that 87% of the syringes contained at least one psychoactive substance and 32% contained more than two substances. The most commonly identified substances were buprenorphine (50.28%), amphetamine (11.65%), and tramadol (9.66%)[926].

BBV

In Tunisia, the estimated number of PLHIV in 2023 was approximately 8,000, with 2,300 women and 5,600 men. The estimated adult (ages 15-49) HIV incidence rate was 0.1, with approximately 880 to 1,000 new infections reported[927]. In 2023, an estimated 2,100 PLHIV in Tunisia were aware of their status, representing only 26% of the total population living with HIV[928].
According to an article referencing recent estimates from integrated bio-behavioral surveys (IBBS) conducted since 2017, Tunisia has seen an increase in HIV prevalence among KPs, specifically among PWID and FSW[929]. In 2022, HIV prevalence in Tunisia was 0.5% among sex workers, 8.2% among MSM, and 8.8% among PWID[930]. In 2023, among the estimated 11,000 PWID in Tunisia,

[924] Pompidou Group of the Council of Europe. (2023). Enquête MEDSPAD III - Tunisie 2021. Retrieved from https://rm.coe.int/rapport-medspad-iii-05-01-2023-tunisie/1680a9a100

[925] WHO, UCN, HHS, & SIA. (2023). Country factsheets: Tunisia. Country Factsheets HIVCI. Retrieved from https://cfs.hivci.org/index.html

[926] Moslah, B., Smaoui, O., Néfau, T., Boukassoula, H., Laaribi, M., Nouioui, M. A., ... & Hedhili, A. (2024). Detected Substance Abuse Among Injecting Drug Users through Analysis of Used Syringes in Tunisia. Forensic Science International, 112299.

[927] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[928] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Tunisia 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/tunisia

[929] Bozicevic, I., Sharifi, H., Haghdoost, A., Sabry, A., & Hermez, J. (2022). Availability of HIV surveillance data in key populations in the countries of the World Health Organization Eastern Mediterranean Region. International Journal of Infectious Diseases, 121, 211-216.

[930] WHO, UCN, HHS, & SIA. (2023). Country factsheets: Tunisia. Country Factsheets HIVCI. Retrieved from https://cfs.hivci.org/index.html

the prevalence of HIV was recorded at 3.54%. HCV had a significantly higher prevalence, affecting 28.32% of PWID, while HBV prevalence stood at 4.3%[931].

In the general Tunisian population, the prevalence of HCV is considered moderate, ranging between 1.5% and 3.5%, similar to other countries in the MENA region such as Algeria, Morocco, Libya, and Syria. This contrasts with lower prevalence rates (<1.5%) observed in GCC countries like Qatar and Oman and the notably higher rates (>3.5%) seen in Egypt and Yemen[932].

Based on projections from a modeling approach, Tunisia has the lowest proportion of HCV infections averted relative to all incident infections, while the United Arab Emirates has the highest. The treatment scale-up scenario was not applicable to Tunisia, as it is already on track to achieve an incidence of 5 or less per 100,000 people per year by 2030 without requiring additional treatment efforts[933].

Rajhi and colleagues (2021) highlighted by the discovery of two new HCV-2 subtypes in the Tunisian population, which expands the global count of HCV-2 subtypes from 21 to 23, underscoring the virus's significant genetic diversity[934].

Another cross-sectional study conducted between 2018 and 2019 revealed HCV genotype distribution among PWID in Tunisia distinct from the general population, with a predominance of subtypes 1a and 3a. This latter study recruited 128 HCV-positive PWID from community-based harm reduction center (five women and 123 men). Most participants had less than a secondary level of education, were single, unemployed, and had been incarcerated at least once. Risk behaviors were prevalent: in the previous 12 months, 82% reported reusing syringes, 43.8% shared syringes, 56.2% had at least one unprotected sexual relationship, 28.1% had more than two sexual partners and 60.2% reported having tattoos[935].

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[931] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[932] Athamneh, R. Y., Abudalo, R., Sallam, M., Alqudah, A., Alquran, H., Amawi, K. F., & Abu-Harirah, H. A. (2023). Sub-genotypes of hepatitis C virus in the Middle East and North Africa: Patterns of distribution and temporal changes. Infection, Genetics and Evolution, 109, 105412.

[933] Ayoub, H. H., Mahmud, S., Chemaitelly, H., & Abu-Raddad, L. J. (2023). Treatment as prevention for hepatitis C virus in the Middle East and North Africa: a modeling study. Frontiers in Public Health, 11, 1187786.

[934] Rajhi, M., Haddad-Boubaker, S., Chouikha, A., Bourquain, D., Michel, J., Hammami, W., ... & Triki, H. (2021). Identification of two novel hepatitis C virus subtype 2 from Tunisia (2v and 2w). Plos one, 16(3), e0248249.

[935] Chouikha, A., Ghrabi, A., Ghodbane, A., Hammemi, W., Khedhiri, M., Sadraoui, A., ... & Triki, H. (2021). Distribution of HCV Genotypes Among People Who Inject Drugs in Tunisia: New Evidence for Scaling Up Prevention and Treatment Toward National Elimination Goal. Frontiers in Microbiology, 12, 697859.

Among HCWs, occupational exposure to hepatitis C was noted as a significant risk at the university hospital of Monastir, underscoring the importance of preventive measures to protect healthcare personnel[936].

The reported number of people receiving ART represents a coverage rate of just 25% across all ages. Among children aged 0–14, only 23% were reported to be on ART, indicating that Tunisia is not on track to meet the 2025 goals[937]. An estimated 1,900 PLHIV in Tunisia had suppressed viral loads, representing 24% of the total population living with HIV[938].

In 2023, the reported number of pregnant women living with HIV in Tunisia who received ART for the PMTCT was 23. However, the estimated percentage of pregnant women living with HIV who accessed these services was only 18%, indicating that the country is not on track in meeting PMTCT goals. The final transmission rate was high at 32.49%, further highlighting the gaps in effective intervention. Additionally, only 8% of infants born to women living with HIV received a virological test within two months of birth, emphasizing a critical area for improvement in early infant diagnosis and care[939].

Tunisia has made progress in HIV prevention and treatment, including adopting a PrEP policy and implementing viral load monitoring at most treatment sites. ART pick-up and clinic visits for stable adults are scheduled every three months, aligning with WHO recommendations. However, gaps remain, such as the lack of a policy on HIV self-testing and community delivery of ART. Key areas like rapid ART initiation, point-of-care viral load testing, and interventions for advanced HIV cases are only partially addressed or lack data[940].

[936] Kacem, M., Dhouib, W., Bennasrallah, C., Zemni, I., Abroug, H., Ben Fredj, M., ... & Sriha Belguith, A. (2022). Occupational exposure to hepatitis C virus infection and associated factors among healthcare workers in Fattouma Bourguiba University Hospital, Tunisia. Plos one, 17(9), e0274609.

[937] WHO, UCN, HHS, & SIA. (2023). Country factsheets: Tunisia. Country Factsheets HIVCI. Retrieved from https://cfs.hivci.org/index.html

[938] Joint United Nations Programme on HIV/AIDS. (2023). Country factsheets- Tunisia 2023. Retrieved from https://www.unaids.org/en/regionscountries/countries/tunisia

[939] WHO, UCN, HHS, & SIA. (2023). Country factsheets: Tunisia. Country Factsheets HIVCI. Retrieved from https://cfs.hivci.org/index.html

[940] Ibid

Between 2019 and 2023, approximately 70% of women and men aged 15–49 in Tunisia reported discriminatory attitudes towards PLHIV[941]. Stigmatization of PLHIV in non-specialized healthcare facilities was linked to insufficient training of care providers on virus transmission[942].
The increasing frequency of medical follow-up interruptions among PLHIV is a concerning issue, driven by individual factors and systemic challenges such as stock shortages, geographical barriers, and inadequate human resources, all of which hinder effective care for PLHIV[943].
Entry, stay, and residence of people living with HIV are regulated, with some permits requiring HIV testing or disclosure, and short- or long-term stays being prohibited for those with HIV. Adolescents under the age of 18 require parental consent to access HIV testing, which may act as a barrier to early detection and prevention efforts[944].

Harm Reduction

While there is explicit supportive reference to harm reduction in national policy documents and at least one NSP operational[945], the annual distribution of 49 syringes per person who injects drugs falls far below the 2025 target of 200[946].
Harm reduction services in Tunisia face critical gaps, with no OAT programs, drug consumption rooms, take-home naloxone, naloxone peer distribution programs, safer smoking kit distribution, stimulant prescriptions, or prison-based NSP or OAT programs, and limited data on key indicators like OAT coverage and condom use among sex workers[947].

[941] Joint United Nations Programme on HIV/AIDS. (2024). The urgency of now: AIDS at a crossroads. Retrieved from https://www.unaids.org/en/resources/documents/2024/global-aids-update-2024

[942] Zribi, M., Mansour, N. B., Moussa, H., Hassine, H. B., & Aounallah-Skhiri, H. (2023). Experiences and perceptions of health professionals towards the quality of care for people living with HIV in Tunisia: a qualitative study. Pan African Medical Journal, 46(1).

[943] Ibid

[944] Joint United Nations Programme on HIV/AIDS. (2024). UNAIDS DATA 2024. Retrieved from https://www.unaids.org/sites/default/files/media_asset/data-book-2024_en.pdf

[945] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

[946] Joint United Nations Programme on HIV/AIDS. (2024). The urgency of now: AIDS at a crossroads. Retrieved from https://www.unaids.org/en/resources/documents/2024/global-aids-update-20244

[947] Harm Reduction International. (2024). The global state of harm reduction 2024. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

United Arab Emirates

The United Arab Emirates (UAE) has seen notable shifts in drug use trends and the prevalence of SUD over the years. These changes are driven by a confluence of factors, including rapid globalization, cultural shifts due to westernization, and the UAE's strategic location as a global hub, which has inadvertently facilitated drug trafficking[948]. The country's rapid population growth, socioeconomic changes, and evolving social norms have also contributed to the rise in SUD, with nationals being more affected than expatriates[949].

Drug Use

In 2012, out of a population of 8.26 million, over 5% used cannabis, while harmful alcohol use and opiate use were reported at 0.2% and 0.02%, respectively[950]. Between 2010 and 2016, per capita pure alcohol consumption increased from 3.1 to 3.6 liters, making the UAE's alcohol consumption among the highest in the Arab world[951].

A significant increase in treatment admissions in UAE was also observed at the National Rehabilitation Center (NRC), rising from 545 in 2013 to 1,750 in 2018.[952] The gap between the onset of drug use (mean age 19) and treatment (mean age 27) suggests an average delay of eight years in seeking intervention[953].

In 2021, 8,428 individuals were arrested for drug-related offenses, a 20.8% increase from 2020, reflecting both high demand and the persistent availability of narcotics despite strict penalties in UAE[954].

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[948] Al Ghaferi, H. A., Ali, A. Y., Gawad, T. A., & Wanigaratne, S. (2017). Developing substance misuse services in United Arab Emirates: The national rehabilitation centre experience. *BJPsych International, 14*, 92–96. https://doi.org/10.1192/S2056474000002105

[949] Ibid

[950] Doran, C. (2016). Preliminary estimates of the economic implications of addiction in the United Arab Emirates. *Eastern Mediterranean Health Journal, 22*(10), 749–755. https://doi.org/10.26719/2016.22.10.749.

[951] World Health Organization. (2019). *Global status report on alcohol and health 2018*.

[952] Fouché, A., Albrithen, A., AlNuaimi, M., Al Riyami, K., Aruldoss, V., Cooper, K., Marta, R., & Tedam, P. (2023). Alcohol and substance dependence in the United Arab Emirates: A scoping review protocol. *BMJ Open, 13*(5), e071208. https://doi.org/10.1136/bmjopen-2022-071208

[953] Mhaidat, I., Al-Yateem, N., Al-Mamari, S., & Al-Suwaidi, F. (2024). Resilience and relapse risk in Emirate adult patients with substance use disorder: A national cross-sectional study from the United Arab Emirates. *Frontiers in Psychiatry, 15*, 1444233. https://doi.org/10.3389/fpsyt.2024.1444233. Retrieved from https://www.frontiersin.org/journals/psychiatry/articles/10.3389/fpsyt.2024.1444233/full

[954] Fouché, A., Albrithen, A., AlNuaimi, M., Al Riyami, K., Aruldoss, V., Cooper, K., Marta, R., & Tedam, P. (2023). Alcohol and substance dependence in the United Arab Emirates: A scoping review protocol. *BMJ Open, 13*(5), e071208. https://doi.org/10.1136/bmjopen-2022-071208

Available evidence suggests that commonly used substances in UAE, include Alcohol, cannabis, heroin, and amphetamines, and particularly Captagon[955].

Newer drugs like crystal methamphetamine, synthetic cannabinoids, and prescription medications (e.g., tramadol, pregabalin) have also gained popularity[956]. Amphetamines were the most commonly consumed illicit drugs in 2020, followed by prescription medications such as Lyrica and tramadol[957].

Drug users in UAE are predominantly male, with a significant percentage of users unemployed or lacking secondary education. The presence of co-morbid psychiatric conditions was noted in 9-25% of cases, depending on the substance used[958].

The prevalence of injecting drug use was estimated at 1–9.99 per 10,000 people, with substantial risks of hepatitis C (15% of users), hepatitis B (2%), and a smaller percentage living with HIV.[959]

The economic cost of addiction in the UAE was estimated at $5.47 billion, or 1.4% of GDP, in 2012. The societal costs, including drug-related crimes and productivity losses, further compound this burden[960].

BBV

The UAE faces distinct challenges in addressing BBVs, particularly HIV, due to a combination of its unique demographics, cultural context, and healthcare policies. While the country has made strides in expanding testing and treatment coverage, specific groups remain disproportionately affected, and gaps in care persist[961].

HIV prevalence among adults aged 15-49 remains below 0.1%, reflecting a low overall burden in the general population. HIV in the UAE has increased over the last ten years and reached 0.13% in

[955] Al Ghaferi, H. A., Ali, A. Y., Gawad, T. A., & Wanigaratne, S. (2017). Developing substance misuse services in United Arab Emirates: The National Rehabilitation Centre experience. *BJPsych International, 14*(4), 92–96. https://doi.org/10.1192/S2056474000002105

[956] Mhaidat, I., Al-Yateem, N., Al-Mamari, S., & Al-Suwaidi, F. (2024). Resilience and relapse risk in Emirate adult patients with substance use disorder: A national cross-sectional study from the United Arab Emirates. *Frontiers in Psychiatry, 15*, 1444233. https://doi.org/10.3389/fpsyt.2024.1444233.

[957] Ibid

[958] Al Dhaheri, F. A. (2017). A 10 year retrospective study of the National Rehabilitation Centre Abu Dhabi: Trends, population characteristics, associations and predictors of treatment outcomes. *Johns Hopkins University*. Retrieved from https://jscholarship.library.jhu.edu/browse/author?value=Al%20Dhaheri,%20Fatima%20Al%20sayed

[959] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. Retrieved from https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(23)00267-X/fulltext

[960] Doran, C. M. (2016). Preliminary estimates of the economic implications of addiction in the United Arab Emirates. *EMHJ-Eastern Mediterranean Health Journal, 22*(10), 749–755. https://doi.org/10.26719/2016.22.10.749

[961] *DUPHAT*. (n.d.). An evolving HIV epidemic in the Middle East and North Africa (MENA) region. Retrieved from https://duphat.ae/an-evolving-hiv-epidemic-in-the-middle-east-and-north-africa-mena-region/

2020 from 0.04% in 2011[962]. As of 2023, an estimated 1,700 people were living with HIV in the UAE[963], with women comprising a smaller subset (<500)[964]. However, specific populations, such as prisoners, show significantly higher prevalence rates (0.9%)[965].
The incidence of HIV has increased over the past decade, rising from 0.04% in 2011 to 0.13% in 2020. Documented cases have also grown, from fewer than 100 cases in 1990-2008 to 540 cases in 2020, suggesting improved detection as well as potential changes in transmission dynamics[966].
The UAE implements a robust HIV testing strategy, including client-initiated testing, provider-initiated testing, and routine antenatal testing[967], with coverage for pregnant women exceeding 98%[968]. However, there is no national self-testing policy, and gaps in monitoring ART drug resistance exist[969].
By 2021, 85% of the HIV-positive population in the UAE knew their status, with an equal proportion on ART[970]. Despite this progress, there are concerns about the quality of care provided to some populations, such as prisoners, who may face restrictions in accessing treatment based on nationality or other factors[971].
Reports indicate disparities in treatment access for certain groups, such as detainees, with

[962]Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. https://doi.org/10.1016/S2214-109X(23)00267-X

[963] World Population Review. (n.d.). *HIV rates by country*. Retrieved from https://worldpopulationreview.com/country-rankings/hiv-rates-by-country

[964] UNAIDS. (2023). *United Arab Emirates*. Retrieved from https://www.unaids.org/en/regionscountries/countries/unitedarabemirates

[965] Ibid

[966] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397–406. https://doi.org/10.1007/s44197-023-00097-1

[967] UNAIDS. (2023). *United Arab Emirates*. Retrieved from https://www.unaids.org/en/regionscountries/countries/unitedarabemirates

[968] UNICEF. (2023). *Snapshot on HIV and AIDS in the Middle East and North Africa*. Retrieved from https://www.childrenandaids.org/sites/default/files/2024-05/240208_UNICEF_HIV_Snapshot_Middle_East_North_Africa%20Final%20%28002%29.pdf

[969] UNAIDS. (2023). *United Arab Emirates*. Retrieved from https://www.unaids.org/en/regionscountries/countries/unitedarabemirates

[970] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397–406. https://doi.org/10.1007/s44197-023-00097-1

[971] European Centre for Democracy and Human Rights (ECDHR). (n.d.). *UAE: HIV treatment in prison negated to non-nationals*. Retrieved from https://www.ecdhr.org/uae-hiv-treatment-in-prison-negated-to-non-nationals/

allegations of mistreatment and denial of care based on nationality. This raises concerns about equity in healthcare provision and the need for comprehensive and inclusive policies.[972]

The conservative cultural context of the UAE complicates open discussions about HIV and BBVs, potentially hindering prevention and education efforts. Sentinel surveillance among antenatal clinics and sex workers reflects targeted efforts but they do not capture all at-risk groups[973].

While HIV monitoring is integrated into the broader health monitoring strategy, the absence of a self-testing framework and limited data on ART drug resistance highlight areas for improvement in surveillance and response systems[974].

Harm Reduction

The UAE has implemented a range of harm reduction and rehabilitation services to address SUD, with a focus on prevention, treatment, and reintegration into society. The NRC plays a central role in the country's efforts to combat addiction, serving as a regional leader in addiction treatment and policy development[975].

The NRC in Abu Dhabi, established in 2002, is the cornerstone of UAE's harm reduction strategy. It provides evidence-based treatment and rehabilitation services and serves as a WHO Collaborative Centre for addiction treatment and research[976].

OAT is available in the UAE, with Buprenorphine as the primary medication. The country has one OAT center, reflecting a centralized approach to managing opioid dependency[977].

While OAT is available, the UAE does not have NSPs, which are a critical component of harm reduction for PWID[978]. The prevalence of Hepatitis C, Hepatitis B, and HIV among PWID remains undetermined, underscoring the need for comprehensive epidemiological studies[979].

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[972] European Centre for Democracy and Human Rights (ECDHR). (n.d.). *UAE: HIV treatment in prison negated to non-nationals*. Retrieved from https://www.ecdhr.org/uae-hiv-treatment-in-prison-negated-to-non-nationals/d

[973] Awaidy, S. A., Ghazy, R. M., & Mahomed, O. (2023). Progress of the Gulf Cooperation Council (GCC) countries towards achieving the 95-95-95 UNAIDS targets: A review. *Journal of Epidemiology and Global Health, 13*(3), 397–406. https://doi.org/10.1007/s44197-023-00097-1

[974] UNAIDS. (2023). *Data and statistics*. Retrieved from https://dsd.unaids.org/

[975] International Society of Substance Use Professionals (ISSUP). (n.d.). *Country profile: United Arab Emirates*. Retrieved from https://www.issup.net/national-chapters/issup-united-arab-emirates/country-profile

[976] Ibid

[977] Aghaei, A. M., Gholami, J., Sangchooli, A., Rostam-Abadi, Y., Olamazadeh, S., Ardeshir, M., Baheshmat, S., Shadloo, B., Taj, M., Saeed, K., & Rahimi-Movaghar, A. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225–e1237. https://doi.org/10.1016/S2214-109X(23)0026

[978] Harm Reduction International. (2024). *The global state of harm reduction*. Retrieved from https://hri.global/wp-content/uploads/2024/10/HRI-GSHR-24_full-document_1411.pdf

[979] Ibid

According to NRC leadership, The NRC currently hosts the International Society of Substance Use Professionals (ISSUP) UAE National Chapter, supporting a network of addiction specialists. This partnership aims to promote research dissemination, training, and capacity building in addiction prevention and treatment[980].

NRC leadership has also reported the launching of a specialized remote monitoring program programme that aims to track patients' vital signs and offer real-time medical advice, and provide support for patients and their families using visual communication technology, as well as an Adolescent Outpatient Programme, targeting individuals aged 15-18 with SUD, offering multidisciplinary assessments and tailored interventions[981].

Yemen

The ongoing civil war, which began in 2015, has significantly exacerbated the drug trade and use. The conflict has created an environment of lawlessness, enabling the proliferation of illicit drug markets. Houthi-controlled regions, in particular, have become hubs for narcotics, including methamphetamines, hashish, and heroin. These drugs are openly sold, with revenues funding military operations and recruiting vulnerable youth through addiction[982].

The conflict has also increased economic desperation, pushing many Yemenis into the drug trade. Traditional legal trade routes have collapsed, and unregulated smuggling routes have emerged, leveraging Yemen's mountainous terrain and porous borders. This has positioned Yemen as a key transit point for drugs originating in Afghanistan, Pakistan, and Iran, destined for Gulf states and beyond[983].

Yemen's role as a transit hub for drug trafficking has significant implications for the region. The porous border with Saudi Arabia facilitates the smuggling of qat, heroin, and hashish, which are often intercepted in large quantities. For instance, between 2008 and 2010, over 6 million kilograms of qat and substantial amounts of amphetamines and hashish were seized en route to Saudi Arabia. Smugglers exploit Yemen's fragmented security apparatus and unregulated seaports, ensuring the persistence of this trade[984].

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[980] International Society of Substance Use Professionals (ISSUP). (n.d.). *Country profile: United Arab Emirates*. Retrieved from https://www.issup.net/national-chapters/issup-united-arab-emirates/country-profile

[981] National Rehabilitation Centre (NRC). (n.d.). *World drug day: UAE announces new support services for patients of addiction*. Retrieved from https://nrc.gov.ae/world-drug-day-uae-announces-new-support-services-for-patients-of-addiction

[982] Organisation for Economic Co-operation and Development (OECD). (2022). *Illicit trade in conflict-affected countries of the Middle East and North Africa: Focus on Yemen*. Retrieved from https://www.oecd-ilibrary.org/sites/f31fd13a-en/1/3/2/index.html?itemId=/content/publication/f31fd13a-en&_sp_=45ea2f6dbba37a8582877ea7f4605ecf&itemIGO=oecd&itemContentType=book#:~:text=Yemen's%20pervasive%20drug%20problem%20is,women%20chew%20these%20leaves%20daily.

[983] Global Organized Crime Index. (2023). *Profile: Yemen*. Retrieved from https://ocindex.net/2023/country/yemen

[984] Ibid

Drug use

Drug use in Yemen is a multifaceted issue, deeply influenced by the country's cultural traditions, economic challenges, and prolonged conflict. Yemen's drug landscape is uniquely shaped by the widespread use of qat, a stimulant leaf deeply embedded in its cultural traditions.[985] Qat chewing has persisted for over 500 years, with approximately 90% of men and 25% of women consuming it daily[986]. While socially accepted, qat use is a significant precursor to the misuse of other substances and contributes to economic strain, as its cultivation occupies 14% of Yemen's arable land.[987] In addition to qat, the introduction of synthetic drugs like Captagon and the rising abuse of prescription medications are emerging concerns.[988] Methamphetamine and cocaine are also reported with increasing frequency, reflecting a shift in the drug landscape.[989] Anecdotal evidence suggests that drug use has increased as individuals turn to substances to cope with the ongoing violence and economic instability[990].

Despite the growing prevalence of substance use, Yemen lacks comprehensive data on the extent of SUDs, reflecting the government's low prioritization of this issue amid the ongoing humanitarian crisis[991]. Only one rehabilitation center exists in Sana'a, but its functionality is severely limited by the deteriorating healthcare infrastructure[992]. Mental health services are scarce, with only 0.2% of psychotherapists per 100,000 Yemenis, leaving the majority of individuals with no access to treatment[993].

As to PWID, a systematic review and meta-analysis by Aghaei et al. (2023) analyzed data on PWID in Yemen from January 1, 2010, to April 2022, using 2019 population estimates of 16,877,312 individuals aged 15–64 years. The estimated prevalence of PWID was 0.5 per 10,000 people, with an estimated 844 individuals[994].

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[985] Ibid

[986] Ibid

[987] SciDev.net. (n.d.). *Yemen's drug growers sour prized sidr honey trade*. Retrieved from https://www.scidev.net/global/scidev-net-investigates/yemen-s-drug-growers-sour-prized-sidr-honey-trade/

[988]Saleh, E. A., Wazaify, M., & Khoshnood, K. (2024). Substance use in humanitarian settings: A case from Yemen. *Substance Abuse Treatment, Prevention, and Policy, 19*(28). https://doi.org/10.1186/s13011-024-00606-w

[989] Ibid

[990] Middle East Eye. (n.d.). *War in Yemen: How drugs have become big business*. Retrieved from https://www.middleeasteye.net/news/war-yemen-how-drugs-have-become-big-business

[991] Saleh, E. A., Wazaify, M., & Khoshnood, K. (2024). Substance use in humanitarian settings: A case from Yemen. *Substance Abuse Treatment, Prevention, and Policy, 19*(28). https://doi.org/10.1186/s13011-024-00606-w

[992] Ibid

[993] Ibid

[994] Aghaei, A. M., et al. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225-e1237.

The drug use trends in Yemen are a product of deeply rooted cultural practices, the destabilizing effects of prolonged conflict, and systemic governance failures. While qat remains the most widely used substance, the rise of synthetic drugs, prescription medication abuse, and illicit drug trafficking signal an evolving challenge.

BBV

The HIV epidemic in Yemen remains relatively low compared to global averages, but emerging data indicate concerns about its spread among KPs[995,996]. According to the WHO, an estimated 9,900 people in Yemen are living with HIV as of the most recent assessments[997]. The HIV prevalence among adults aged 15-49 years was recorded at <0.1% in both 2015 and 2022, reflecting a stable but concerning trend[998].

The situation for treatment and care is particularly dire, with only 39% of PLHIV across all age groups receiving treatment in 2022[999]. The disparity is even more pronounced for children (0-14 years), where only 29% of those living with HIV were on treatment. This stark difference highlights gaps in pediatric HIV care and the inability of the health system to address children's needs[1000].

KPs are disproportionately affected by the burden of HIV. While HIV prevalence among sex workers was recorded as 0% in the most recent year available, the prevalence among MSM was alarmingly higher at 5.9%[1001]. However, according to Chemaitelly et al. (2022), modeling data estimated HIV prevalence among female sex workers at 0.7%, with an annual incidence rate of 0.4 per 1,000 person-years. Approximately 26 new HIV infections occur annually within heterosexual sex work networks, though these estimates vary depending on local conditions[1002].

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[995] Attal, B. A., Al-Rowaishan, K. M., Akeel, A. A., & AlAmmar, F. K. (2021). HIV stigma in the teaching hospitals in Sana'a, Yemen: A conflict and low-resource setting. *BMC Public Health, 21*(1), 1793. https://doi.org/10.1186/s12889-021-11845-y

[996] Chemaitelly, H., Ayoub, H. H., Omori, R., El Feki, S., Hermez, J. G., Weiss, H. A., & Abu-Raddad, L. J. (2022). HIV incidence and impact of interventions among female sex workers and their clients in the Middle East and North Africa: A modelling study. *Lancet HIV, 9*(7), e496-e505. https://doi.org/10.1016/S2352-3018(22)00100-X

[997] Al Jazeera. (2019, January 21). *The forgotten: Living with HIV in war-ravaged Yemen*. Retrieved from https://www.aljazeera.com/features/2019/1/21/the-forgotten-living-with-hiv-in-war-ravaged-yemen

[998] UNAIDS. (2023). *Global HIV and AIDS statistics*. Retrieved from https://dsd.unaids.org/

[999] Ibid

[1000] Ibid

[1001] Ibid

[1002] Chemaitelly, H., Ayoub, H. H., Omori, R., El Feki, S., Hermez, J. G., Weiss, H. A., & Abu-Raddad, L. J. (2022). HIV incidence and impact of interventions among female sex workers and their clients in the Middle East and North Africa: A modelling study. *Lancet HIV, 9*(7), e496-e505. https://doi.org/10.1016/S2352-3018(22)00100-X

Despite the critical need for intervention, Yemen's NAP remains severely underfunded and excluded from humanitarian funding frameworks[1003]. This exclusion has rendered the NAP incapable of fulfilling its role in controlling HIV or addressing the stigma associated with the disease.[1004] While the United Nations has expressed high-level commitments to controlling HIV during both conflict and peace, the reality on the ground reflects a prioritization of primary healthcare (PHC), maternal health, and child health programs. While these are critical, they leave other vulnerable populations, such as PLHIV, underserved and at higher risk of morbidity and mortality[1005].

The legal environment further exacerbates the HIV crisis. Laws in Yemen criminalize sex work and same-sex sexual acts, with penalties as severe as the death penalty[1006]. This punitive framework drives KPs underground, discouraging access to testing, treatment, and prevention services. Such systemic barriers contribute to the continued spread of HIV among marginalized groups.

PLHIV face widespread stigma and discrimination within healthcare settings, particularly in teaching hospitals in Sana'a City[1007]. Stigma toward PLHIV is often fueled by fear of infection, poor knowledge of HIV transmission, and limited funding for HIV prevention and control programs[1008]. As indicated by Himedan Mohammed Himedan, head of mission for MSF in Yemen, *"The lack of knowledge about the disease and cultural aspects related to HIV has led to discrimination against these patients. HIV and AIDS topics are not fully integrated into the curriculum of medical schools in Yemen, so many healthcare providers lack adequate knowledge about the disease and are therefore afraid to deal with PLHIV. However, we have seen improvements that should be acknowledged"*[1009].

The ongoing conflict in Yemen has severely undermined the healthcare infrastructure, which is critical for addressing BBVs. The humanitarian crisis, marked by massive displacement, unsafe living conditions, and resource scarcity, creates an environment conducive to the spread of

[1003] Attal, B. A., Al-Rowaishan, K. M., Akeel, A. A., & AlAmmar, F. K. (2021). HIV stigma in the teaching hospitals in Sana'a, Yemen: A conflict and low-resource setting. *BMC Public Health, 21*(1), 1793. https://doi.org/10.1186/s12889-021-11845-y

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[1004] Ibid

[1005] Ibid

[1006] UNAIDS. (n.d.). *Laws and policies summary tables*. Retrieved from https://lawsandpolicies.unaids.org/summarytables?lan=en

[1007] Attal, B. A., Al-Rowaishan, K. M., Akeel, A. A., & AlAmmar, F. K. (2021). HIV stigma in the teaching hospitals in Sana'a, Yemen: A conflict and low-resource setting. *BMC Public Health, 21*(1), 1793. https://doi.org/10.1186/s12889-021-11845-y

[1008] Ibid

[1009] Médecins Sans Frontières (MSF). (n.d.). *Yemen: Enrolment in antiretroviral treatment increasing in health facilities*. Retrieved from https://www.msf.org/yemen-enrolment-antiretroviral-treatment-increasing-health-facilities

infectious diseases, including HIV, HBV, and HCV. Currently, an estimated 4.5 million people are internally displaced, with 18.2 million Yemenis requiring urgent humanitarian support[1010].

The breakdown of healthcare services places an even greater strain on medical staff and resources. Shortages of basic supplies, including gloves, soap, and ventilators, impede infection prevention and control efforts. This fragile system is ill-prepared for disease outbreaks or to meet the growing demand for HIV and viral hepatitis services[1011].

HBV remains a significant public health concern in Yemen. Although comprehensive national prevalence data are limited, regional studies suggest that Yemen falls into the intermediate-to-high endemicity category for HBV. A systematic review and meta-analysis by Aghaei et al. (2023) reported an HBsAg prevalence of 1.89% among PWID[1012]. The elevated prevalence in high-risk groups like PWID reflects a combination of factors, including limited awareness, the absence of harm reduction programs, and insufficient access to preventive measures such as vaccination and routine HBV screening. The lack of effective interventions targeting PWID poses a significant challenge to reducing HBV transmission. The situation for HCV in Yemen is equally concerning, particularly among high-risk populations. According to the same systematic review by Aghaei et al. (2023), the HCV antibody prevalence among PWID in Yemen was estimated at 18.86%. This high prevalence underscores the critical need for harm reduction strategies and targeted interventions to reduce the burden of HCV in PWID[1013].

For the general population, HCV prevalence remains poorly characterized due to the absence of large-scale epidemiological studies. The lack of robust data hampers efforts to design and implement evidence-based programs for prevention, screening, and treatment[1014].

Harm Reduction

Harm reduction services in Yemen remain severely underdeveloped, despite the high prevalence of blood-borne viruses among PWID. The absence of needle and syringe exchange programs, opioid substitution therapy, and outreach services leaves PWID particularly vulnerable to HBV, HCV, and HIV[1015].

[1010] UNICEF. (n.d.). *Yemen donation*. Retrieved from https://www.unicef.org.uk/donate/yemen/?gad_source=1&gclid=CjwKCAiAmfq6BhAsEiwAX1jsZ5Ebxe4gUZUbLvvXEVKOIwWaBb4WNmdJQAFxAlvtLnE4-hOTiA0VNRoCvoUQAvD_BwE

[1011] Ibid

[1012] Aghaei, A. M., et al. (2023). Prevalence of injecting drug use and HIV, hepatitis B, and hepatitis C in people who inject drugs in the Eastern Mediterranean region: A systematic review and meta-analysis. *The Lancet Global Health, 11*(8), e1225-e1237. https://doi.org/10.1016/S2214-109X(23)00267-X

[1013] Ibid

[1014] Ibid

[1015] Harm Reduction International. (2024). *The Global State of Harm Reduction 2024*. Retrieved from https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

RECOMMENDATIONS

The data in this report highlights the key strategies necessary to improve the response to substance use and HIV in the MENA region. It underscores the importance of prioritizing these strategies across countries, with a particular focus on the need for more data and research to effectively inform interventions.

1. **Expansion of Harm Reduction Services**: The region should significantly scale up harm reduction initiatives such as needle-syringe programs (NSPs), opioid agonist therapy (OAT), and naloxone distribution. These services are critical in reducing HIV transmission among people who inject drugs (PWID) and addressing the increasing use of synthetic drugs. Expanding these programs in both community and prison settings is essential, especially in countries like **Bahrain**, **Kuwait**, **Lebanon**, **Tunisia**, **Syria**, and **Yemen**.
2. **Targeted HIV Prevention and Treatment**: Countries should focus on high-risk populations, including PWID, sex workers, men who have sex with men (MSM), and transgender individuals. Efforts should include increasing access to HIV testing, pre-exposure prophylaxis (PrEP), and antiretroviral therapy (ART). Outreach programs and public health campaigns should specifically target these groups to improve HIV awareness and encourage regular testing and treatment. Recommendations for countries such as **Egypt**, **Iraq**, **Jordan**, **Palestine**, **Pakistan**, and **Tunisia** should prioritize these efforts.
3. **Legal and Policy Reforms**: A critical component of an effective response involves reforming legal frameworks to decriminalize drug use, protect the rights of key populations, and create a supportive environment for treatment and prevention. Countries such as **Bahrain**, **Kuwait**, **Saudi Arabia**, **Jordan**, **Lebanon**, and **Pakistan** should prioritize legal reforms that promote health-centered approaches over punitive measures, reducing stigma and improving access to care.
4. **Public Education and Awareness Campaigns**: Stigma reduction through public education campaigns is vital for improving healthcare access for marginalized groups. Countries like **Yemen**, **Tunisia**, **Palestine**, **Morocco**, and **Qatar** should focus on educating the public on HIV prevention, substance use, and the importance of reducing stigma toward people affected by these issues. This could increase service uptake and create a more inclusive healthcare environment.
5. **Strengthening Healthcare Infrastructure and Surveillance**: Strengthening healthcare infrastructure, particularly in underserved and rural areas, will improve access to HIV testing, ART, and substance use treatment. A robust surveillance system, like the one suggested for **Iraq**, **Palestine**, **Kuwait**, **Iran**, and **Qatar**, will help track trends in substance use and HIV prevalence, ensuring targeted interventions and resource allocation. **Further investments in research** are necessary to better understand the regional dynamics of HIV

and substance use, particularly around emerging substances, treatment efficacy, and the unique needs of high-risk populations.

6. Addressing Mental Health and Socioeconomic Factors: Addressing mental health conditions, such as depression and trauma, is crucial for individuals with substance use disorders, especially in conflict-affected regions like Syria and Yemen. Integrating mental health care with addiction treatment and addressing socioeconomic factors that drive substance use will help create more effective, holistic interventions. Research into the mental health needs of these populations, including trauma-informed care models, is essential for developing appropriate interventions.
7. Need for Improved Data and Research: The region urgently needs improved data collection and research to better understand the scope of substance use and HIV, especially among key populations like PWID, sex workers, and MSM. A unified approach to data collection across countries such as Jordan, Pakistan, Egypt, and Tunisia will help inform evidence-based policies and better allocation of resources. This data should be used to monitor the effectiveness of existing programs, track trends in drug use and HIV, and assess the impact of harm reduction measures. Additionally, qualitative research to understand the barriers to healthcare access, especially among marginalized populations, will help design more targeted and effective interventions.

By emphasizing these recommendations and the suggested strategies across MENA countries (see Table 11), with an emphasis on incorporating research into policymaking, the region can make substantial progress in enhancing HIV prevention, care, and treatment, while also reducing the public health impact of substance use.

Table 11. Country recommendations

Countries	Recommendations
Afghanistan	Afghanistan should urgently expand harm reduction services like needle and syringe programs (NSPs) and opioid substitution therapy (OST) to reduce HIV transmission among people who inject drugs (PWID). Increasing access to these services would improve health outcomes and reduce needle sharing. Strengthening healthcare infrastructure is essential, particularly in rural areas, to increase HIV testing, ART coverage, and access to pre-exposure prophylaxis (PrEP). Additionally, addressing legal and social barriers, such as stigma and discrimination, is crucial for improving access to HIV and drug use services. Public education campaigns and support networks can also help reduce stigma and encourage treatment uptake.
Algeria	Algeria faces significant challenges with drug use and HIV, marked by the rising use of cannabis, synthetic drugs like tramadol and codeine, and cocaine trafficking. While HIV prevalence remains low, key populations such as sex workers, men who have sex with men (MSM), and people who inject drugs (PWID) are disproportionately affected. Harm reduction efforts, including methadone-assisted treatment and needle syringe programs (NSPs), have made progress but need expansion. Religious and cultural barriers, along with limited access to harm reduction services, hinder broader impact. To address these issues, Algeria should focus on expanding harm reduction programs, particularly by increasing NSP availability in prisons and communities, and scaling up HIV prevention efforts targeted at key populations. Additionally, addressing social stigma through public awareness campaigns and strengthening policies for better access to treatment would improve the overall response to HIV and substance use.
Bahrain	Bahrain should expand harm reduction programs, such as needle-syringe programs (NSPs), opioid agonist therapy (OAT), and take-home naloxone to reduce HIV and hepatitis transmission among people who inject drugs (PWID). These services should also be extended to prisons. Targeted HIV prevention and treatment for key populations like PWID, sex workers, and MSM should be prioritized, including access to pre-exposure prophylaxis (PrEP) and improved outreach. Additionally, Bahrain should reform HIV-related laws to ensure access to care for migrants, introduce anti-discrimination protections, and decriminalize HIV exposure and transmission to support better health outcomes.
Egypt	To improve Egypt's response to HIV and drug use, harm reduction services, such as opioid agonist therapy (OAT) and needle-syringe programs (NSPs), should be expanded to reach all regions, including prisons and rural areas. Outreach programs for people who inject drugs (PWID) and marginalized groups are crucial. Public health campaigns targeting youth, PWID, and women should raise awareness about HIV prevention, treatment, and harm reduction while reducing stigma. Additionally, a nationwide data collection system is needed to track drug use, HIV transmission, and service uptake, guiding evidence-based policies and interventions.
Iran	To enhance Iran’s response to HIV and substance use, it is essential to implement comprehensive harm reduction services, including the expansion of needle-syringe programs, opioid agonist therapy, and naloxone access, particularly in underserved areas and among vulnerable groups such as women and prisoners. Additionally, targeted HIV prevention and treatment efforts should prioritize high-risk populations, including people who inject drugs and sex workers, by improving access to HIV testing, pre-exposure prophylaxis, and antiretroviral therapy. Addressing socioeconomic and gender-specific barriers, particularly for women involved in sex work or affected by substance use disorders, is crucial for reducing HIV transmission risks. By focusing on these strategies, alongside strengthening the legal protections for marginalized groups and expanding data collection, Iran can significantly improve its HIV response and reduce the stigma and barriers that currently hinder effective prevention and treatment efforts.
Iraq	To enhance Iraq’s response to HIV and drug use, the government should prioritize expanding harm reduction services, including opioid agonist therapy (OAT) and needle-syringe programs (NSPs), while increasing the capacity of treatment and rehabilitation facilities. A comprehensive surveillance system should be established to improve real-time monitoring of HIV and drug trends, incorporating community-based and self-testing to enhance early diagnosis and reduce stigma. Additionally, shifting from punitive drug policies to a health-centered approach, coupled with public awareness campaigns and regional collaboration to combat drug trafficking, will create a more balanced and effective response.
Jordan	To improve Jordan's response to HIV and harm reduction, the country should establish a national surveillance system to better track drug use and HIV prevalence. Expanding harm reduction services, such as needle-syringe programs and opioid agonist therapy, is essential, particularly in underserved regions. Additionally, increasing access to HIV testing and treatment through expanded outreach and better coordination between health centers would help improve care and reduce stigma, ensuring more individuals receive the necessary services.
Kuwait	To enhance Kuwait's response to HIV and drug use, it is recommended to expand harm reduction services, including implementing needle-syringe programs and increasing access to opioid agonist therapy (OAT) in both community and prison settings. Additionally, establishing a comprehensive HIV and drug use surveillance system will improve data accuracy and enable targeted interventions. Lastly, reforming drug laws to decriminalize drug possession and reducing stigma will encourage individuals to seek treatment, fostering a more effective public health response.
Lebanon	To improve Lebanon's response to HIV and drug use, the country should expand harm reduction services by introducing drug consumption rooms and safer smoking kits, especially in prisons. Legal reforms are needed to decriminalize small drug possession, promoting a health-centered approach and reducing stigma. Additionally, integrating mental health care with addiction treatment is crucial to address underlying conditions like depression and PTSD, which contribute to high relapse rates and hinder recovery. These steps will ensure better access to care and improve long-term outcomes for individuals affected by substance use and HIV.

Libya	To enhance Libya's response to HIV and substance use, it is crucial to implement harm reduction measures, such as needle exchange and opioid agonist therapy, to reduce HIV transmission. Expanding healthcare access, including more HIV testing centers and ART facilities, will ensure timely diagnosis and continuous treatment. Additionally, public education campaigns that reduce stigma, particularly for women and marginalized groups, and promote sexual health education will help increase awareness and access to prevention and care services.
Morocco	To enhance Morocco's response to HIV and substance use, it is essential to implement comprehensive harm reduction programs, including needle exchange services and opioid substitution therapy, to curb HIV transmission among people who inject drugs. Expanding access to HIV testing and antiretroviral treatment (ART) facilities, particularly in underserved areas, will ensure early detection and continuous care. Strengthening public education campaigns to reduce stigma surrounding HIV and substance use, with a focus on marginalized groups such as women, people who inject drugs, and sex workers, will promote safer practices. Additionally, integrating sexual health education into school curricula and community programs will further empower individuals to make informed health decisions and seek necessary services.
Oman	To enhance Oman's response to HIV and substance use, several targeted interventions are recommended. First, expanding harm reduction measures, such as needle exchange programs (NSPs) and opioid substitution therapy (OST), will be crucial in reducing the health risks associated with injection drug use (IDU), including HIV and hepatitis transmission. These programs, alongside supervised injection facilities, should be introduced to provide safer environments for users. Additionally, expanding access to HIV prevention and treatment services, including self-testing options and community-based ART delivery, will help address gaps in care, particularly among vulnerable groups such as people who inject drugs (PWID) and young women. Improving awareness and education campaigns, particularly targeting high-risk populations, will be essential to reduce stigma and increase knowledge about prevention and care options. This can be supported by training healthcare providers in harm reduction and the management of co-infections like HIV-HCV and HIV-TB. To complement this, addressing mental health issues, which are prevalent among substance users, should include integrated mental health services alongside substance use treatment programs.Given the rise in synthetic drug use, such as Captagon, law enforcement should focus on disrupting transnational trafficking networks while promoting harm reduction over punitive measures for drug users. Strengthening collaboration with regional and international partners can help curb the smuggling of synthetic drugs into Oman. Additionally, fostering partnerships with civil society organizations and adapting legal frameworks to provide more flexibility for harm reduction while ensuring rigorous enforcement against drug trafficking will strike a balance between protecting public health and ensuring social order.
Pakistan	To strengthen Pakistan's response to HIV and substance use, it is crucial to prioritize expanding harm reduction services, such as opioid agonist treatment (OAT), naloxone distribution, and comprehensive care for non-injecting drug users. These services should address emerging drug trends and include mental health support, wound care, and HIV prevention measures like pre-exposure prophylaxis (PrEP). Additionally, improving coordination between federal and provincial authorities is essential to create a unified and efficient strategy for drug control, rehabilitation, and HIV prevention, particularly targeting key populations such as people who inject drugs (PWID), sex workers, and men who have sex with men (MSM). Lastly, reforming drug laws to shift from punitive measures to health-centered approaches will help reduce incarceration, ensure access to rehabilitation, and protect vulnerable groups like women and youth, fostering a more inclusive and effective public health response.
Palestine	To enhance Palestine's response to HIV and substance use, it is crucial to expand access to harm reduction services, particularly for people who inject drugs (PWID). This includes broadening the availability of opioid substitution therapy (OST), needle and syringe programs (NSP), and overdose prevention measures across regions, particularly in Gaza and the northern West Bank. Additionally, strengthening healthcare infrastructure and surveillance systems is essential to provide accurate data on HIV and substance use trends, which can inform targeted prevention and treatment programs. Finally, addressing stigma and cultural barriers through public awareness campaigns and culturally sensitive interventions will encourage individuals, particularly those from marginalized communities, to seek care without fear of discrimination, ensuring a more inclusive and effective healthcare response.
Qatar	To enhance Qatar's response to HIV and substance use, it is recommended to expand harm reduction services, including needle and syringe programs (NSP) and opioid agonist therapy (OAT), to reduce HIV and hepatitis transmission among people who inject drugs. Strengthening epidemiological data collection will improve understanding of substance use and HIV prevalence, enabling more targeted interventions. Additionally, increasing access to pre-exposure prophylaxis (PrEP) and expanding HIV testing and treatment services, alongside public awareness campaigns, will help improve health outcomes and progress toward the global 95-95-95 targets.
Saudi Arabia	To strengthen Saudi Arabia's response to HIV and substance use, it is essential to expand harm reduction services, particularly for high-risk populations such as people who inject drugs (PWID). Implementing needle exchange programs and opioid substitution therapy (OST) would be effective in reducing the transmission of HIV and Hepatitis C. Additionally, improving data collection and surveillance systems would enable more targeted and effective interventions, ensuring a comprehensive approach to the growing substance use challenge. Finally, creating specialized rehabilitation services for women and adolescents, along with tailored public awareness campaigns, is crucial for addressing the unique needs of these groups and enhancing their access to treatment and support. These steps would help to mitigate the public health burden posed by substance use and HIV in the Kingdom.
Syria	To address the rising challenges of HIV and substance use in Syria, a comprehensive approach is required. Expanding harm reduction services, such as needle exchange programs and opioid substitution therapy, would significantly reduce the transmission of blood-borne diseases like hepatitis B and C, particularly among people who inject drugs. Additionally, integrating mental health care with substance use treatment is crucial, given the widespread trauma and psychological

	distress caused by the ongoing conflict. Establishing trauma-informed care and increasing mental health service availability would support individuals coping with both mental health issues and substance use. Finally, enhancing access to HIV and hepatitis prevention, testing, and treatment services, especially for marginalized groups like PWID, sex workers, and LGBTQIA+ individuals, is essential to curb the spread of these infections and improve the overall healthcare response in Syria.
Tunis	To improve Tunisia's response to HIV and substance use, the country should expand harm reduction services, including needle exchange programs, opioid agonist treatment, and naloxone distribution. Increasing access to ART and HIV testing, especially for high-risk groups like PWID and sex workers, is crucial, as only 25% of PLHIV currently receive treatment. The legal framework should shift from treating drug addiction as a criminal issue to a health condition, encouraging more people to seek treatment. Additionally, enhancing youth prevention programs, addressing substance use stigma, and improving healthcare access, particularly in prisons, would help reduce both HIV and substance use rates.
UAE	To enhance the UAE's response to HIV and substance use, the country should consider broadening its harm reduction services, including establishing a needle and syringe program (NSP) to address the needs of people who inject drugs (PWID) and reduce the risks of HIV and hepatitis transmission. Expanding opioid agonist treatment (OAT) services, such as increasing the number of centers offering buprenorphine, would also improve treatment accessibility for individuals with opioid use disorder. Additionally, a national policy on HIV self-testing would empower individuals to access testing discreetly, especially in conservative environments where stigma remains a barrier. To ensure equitable healthcare access, further efforts are needed to address the treatment gaps for at-risk populations like prisoners, ensuring they receive the same level of care and support as the general population. Lastly, investing in public health education to combat stigma around HIV and substance use, alongside improved surveillance of ART drug resistance, would strengthen prevention and care strategies in the UAE.
Yemen	To improve Yemen's response to HIV and substance use, several actions are needed. First, expand harm reduction services such as needle exchange programs and opioid substitution therapy, particularly for people who inject drugs. Enhance HIV testing and treatment access, especially for key populations like men who have sex with men and sex workers. Strengthen the healthcare infrastructure to provide better HIV care, mental health support, and substance use disorder treatment. Combat the drug trade by offering alternative livelihoods and increasing international funding for HIV and substance use programs. Finally, raise awareness and reduce stigma through public education and improved training for healthcare providers.

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MENAHRA
SCALING UP
HARM REDUCTION IN MENA