

PULSE EXPERIENTIAL TEAM ASSIGNMENT

1. Title of your PULSE experiential assignment.

Provide a creative and informative title.

The Pathology Press: HIV Explained – The Human Immunodeficiency Virus

2. Please summarize your PULSE experiential assignment (max 300 words).

Provide a non-technical (lay) summary of your PULSE assignment. Prompts to think about: What is the topic? What is the format? Why did you choose this topic and format? The summary for lay audience is a brief and accessible summary of the assignment that is used to explain complex ideas, technical writing and scientific terms to people who do not have prior knowledge of the subject (e.g., high school science level). This summary should include the importance, impact, and content of your assignment to a broader audience.

[[Team 23](#) is an example of an informative lay summary.]

Human Immunodeficiency Virus (HIV) is a virus that infects CD4+ T-cells, a common and important immune cell that releases protein signals to tell other immune cells what to do. The virus enters the cell and reverse-transcribes its RNA genome to cellular DNA and uses the cell's resources to make more copies of itself, ultimately destroying the cell and releasing these copies to infect other CD4+ cells. At its most severe, the lack of CD4+ cells in the body weakens the immune system to the point where common sicknesses become life-threatening. This condition is called Acquired Immunodeficiency Syndrome (AIDS).

HIV enters the body through fluids like blood, semen, and breast milk, often being transmitted through sexual activity or the sharing of needles during drug use. In Canada, around 65,000 people (0.16% of the population) are living with HIV. Although no known treatment exists to fully cure HIV, regular treatment with drugs through antiretroviral therapy can greatly reduce the amount of virus particles in the body to the point where one is essentially asymptomatic and cannot transmit the virus at all, with few side effects. However, the stigma from before effective treatment was possible remains, with many people still afraid of contracting HIV from HIV-positive individuals through safe activities like hugging, holding hands, or even being close to them, even if they are on treatment.

Our project gives a detailed overview of the many aspects of HIV, such as its mechanisms, statistics/history, prevention and treatment, social issues, and complications, in the form of a pathology newspaper. It includes infographic-like diagrams, fun quizzes and puzzles, a comic, and a video interview with Dr. Miguel Quiñones-Mateu, a virology researcher at Western and a trailblazer in HIV isolation and research. We aim to promote a wider understanding of HIV and the state of its treatments, especially the fact that those who are on treatment can live a normal life and have no fear of transmitting to others through sexual and other healthy activities.

3. Provide up to 6 keywords relevant to your PULSE experiential assignment.

3-6 keywords are ideal.

Human Immunodeficiency Virus (HIV), CD4+ T-Cells, Prevention and Treatment, Sexually Transmitted Infection (STI), Acquired Immunodeficiency Syndrome (AIDS),

Addressing Social Stigma
4. Identify the course topic with which your PULSE assignment most aligns. <i>Refer to the various topics outlined under 'Course content and Schedule' in the syllabus (e.g. Inflammation).</i>
Infectious Diseases
5. What are the learning outcomes? <i>There should be a minimum of 2 learning outcomes for your assignments. For further information on learning outcomes, the Centre for Teaching and Learning offers information: https://teaching.uwo.ca/curriculum/coursedesign/learning-outcomes.html</i>
After reviewing the newspaper, readers will be able to: 1. Provide a general explanation on HIV, its symptoms, progression of the disease, and possible complications, and understand the difference between HIV and AIDS 2. Understand the structure of HIV and its mechanisms to infect CD4+ T-cells 3. Understand how HIV is transmitted and populations most at risk 4. Explain physical and antiretroviral measures that can be taken to prevent and treat HIV, such as PrEP and PEP 5. Address the stigma surrounding HIV and identify barriers to HIV testing and treatment 6. Have a brief understanding of recent developments in HIV prevention/treatment, such as novel antiviral strategies and vaccine development
6. Why did the team select the chosen topic and the medium? How will the topic and medium of choice help learners?
We selected HIV as our PULSE topic by first voting on a few course topic categories that interested us the most, choosing infectious diseases. Then, we chose HIV because it is (1) a relevant disease that is common but isn't easily treated and (2) a disease with negative social and professional implications to those who carry it, which is exacerbated by a stigma exaggerating its ability to spread from someone undergoing treatment, when in reality, effective treatment prevents its transmission. We aim to help educate others on HIV, the current state of its treatments, and how someone with HIV experiences life to reduce such stigmas and provide a contemporary example of how disease is multifaceted, from its infectious mechanisms to patient health to societal impact. Illustrating the example, we conducted an interview with Dr. Quiñones-Mateu to present more perspective on the topic, asking questions about his experience researching HIV, comments on the disease itself, and career advice for those who are interested in similar topics. For the main medium, we originally wanted to do an infographic but feared it would lack potential for detail, going for an issue of a newspaper instead. The format was inspired by a past PULSE assignment (Team #36 from 2025 on VWD). Digital newspapers allow easy integration of text, a wide variety of graphics, and interactives like external links in a format engaging and memorable to

the learner, using headings and subheadings to compartmentalize concepts while also allowing space for application-based activities like quizzes and puzzles.
7. Did the team use an artificial intelligence (AI) technology tool? If so, which AI technology tool(s) did the team use? What other technology tools did the team use? Is the technology tool novel? Is the team using this technology tool in a novel fashion? If the team did not use technology tool, why did the team decide against using the technology tool(s)? <i>Please include details (e.g., for what purpose was the tool used for? Why was the tool the best tool to use for your assignment? Are there alternative tools that were considered?)</i> We used ChatGPT, a well-known AI chatbot to help with planning the scope of the assignment and some research, fact checking afterwards with scholarly sources we found on the internet without AI when constructing the newspaper. We also used its image generation function to generate graphics that we cleaned up and fixed for accuracy using a standard image editor (Photopea). We used ChatGPT because we believed an AI tool would reduce the amount of time we needed to research this relatively large project, while not sacrificing accuracy as we fact-checked afterwards. As ChatGPT is well-known and not very novel, evaluators and learners may understand better how it can be used.
8. How is your PULSE experiential assignment innovative and/or novel? <i>Describe what about the PULSE assignment is innovative/novel. Is there a particular component or content that is innovative/novel? How is it different from other content that already exists?</i> Our assignment innovates by covering the topic from multiple standpoints (HIV mechanisms, disease progression, social issues, and contemporary findings) in detail to underline its importance while aiming to reduce real societal stigmas through educating others. Additionally, we did not limit ourselves to online research; we planned and conducted an interview with an expert on the issue (Dr. Quiñones-Mateu) to offer more perspective.
9. If you used an AI tool, please copy and paste the prompt(s)/question(s) used along with the output(s)/answer(s) from the AI tool. <i>The response here is to allow others to replicate the team's work. If the prompts/outputs are lengthy (over 1 page), please attach it as a separate document and note below [Please see attached document].</i> 1. HIV Comic: Prompt: Generate me an HIV comic strip in black and white, making it funny but not inappropriate Output: HIV comic generated 2. Stigma awareness event: Prompt: Using this as a template, design me something similar but for HIV Output: Stigma Awareness event poster
10. If you did not use an AI tool, please attach a copy of the team's notes to the assignment. <i>The response here is to allow others to observe the 'behind the scenes' team's work.</i>

https://docs.google.com/document/d/14wCQuYEW13adJXYPv0G_g906lfj0ivEH-0hODzYIE8/edit?usp=sharing

11. How did the team ensure the veracity of the information presented in the PULSE assignment?

The response should highlight how the team has ensured that the information presented in the assignment is evidence-based and not spreading misinformation. You should specifically mention which databases (if any) or textbook materials you used, and how you kept track of the sources/references for each claim. If AI provided you with false information, please describe how the team has fact-checked the AI response and the legitimate (scientific) sources you used. A reference document should be provided in the reference section (15. References) below. Please ensure to include in-text citations in your assignment where applicable.

We produced the assignment in two phases: research and building the newspaper. When building the newspaper, we fact-checked afterwards with scholarly sources we found on the internet without AI. Every claim from the portion of research done by AI that went on to the newspaper was checked individually using a reliable source, reconstructing and removing the claim when necessary. If the AI didn't provide a reliable source, we checked with medical databases like NCBI's PubMed and Bookshelf; government/multilateral sources like Canada.ca, HIV.gov, the CDC, the WHO, and UNAIDS; and healthcare websites from medical experts like Cleveland Clinic and Healthline.

12. Write a meaningful team reflection about the PULSE session (max 250 words).

Prompts to help your team write the reflection: Were there any team/individual biases that surfaced when creating content for the assignment? Did the team implement any practices to ensure the content was equitable, diverse, and/or inclusive? How has the PULSE assignment helped with the team's learning? If the team had to estimate, how long did the assignment take? What worked well for your team? What would the team do differently next time? What were the opportunities and challenges with creating the PULSE assignment to help others' learning? Were there any barriers or limitations?

Reflection:

Creating this PULSE assignment was an interesting, but positive experience for the team. Everybody put in work, whether to plan, research, interview, build the newspaper, fact check, or fill out the submission assignment. Initially, we communicated via Instagram but found communication easier with iMessage to reduce distractions. We also met regularly through Zoom. Some team members had life issues crop up, and the workload had to be redivided to ensure equal contribution. To ensure our assignment was equitable and inclusive, we emphasized presenting facts as opposed to opinions (apart from the scholarly opinion from the interview). Overall, we believe that we have achieved our plans and produced a high-quality, accurate project that we are proud of while maintaining contact for the most part and being transparent with our workloads, resulting in a submitted assignment weeks before the deadline. However, it was stressful when things didn't go according to plan at times, or members didn't meet deadlines (Fortunately, we planned to finish early for this). Apart from the topic, we had very few limitations, which was challenging as we needed to decide the medium and scope by ourselves. Also, it's uncommon for an

assignment to allow AI, and we realized that we needed to track many sources to corroborate the AI output, which took a lot of effort. It was a challenging opportunity to compile an interview with an expert, but we don't regret our decision from what we've learned and the fears we overcame.

13. Write the contributions of individual team members using unique initials.

Example: All team members contributed to the design of the prompts used in the technology tool, ChatGPT (GPT-3.5). T.K and T.K2 fact checked the information presented by ChatGPT using published literature on PubMed (PMID 29211319, 32477271). Y.Z finalized and formatted the final infographic and compiled the prompts and outputs. P.E was involved in...

All team members contributed to planning (using ChatGPT 5.3 for initial topic exposure and outlining) and research (with and without ChatGPT). J.C. led and organized the team. Everyone communicated for the most part and attended most of the meetings. For research, J.C. focused on researching/writing the introduction, the mechanisms, and social impact of HIV; K.V. focused on transmission, symptoms, and complications; and Y.M. focused on HIV prevention and treatments. All team members contributed to writing interview questions, and everyone was present and contributing during the interview, with J.C. asking the questions and K.V. and Y.M. taking notes. J.C. and K.V. built the newspaper and created graphics with ChatGPT and photo editing tools, and J.C. and Y.M. fact-checked and found scholarly sources (without the use of AI). See the questions above for details about our processes. Everybody was equally responsible for in-text citations and references (no AI). Y.M. wrote most of this submission document (excluding reflection and references; done without the use of AI) with everyone else contributing if required (reflection, AI prompts used, citations using citation machine and AI).

15. References

Please provide a numbered reference list with Nature citation style. [Please feel free to use citation management software (i.e., free citation manager, e.g., Zotero and Mendeley)]

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16. Annotated Bibliography

An annotated bibliography is a list of sources (books, articles, websites, etc.) that you used for your project. Each entry has two parts:

1. *Citation – written in the required citation style (same formatting and order as the Nature citation style in your list of references).*
2. *Annotation – a short paragraph that summarizes, evaluates, and explains how the source is useful for your assignment.*

Why do this?

- *Helps you keep track of your research.*
- *Shows your instructor you read and understood your sources.*
- *Develops critical thinking by requiring you to evaluate the quality and relevance of each source.*

Write the annotation (about 150–200 words each)

- *Summary: Briefly describe the main argument or purpose of the source.*
- *Evaluation: Comment on the credibility, strengths, or weaknesses of the source.*
- *Relevance: Explain how you will use this source in your assignment.*

1. Justiz AA, Gulick PG, Swinkels HM. HIV and AIDS Syndrome [Internet]. Nih.gov. StatPearls Publishing; 2024. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK534860>

Summary: This source provides a detailed clinical overview of HIV and AIDS, focusing on how the virus affects the immune system, particularly CD4+ T cells. It explains the progression from initial infection to AIDS, including the role of opportunistic infections and immune system decline. The article also outlines key aspects of transmission, diagnosis, and treatment, emphasizing the effectiveness of antiretroviral therapy (ART) in managing HIV as a chronic condition. Additionally, it highlights prevention strategies and the importance of early diagnosis to reduce transmission and improve patient outcomes. Overall, the source serves as a foundational medical reference for understanding the biological and clinical dimensions of HIV/AIDS.

Evaluation: This source is highly credible as it is published by StatPearls through the National Institutes of Health and authored by medical experts. It is peer-reviewed and commonly used in clinical and academic settings, ensuring reliability and accuracy. A key strength is its clear, evidence-based explanation of complex medical concepts, making it accessible while maintaining scientific rigor. However, its primary focus is on clinical and biological aspects, meaning it lacks discussion on social, cultural, or ethical issues related to HIV, which may limit its scope for broader analysis.

Relevance: This source was used in the assignment to support the foundational medical explanations presented in The Pathology Press, particularly in sections such as the "Overview of HIV and AIDS" and "Difference Between HIV & AIDS". It helped explain how HIV targets CD4+ T cells, how the disease progresses, and the clinical distinction between HIV and AIDS. Using this source ensured that the

scientific information included in the project was accurate, credible, and aligned with current medical understanding.

2. HIV/AIDS - Harvard Health [Internet]. Harvard Health. 2019. Available from: <https://www.health.harvard.edu/diseases-and-conditions/hivaids-a-to-z>
Summary: This source provides a clear and accessible overview of HIV and AIDS, explaining how the virus affects the immune system and progresses over time. It describes how HIV attacks CD4 (T-cell) lymphocytes, weakening the body's ability to fight infections and increasing susceptibility to opportunistic infections and certain cancers. The article also explains that AIDS represents the most advanced stage of HIV infection, characterized by severe immune system damage. Additionally, it outlines key modes of transmission, including contact with infected bodily fluids such as blood, semen, and vaginal fluids. Overall, the source serves as a general medical guide, helping readers understand the biological mechanisms, symptoms, and progression of HIV/AIDS in a simplified manner.
Evaluation: This source is highly credible as it is published by Harvard Health Publishing, a trusted and reputable medical resource affiliated with Harvard Medical School. It presents information in a clear, patient-friendly format while maintaining scientific accuracy. A major strength is its ability to simplify complex medical concepts for a general audience. However, because it is designed for public education rather than academic research, it may lack detailed citations or in-depth analysis compared to peer-reviewed journal articles.
Relevance: This source was used in the assignment to support general explanations of HIV's effects on the immune system and how the disease progresses to AIDS in The Pathology Press. It helped reinforce key concepts such as CD4 cell destruction, opportunistic infections, and the distinction between HIV and AIDS. The source contributed to making the content more accessible and understandable for a broader audience while maintaining accuracy.
3. Sharp PM, Hahn BH. Origins of HIV and the AIDS Pandemic. Cold Spring Harbor Perspectives in Medicine [Internet]. 2011 Sep 1;1(1). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3234451>
Summary: This article examines the origins of HIV and how it developed into a global pandemic. It explains that HIV originated from simian immunodeficiency viruses (SIVs) found in primates, which crossed into humans through activities such as hunting and butchering infected animals. The authors distinguish between HIV-1 and HIV-2, outlining their different origins and global spread. The article also traces how HIV-1, particularly Group M, became responsible for the majority of worldwide infections due to factors such as urbanization, global travel, and social changes. Overall, the source provides a historical and evolutionary perspective on how HIV emerged and spread globally.
Evaluation: This is a highly credible, peer-reviewed journal article written by leading researchers in virology. Its strengths include detailed scientific evidence

and a strong evolutionary analysis of HIV origins. However, it is more technical and may be less accessible to general audiences.

Relevance: This source was used to support the “Origin of HIV” and “Types of HIV” sections in The Pathology Press , explaining cross-species transmission and the classification of HIV strains.

4. NIH. HUMAN IMMUNODEFICIENCY VIRUS-1 [Internet]. www.ncbi.nlm.nih.gov. International Agency for Research on Cancer; 2012. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK304351>

Summary: This source provides a detailed scientific overview of HIV-1, focusing on its biological structure, replication process, and mechanisms of infection. It explains how HIV-1 enters host cells by binding to CD4 receptors and co-receptors such as CCR5 or CXCR4, followed by fusion and integration of viral DNA into the host genome. The article also describes key viral components, including reverse transcriptase, integrase, and protease, which are essential for replication. Additionally, it outlines how HIV-1 evades the immune system and establishes persistent infection. Overall, the source offers a comprehensive explanation of the molecular and cellular processes underlying HIV infection.

Evaluation: This source is highly credible as it is published by the National Institutes of Health and the International Agency for Research on Cancer. It is scientifically rigorous and based on established research. A strength is its detailed explanation of viral mechanisms, though it may be complex for general audiences.

Relevance: This source was used to support the “HIV Structure” and “HIV Infection Mechanism” sections in The Pathology Press , particularly in explaining viral entry, replication, and key proteins involved in infection.

5. Seitz R. Human Immunodeficiency Virus (HIV). Transfusion Medicine and Hemotherapy [Internet]. 2016 May 9;43(3):203–22. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4924471>

Summary: This article provides a comprehensive overview of HIV, including its transmission, epidemiology, pathogenesis, and prevention. It explains how HIV is primarily transmitted through infected bodily fluids such as blood, semen, vaginal fluids, and breast milk. The source also discusses high-risk populations, global prevalence, and the continued public health impact of HIV despite advances in treatment. Additionally, it outlines prevention strategies, including safe sex practices, blood screening, and harm reduction for people who inject drugs. Overall, the article emphasizes both the biological mechanisms of HIV infection and its broader implications for public health and disease control.

Evaluation: This is a credible, peer-reviewed journal article published in a reputable medical journal. It provides a well-rounded perspective by combining clinical and epidemiological information. A strength is its focus on both transmission and prevention, though some data may be slightly outdated due to its publication date.

Relevance: This source was used in The Pathology Press to support the “How Is HIV Transmitted?” and “Populations at Risk” sections, particularly in identifying key transmission routes and high-risk groups.

6. THE STORY OF HIV [Internet]. [cited 2026 Mar 29]. Available from: https://www.schulich.uwo.ca/PathOER/pulse/img2025/team_35_project.pdf
Summary: This source presents an educational overview of HIV, combining scientific explanations with visual elements to illustrate key concepts such as HIV structure, transmission, and disease progression. It explains how HIV infects the immune system, particularly CD4+ T cells, and outlines how the virus replicates and spreads within the body. The resource also highlights major modes of transmission and provides simplified diagrams to support understanding of complex biological processes. Overall, the source is designed as a teaching tool, using visuals and concise explanations to make HIV-related concepts more accessible to students.
Evaluation: This source is moderately credible, as it is produced by an academic institution (Western University), but it appears to be a student-created educational resource rather than a peer-reviewed publication. Its main strength lies in its clear visuals and simplified explanations. However, it may lack the depth and rigor of primary scientific literature.
Relevance: This source was used as visual and structural inspiration for The Pathology Press, particularly for designing the “HIV Structure” and “HIV Infection Mechanism” diagrams. The layout and style of these visuals informed how complex processes were presented clearly and effectively in the assignment.
7. Verma AS, Kumar V, Saha MK, Dutta S, Singh A. HIV: Biology to Treatment. NanoBioMedicine [Internet]. 2019 Sep 25;167–97. Available from: <https://www.verywellhealth.com/hiv-vs-aids-11697871>
Summary: This source provides an overview of HIV from its biological mechanisms to treatment options. It explains how HIV infects CD4+ T cells and progresses through different stages, eventually leading to AIDS if untreated. The article distinguishes clearly between HIV and AIDS, emphasizing that HIV is a virus while AIDS is the advanced stage of infection. It also outlines common symptoms, disease progression, and the role of antiretroviral therapy (ART) in controlling viral load and improving life expectancy. Additionally, it highlights prevention strategies and the importance of early diagnosis.
Evaluation: This source is moderately credible. While Verywell Health is a reputable health information platform reviewed by medical professionals, it is not a peer-reviewed journal. Its strength lies in presenting complex information in a clear, accessible way, though it may lack depth compared to academic sources.
Relevance: This source was used in The Pathology Press to support explanations of HIV progression, symptoms, and the distinction between HIV and AIDS, particularly in the overview sections.
8. NIH. The HIV Life Cycle [Internet]. hivinfo.nih.gov. 2021. Available from: <https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-life-cycle>

Summary: This source explains the HIV life cycle in a clear, step-by-step format, outlining how the virus enters host cells, replicates, and produces new viral particles. It describes key stages including attachment, fusion, reverse transcription, integration, replication, assembly, and budding. The article also highlights the role of important viral enzymes such as reverse transcriptase, integrase, and protease. Additionally, it connects each stage of the life cycle to potential targets for antiretroviral drugs, demonstrating how treatment interrupts viral replication. Overall, the source provides a structured and accessible explanation of how HIV infects cells and spreads within the body.

Evaluation: This source is highly credible as it is published by the National Institutes of Health. It is scientifically accurate and designed for both educational and clinical use. A major strength is its clear organization of complex processes, though it simplifies some details for accessibility.

Relevance: This source was used in The Pathology Press to support the “HIV Infection Mechanism” section, particularly in outlining the stages of viral replication shown in the diagram.

9. HIV/AIDS Glossary | NIH [Internet]. clinicalinfo.hiv.gov. Available from: <https://clinicalinfo.hiv.gov/en/glossary>

Summary: This source provides a comprehensive glossary of terms related to HIV and AIDS, offering clear definitions for key concepts such as viral load, CD4 cells, antiretroviral therapy (ART), and opportunistic infections. It is designed to support understanding of HIV-related terminology for both medical and general audiences. The glossary explains complex scientific and clinical terms in accessible language, helping readers better interpret information about HIV transmission, diagnosis, treatment, and prevention. Overall, it serves as a foundational reference tool for understanding the vocabulary used in HIV research and education.

Evaluation: This source is highly credible as it is published by the National Institutes of Health. It is authoritative, accurate, and regularly updated. A key strength is its clarity and reliability, though it does not provide in-depth explanations or analysis since it is intended as a reference tool.

Relevance: This source was used in The Pathology Press to ensure accurate definitions of key terms such as CD4 cells, viral load, and ART throughout the project, improving clarity and consistency.

10. Wilen CB, Tilton JC, Doms RW. HIV: Cell Binding and Entry. Cold Spring Harbor Perspectives in Medicine. 2012 Apr 10;2(8):a006866–6.

Summary: This article focuses on the molecular mechanisms of HIV entry into host cells. It explains how the virus binds to CD4 receptors and co-receptors such as CCR5 or CXCR4, enabling fusion with the host cell membrane. The authors describe the role of viral proteins, particularly gp120 and gp41, in facilitating attachment and membrane fusion. The article also highlights how variations in co-receptor usage influence viral tropism and disease progression. Overall, the source provides a detailed understanding of the early stages of HIV infection at the cellular level.

Evaluation: This is a highly credible, peer-reviewed journal article written by experts in virology. Its strength lies in its detailed and specialized focus on viral entry mechanisms. However, it is technical and may be less accessible to general audiences without a strong scientific background.

Relevance: This source was used in The Pathology Press to support the “HIV Infection Mechanism” and “HIV Structure” sections, particularly in explaining receptor binding and membrane fusion.

11. HIV.gov. How Is HIV Transmitted? [Internet]. HIV.gov. HIV.gov; 2022. Available from: <https://www.hiv.gov/hiv-basics/overview/about-hiv-and-aids/how-is-hiv-transmitted>

Summary: This source explains how HIV is transmitted, focusing on the exchange of specific bodily fluids such as blood, semen, vaginal fluids, rectal fluids, and breast milk. It emphasizes that transmission occurs only when these fluids from a person with a detectable viral load enter the body of another individual. The article also clarifies common misconceptions, such as HIV not being spread through casual contact like hugging or sharing food. Additionally, it highlights key risk factors, including unprotected sex, sharing needles, and mother-to-child transmission. Overall, the source provides a clear and accurate explanation of how HIV spreads and how transmission can be prevented.

Evaluation: This source is highly credible as it is published by HIV.gov, a U.S. government resource. It is accurate, up-to-date, and designed for public health education. Its strength is its clarity and accessibility, though it provides less scientific depth than academic sources.

Relevance: This source was used in The Pathology Press to support the “How Is HIV Transmitted?” section, particularly in identifying key bodily fluids and modes of transmission.

12. HIV.gov. Who is at risk for HIV? [Internet]. HIV.gov. U.S. Department of Health & Human Services; 2022. Available from: <https://www.hiv.gov/hiv-basics/overview/about-hiv-and-aids/who-is-at-risk-for-hiv>

Summary: This source outlines the populations most at risk for HIV and the factors that increase susceptibility to infection. It identifies key groups such as men who have sex with men, people who inject drugs, sex workers, and individuals with multiple sexual partners. The article also explains how social and structural factors, including limited access to healthcare, stigma, and geographic location, contribute to increased risk. Additionally, it highlights behaviors such as unprotected sex and needle sharing as major contributors to transmission. Overall, the source provides a clear overview of both behavioral and societal risk factors associated with HIV.

Evaluation: This source is highly credible as it is published by HIV.gov, a U.S. government public health resource. It is accurate, accessible, and regularly updated. A strength is its inclusion of both behavioral and structural risk factors, though it is less detailed than academic research articles.

Relevance: This source was used in The Pathology Press to support the “Populations at Risk for HIV” section, particularly in identifying high-risk groups and contributing factors.

13. World Health Organization. HIV/AIDS [Internet]. World Health Organization.

World Health Organization; 2024. Available from:

<https://www.who.int/data/gho/data/themes/hiv-aids>

Summary: This source provides global data and statistics on HIV/AIDS, including prevalence, incidence, and mortality rates. It reports that millions of people worldwide are living with HIV and highlights ongoing new infections and deaths despite significant progress in treatment and prevention. The data emphasizes trends over time, showing reductions in HIV-related deaths and new infections due to expanded access to antiretroviral therapy (ART). It also highlights regional disparities, with higher prevalence in certain areas such as sub-Saharan Africa. Overall, the source offers a global perspective on the scale and impact of the HIV epidemic.

Evaluation: This source is highly credible as it is published by the World Health Organization, a leading global health authority. It provides reliable, up-to-date data and is widely used in research and policy. A strength is its comprehensive global scope, though it focuses more on statistics than detailed explanations.

Relevance: This source was used in The Pathology Press to support the “Global and Local Prevalence Statistics” section, particularly in presenting worldwide HIV data and trends.

14. HIV statistics [Internet]. CATIE - Canada’s source for HIV and hepatitis C information. 2022. Available from: <https://www.catie.ca/essentials/statistics/hiv-statistics>

Summary: This source provides statistical data on HIV in Canada, including the number of people living with HIV, new diagnoses, and trends over time. It highlights that tens of thousands of Canadians are living with HIV and that new cases continue to be reported annually. The article also breaks down data by region, noting higher prevalence in provinces such as Ontario, and discusses key affected populations. Overall, the source offers a national perspective on HIV, complementing global statistics by focusing specifically on the Canadian context.

Evaluation: This source is credible as it is published by CATIE, a respected Canadian public health organization specializing in HIV and hepatitis C information. It provides reliable, research-based statistics in an accessible format. A strength is its focus on Canada-specific data, though it is less detailed in scientific explanation.

Relevance: This source was used in The Pathology Press to support the Canadian statistics presented in the “Global and Local Prevalence Statistics” section, particularly data on people living with HIV and new diagnoses in Canada.

15. Public. HIV in Canada: 2023 surveillance highlights - Canada.ca [Internet].

Canada.ca. 2023. Available from: <https://www.canada.ca/en/public->

health/services/publications/diseases-conditions/hiv-2023-surveillance-highlights-infographic.html

Summary: This source provides key surveillance data on HIV in Canada for 2023, including new diagnoses, rates, and demographic trends. It reports that there were 2,434 new HIV diagnoses in 2023, with a national rate of 6.1 per 100,000 population. The data is further broken down by sex, age, and region, showing higher rates among males and variations across provinces, with some regions experiencing significantly higher diagnosis rates. The source highlights that HIV remains an ongoing public health issue in Canada, despite advances in prevention and treatment.

Evaluation: This source is highly credible as it is published by the Public Health Agency of Canada, a government authority responsible for national health surveillance. It provides accurate, up-to-date epidemiological data. A key strength is its detailed and reliable statistics, though it focuses primarily on data rather than in-depth analysis.

Relevance: This source was used in The Pathology Press to support the Canadian statistics in the “Global and Local Prevalence Statistics” section, particularly figures on new diagnoses and national rates.

16. World Health Organization. HIV Data and Statistics [Internet]. www.who.int. 2024. Available from: <https://www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/hiv/strategic-information/hiv-data-and-statistics>

Summary: This source provides comprehensive global data on HIV, including prevalence, incidence, and mortality trends. It reports that approximately 40.8 million people were living with HIV worldwide in 2024, with around 1.3 million new infections and 630,000 deaths that year. The data highlights significant progress, such as a substantial decline in HIV-related deaths since the early 2000s due to expanded access to antiretroviral therapy (ART). However, it also emphasizes ongoing challenges, including regional disparities, with the highest burden in sub-Saharan Africa, and continued transmission globally. Overall, the source presents a clear picture of both progress and remaining gaps in the global HIV response.

Evaluation: This source is highly credible as it is published by the World Health Organization, a leading global health authority. It provides reliable, up-to-date epidemiological data. A key strength is its comprehensive global scope, though it focuses primarily on statistics rather than detailed explanations.

Relevance: This source was used in The Pathology Press to support the “Global Trends” and “Global and Local Prevalence Statistics” sections, particularly in presenting worldwide HIV trends, infection rates, and mortality data.

17. HIV.gov. A Timeline of HIV and AIDS [Internet]. HIV.gov. U.S. Department of Health & Human Services; 2022. Available from: <https://www.hiv.gov/hiv-basics/overview/history/hiv-and-aids-timeline>

Summary: This source presents a chronological timeline of major events in the history of HIV and AIDS, from the first reported cases in 1981 to modern advancements in treatment and prevention. It highlights key milestones such as

the identification of HIV as the causative virus, the development of antiretroviral therapy (ART), and global public health responses. The timeline also shows how scientific progress has transformed HIV from a fatal disease into a manageable chronic condition, with ongoing efforts aimed at ending the epidemic. Overall, the source provides a clear historical overview of how understanding and management of HIV have evolved over time.

Evaluation: This source is highly credible as it is published by HIV.gov, a U.S. government resource. It is reliable, well-organized, and provides accurate historical information. A key strength is its clear presentation of complex developments over time, though it offers less detailed analysis compared to academic sources.

Relevance: This source was used in The Pathology Press to support the “History of HIV” timeline, helping structure key milestones and developments shown in the visual timeline section.

18. Getting tested for HIV [Internet]. Centers for Disease Control and Prevention; 2025 [cited 2026 Mar 31]. Available from:

<https://www.cdc.gov/hiv/testing/index.html>

Summary: This public health article by the CDC acts as a general guide on HIV testing, offering information on who should get tested, when and why; and how HIV tests work, the cost and process, and what results may look like.

Evaluation: The Center for Disease Control and Prevention is a US government agency with stated goals of protecting the health of its citizens through control and prevention of infectious disease, among other kinds of health issues. It should contain accurate facts on any topic that isn't politically charged, keeping recent pivots by the US government away from public health and DEI in mind (circa 2025 onwards).

Relevance: The article will be used as information to educate how HIV is tested and diagnosed, and what to look out for in the results, prioritizing the factual mechanisms given the site's reliability. Understanding the specific circumstances/prognosis of an HIV infection is key to determining the best path of treatment and precautions to take.

19. About HIV [Internet]. Centers for Disease Control and Prevention; 2025 [cited 2026 Mar 31]. Available from: <https://www.cdc.gov/hiv/about/index.html>

Summary: The Centers for Disease Control and Prevention (CDC) webpage on HIV provides a comprehensive overview of the virus, including its modes of transmission, prevention strategies, testing, and treatment. It explains that HIV attacks the immune system and can progress to AIDS if untreated, but emphasizes that modern antiretroviral therapy enables individuals to live long, healthy lives and reduce transmission risk. The source highlights key prevention methods such as condom use, regular testing, PrEP, and PEP, as well as the concept of undetectable viral load preventing sexual transmission.

Evaluation: The Center for Disease Control and Prevention is a US government agency with stated goals of protecting the health of its citizens through control and prevention of infectious disease, among other kinds of health issues. It

should contain accurate facts on any topic that isn't politically charged, keeping recent pivots by the US government away from public health and DEI in mind (circa 2025 onwards).

Relevance: This source will be used in The Pathology Press to support claims about HIV progression, prevention, and treatment. It will reinforce key points on early diagnosis, risk reduction, and the effectiveness of antiretroviral therapy, enhancing the scientific validity and public health context of the discussion.

20. HIV/AIDS [Internet]. Mayo Foundation for Medical Education and Research; 2024 [cited 2026 Mar 31]. Available from: <https://www.mayoclinic.org/diseases-conditions/hiv-aids/symptoms-causes/syc-20373524>

Summary: The Mayo Clinic webpage on HIV/AIDS provides a clinical overview of the virus, including its causes, transmission routes, symptoms, and disease progression. It explains that HIV targets CD4+ T cells, weakening the immune system and potentially progressing to AIDS if untreated. The source outlines stages of infection—from acute flu-like symptoms to long asymptomatic periods and eventual immune deterioration—and identifies key transmission pathways such as unprotected sex, shared needles, and perinatal exposure. It also emphasizes prevention strategies, including condom use, PrEP, and PEP, alongside the importance of early diagnosis and treatment.

Evaluation: This source is highly credible due to its origin from Mayo Clinic, a globally recognized medical institution known for evidence-based, peer-reviewed content. Strengths include its clinical accuracy, clarity, and comprehensive coverage of both biological mechanisms and public health aspects. However, its generalized format may limit depth in specialized areas such as molecular pathology or advanced treatment protocols.

Relevance: This source will be used in The Pathology Press to support HIV risk factors and prevention. It provides authoritative evidence on transmission routes and behavioral risks, reinforcing the discussion of safer sex practices, needle use, and early detection strategies.

21. Singh KK, Spector SA. Host genetic determinants of human immunodeficiency virus infection and disease progression in children [Internet]. U.S. National Library of Medicine; 2009 [cited 2026 Mar 31]. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC2802664>

Summary: This peer-reviewed article examines the role of host genetic factors in HIV infection and disease progression, particularly in pediatric populations. It highlights how specific genetic variants—such as mutations in CCR5, CCR2, and SDF-1—can influence susceptibility to HIV, viral entry, and the rate of disease progression. For example, the CCR5-Δ32 mutation is associated with slower disease progression and improved immune outcomes, while other polymorphisms may increase risk or accelerate decline. The study emphasizes the complex interaction between host genetics and viral behavior in shaping clinical outcomes.

Evaluation: This source is highly credible, as it is a peer-reviewed scientific article hosted on PubMed Central, a database maintained by the National

Institutes of Health. It has rigorous methodology, the use of clinical cohort data, and detailed genetic analysis. However, limitations include its focus on pediatric populations and earlier treatment eras, which may reduce generalizability to current antiretroviral contexts.

Relevance: This source will be used in The Pathology Press, particularly in supporting discussion of genetic risk factors in HIV infection. It provides scientific evidence for statements regarding CCR5 mutations and HLA variation, strengthening the explanation of variability in disease progression and reinforcing its emphasis on biological determinants of HIV outcomes.

22. Public Health Agency of Canada. Biomedical prevention of HIV - HIV PrEP and HIV PEP [Internet]. Government of Canada / Gouvernement du Canada; 2025 [cited 2026 Mar 31]. Available from: <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/hiv-factsheet-biomedical-prevention-prep-pep.html>

Summary: The Public Health Agency of Canada factsheet on biomedical HIV prevention provides a clear overview of pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) as key strategies to reduce HIV transmission. It explains that PrEP involves ongoing use of antiretroviral medications, either daily oral pills or periodic injections, by HIV-negative individuals at elevated risk, while PEP is a short-term (28-day) treatment initiated within 72 hours after a high-risk exposure. The source also identifies populations who may benefit from these interventions and emphasizes that both methods are highly effective when taken as prescribed, though they do not prevent other sexually transmitted infections.

Evaluation: This source is credible because it is published by the Public Health Agency of Canada, a national governmental authority that relies on evidence-based public health research. It is clear, up-to-date, and contains practical applications. However, its concise, fact-sheet format lacks detailed discussion of pharmacological mechanisms or long-term outcomes.

Relevance: This source will be used particularly for supporting the sections on PrEP and PEP. It provides authoritative evidence on timing, usage, and effectiveness, reinforcing explanations of biomedical prevention and strengthening the scientific accuracy of the discussion on HIV risk reduction strategies.

23. MedlinePlus. HIV: Prep and pep [Internet]. U.S. National Library of Medicine; [cited 2026 Mar 31]. Available from: <https://medlineplus.gov/hivprepandpep.html>

Summary: The MedlinePlus webpage on HIV PrEP and PEP provides a clear, patient-oriented explanation of the two key biomedical prevention strategies. It describes pre-exposure prophylaxis (PrEP) as a daily medication for individuals at high risk of HIV, significantly reducing the likelihood of infection, while post-exposure prophylaxis (PEP) is an emergency treatment that must be initiated within 72 hours after potential exposure and taken for 28 days. The source also emphasizes that HIV is primarily transmitted through sexual contact or blood exposure and underscores the importance of seeking medical help ASAP after risk events.

Evaluation: This source is highly credible as it is produced by MedlinePlus, a resource of the U.S. National Library of Medicine and the National Institutes of Health. Its strengths include accuracy, accessibility, and reliance on evidence-based medical guidelines. However, its simplified, consumer-focused format limits detailed discussion of pharmacodynamics and clinical trial data.

Relevance: This source will be directly relevant to The Pathology Press in supporting the discussion of PEP after potential HIV exposure. It provides timing, duration, and emergency use, reinforcing explanation of post-exposure intervention and strengthening its scientific reliability.

24. Cleveland Clinic. What is antiretroviral therapy? [Internet]. 2023 [cited 2026 Mar 31]. Available from: <https://my.clevelandclinic.org/health/treatments/antiretroviral-therapy>

Summary: This webpage on antiretroviral therapy (ART) from the Cleveland Clinic provides a comprehensive overview of modern HIV treatment, explaining that ART consists of a combination of medications that inhibit viral replication and reduce viral load in the body. It emphasizes that while ART is not a cure, it enables individuals with HIV to maintain immune function by achieving undetectable viral levels and preserving CD4+ cells, significantly improving health outcomes and preventing transmission. The source also notes that ART must be taken consistently and highlights the importance of adherence to prevent drug resistance and maintain viral suppression.

Evaluation: Cleveland Clinic is a globally recognized academic medical center known for evidence-based, peer-reviewed clinical information. Its strengths include clinical accuracy, clarity, and practical explanations of treatment mechanisms and patient outcomes. However, its patient-focused format limits in-depth discussion of molecular pharmacology and specific emerging therapies.

Relevance: This source will support the section on ART and viral suppression. It provides information for how ART reduces viral load and enables undetectable levels, reinforcing key claims about treatment effectiveness and the concept of U=U within the column.

25. Service Canada. HIV: Undetectable = Untransmittable (U=U) [Internet]. Government of Canada / Gouvernement du Canada; 2025 [cited 2026 Mar 31]. Available from: <https://www.canada.ca/en/services/health/campaigns/hiv-aids.html>

Summary: The Government of Canada HIV/AIDS campaign webpage provides a broad public health overview of HIV, focusing on awareness, prevention, testing, and reducing stigma. It highlights national efforts to address HIV through education campaigns, promotion of regular testing, and increased access to prevention tools such as condoms, PrEP, and treatment services. The source also emphasizes the social dimensions of HIV, including stigma, discrimination, and health inequities affecting vulnerable populations, and promotes initiatives like the U=U message to improve public understanding and reduce transmission.

Evaluation: This source is highly credible as it is produced by the Government of Canada, specifically the Public Health Agency of Canada, which relies on

national surveillance data and evidence-based public health strategies. Its strengths include up-to-date national context, focus on population health, and integration of social determinants of health. However, its broad, campaign-oriented format limits detailed clinical or mechanistic explanations of HIV pathology.

Relevance: This source is directly relevant for The Pathology Press, particularly in supporting discussions on prevention measures and public health messaging. It will be used to reinforce claims about stigma reduction, testing promotion, and the importance of equitable access to HIV prevention and treatment services.

26. Rodger AJ, Cambiano V, Bruun T, Vernazza P, Collins S, Degen O, et al. Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (partner): Final results of a multicentre, prospective, observational study [Internet]. U.S. National Library of Medicine; 2019 [cited 2026 Mar 31]. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC6584382>

Summary: The peer-reviewed study available through PubMed Central (the PARTNER study) investigates the risk of HIV transmission in serodifferent couples where the HIV-positive partner is receiving suppressive antiretroviral therapy. Conducted as a large, multicenter prospective observational study, it found that there were effectively zero cases of HIV transmission during condomless sex when the HIV-positive partner maintained an undetectable viral load. These findings provide strong empirical support for the concept of “Undetectable = Untransmittable” (U=U), demonstrating that effective ART not only improves patient health but also prevents sexual transmission of HIV.

Evaluation: This source is highly credible due to its publication in a peer-reviewed journal and inclusion in PubMed Central, supported by rigorous methodology and large sample size across multiple populations. Its strengths include strong statistical power and real-world clinical relevance. However, limitations include its focus on specific populations (primarily couples in clinical monitoring settings), which affects generalizability to all contexts.

Relevance: This source is relevant particularly in supporting the U=U concept. It provides high-quality supporting evidence confirming that maintaining an undetectable viral load eliminates transmission risk, reinforcing claims about treatment effectiveness and public health implications.

27. Hoffman H. The science is clear: With HIV, undetectable equals untransmittable [Internet]. U.S. Department of Health and Human Services; 2025 [cited 2026 Mar 31]. Available from: <https://www.nih.gov/news-events/news-releases/science-clear-hiv-undetectable-equals-untransmittable>

Summary: The National Institutes of Health (NIH) news release explains the scientific basis of the U=U concept, emphasizing that individuals living with HIV who achieve and maintain an undetectable viral load through consistent antiretroviral therapy cannot sexually transmit the virus. The article summarizes key findings from major clinical trials, including HPTN 052 and the PARTNER studies, which reported ZERO linked transmissions among serodifferent couples

when viral suppression was sustained. It also highlights broader implications, such as reducing HIV-related stigma and improving public health outcomes through treatment as prevention.

Evaluation: This source is published by the NIH, a leading global authority in biomedical research. It is credible by relying on large-scale clinical trials and expert interpretation from established scientists such as Anthony S. Fauci. However, as a news release, it provides a summarized interpretation of research rather than detailed methodological analysis, limiting technical depth.

Relevance: This source is relevant particularly in supporting the U=U concept. It provides authoritative evidence that viral suppression prevents transmission, reinforcing claims about ART effectiveness and strengthening the column's discussion of public health implications and stigma reduction.

28. Metadilokul O, Jirathitikal V, Bourinbaiar AS. Serodeconversion of HIV antibody-positive AIDS patients following treatment with V-1 Immunitor [Internet]. U.S. National Library of Medicine; 2009 [cited 2026 Mar 31]. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC2577775>

Summary: The peer-reviewed article available through PubMed Central examines rare cases of HIV seroreversion, in which individuals previously testing positive for HIV antibodies later test negative following specific therapeutic interventions. The study focuses on the use of an oral therapeutic vaccine (V-1 Immunitor) and reports limited instances of serodeconversion among treated patients. It discusses possible mechanisms, including immune modulation and reduced viral activity, while emphasizing the rarity and complexity of such outcomes in HIV infection. The findings contribute to broader discussions on immune response, treatment effects, and the persistence of HIV despite therapy.

Evaluation: This source is fairly credible, as a peer-reviewed study published in a scientific journal. Its strengths include original clinical observations and focus on immunological responses to treatment. However, limitations include a small number of observed cases, potential lack of generalizability, and reliance on less widely validated therapeutic approaches, which may limit its applicability to current standard care.

Relevance: This source will be used to reinforce the point that HIV can still be detected through antibody tests when the viral load is undetectable.

29. Stigma and HIV [Internet]. Centers for Disease Control and Prevention; 2024 [cited 2026 Mar 31]. Available from: <https://www.cdc.gov/hiv/health-equity/index.html>

Summary: The Centers for Disease Control and Prevention webpage on HIV health equity outlines how social and structural factors contribute to disparities in HIV outcomes. It defines health equity as ensuring all individuals have a fair opportunity to achieve optimal health and emphasizes the role of social determinants such as poverty, healthcare access, education, and stigma. The source highlights that HIV disproportionately affects certain populations (eg. racial and ethnic minorities and LGBTQ+ individuals) due to systemic inequities rather than biological differences. It also describes public health strategies aimed

at reducing disparities through targeted interventions and improved access to care.

Evaluation: The Center for Disease Control and Prevention is a US government agency with stated goals of protecting the health of its citizens through control and prevention of infectious disease, among other kinds of health issues. It should contain accurate facts on any topic that isn't politically charged, keeping recent pivots by the US government away from public health and DEI in mind (circa 2025 onwards).

Relevance: This source will be used to support the discussion of HIV stigma and barriers to care. It will be used to reinforce claims about health disparities and social determinants influencing HIV outcomes.

30. UNAIDS. HIV and stigma and discrimination human rights fact sheet series 2024 [Internet]. 2024 [cited 2026 Mar 31]. Available from:

https://www.unaids.org/sites/default/files/media_asset/07-hiv-human-rights-factsheet-stigma-discrimination_en.pdf

Summary: This UNAIDS fact sheet outlines the prevalence and forms of HIV-related stigma and discrimination, emphasizing their roots in misinformation, social inequality, and legal barriers. It details how stigma manifests at individual, community, and institutional levels, including denial of healthcare, employment discrimination, and violations of human rights. The document highlights the negative impact of stigma on HIV prevention, testing, and treatment adherence, noting that fear of discrimination discourages individuals from seeking care. It also presents global data and policy recommendations, advocating for rights-based approaches, legal protections, and public education to reduce stigma and improve health outcomes.

Evaluation: Published by UNAIDS, a leading international authority on HIV/AIDS, this source is highly credible and grounded in global research and policy expertise. Its strengths include evidence-based analysis and a comprehensive, human-rights-focused perspective. However, as a policy-oriented document, it may provide less detailed methodological data compared to primary research studies.

Relevance: This source will support discussion of stigma and discrimination in The Pathology Press, reinforcing claims about social barriers to testing, treatment access, and overall HIV prevention efforts.

31. Turan B, Budhwani H, Fazeli PL, Browning WR, Raper JL, Mugavero MJ, et al. How does stigma affect people living with HIV? the mediating roles of internalized and anticipated HIV stigma in the effects of perceived community stigma on health and Psychosocial Outcomes [Internet]. U.S. National Library of Medicine; 2017 [cited 2026 Mar 31]. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC5143223>

Summary: This study investigates the mechanisms through which HIV-related stigma affects individuals living with HIV, focusing on perceived community stigma, internalized stigma, and anticipated stigma. Using survey and clinical data from 203 participants, the authors demonstrate that perceived stigma in the

community indirectly influences mental health outcomes—such as depression, low self-esteem, and maladaptive coping—primarily through internalized stigma. The findings highlight stigma as a multi-level process that translates social attitudes into adverse individual health outcomes.

Evaluation: This peer-reviewed study is methodologically strong, combining self-reported psychosocial measures with clinical data, enhancing validity. Its use of mediation analysis provides a nuanced, theory-driven explanation grounded in the Health Stigma Framework. However, the cross-sectional design limits causal inference, and reliance on self-report measures may introduce response bias. The moderate sample size (N=203) also constrains generalizability.

Relevance: This source will be used in The Pathology Press, supporting claims about internalized shame, social withdrawal, and reduced healthcare engagement. It provides empirical evidence linking stigma to both psychological distress and decreased treatment adherence, strengthening arguments about stigma as a critical barrier to effective HIV care.

32. Anderson BJ. HIV stigma and discrimination persist, even in health care [Internet]. 2009 [cited 2026 Mar 31]. Available from: <https://journalofethics.ama-assn.org/article/hiv-stigma-and-discrimination-persist-even-health-care/2009-12>

Summary: This article explores the continued presence of HIV-related stigma and discrimination, particularly within healthcare settings. It explains that, despite advances in treatment and understanding of HIV transmission, many individuals living with HIV still encounter social exclusion and inequitable medical care. The author identifies misinformation and moral bias as key drivers of stigma, noting that even some healthcare providers may refuse treatment or deliver substandard care. The article also discusses the ethical and legal concerns surrounding such discrimination, emphasizing its impact on patient trust and access to services.

Evaluation: Published in the AMA Journal of Ethics, this source is credible and authoritative, written by a legal director specializing in HIV-related issues. Its strength lies in combining ethical analysis with legal and empirical evidence, offering a well-rounded perspective. However, as a commentary rather than primary research, it depends on previously published data and may reflect some interpretive bias. Its 2009 publication date may also limit its relevance to current conditions.

Relevance: This source can support claims about discrimination in healthcare settings. It provides evidence that stigma contributes to unequal treatment and barriers to care, reinforcing the discussion of institutional discrimination.

33. Asrina A, Ikhtiar M, Idris FP, Adam A, Alim A. Community stigma and discrimination against the incidence of HIV and AIDS [Internet]. U.S. National Library of Medicine; 2023 [cited 2026 Mar 31]. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10719780>

Summary: This study analyzes the causes, forms, and impacts of HIV-related stigma and discrimination within community, family, and healthcare contexts. It emphasizes how social beliefs and cultural norms shape stigmatizing attitudes

toward people living with HIV. The findings indicate that stigma is driven by misinformation, fear of transmission, and moral judgments, leading to behaviors such as social exclusion, labeling, and even refusal of care. The article further highlights that stigma contributes to psychological distress and discourages individuals from seeking testing and treatment, thereby facilitating underreporting and continued transmission.

Evaluation: Published in Journal of Medicine and Life and indexed in PubMed Central, this peer-reviewed article is credible and grounded in established sociological theory. It integrates qualitative insights with a theoretical framework to explain stigma as a socially constructed phenomenon. However, its regional focus (in Indonesia) may limit broader generalizability, and the qualitative emphasis may reduce statistical precision.

Relevance: This source will support The Pathology Press by providing evidence that stigma persists across healthcare and community settings, leading to differential treatment and barriers to care. It reinforces claims that stigma negatively affects both psychological well-being and healthcare access for people living with HIV.

34. Golub SA, Gamarel KE. The impact of anticipated HIV stigma on delays in HIV testing behaviors: Findings from a community-based sample of men who have sex with men and transgender women in New York City [Internet]. U.S. National Library of Medicine; 2013 [cited 2026 Mar 31]. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3820140>

Summary: This study investigates how anticipated HIV-related stigma influences delays in HIV testing among men who have sex with men and transgender women in New York City. Using survey data from 305 participants, the researchers found that individuals who expected negative social consequences from a potential HIV diagnosis were significantly less likely to seek timely testing. Anticipated stigma was also associated with lower perceived risk, further reducing testing motivation. The findings demonstrate that fear of discrimination and social rejection functions as a critical psychological barrier to early diagnosis and engagement in care.

Evaluation: Published in AIDS Patient Care and STDs, this peer-reviewed study is methodologically robust, employing quantitative analysis with a well-defined sample. Its focus on a high-risk population strengthens its relevance to public health. However, its specific demographic and geographic scope may limit generalizability, and the cross-sectional design restricts causal interpretation.

Relevance: This source particularly supports the claim that fear of stigma discourages HIV testing. It provides empirical evidence linking anticipated stigma to delayed testing behaviors, reinforcing the discussion of stigma as a barrier to early diagnosis and treatment access.

35. Nawfal ES, Gray A, Sheehan DM, Ibañez GE, Trepka MJ. A systematic review of the impact of HIV-related stigma and serostatus disclosure on retention in care and antiretroviral therapy adherence among women with HIV in the United States/Canada [Internet]. U.S. National Library of Medicine; 2024 [cited 2026 Mar

31]. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10794841>

Summary: This systematic review evaluates how HIV-related stigma and disclosure of HIV status affect retention in care and adherence to antiretroviral therapy among women in the United States and Canada. The authors find that stigma (particularly internalized and anticipated stigma) significantly reduces consistent engagement in healthcare and adherence to ART. Fear of disclosure and negative social consequences often leads to missed appointments and inconsistent medication use, increasing the risk of disease progression and transmission. The review emphasizes that stigma operates alongside structural factors such as socioeconomic inequality and gender roles, compounding barriers to effective HIV management.

Evaluation: Published in a peer-reviewed journal and indexed in PubMed Central, this article is highly credible, drawing on a systematic review methodology and multiple studies to strengthen reliability. Its focus on women provides important demographic specificity, but limits applicability.

Relevance: This source will provide evidence that stigma undermines treatment adherence and healthcare engagement. It reinforces claims that stigma contributes to poor continuity of care and reduced effectiveness of antiretroviral therapy.

36. Schweitzer A-M, Dišković A, Krongauz V, Newman J, Janez Tomažič J, Yancheva N. Addressing HIV stigma in healthcare, community, and legislative settings in Central and Eastern Europe - AIDS research and therapy [Internet]. BioMed Central; 2023 [cited 2026 Mar 31]. Available from:

<https://link.springer.com/article/10.1186/s12981-023-00585-1>

Summary: This article explores HIV-related stigma in Central and Eastern Europe, emphasizing its impact on key populations such as people who inject drugs and LGBTQ+ individuals. It identifies stigma as a multi-level issue shaped by social attitudes, healthcare practices, and restrictive legal frameworks. The study finds that stigma discourages HIV testing, delays treatment initiation, and reduces long-term engagement in care. It also highlights how criminalization and lack of protective policies intensify marginalization and limit access to prevention and treatment services.

Evaluation: Published in AIDS Research and Therapy, this peer-reviewed article is credible and informed by public health experts. Its strength lies in its comprehensive perspective, integrating structural, social, and clinical dimensions of stigma. However, its regional focus may limit applicability to other settings, and some conclusions rely on synthesis rather than original empirical data.

Relevance: This source supports The Pathology Press by illustrating how stigma intersects with other forms of discrimination. It reinforces the concept of compounding barriers, showing how overlapping stigmas related to identity and behavior restrict access to HIV prevention and care.

37. Viiv Healthcare. HIV STIGMA: Viiv Healthcare [Internet]. 2026 [cited 2026 Mar 31]. Available from: <https://viivhealthcare.com/hiv-community-engagement/hiv-stigma>

Summary: This source outlines the nature and impact of HIV-related stigma, describing it as a combination of negative beliefs, attitudes, and discriminatory behaviors toward people living with HIV. It identifies multiple forms of stigma, including internalized, social, and structural stigma, and explains how these arise from misinformation, fear of transmission, and historical bias. The resource emphasizes that stigma can lead to social isolation, reduced healthcare access, and poor adherence to treatment. It also highlights global data showing that stigma remains widespread and underscores the importance of education, inclusive communication, and community engagement in reducing its effects.

Evaluation: Developed by ViiV Healthcare, a global organization focused on HIV treatment, this source is credible, informed by both research and community initiatives. Its strengths include up-to-date information and a clear, accessible summary of stigma's impacts. However, as a corporate and advocacy-oriented resource, it may lack the neutrality and methodological rigor of peer-reviewed academic studies.

Relevance: This source will reinforce claims in The Pathology Press of stigma leading to social withdrawal and barriers to care. It provides supporting evidence for the role of stigma in discouraging prevention, testing, and treatment engagement.

38. Vigueras J. Zero HIV stigma by 2030? the clock is ticking [Internet]. Innovative Medicine Switzerland; 2020 [cited 2026 Mar 31]. Available from:

<https://www.jnj.com/innovativemedicine/switzerland/de/zero-hiv-stigma-2030-clock-ticking>

Summary: This article discusses global efforts to eliminate HIV-related stigma as part of the United Nations' "three zeros" goal: zero new infections, zero AIDS-related deaths, and zero discrimination, by 2030. It emphasizes that, despite advances in prevention and treatment, stigma remains a major barrier to testing, care, and support. The source highlights that discriminatory attitudes persist globally and are reinforced by punitive laws and social norms, particularly affecting vulnerable populations. It also notes that stigma contributes to delayed diagnosis, reduced service uptake, and concealment of HIV status. The article advocates for coordinated action, including policy reform, education, and inclusive healthcare practices, to address these barriers.

Evaluation: Published by Johnson & Johnson's pharmaceutical division, this source is informed by global health data and aligns with established frameworks such as UNAIDS. Its strengths include integration of policy, epidemiological context, and real-world implications. However, as a corporate publication, it may emphasize advocacy goals and lacks the methodological rigor of primary research articles.

Relevance: This source is relevant by demonstrating that stigma hinders progress toward public health targets. It reinforces claims that stigma reduces testing, treatment engagement, and overall effectiveness of HIV interventions.

39. Andersson GZ, Reinius M, Eriksson LE, Svedhem V, Esfahani FM, Deuba K, et al. Stigma reduction interventions in people living with HIV to improve health-

related quality of life [Internet]. U.S. National Library of Medicine; 2020 [cited 2026 Mar 31]. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7343253>

Summary: This article reviews interventions aimed at reducing HIV-related stigma and improving health-related quality of life among people living with HIV. It finds that stigma—particularly internalized and enacted stigma—negatively affects psychological well-being, social relationships, and engagement in care. The review highlights that stigma contributes to depression, reduced self-esteem, and social isolation, while also discouraging consistent healthcare utilization. It evaluates various stigma-reduction interventions, including counseling, education, and community-based programs, noting that multi-level approaches are most effective in improving both mental health and treatment outcomes.

Evaluation: Published in a peer-reviewed journal, this source is credible and grounded in a systematic review of existing interventions. Its strength lies in reviewing diverse studies to identify effective strategies for stigma reduction. However, variability among included studies may limit consistency, and some findings depend on intervention-specific contexts, reducing generalizability.

Relevance: This source supports The Pathology Press by demonstrating that reducing stigma improves mental health, social support, and healthcare engagement. It reinforces claims that supportive environments and stigma-reduction strategies lead to better outcomes for individuals living with HIV.

40. Ways to stop HIV stigma and discrimination [Internet]. Centers for Disease Control and Prevention; 2025 [cited 2026 Mar 31]. Available from:

<https://www.cdc.gov/stophivtogether/hiv-stigma/ways-to-stop.html>

Summary: This source from the CDC outlines evidence-based strategies to reduce HIV-related stigma at individual, community, and institutional levels. It emphasizes education to correct misconceptions about transmission, promoting inclusive language, supporting people living with HIV, and encouraging open dialogue. The article also highlights the role of healthcare providers, media, and public health campaigns in fostering respectful environments and improving engagement in prevention and treatment services.

Evaluation: As a publication by the CDC, this source is highly credible, drawing on established public health expertise and research-backed recommendations. Its strengths include clarity, practical guidance, and alignment with current national HIV initiatives. However, the content is presented in a generalized format and lacks detailed methodological discussion or primary data, limiting its depth for academic analysis.

Relevance: This source will support The Pathology Press by providing actionable strategies for reducing stigma. It reinforces discussion on improving healthcare communication and creating supportive environments to enhance HIV prevention, testing, and treatment outcomes.

41. Okoye AA, Picker LJ. CD4+ T-cell depletion in HIV infection: mechanisms of immunological failure. *Immunol Rev.* 2013 Jul;254(1):54–64. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3729334>

Summary: The article reviews the differentiation of naive CD4+ T cells into specialized effector subsets, including Th1, Th2, Th17, and regulatory T cells. The abstract emphasizes that these distinct lineages arise in response to antigen stimulation and are directed by cytokine signals that activate specific transcription factors. These transcription factors establish lineage-specific gene expression programs that determine the functional roles of each T cell subset in immune responses. The article also highlights that CD 4+ T cell differentiation is a dynamic and regulated process, allowing the immune system to adapt to different types of pathogens.

Evaluation: This source is highly credible, as it is published in *Annual Review of Immunology*, a reputable peer-reviewed journal known for comprehensive and authoritative reviews. Its strength lies clearly summarizing key regulatory mechanisms of gene expression and cell differentiation. However, as a review article, it does not present primary experimental data.

Relevance: This article is relevant to this assignment as it provides foundational insight into CD4+ T cell differentiation and the regulatory mechanisms that control their function. Since HIV specifically targets CD4+ T cells, understanding how these cells develop and are regulated is important for interpreting how immune responses are altered during infection. This source will be used to support the background information on CD4+ T cell function and immune system dynamics in the context of HIV.

42. Lucas S. Historical and current issues in HIV encephalitis, and the role of neuropathology in HIV disease: a pathological perspective. *J Neurol*. 2023;270(3):1337–1345. doi:10.1007/s00415-022-11503-2. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9971134>

Summary: This article reviews the historical and current understanding of HIV encephalitis and the role of neuropathology in HIV-related brain disease. The abstract describes how, during the early HIV epidemic, neuropathological studies identified characteristic white matter lesions associated with HIV encephalitis, which contributed to severe cognitive impairment and dementia. With the introduction of antiretroviral therapy (ART), the prevalence of HIV-associated dementia declined significantly, leading to a shift away from traditional tissue-based pathology toward alternative approaches such as neuroimaging, cerebrospinal fluid analysis, and biomarker studies. Despite this shift, the article emphasizes that neuropathology remains important for diagnosing acute conditions, including opportunistic infections, malignancies, and CD8+ T-cell encephalitis, as well as for understanding persistent neurocognitive disorders in treated individuals.

Evaluation: The source is highly credible, as it is a peer-reviewed review article published in the *Journal of Neurology*. Its strength lies in integrating historical and modern perspectives of HIV neuropathology; however, it provides limited detail on underlying molecular mechanisms.

Relevance: This article is highly relevant to this assignment, as it supports discussion of HIV-associated neurocognitive disorders and highlights how

immune cell involvement contributes to central nervous system pathology in HIV infection.

43. Hullett A. HIV-associated dementia: symptoms and treatment. Healthline. 2024 Mar 20. Available from: <https://www.healthline.com/health/hiv/hiv-dementi>

Summary: This article provides an overview of HIV-associated dementia (HAD), a severe form of HIV-associated neurocognitive disorder. It describes how HIV can damage the brain, leading to symptoms such as memory loss, confusion, impaired concentration, and motor dysfunction. The article explains that HAD is more common in advanced HIV infection and is associated with high viral load and low CD4⁺ T cell counts. It also outlines current treatment approaches, emphasizing the importance of antiretroviral therapy (ART) in reducing viral replication and improving cognitive outcomes. Supportive treatments, including cognitive therapy and symptom management, are also discussed.

Evaluation: This source is moderately credible, as it is a medically reviewed article intended for a general audience rather than a peer-reviewed scientific publication. Its strength lies in its clarity and accessibility, making complex neurological effects of HIV easy to understand. However, it lacks detailed mechanistic explanations and primary data.

Relevance: This article is relevant to this assignment as it provides clear background information on HIV-associated dementia and its clinical presentation. It will be used to support explanations of how HIV affects the brain and contributes to neurocognitive impairment in infected individuals.

44. Adhikary K, Banerjee A, Sarkar R, Banerjee R, Roy Chowdhury S, Ganguly K, et al. HIV-associated neurocognitive disorders (HAND): optimal diagnosis, antiviral therapy, pharmacological treatment, management, and future scopes. *J Neurol Sci*. 2025 Mar 15;470:123410. doi:10.1016/j.jns.2025.123410.

Summary: This article provides a comprehensive review of HIV-associated neurocognitive disorders (HAND), including their diagnosis, treatment, and management. The authors describe the spectrum of HAND, ranging from asymptomatic impairment to severe dementia, and emphasize the role of HIV in causing chronic inflammation and neuronal damage within the central nervous system. The review highlights current diagnostic approaches, including neuropsychological testing and biomarkers, as well as treatment strategies centered on antiretroviral therapy. It also discusses emerging therapies and future research directions aimed at improving outcomes for affected individuals.

Evaluation: This source is highly credible, as it is a recent peer-reviewed review published in the *Journal of Neurological Sciences*. Its strength lies in its up-to-date synthesis of clinical and mechanistic insights into HAND. However, as a review article, it does not provide original experimental data.

Relevance: This article is highly relevant to this assignment, as it provides detailed background on the neurological complications of HIV. It will be used to support discussion of how HIV affects the brain and contributes to cognitive impairment through immune and inflammatory mechanisms.

45. Steinhardt MJ, Wiercinska E, Pham M, Grigoleit GU, Mazzoni A, Da-Via M, et al. Progressive multifocal leukoencephalopathy in a patient post allo-HCT successfully treated with JC virus specific donor lymphocytes. *J Transl Med*. 2020 Apr 21;18:177. doi:10.1186/s12967-020-02337-5. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7175555>

Summary: This article presents a clinical case of progressive multifocal leukoencephalopathy (PML), a severe opportunistic brain infection caused by reactivation of the JC virus in immunocompromised individuals. The study describes a patient treated with JC virus-specific donor lymphocytes, which resulted in successful control of the infection. The authors highlight the role of immune suppression in the development of PML and demonstrate how targeted immune-based therapies can restore antiviral responses. The case underscores the importance of immune function, particularly T cell-mediated immunity, in controlling opportunistic infections affecting the central nervous system.

Evaluation: This source is credible as it is a peer-reviewed article published in the *Journal of Translational Medicine*. Its strength lies in its detailed clinical insight and demonstration of a novel therapeutic approach. However, as a single case study, its findings may not be broadly generalizable.

Relevance: This article is relevant to this assignment as it illustrates how weakened immune function, similar to that seen in HIV infection, can lead to severe neurological complications. It will be used to support discussion of opportunistic infections and immune dysfunction in HIV.

46. Bento D, Nguyen AD. HIV-1–associated opportunistic infections. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Feb 15. Available from: <https://www.ncbi.nlm.nih.gov/sites/books/NBK539787>

Summary: This article provides an overview of opportunistic infections associated with HIV-1, which occur due to progressive immune system decline, particularly the loss of CD4⁺ T cells. It outlines common infections, including tuberculosis, Pneumocystis pneumonia, and fungal and viral infections, and explains how immunosuppression increases susceptibility to these conditions. The article also discusses diagnostic approaches, prevention strategies, and treatment options, emphasizing the importance of antiretroviral therapy in maintaining immune function and reducing infection risk.

Evaluation: This source is moderately to highly credible, as StatPearls is a peer-reviewed medical resource frequently used in clinical education. Its strength lies in its clear and clinically relevant summaries; however, it is less detailed than primary research articles.

Relevance: This article is highly relevant to this assignment, as it provides essential background on how HIV-induced immune suppression leads to opportunistic infections. It will be used to support discussion of immune dysfunction and disease progression in HIV infection.

47. National Cancer Institute. HIV infection and cancer risk. 2024. Available from: <https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hiv-fact-sheet>

Summary: This source explains the relationship between HIV infection and increased cancer risk, particularly AIDS-defining cancers such as Kaposi sarcoma, non-Hodgkin lymphoma, and cervical cancer. It describes how immune suppression caused by HIV reduces the body's ability to control oncogenic viruses, such as human herpesvirus 8 and human papillomavirus. The article also discusses how chronic inflammation and immune dysregulation contribute to cancer development. It highlights that while antiretroviral therapy reduces cancer risk, individuals with HIV remain at higher risk compared to the general population.

Evaluation: This source is highly credible, as it is published by the National Cancer Institute, a trusted government health authority. Its strength is that it clearly links immune dysfunction to cancer development, though it is more general and less mechanistic.

Relevance: This article is relevant to this assignment because it demonstrates broader systemic consequences of HIV infection, reinforcing the importance of immune regulation in disease progression.

48. Wohlfeiler MB, Palmieri Weber R, Brunet L, Siddiqui J, Harbour M, Phillips AL, et al. Definition, burden, and predictors of HIV-associated wasting and low weight in the OPERA cohort. *AIDS Res Hum Retroviruses*. 2023 Dec 4;39(12):636–643. doi:10.1089/aid.2023.0048. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10712360>

Summary: This study investigates HIV-associated wasting syndrome, focusing on its prevalence, predictors, and clinical significance. The authors analyze data from the OPERA cohort and identify factors contributing to weight loss, including disease progression, inflammation, and metabolic dysregulation. The study emphasizes that despite advances in antiretroviral therapy, wasting remains a concern in certain populations and is associated with increased morbidity and mortality. The study further underscores that HIV-associated wasting persists even in the era of antiretroviral therapy due to multifactorial mechanisms such as chronic inflammation, metabolic imbalance, and disease progression, all of which contribute to sustained weight loss and increased risk of adverse clinical outcomes.

Evaluation: This source is highly credible as a peer-reviewed research article. Its strength lies in its use of large cohort data to identify risk factors, though it focuses primarily on physical outcomes rather than neurological effects.

Relevance: This article is relevant to this assignment as it highlights systemic effects of HIV infection, demonstrating how chronic disease impacts overall health beyond the immune system, which can indirectly influence neurological and cognitive outcomes.

49. Palau L, Menez S, Rodriguez-Sanchez J, Novick T, Delsante M, McMahon BA, et al. HIV-associated nephropathy: links, risks and management. *HIV AIDS (Auckl)*. 2018 May 25;10:73–81. doi:10.2147/HIV.S141978. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC5975615>

Summary: This review discusses HIV-associated nephropathy (HIVAN), a kidney disease resulting from direct viral infection and immune-mediated damage. The authors describe how HIV affects renal cells, leading to structural damage and impaired kidney function. Risk factors, including genetic predisposition and viral load, are examined, along with treatment strategies such as antiretroviral therapy and supportive care. Overall, the study highlights the serious impact of HIV on renal health and the importance of early detection and intervention to prevent disease progression and improve patient outcomes.

Evaluation: This source is credible as a peer-reviewed article, though it is somewhat older. Its strength lies in explaining organ-specific complications of HIV, though it focuses less on neurological aspects.

Relevance: This article is relevant to this assignment as it illustrates the systemic nature of HIV infection and reinforces how viral and immune mechanisms contribute to multi-organ damage.

50. Dirajlal-Fargo S, Funderburg N. HIV and cardiovascular disease: the role of inflammation. *Curr Opin HIV AIDS*. 2022 Jul 5;17(5):286–292.

doi:10.1097/COH.0000000000000755. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9370832>

Summary: This article examines the link between HIV infection and cardiovascular disease, focusing on the role of chronic inflammation and immune activation. It explains how persistent immune dysregulation, even during effective antiretroviral therapy, contributes to endothelial dysfunction and increased risk of atherosclerosis. The authors highlight inflammatory pathways as key drivers of long-term complications in HIV patients. The review also emphasizes that these inflammatory processes are not limited to the cardiovascular system but can have systemic effects, contributing to multi-organ dysfunction. Chronic inflammation may exacerbate metabolic disturbances and vascular damage, potentially influencing neurological health and cognitive function, highlighting the importance of monitoring and managing inflammation in people living with HIV.

Evaluation: This source is highly credible and peer-reviewed. Its strength lies in connecting immune mechanisms with chronic disease outcomes, though it is specialized.

Relevance: This article is relevant to this assignment because it supports the broader concept that HIV-induced inflammation affects multiple organ systems, including those indirectly influencing brain health.

51. Evans SR, Ellis RJ, Chen H, Yeh TM, Lee AJ, Schifitto G, et al. Peripheral neuropathy in HIV: prevalence and risk factors. *J Acquir Immune Defic Syndr*. 2011 Nov 1;58(2):202–7. Available from:

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3196556>

Summary: This study investigates the prevalence and risk factors of peripheral neuropathy in individuals with HIV. The authors identify key contributors, including disease progression and certain antiretroviral drugs. The study highlights how nerve damage leads to pain, numbness, and reduced quality of life. The authors also discuss the importance of early detection and management strategies, including medication adjustments and supportive care, to prevent

worsening neuropathy and improve patient outcomes, emphasizing that peripheral neuropathy remains a significant neurological complication even in the era of effective antiretroviral therapy.

Evaluation: This source is credible but older. Its strength lies in identifying clinical patterns, though newer treatments may not be reflected. It provides valuable insight into long-term neurological outcomes and the persistent challenges faced by HIV patients despite modern therapies.

Relevance: This article is relevant to this assignment as it demonstrates neurological complications of HIV beyond the brain, reinforcing the widespread impact of the virus on the nervous system.

52. The Guardian. Drugs, denial and stigma: babies and children in Fiji HIV epidemic. 2026 Feb 24. Available from:
<https://www.theguardian.com/world/2026/feb/24/drugs-denial-and-stigma-babies-and-children-fiji-hiv-epidemic>

Summary: This news article reports on the growing HIV epidemic in Fiji, particularly among infants and children, and highlights the social and structural factors contributing to its spread. It emphasizes issues such as stigma, lack of access to healthcare, limited testing, and misinformation, which prevent effective prevention and treatment. The article also discusses how delays in diagnosis and treatment increase transmission rates and worsen health outcomes, especially in vulnerable populations.

Evaluation: This source is moderately credible, as it is a journalistic piece rather than a peer-reviewed study. However, *The Guardian* is a reputable news organization, and the article provides valuable real-world context and recent developments. Its strength lies in illustrating the human and societal impact of HIV, though it lacks detailed scientific analysis.

Relevance: This article is relevant to this assignment as it highlights the importance of public health infrastructure and social determinants in HIV transmission and management, complementing the biological and clinical aspects discussed in other sources.

53. Financial Times. Global HIV response challenges. 2026. Available from:
<https://www.ft.com/content/4fe55a54-0d89-4dca-9724-cc22044dc0fa>

Summary: This article discusses current challenges facing the global HIV response, including funding limitations, healthcare inequalities, and disruptions to prevention and treatment programs. It highlights how economic and political factors influence the availability of antiretroviral therapy and public health initiatives, particularly in low- and middle-income countries. The article also addresses the risk of reversing progress made in controlling the HIV epidemic due to declining international support. It further emphasizes the need for sustained global cooperation and innovative strategies to ensure continued access to treatment and prevention efforts worldwide.

Evaluation: This source is moderately credible as a reputable financial and global affairs publication, though it is not scientific. Its strength lies in providing insight into policy and economic barriers, but it lacks detailed biological or clinical discussion.

Relevance: This article is relevant to this assignment because it emphasizes the broader context in which HIV research and treatment occur, demonstrating how external factors can impact disease outcomes and the effectiveness of interventions.

54. Le Poidevin O. Trump-era global funding cuts devastate HIV prevention programmes, UNAIDS says. Reuters. 2025 Nov 25. Available from: <https://www.reuters.com/business/healthcare-pharmaceuticals/global-funding-cuts-devastating-hiv-prevention-programmes-unaid-says-2025-11-25>

Summary: This news article reports on the impact of global funding cuts on HIV prevention programs, citing concerns from UNAIDS about reduced access to essential services. It explains how decreased funding affects testing, education, and treatment availability, particularly in high-risk regions. The article highlights the potential for increased transmission rates and setbacks in global HIV control efforts. It also discusses the broader consequences of these cuts, including the disruption of community-based outreach, reduced support for vulnerable populations, and long-term public health risks. The piece underscores that without sustained financial commitment, decades of progress in HIV prevention and management could be significantly undermined, leading to higher infection rates and increased morbidity and mortality worldwide.

Evaluation: This source is credible as *Reuters* is a well-established news agency known for accurate reporting. Its strength lies in presenting current, real-world implications of policy decisions, though it lacks detailed scientific analysis.

Relevance: This article is relevant to this assignment because it demonstrates how political and economic decisions directly influence HIV prevention and treatment, reinforcing the importance of sustained global efforts in managing the disease.

55. World Health Organization. WHO releases updated recommendations on HIV clinical management. 2026 Jan 7. Available from: <https://www.who.int/news/item/07-01-2026-who-releases-updated-recommendations-on-hiv-clinical-management>

Summary: This source outlines updated WHO guidelines for HIV clinical management, including recommendations for diagnosis, treatment, and long-term care. It emphasizes early initiation of antiretroviral therapy, improved monitoring strategies, and integrated care approaches to manage comorbidities. The guidelines aim to improve patient outcomes and reduce transmission rates globally. Additionally, the recommendations address the need for individualized care plans, consideration of drug-drug interactions, mental health support, and strategies to enhance adherence to therapy. The guidelines highlight the importance of community engagement, patient education, and health system strengthening to ensure equitable access to treatment and care, particularly in low- and middle-income countries, thereby promoting sustainable HIV control worldwide.

Evaluation: This source is highly credible, as it is produced by the World Health Organization, a leading authority in global health. Its strength lies in providing

evidence-based recommendations, though it is more guideline-focused than mechanistic.

Relevance: This article is highly relevant to this assignment, as it supports discussions of current treatment strategies and highlights best practices in HIV management.

56. UNAIDS. Global AIDS strategy 2026–2031. 2026. Available from:

<https://www.unaids.org/en/2026-2031-global-aids-strategy>

Summary: This report presents the global strategy for ending the AIDS epidemic, outlining key targets, priorities, and interventions for the coming years. It focuses on reducing new infections, improving access to treatment, and addressing inequalities that contribute to HIV transmission. The report emphasizes a combination of biomedical, social, and structural approaches. It also highlights the importance of community engagement, strengthening healthcare systems, and addressing stigma and discrimination as critical components of effective HIV prevention and care. By setting measurable goals and promoting evidence-based interventions, the strategy provides a roadmap for coordinated global action, aiming to achieve equitable health outcomes and ultimately end AIDS as a public health threat by 2031.

Evaluation: This source is highly credible, as it is produced by UNAIDS, a leading global organization in HIV/AIDS research and policy. Its strength lies in its comprehensive and forward-looking perspective.

Relevance: This article is relevant to this assignment because it provides context for ongoing efforts to control HIV and highlights the importance of integrating scientific research with public health strategies.

57. UNAIDS. UNAIDS recognizes progress in West and Central Africa and urges continued commitment to end AIDS. 2026 Mar 12. Available from:

https://www.unaids.org/en/resources/presscentre/featurestories/2026/march/20260312_WCA_dialogue

Summary: This report highlights recent progress in reducing HIV infections and improving treatment access in West and Central Africa. It discusses successful public health initiatives while also emphasizing the need for continued investment and commitment to sustain progress. The report underscores the role of community-led programs, expanded testing and treatment coverage, and targeted interventions for key populations. It also stresses the importance of addressing social determinants of health, such as stigma, gender inequality, and economic barriers, to ensure equitable access to care. By providing detailed regional data, the report illustrates both achievements and remaining gaps, reinforcing the need for sustained, coordinated efforts to ultimately end AIDS in the region.

Evaluation: This source is highly credible, as it is published by UNAIDS. Its strength lies in presenting region-specific data and progress, though it may emphasize positive outcomes.

- Relevance:** This article is relevant to this assignment as it demonstrates real-world progress and challenges in HIV management, reinforcing the importance of global and regional efforts.
58. Cox D. UNAIDS is set to close in 2026 – four years early: are experts right to be alarmed? The Guardian. 2025 Oct 20. Available from: <https://www.theguardian.com/global-development/2025/oct/20/un aids-hiv-closing-2026-experts-right-to-be-alarmed>
- Summary:** This article explores concerns surrounding the potential early closure of UNAIDS and its implications for global HIV efforts. It highlights expert opinions on the risks of reduced coordination, funding, and advocacy, which could hinder progress in combating HIV/AIDS. The article further discusses how the loss of UNAIDS could disrupt international partnerships, weaken support for low- and middle-income countries, and slow the implementation of prevention, treatment, and research initiatives. Experts warn that without sustained leadership and oversight, achievements in reducing HIV transmission and improving patient care may be reversed, emphasizing the critical role of UNAIDS in maintaining global momentum toward ending the AIDS epidemic.
- Evaluation:** This source is moderately credible as a news article. Its strength lies in presenting expert perspectives and raising awareness of policy risks.
- Relevance:** This article is relevant to this assignment as it underscores the importance of global leadership and coordination in addressing HIV.
59. The Wistar Institute. Single-shot HIV vaccine candidate induces neutralizing antibodies for the first time. Medical Xpress. 2026 Feb 3. Available from: <https://medicalxpress.com/news/2026-02-shot-hiv-vaccine-candidate-neutralizing.html>
- Summary:** This article reports on the development of a novel HIV vaccine candidate capable of inducing neutralizing antibodies after a single dose. It describes the experimental approach and highlights its potential to improve vaccine accessibility and effectiveness. The article also emphasizes the significance of this advancement in addressing global HIV prevention challenges, particularly in regions with limited healthcare infrastructure. By potentially reducing the number of doses required, the vaccine could enhance compliance, lower costs, and accelerate immunization campaigns. This development represents a promising step toward more effective, widely accessible HIV vaccines, offering hope for future reductions in HIV transmission worldwide.
- Evaluation:** This source is moderately credible, as it is based on research but presented through a news platform. Its strength lies in discussing emerging scientific advancements.
- Relevance:** This article is relevant to this assignment as it highlights future directions in HIV prevention and the potential for vaccine development.
60. Schulich School of Medicine & Dentistry. HIV research hub story. 2023 Mar. Available from: https://www.schulich.uwo.ca/about/news/2023/march/hub_story.html

Summary: This article describes the establishment of an HIV research hub focused on advancing understanding and treatment of the disease. It highlights interdisciplinary collaboration and ongoing research efforts. The hub aims to accelerate discoveries in HIV prevention, treatment, and long-term management, while fostering training and mentorship for emerging researchers. By integrating clinical care with laboratory research and community engagement, the initiative seeks to translate scientific findings into improved patient outcomes, address health disparities, and contribute to global efforts to control and ultimately end the HIV epidemic.

Evaluation: This source is moderately credible as an institutional publication. Its strength lies in showcasing research initiatives.

Relevance: This article is relevant to this assignment as it emphasizes the importance of continued research in improving HIV outcomes.

61. Apertura Ven. Biólogo venezolano egresado de la UCV. 2020. Available from: <https://aperturaven.blogspot.com/2020/03/biologo-venezolano-egresado-de-la-ucv.html>

Summary: This source is a blog-style post discussing a Dr. Miguel E. Quiñones-Mateu and his work or perspectives related to HIV or broader scientific topics. It likely provides general or narrative information rather than structured scientific analysis, including background context, personal insights, or simplified explanations. Unlike academic sources, it is not primarily focused on presenting evidence-based research but instead offers more informal or descriptive content. Overall, the source contributes general contextual or anecdotal information rather than detailed scientific explanations of HIV.

Evaluation: This source has low credibility compared to peer-reviewed or institutional sources. It is published on a blog platform and lacks clear evidence of academic review or authoritative backing. While it may provide interesting perspectives or contextual information, its reliability is limited, and the information should be used cautiously. It is best supplemented with more credible scientific or governmental sources.

Relevance: This source was minimally used and served only as minor background or contextual reference. It was not relied upon for core scientific or statistical information, which was instead supported by more credible sources. An image was taken from this blog and used in The Pathology Press: Podcast.

62. OhMyDots. Available from: <https://www.ohmydots.com>

Summary: This source is an interactive website that provides connect-the-dots activities and visual puzzles. It is designed primarily for entertainment and educational purposes, allowing users to create images by connecting numbered dots. The platform offers a variety of templates and designs that can be adapted for different themes. While it does not provide scientific or medical information, it serves as a creative tool for visual engagement and learning. Overall, the source is useful for designing interactive and visually appealing activities rather than providing informational content.

Evaluation: This source has low academic credibility, as it is not a scholarly or research-based platform. However, it is reliable for its intended purpose as a creative and educational tool. Its strength lies in enhancing engagement and visual learning, though it does not contribute any scientific or evidence-based information.

Relevance: This source was used in The Pathology Press to create the puzzle activities included at the end of the project. It contributed to the interactive and engaging design of the assignment rather than its scientific content

63. WebMD. Top 10 myths and misconceptions about HIV/AIDS. Available from:

<https://www.webmd.com/hiv-aids/top-10-myths-misconceptions-about-hiv-aids>

Summary: This source identifies and corrects common myths about HIV/AIDS, helping clarify how the virus is actually transmitted and managed. It explains that HIV cannot be spread through casual contact such as hugging or being near someone with HIV, and that mosquitoes do not transmit the virus. It also addresses misconceptions about risk, such as the belief that oral sex carries the same risk as other forms of transmission, and highlights that modern treatments allow people with HIV to live long, healthy lives. Overall, the article emphasizes accurate knowledge as essential for reducing fear and misunderstanding surrounding HIV.

Evaluation: This source is moderately credible, as it is published by WebMD and medically reviewed, but it is not a peer-reviewed academic journal. Its strength lies in simplifying complex misconceptions into clear, easy-to-understand explanations. However, it may lack depth and detailed citations compared to scientific literature.

Relevance: This source was used in The Pathology Press to support the discussion of stigma, misconceptions, and public understanding of HIV, particularly in the “Social Issues” section addressing misinformation and its impact as well as at the end in the Pathology Puzzles section.

64. ChatGPT [Internet]. ChatGPT. 2025 [cited 2026 Mar 29]. Available from:

<https://chatgpt.com/c/69c58820-9ff0-832a-8adb-c322ed76133e>

Summary: This source refers to the use of ChatGPT as a tool for generating visual content and supporting design elements within the project. It was used to create images and graphics related to HIV, such as diagrams, visual aids, and creative elements that enhance understanding of complex topics. While it does not function as a traditional informational source, it assists in producing clear and engaging visuals that complement the written content. Overall, ChatGPT served as a tool to support the presentation and visualization of information rather than providing primary scientific data.

Evaluation: This source has limited academic credibility as it is an AI tool rather than a peer-reviewed or authoritative publication. However, it is useful for creative and design purposes. Its strength lies in generating customized visuals quickly, though outputs may require verification for accuracy.

- Relevance:** This tool was used in The Pathology Press to generate visual elements, specifically the comic strip in the Pathology Puzzles section, enhancing the visual appeal and engagement of the assignment.
65. ChatGPT [Internet]. ChatGPT. 2025 [cited 2026 Mar 29]. Available from: <https://chatgpt.com/c/69965ddb-51b8-8328-a1e9-c152c67e37d3>
- Summary:** This source refers to the use of ChatGPT as a tool for generating a visual image related to HIV stigma awareness. The generated content was designed to support educational messaging by visually representing themes such as stigma, discrimination, and awareness. While it does not provide scientific or information, it contributes to the communication of key ideas through visual storytelling. Overall, ChatGPT was used as a creative tool to enhance how information is presented and understood by the audience.
- Evaluation:** This source has limited academic credibility, as it is an AI tool rather than a peer-reviewed or authoritative source. However, it is reliable for generating creative and customizable visual content. Its strength lies in supporting design and engagement, though outputs require human oversight to ensure appropriateness and accuracy.
- Relevance:** This tool was used in The Pathology Press to generate an image for the stigma awareness event, contributing to the visual communication of social issues related to HIV and enhancing audience engagement
66. PATHOLOGY NOW OPEN Shedding light on the silent blood disorder: von Willebrand Disease (VWD) [Internet]. 2025 [cited 2026 Mar 29]. Available from: https://www.schulich.uwo.ca/PathOER/pulse/img2025/team_36_project.pdf
- Summary:** This source is an educational student-created publication focused on von Willebrand Disease (VWD), presenting medical information in a visually engaging, newsletter-style format. It combines scientific explanations with structured sections, graphics, and accessible language to communicate complex health topics effectively. The layout includes clearly organized headings, visuals, and concise text, making it easier for readers to understand key medical concepts. Overall, the source serves as an example of how to present scientific information in an engaging and reader-friendly way rather than as a primary source of HIV-related content.
- Evaluation:** This source has moderate credibility, as it is produced within an academic setting (Western University) but is not a peer-reviewed publication. Its strength lies in its strong visual design, organization, and accessibility. However, it is not intended to provide authoritative scientific analysis.
- Relevance:** This source was used as the primary design and structural template for The Pathology Press. It guided the layout, formatting, and overall presentation style of the assignment, influencing how information, visuals, and sections were organized.