

PULSE EXPERIENTIAL TEAM ASSIGNMENT

Team #:

22

1. Title of your PULSE experiential assignment.

Provide a creative and informative title.

Beyond the virus: Understanding HIV - Learning Module

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.]

Our PULSE experiential assignment focuses on HIV, a virus that continues to affect millions of people worldwide. We chose this topic because HIV remains an important public health issue, especially in communities where access to prevention, testing, and treatment may be limited. It also connects closely to the infectious disease concepts we have been learning in class, such as how infections spread, how viruses work inside the body, and how disease can be prevented and treated.

Our group decided to present this topic as an interactive learning module. We chose this format because it is more engaging than a traditional paper or slideshow and allows learners to actively move through the material in a clear, organized way. This makes the information easier to understand and remember, especially for people without a strong science background.

In our module, we explain what HIV is, its symptoms, and how symptoms can sometimes be mild or absent for a long time. We also cover how HIV is tested, the stages of HIV infection from acute infection to AIDS, and how the virus is transmitted between people and within the body. In addition, we discuss important prevention methods, including STI testing, PrEP, PEP, and avoiding needle sharing. We also outline the main treatment options used to manage HIV and explain how medical understanding of HIV has improved over time. Finally, we explore how public attitudes, stigma, and public health responses to HIV have changed.

Overall, our project aims to make HIV education accurate, accessible, and engaging for a broad audience.

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

3-6 keywords are ideal.

HIV, Viral Transmission, HIV Prevention, HIV Testing, Transmission Pathways, Public Health

4. Identify the course topic with which your PULSE assignment most aligns.

Refer to the various topics outlined under 'Course content and Schedule' in the syllabus (e.g. Inflammation).

Section B: Infectious disease

5. What are the learning outcomes?

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>

- Describe what HIV is, including how it affects the immune system and progresses through different stages of infection.
- Explain the main methods of HIV transmission, testing, prevention, and treatment.
- Apply knowledge of HIV to a case-based scenario by identifying possible risks, prevention strategies, and appropriate next steps.
- Recognize the social and public health dimensions of HIV, including stigma, access to care, and changes in understanding over time.

6. Why did the team select the chosen topic and the medium? How will the topic and medium of choice help learners?

Our team selected HIV because it remains a major global health issue and is still highly relevant today despite major advances in prevention and treatment. It also connects strongly to the infectious disease concepts discussed in class, including transmission pathways, viral replication, disease progression, testing, prevention, treatment, and public health response. We felt HIV was a topic that would allow us to combine scientific content with important social and public health perspectives, such as stigma, access to care, and changing societal understanding over time.

We chose an interactive module because it is a more engaging and accessible way to teach this material than a traditional written report. HIV involves many connected ideas, so an interactive format allows learners to move through the content step by step and focus on one concept at a time. This can make complex information feel less overwhelming and easier to understand. This is especially helpful for a topic like HIV, where learners benefit from understanding not only the science behind infection and

treatment, but also the real-world importance of prevention, stigma reduction, and public awareness.

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)?

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?)

Yes, our team used artificial intelligence (AI) technology (ChatGPT & Gemini) tools in this assignment, mainly to help create images and comic-style visuals for our interactive module. We used AI as a creative support tool to make the content more visually engaging and easier for learners to follow. This was especially useful because our topic, HIV, includes complex scientific processes that can be difficult to explain using text alone. AI-generated visuals helped us present information in a clearer, more approachable, and more memorable way.

We chose to use AI for image generation because it allowed us to create customized visuals that matched the educational goals and style of our project. This was particularly helpful for developing the comic component, where we wanted visuals that were both informative and engaging. AI was one of the best tools for this purpose because it made it possible to quickly generate creative, topic-specific images that supported our explanations without requiring advanced graphic design skills.

The technology itself is not entirely new, but our use of it is somewhat novel because we are applying AI-generated visuals and comic design to support health education in an interactive learning module. Rather than using AI just to summarize information, we used it to enhance storytelling, visualization, and learner engagement. Alternative tools could have included drawing the comic manually or using standard design platforms alone, but AI was the most efficient option for helping us create polished visuals that fit the goals of our assignment.

8. How is your PULSE experiential assignment innovative and/or novel?

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?

Our PULSE experiential assignment is innovative because it goes beyond a standard educational format and presents HIV through an interactive module that also incorporates comic-style elements and a case study. Rather than only presenting facts in a traditional paper or slideshow, our project is designed to make learning more engaging, relatable, and memorable.

The comic component adds novelty by simplifying complex scientific and public health concepts into a more visual and approachable format. HIV can be a difficult topic for learners because it involves detailed biology, testing, treatment, and stigma. Using comic-style visuals helps break down these ideas in a way that feels less intimidating and easier to follow.

The case study component also makes our assignment distinctive because it helps learners apply knowledge to a realistic situation rather than just memorizing facts. This encourages deeper understanding by showing how HIV transmission, symptoms, testing, prevention, and treatment can connect in a real-life context. It helps bridge the gap between theory and practice.

What makes our project different from other existing HIV resources is that it combines scientific content, public health education, and interactive storytelling in one format. It not only explains the biology of HIV, but also highlights its human and social dimensions, including stigma and evolving public perceptions. By blending interactivity, visuals, and application-based learning, our assignment is designed to make HIV education more accessible, engaging, and impactful for learners.

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.

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].

[Please see attached document]

PULSE Team #22: AI Use

10. If you did not use an AI tool, please attach a copy of the team's notes to the assignment.

The response here is to allow others to observe the 'behind the scenes' team's work.

[Please see attached document]

PULSE Team #22: Team Notes

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.

Our team ensured the veracity of the information in our PULSE assignment by relying on evidence-based, reputable scientific and public health sources rather than informal websites or unsupported AI outputs. We used content with trusted sources such as peer-reviewed journal articles, public health websites, and medical/scientific resources on HIV. These included sources such as Mayo Clinic, Johns Hopkins, CDC, and other academic materials relevant to HIV transmission, progression, testing, prevention, and treatment.

To strengthen accuracy, each group member was responsible for researching their section using credible sources and keeping a record of where each major claim or fact came from. We tracked references for definitions, statistics, testing methods, transmission pathways, treatment classes, and prevention strategies so that we could properly cite them in the final assignment. This helped us ensure that the module was based on verifiable information and reduced the risk of including misinformation.

Although we used AI tools to help generate images and comic-style visuals, we did not rely on AI alone for factual medical or scientific content. Any information suggested by AI was checked against legitimate scientific sources before being included. If an AI-generated statement was unclear, oversimplified, or potentially inaccurate, we verified it using trusted references before deciding whether to keep, revise, or remove it.

We also plan to include in-text citations where appropriate throughout the assignment and provide a full reference list in the reference section. Overall, our approach combined careful source selection, fact-checking, and citation tracking to make sure the information presented was accurate, evidence-based, and responsible for an educational health resource.

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?

Creating this PULSE assignment was a valuable learning experience for our team because it pushed us to think not only about the science of HIV, but also about how to communicate it responsibly and accessibly to others. One bias we became aware of early on was the tendency to focus too heavily on the biomedical side of HIV while overlooking the social realities surrounding stigma, access to care, and public perception. To address this, we made a conscious effort to include both scientific and social

dimensions of HIV and to use respectful, non-stigmatizing language throughout the module.

We also tried to make the content equitable and inclusive by ensuring that the information was clear, understandable, and relevant to a broad audience rather than assuming advanced prior knowledge. Using an interactive format, comic elements, and a case study helped us make the material more approachable and engaging for different types of learners.

Overall, the assignment likely took over 30 hours across research, meetings, planning, and content design. What worked well was our communication: we stayed connected through a group chat, and divided sections based on topics so everyone had a clear responsibility. One challenge was balancing depth of information with clarity and conciseness, especially for a complex topic like HIV. Another challenge was making sure visuals and creative elements supported learning rather than distracting from it.

If we were to do this again, we would start organizing the final format earlier. Overall, this project strengthened both our understanding of HIV and our ability to create educational content for others.

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 the development of the PULSE assignment through research, planning, content creation, and revision.

- RM: Testing, transmission. Helped compile and organize the group's research notes, fact-checked the scientific and medical information using credible sources, and reviewed references to ensure that claims were accurate and properly supported. Completed annotated bibliography for respective sections.
- SS: Background info, signs and symptoms, clinical images. Helped shape the creative direction of the project by using AI tools to generate the comic images and by creating the comic script, which made the module more engaging and accessible for learners. Completed annotated bibliography for respective sections.
- TJ: Prevention, evolution of the understanding of HIV. Designed the "test your knowledge" component of the interactive module, helped organize content into a learner-friendly format, and contributed to compiling materials for the final assignment. Completed annotated bibliography for respective sections.
- JJ: Disease Progression and treatment. Assisted with compiling the group's notes and research findings, helped verify the accuracy of the information included in

the module, and ensured that the references and citations were completed correctly. Completed annotated bibliography for respective sections.
14. Other comments (Optional) <i>Any comments the team would like to let the coordinator and/or TAs know.</i>
N/A
15. References Please provide a numbered reference list with Vancouver citation style. [Please feel free to use citation management software (i.e., free citation manager, e.g., Zotero and Mendeley)]
References 1. Mayo Clinic. HIV/AIDS: symptoms and causes [Internet]. Rochester (MN): Mayo Foundation for Medical Education and Research; [cited 2026 March 12]. Available from: https://www.mayoclinic.org/diseases-conditions/hiv-aids/symptoms-causes/syc-20373524¹ 2. Mohammed I, Nasidi A [Internet]. [cited 2026 Mar 10]. Available from: https://ams.kku.ac.th/suchat/HIV/THE%20PATHOPHYSIOLOGY%20AND%20CLINICALMANIFESTATIONS%20OF%20HIVAIDS.pdf 3. Nambudiri VE. Kaposi sarcoma - oncology [Internet]. [cited 2026 Mar 10]. Available from: https://www.merckmanuals.com/professional/oncology/cancers-of-the-skin/kaposi-sarcoma?_gl=1%2A2yt1jy%2A_up%2AMQ..%2A_ga%2ANjQ4MDAwODYwLjE3NzYxMTU1NzM.%2A_ga_CJ792HFYYC%2AczE3NzYxMTU1NzIkbzEkZzAkdDE3NzYxMTU1NzIkajYwJGwwJGgw 4. Kaye KM. Herpes simplex virus (HSV) infections - infectious disease [Internet]. 2024 [cited 2026 Mar 15]. Available from: https://www.merckmanuals.com/professional/infectious-diseases/herpesviruses/herpes-simplex-virus-hsv-infections?_gl=1%2A1rnglnl%2A_up%2AMQ..%2A_ga%2AMTI4MDc0NTYwOS4xNzc2MTE1NzMw%2A_ga_CJ792HFYYC%2AczE3NzYxMTU3MjkkbzEkZzAkdDE3NzYxMTU3MjkkajYwJGwwJGgw 5. Burford M. HIV rash: Appearance and types [Internet]. 2025 [cited 2026 Mar 15]. Available from: https://www.verywellhealth.com/hiv-rash-5198418 6. Oral hairy leukoplakia [Internet]. [cited 2026 Mar 15]. Available from: https://www.hopkinsmedicine.org/health/conditions-and-diseases/oral-hairy-leukoplakia 7. Ruderfer D, Krilov L. Herpes simplex viruses 1 and 2. <i>Pediatr Rev.</i> 2015 Feb;36(2):86–90. doi:10.1542/pir.36-2-86.

8. Greenspan JS. Oral Hairy Leukoplakia [Internet]. Merck Manual. Public Health Image Library of the Centers for Disease Control and Prevention; 2024 [cited 2026 Mar 15]. Available from: https://www.merckmanuals.com/professional/infectious-diseases/human-immunodeficiency-virus-hiv/human-immunodeficiency-virus-hiv-infection#Symptoms-and-Signs_v1021425
9. Centers for Disease Control and Prevention. Testing for HIV [Internet]. Atlanta (GA): US Department of Health and Human Services, CDC; [cited 2026 Apr 13]. Available from: <https://www.cdc.gov/hiv/testing/index.html>
10. Pebody R. What is p24 antigen? aidsmap [Internet]. 2025 May [cited 2026 Apr 13]. Available from :<https://www.aidsmap.com/about-hiv/faq/what-p24-antigen>
11. Dasgupta A, Wahed A. Human immunodeficiency virus (HIV) and hepatitis testing. In: Dasgupta A, Wahed A, editors. Clinical chemistry, immunology and laboratory quality control. Amsterdam: Elsevier; 2014. p. 485-502. doi: 10.1016/C2017-0-03583-8
12. HIV.gov. How is HIV transmitted? [Internet]. Washington (DC): US Department of Health and Human Services; [cited 2026 Apr 13]. Available from: <https://www.hiv.gov/hiv-basics/overview/about-hiv-and-aids/how-is-hiv-transmitted>
13. Kirchhoff F. HIV life cycle: overview. Encyclopedia of AIDS. New York (NY): Springer; 2013. p. 1-9. doi: 10.1007/978-1-4614-9610-6_60-1
14. HIVinfo.NIH.gov. The HIV life cycle [Internet]. Bethesda (MD): National Institutes of Health; [cited 2026 Apr 13]. Available from: <https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-life-cycle>
15. HIV.gov. HIV treatment overview [Internet]. Washington (DC): U.S. Department of Health & Human Services; [cited 2026 February 23]. Available from: <https://www.hiv.gov/hiv-basics/staying-in-hiv-care/hiv-treatment/hiv-treatment-overview>
16. Cabecinha MA, Saunders J. HIV prevention strategies - sciencedirect [Internet]. 2022 [cited 2026 Mar 22]. Available from: <https://doi.org/10.1016/j.mpmed.2022.01.007>
17. Saloman L. What 25 years of the HIV outpatient study has shown - Contagion Live [Internet]. 2020 [cited 2026 Apr 27]. Available from: <https://www.contagionlive.com/view/25-years-hiv-outpatient-study->
18. Alonzo AA, Reynolds NR. Stigma, HIV and AIDS: An exploration and elaboration of a stigma trajectory - sciencedirect [Internet]. 1995 [cited 2026 Apr 27]. Available from: [https://doi.org/10.1016/0277-9536\(94\)00384-6](https://doi.org/10.1016/0277-9536(94)00384-6)

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 Vancouver 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.*

Annotated Bibliography

Mayo Clinic. HIV/AIDS: symptoms and causes [Internet]. Rochester (MN): Mayo Foundation for Medical Education and Research; [cited 2026 March 12]. Available from: <https://www.mayoclinic.org/diseases-conditions/hiv-aids/symptoms-causes/syc-20373524>

1

This source provides a clinical overview of HIV/AIDS, including how the virus is transmitted, early and long-term symptoms, and progression through the three main stages: acute HIV infection, chronic infection, and AIDS. This source is reliable and effectively defines AIDS by immune system damage (CD4 count below 200 cells/mm³) and provides helpful clinical examples, such as candidiasis and Kaposi sarcoma, to illustrate how immune suppression leads to opportunistic infections. These strengths make complex disease progression easy to understand for a general audience. I used this source in my presentation to explain how untreated HIV progresses through its clinical stages, from the acute phase to chronic infection and finally to AIDS. I also used it to describe the associated symptoms, including flu-like symptoms during acute infection and the opportunistic infections that arise during AIDS due to severe immune suppression. Overall, this source is useful for explaining HIV disease progression, changes in viral load and immune function, and how immune suppression contributes to increased susceptibility to secondary infections and malignancies.

Mohammed I, Nasidi A [Internet]. [cited 2026 Mar 10]. Available from: <https://ams.kku.ac.th/suchat/HIV/THE%20PATHOPHYSIOLOGY%20AND%20CLINICALMANIFESTATIONS%20OF%20HIVAIDS.pdf>

This source provides a comprehensive analysis of the HIV/AIDS epidemic, focusing on its pathophysiology, clinical manifestations, and diagnostic challenges faced. It details the HIV lifecycle and explains the evolution of clinical classification systems, which utilize specific major and minor signs to diagnose the syndrome. The text explores how the virus affects various organ systems,

leading to the development of opportunistic infections as the immune system is progressively destroyed. The authors of such a source are associated with prominent Nigerian health institutions and offer highly credible regional perspectives supported by a list of over 100 academic references. A major strength of this source is its ability to map specific symptoms, from mucocutaneous conditions like oral hairy leukoplakia to neurological complications such as AIDS dementia complex, directly to the stage of immune system damage. This source is relevant for identifying the specific minor symptoms that signal severe immune damage. It provides evidence for respiratory issues (ex: persistent cough, shortness of breath), skin and oral conditions (pruritic rashes, herpes zoster) and neurological complications. These details will be used in the assignment to illustrate the multisystemic nature of late-stage HIV and the common opportunistic signs used for clinical diagnosis.

Nambudiri VE. Kaposi sarcoma - oncology [Internet]. [cited 2026 Mar 10]. Available from:

https://www.merckmanuals.com/professional/oncology/cancers-of-the-skin/kaposi-sarcoma?_gl=1%2A2yt1jy%2A_up%2AMQ..%2A_ga%2ANjQ4MDAwODYwLjE3NzYxMTU1NzM.%2A_ga_CJ792HFYYC%2AczE3NzYxMTU1NzIkbzEkZzAkdDE3NzYxMTU1NzIkajYwJGwwJGgw

This medical resource provides a comprehensive overview of Kaposi sarcoma, defining it as a multicentric vascular tumour that originates from endothelial cells due to infection with human herpesvirus type 8 (HHV-8). The source outlines diagnostic procedures, primarily punch biopsy and imaging, and explores tailored treatment strategies, including local therapies, radiation, and systemic options like antiretroviral therapy for HIV-positive patients. This resource is authored by a specialist from Harvard Medical School and is peer-reviewed, making it exceptionally credible. Its strength lies in its concise, evidence-based clinical guidance and the inclusion of diagnostic imagery to support clinical recognition. A small limitation would be its dense, technical terminology, which assumes a baseline of medical knowledge. This source is vital for this assignment as it provides the core definition used to identify Kaposi sarcoma as an HHV-8-driven endothelial cancer found predominantly in immunosuppressed populations. I included this definition and its associated clinical image of Kaposi sarcoma to further understanding.

Kaye KM. Herpes simplex virus (HSV) infections - infectious disease [Internet]. 2024 [cited 2026 Mar 15]. Available from:

https://www.merckmanuals.com/professional/infectious-diseases/herpesviruses/herpes-simplex-virus-hsv-infections?_gl=1%2A1rnglnl%2A_up%2AMQ..%2A_ga%2AMTI4MD

c0NTYwOS4xNzc2MTE1NzMw%2A_ga_CJ792HFYYC%2AczE3NzYxMTU3Mjkkbz
EkZzAkdDE3NzYxMTU3MjkkajYwJGwwJGgw

This professional medical guide provides a comprehensive overview of Herpes Simplex Virus (HSV) types 1 and 2, detailing their pathophysiology and clinical management. It explains how these viruses cause recurrent infections by remaining dormant in nerve ganglia after the initial exposure. The source outlines various diseases caused by HSV, including mucocutaneous and central nervous system infections, while providing diagnostic protocols and evidence-based treatment options. This source is highly credible as it is published in the Merck Manual Professional Edition and authored by medical experts from prestigious institutions like Harvard Medical School. Its strengths include the use of extensive peer-reviewed citations and up-to-date clinical information modified as recently as 2026. However, its specialized medical terminology could be a weakness for readers without a healthcare background. This source is essential for defining HSV and establishing that antivirals manage symptoms but do not provide a cure. It directly supports the assignment's description of transmission via close contact and the resulting oral or genital sores and then relates it to its clinical image.

Burford M. HIV rash: Appearance and types [Internet]. 2025 [cited 2026 Mar 15]. Available from: <https://www.verywellhealth.com/hiv-rash-5198418>

This source provides an overview of HIV-related rashes, emphasizing that a flat, red rash is often one of the earliest visible symptoms of HIV infection. It explains that this rash typically appears within two to six weeks after exposure and may present as a maculopapular rash affecting the upper body. Additionally, it highlights that up to 90% of individuals with HIV experience some form of skin condition during the course of the disease, reinforcing the importance of dermatological symptoms in identifying and managing HIV. This source appears credible as it is medically reviewed and includes references to scientific literature and clinical data. Its strengths include clear explanations, accessible language, and inclusion of both clinical descriptions and visual aids, which enhance understanding. However, as a general health article, it may lack the depth of a peer-reviewed academic journal and could oversimplify complex mechanisms. This source is relevant for the assignment to support my statement that an HIV rash can appear as a flat, red rash and serve as an early symptom of infection. I used both the textual description and the clinical image to illustrate how the rash presents visually, helping to make the assignment more informative and engaging.

Oral hairy leukoplakia [Internet]. [cited 2026 Mar 15]. Available from: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/oral-hairy-leukoplakia>

This source provides a clinical overview of oral hairy leukoplakia, identifying it as a condition triggered by the Epstein-Barr virus (EBV) that primarily affects individuals with weakened immune systems, such as those with HIV/AIDS or organ transplant recipients. The resource explains the physical manifestation of the condition, which includes permanent, white, and "hairy-looking" patches that typically appear on the tongue. The resource outlines how healthcare providers diagnose it through physical exams or biopsies. It also discusses management strategies, emphasizing that treatment often focuses on addressing the underlying causes of immune suppression. The source is highly credible, as it is published by Johns Hopkins Medicine, a globally recognized leader in medical research and patient care. Its primary strengths are clarity and accessibility, achieved through structured sections and bulleted "key points" that make complex clinical information easy to digest. This source is used as a foundational definition of OHL in the assignment. Specifically, it supports the statement that OHL is an EBV-related condition characterized by white, hairy-looking patches on the tongue.

Ruderfer D, Krilov L. Herpes simplex viruses 1 and 2. *Pediatr Rev.* 2015 Feb;36(2):86–90. doi:10.1542/pir.36-2-86.

This resource, accessed via ResearchGate, provides a clinical photograph of a childhood manifestation of herpes simplex. ResearchGate is a professional network and repository where researchers and clinicians share peer-reviewed articles, conference papers, and diagnostic imagery. The primary purpose of this specific entry is to document the physical presentation of the virus in a pediatric patient, serving as a visual reference for how these infections manifest in younger populations, particularly those who may be immunosuppressed. A significant strength of this source is its inclusion of a pediatric manifestation, which is less frequently documented in general medical summaries compared to adult cases. This makes it a valuable tool for comparative clinical study. However, a notable weakness is that the source does not provide a detailed or comprehensive description accompanying the image. The lack of specific patient history, diagnostic context, or descriptive analysis of the lesions limits its utility as a standalone educational text. I selected this image from ResearchGate to specifically illustrate how herpes simplex presents in children, ensuring the visual data in my assignment is distinct from standard signs seen in adults. Using this pediatric-specific image, I can demonstrate the diversity of clinical presentations across age groups.

Greenspan JS. Oral Hairy Leukoplakia [Internet]. Merck Manual. Public Health Image Library of the Centers for Disease Control and Prevention; 2024 [cited 2026 Mar 15].

Available from:

https://www.merckmanuals.com/professional/infectious-diseases/human-immunodeficiency-virus-hiv/human-immunodeficiency-virus-hiv-infection#Symptoms-and-Signs_v1021425

This resource provides a clinical image of oral hairy leukoplakia, an opportunistic oral lesion commonly associated with advanced HIV/AIDS. The image visually demonstrates the characteristic white, corrugated plaques that typically appear on the lateral borders of the tongue in immunocompromised individuals. The accompanying medical source, similar in structure to professional references such as the Merck Manual Professional Edition, supports this visual by explaining the underlying pathophysiology of opportunistic infections and their relationship to immune system decline. Its purpose is to provide both a diagnostic visual reference and a clinical context for identifying disease progression. A major strength of this source is its combination of clear clinical imagery with medically accurate explanation, allowing for both visual and conceptual understanding. Like the Merck Manual, it reflects credible, expert-reviewed medical knowledge and aligns with current clinical understanding of opportunistic infections. I used this source to visually support my discussion of oral manifestations of advanced HIV infection, specifically highlighting oral hairy leukoplakia as an indicator of immune suppression. The image strengthens my assignment by providing a real clinical example that complements written descriptions of symptoms.

Centers for Disease Control and Prevention. Testing for HIV [Internet]. Atlanta (GA): US Department of Health and Human Services, CDC; [cited 2026 Apr 13]. Available from: <https://www.cdc.gov/hiv/testing/index.html>

This source explains the purpose and value of nucleic acid testing (NAT) in detecting viral infections such as HIV. Its main argument is that NAT improves early diagnosis by identifying viral genetic material in blood samples before the body has produced a measurable immune response. The article describes techniques such as reverse transcription polymerase chain reaction (RT-PCR), which converts viral RNA into DNA and amplifies it so that even small amounts can be detected. A major strength of this source is that it clearly explains the scientific basis of NAT and why it is useful in reducing the diagnostic window period. It is also published by an organization that protects the public's health in the United States, which increases its credibility. This source is relevant to my assignment because I will use it to explain how NAT works, why it can detect HIV earlier than antibody or antigen-antibody tests, and why it is especially helpful after recent exposure.

Pebody R. What is p24 antigen? aidsmap [Internet]. 2025 May [cited 2026 Apr 13]. Available from :<https://www.aidsmap.com/about-hiv/faq/what-p24-antigen>

This source explains the role of p24 antigen in HIV testing and emphasizes its value in early detection. Its main purpose is to describe what p24 is, when it appears in the bloodstream, and why it is used as an early marker of HIV infection. The source explains that p24 is a structural protein found in the core of the virus and becomes detectable soon after infection, before the body has produced a full antibody response. A strength of this source is that it presents the information in a very clear and accessible way, making it useful for understanding the timing of early HIV testing. It is also published by a recognized HIV information platform, which supports its credibility. However, one limitation is that it is an informational webpage rather than a primary research study. This source is relevant to my assignment because I will use it to explain how p24 antigen tests work, why they can detect HIV earlier than antibody-only tests, and why their usefulness is limited to the early phase of infection.

Dasgupta A, Wahed A. Human immunodeficiency virus (HIV) and hepatitis testing. In: Dasgupta A, Wahed A, editors. Clinical chemistry, immunology and laboratory quality control. Amsterdam: Elsevier; 2014. p. 485-502. doi: 10.1016/C2017-0-03583-8

This source explains the principles of HIV diagnostic testing, with a focus on antigen-antibody assays used in fourth-generation tests. Its main purpose is to show how combining detection of the p24 antigen with detection of HIV antibodies improves the ability to identify infection across different stages. The chapter explains that p24 is present early in infection, while antibodies such as IgM and later IgG appear as the immune response develops, extending the period during which HIV can be detected. A major strength of this source is that it comes from an academic book chapter, which makes it more credible and detailed than a general website. It also clearly connects the biology of infection with the clinical purpose of testing. One limitation is that it is broader in scope and may not focus only on fourth-generation testing. This source is relevant to my assignment because I will use it to explain how antigen-antibody tests work and why they provide a wider diagnostic window than tests that detect only antigen or only antibody.

HIV.gov. How is HIV transmitted? [Internet]. Washington (DC): US Department of Health and Human Services; [cited 2026 Apr 13]. Available from: <https://www.hiv.gov/hiv-basics/overview/about-hiv-and-aids/how-is-hiv-transmitted>

This source explains the main routes of HIV transmission and the biological conditions required for the virus to pass from one person to another. Its purpose is to provide clear public health information about which body fluids can transmit HIV and how exposure must occur for infection to happen. It identifies fluids such as blood, semen, rectal fluid, vaginal fluid, and breast milk, and explains that transmission requires entry through mucous membranes, broken skin, or direct injection. A strength of this source is that it comes from HIV.gov, a reliable government health website, which makes it credible and appropriate for factual information. It is also written in a clear and accessible way, making complex information easy to understand. One limitation is that it is an informational webpage rather than a detailed scientific study. This source is relevant to my assignment because I will use it to explain both the biological basis of HIV transmission and the most common ways the virus spreads between people.

Kirchhoff F. HIV life cycle: overview. Encyclopedia of AIDS. New York (NY): Springer; 2013. p. 1-9. doi: 10.1007/978-1-4614-9610-6_60-1

This source provides a detailed overview of the HIV replication cycle and explains what happens inside the body after infection occurs. Its main purpose is to describe the step-by-step process by which HIV enters CD4+ immune cells, replicates, and establishes long-term infection. The chapter explains key stages including viral attachment to CD4 receptors and co-receptors such as CCR5 or CXCR4, reverse transcription of viral RNA into DNA, integration into the host genome, and the production and maturation of new viral particles. A major strength of this source is that it is a scholarly book chapter, which makes it credible and scientifically detailed. It clearly connects the molecular steps of the HIV life cycle to the weakening of the immune system over time. One limitation is that it may be more technical than general educational sources. This source is relevant to my assignment because I will use it to explain how HIV invades host cells, replicates within the body, forms latent reservoirs, and progressively damages the immune system.

HIVinfo.NIH.gov. The HIV life cycle [Internet]. Bethesda (MD): National Institutes of Health; [cited 2026 Apr 13]. Available from: <https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-life-cycle>

This source provides an overview of the HIV life cycle and is intended to explain the major stages of how the virus infects cells and reproduces in the body. It outlines the sequence of viral entry, reverse transcription, integration into the host genome, replication, assembly, and maturation in a way that is easy to follow. A major strength of this source is that it comes from HIVinfo, a National Institutes

of Health resource, which makes it highly credible and appropriate for accurate health information. Another strength is that it includes a clear visual diagram, which helps readers understand a complex biological process more easily. One limitation is that it is designed as a general educational fact sheet, so it does not go into the same level of scientific detail as a textbook chapter or primary research article. This source is relevant to my assignment because I used it as a reliable reference for the image showing HIV invasion into the body and to support my explanation of the HIV life cycle.

HIV.gov. HIV treatment overview [Internet]. Washington (DC): U.S. Department of Health & Human Services; [cited 2026 February 23]. Available from: <https://www.hiv.gov/hiv-basics/staying-in-hiv-care/hiv-treatment/hiv-treatment-overview>

This source explains the treatment of HIV using antiretroviral therapy (ART) and describes how early and consistent treatment can control viral replication and significantly improve long-term health outcomes. It emphasizes that ART should be initiated as soon as possible after diagnosis, regardless of whether symptoms are present, to prevent ongoing immune system damage. Additionally, it explains that without treatment, HIV can continue to replicate and progress to AIDS. A key strength of this source is that the information is presented in clear, accessible language, making it ideal for patients, students, and the general public. The source is comprehensive for its purpose, covering not only treatment benefits but also practical challenges like side effects, adherence, drug resistance, and the need for lifelong therapy. It successfully links individual health outcomes with public health benefits. This source is used to clearly explain what antiretroviral therapy (ART) is, how it functions to interrupt HIV replication, and its overall purpose in improving health outcomes and preventing transmission.

Cabecinha MA, Saunders J. HIV prevention strategies - sciencedirect [Internet]. 2022 [cited 2026 Mar 22]. Available from: <https://doi.org/10.1016/j.mpmed.2022.01.007>

This article provides an overview of HIV prevention, emphasizing that no single method is sufficient to end transmission. The authors clearly define the three public health levels of prevention, which was particularly useful for the understanding of intervention goals. Primary prevention includes biomedical tools like PrEP and condoms to reduce acquisition, while secondary prevention focuses on early diagnosis through testing. Finally, tertiary prevention aims to improve quality of life for those living with HIV. A key strength of this source is its emphasis on combining prevention methods by integrating biomedical, behavioural, and structural strategies tailored to specific populations. The article

also addresses HIV stigma as a critical barrier and introduces the “status-neutral” approach, which uses HIV testing as an entry point to either prevention or care services. This framework is highly relevant for public health planning. However, a limitation of this source is that it lacks detailed data on the real-world effectiveness of specific interventions (e.g., PrEP uptake barriers, implementation of status-neutral approaches in different healthcare systems). Overall, this source was useful for understanding how layered prevention strategies work to reduce HIV transmission at the population level.

Saloman L. What 25 years of the HIV outpatient study has shown - Contagion Live [Internet]. 2020 [cited 2026 Apr 27]. Available from: <https://www.contagionlive.com/view/25-years-hiv-outpatient-study->

This article reviews findings from the HIV Outpatient Study (HOPS), a long-term U.S. study (since 1993) tracking people living with HIV since 1993 to understand how the disease and its treatment have evolved. It documented the transformation of HIV being a fatal illness to a manageable chronic condition. Quantitatively, the article highlights improvements, as the median CD4 counts rose from 244 cells/mm³ in the early 1990s to 640 cells/mm³ by 2017. Annual death rates decreased from 121 to 16 per 1,000 person-years, and the median age of death increased from 39 to 54 years. However, since this article is a summary of the HOPS data rather than a primary research article, it omits detailed study methodology and statistical analyses, limiting its depth for advanced research purposes. Overall, this source provides an overview of treatment outcomes, making it useful in seeing the medical progression for HIV treatment over the years.

Alonzo AA, Reynolds NR. Stigma, HIV and AIDS: An exploration and elaboration of a stigma trajectory - sciencedirect [Internet]. 1995 [cited 2026 Apr 27]. Available from: [https://doi.org/10.1016/0277-9536\(94\)00384-6](https://doi.org/10.1016/0277-9536(94)00384-6)

This article provides a framework for understanding how HIV-related stigma evolves dynamically alongside the biological course of infection. The authors propose a “stigma trajectory” model with four distinct phases: (1) “at risk,” characterized by pre-stigma, (2) diagnosis, involving confrontation with an altered identity, (3) latent, where individuals live between illness and health and (4) manifest, leading to social and physical death. It demonstrates how the meaning and experience of stigma shift as an individual progresses from potential exposure through diagnosis, to advanced illness. This source was useful for understanding the social processes of HIV-related stigma and how the understanding of HIV has evolved over the years. The key limitation is the age of the source (published in

1995) relative to major biomedical changes in HIV (i.e. the shift from a fatal illness to a chronic, manageable condition with effective antiretroviral therapy). In conclusion, although published in 1995, this source was beneficial in its theoretical insights and remains highly relevant for analyzing the social processes that continue to shape HIV prevention, testing, and treatment engagement today.