

# An Analysis of the Impact of an HIV Health Education Campaign Using the Analytical Hierarchy Process Method

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## Introduction

HIV (Human Immunodeficiency Virus) continues to pose a significant global health challenge. With over 38 million people living with HIV worldwide, the pandemic's social, economic, and health implications remain profound. In response, public health campaigns aimed at educating individuals about HIV transmission, prevention, and treatment have been critical in reducing the spread of the virus and improving the quality of life for those affected. These campaigns play a vital role in shifting public attitudes, behaviors, and knowledge regarding HIV prevention, stigma, and the importance of regular testing and treatment adherence. However, assessing the effectiveness of such health education campaigns is complex and requires a multi-dimensional approach. Simply measuring the outcome of a campaign based on one indicator—such as the number of individuals who received the information—fails to capture the full spectrum of impacts, including behavioral changes, shifts in attitudes, increased knowledge, and long-term prevention effects. This article explores the application of the AHP method to assess the impact of an HIV health education campaign. We will review how the AHP framework can be used to analyze multiple criteria, such as knowledge gain, behavior change, stigma reduction, and community engagement, and how these factors can be weighted and prioritized to offer a comprehensive evaluation of the campaign's effectiveness. The ability of the campaign's effects to last over time, including continued community engagement, behavior change, and knowledge retention. The efficiency of resource utilization in relation to the impact achieved by the campaign, ensuring that the outcomes justify the resources invested [1,2].

## Description

The Analytical Hierarchy Process (AHP) is a structured decision-making methodology that was developed by Thomas L. Saaty in the 1970s. AHP is used to model complex decision-making problems involving multiple criteria or alternatives, making it particularly useful in situations where subjective judgments and various factors need to be considered. The process involves breaking down a decision problem into a multi-level hierarchical structure, which simplifies the comparison of various criteria, alternatives, or outcomes. In the context of evaluating an HIV health education campaign, AHP allows for the consideration of multiple impact factors, including cognitive, behavioral, and attitudinal changes among the target population. It also enables the incorporation of expert opinions to assign relative importance to different criteria. The first step in applying the AHP method is to define the overall objective of the evaluation—i.e., to assess the impact of the HIV health education campaign. This goal is placed at the top of the hierarchy. Next, the

primary criteria form the second level of the hierarchy. Each of these criteria can be further subdivided into sub-criteria that provide a more granular assessment of the campaign's impact. In the second step of the AHP process, experts or stakeholders involved in HIV education and public health conduct pairwise comparisons between the different criteria and sub-criteria [3-5].

## Conclusion

Once the pairwise comparisons are completed, the next step is to calculate the weights for each criterion. The weights reflect the relative importance of each criterion in relation to the others. These are calculated by normalizing the eigenvector of the pairwise comparison matrix, which provides a consistent measure of importance for each factor. The final step involves synthesizing the information from all of the criteria and sub-criteria, combining the weights to calculate an overall score for the effectiveness of the HIV health education campaign. The overall score can be used to make decisions about the campaign's success, its continuation, or areas that need improvement. This score can also serve as a tool for policymakers to justify funding, prioritize future campaigns, and allocate resources more efficiently. The increase in understanding about HIV transmission, prevention, treatment, and stigma reduction after the campaign. Changes in individual behavior regarding HIV testing, condom use, adherence to antiretroviral therapy and prevention methods. The campaign's success in reducing societal stigma related to HIV, including discrimination and marginalization of people living with HIV.

## Acknowledgement

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## Conflict of Interest

None.

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