

Approaches in Epidemiologic Case Study

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Abstract

This discussion will compare and contrast case studies using principles of epidemiology. Approaches used in two case studies in relation to establishing smoke-free environments are examined. Finally, the evaluation of human health issues, risk assessment, cost benefit analysis, and policy cycles is addressed.

Keywords: Public Health; Epidemiology; Evaluation; Assessment; Principles; Practices; Competencies; Benefit Cost Analysis; Case Study; Health Issues; Risk Assessment; Policy Cycles; Policy Development; Smoking Ban; Smoke-Free Workplace; World Health Organization; WHO; Cambridge Case Study; World Health Organization (WHO) Case Study

Introduction

Epidemiology principles, practices, and approaches can be applied to promote healthy behaviors and educate target populations. Epidemiologists should possess basic competencies related to assessment and evaluation when working in public health to address negative health challenges that can be mitigated via behavioral changes models. Epidemiology competencies should include risk measurement, public health surveillance, outbreak investigation, assessment and analysis, application of theories and models, program design and implementation, monitoring, and public health policy development. Benefit cost analysis (BCA) can be used to justify health programs before recommendations to the public [1-3]. BCA can serve to persuade the public and political leaders of the social benefits of public health programs. Policy Cycle for Health Financing Actions and Reforms graphic in figure 1.

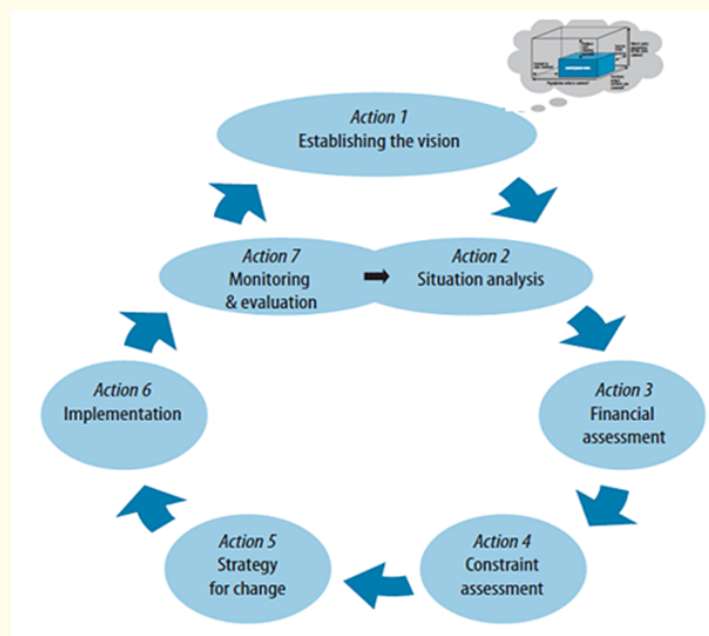


Figure 1: Policy cycle for health financing actions and reforms. adapted from world health organization (WHO). (2020). Health financing for universal coverage: The policy cycle. https://www.who.int/health_financing/tools/policy_cycle/en/.

Cambridge Case Study

In the Cambridge Case Study, the public health department worked with local communities on a smoke-free agenda in the workplace. The initiative was designed to protect all workers in Boston as well as educate the public regarding environmental health issues related to tobacco smoke. Collaborations were established throughout the community with various stakeholders such as unions, workers, businesses, tobacco control advocates, health organizations, community members, and city governments [4]. Public awareness and education campaigns were organized to gather signatures, paid advertisements, postcards, and develop presentations [4]. The city, along with various other communities, advocated for legislation to establish smoke-free work environments. Public hearings were held to foster legislative measures as well.

Challenges that were faced included passing smoke-free ordinances in certain municipalities and implementation and cooperation with license commission, police, bar owners, and restaurants [4]. Another challenge that existed was the reductions in the state's tobacco control budget. Tobacco control regulations were strengthened with the aid of a formed collaborative with various partnerships and stakeholders and the public health department [4]. Further, regulations to limit access to tobacco products to youth were established. In addition, smoking in most restaurants was prohibited. Certain allowances were applied for establishments that only served alcohol with patrons are over 18 years of age.

A clean air agenda was established to reduce economic burden on bar owners and restaurants. A vote by the city council extended the smoking ban to include private clubs, bars, and restaurants [4]. The statewide smoking ban was established through the support of the clean air agenda and other related efforts to educate and persuade the commonwealth [4]. The state became the sixth in the country to implement a smoking ban in all workplace environments. The clean air model has been identified and implemented by other states as a competent and efficient strategy for legislating smoke-free workplace conditions [4].

World Health Organization (WHO) Case Study

The leadership in Saudi Arabia mandated a smoking ban and adopted a faith-based approach to address the country's tobacco control challenge. Supporting prevention and tobacco cessation became the focus of the smoke free agenda to ban smoking in all educational, health, and transportation areas [5]. Legislation was enacted to apply specific standards for cigarette manufacturers, banned media advertisements, and prohibitions on sporting event sponsorships [5]. Further measures placed pressure on entities importing tobacco and forbid involvement in contracts and bids with the country in areas such as supplies or drugs. In addition, price increases and taxes on tobacco were imposed. Strong emphasis was placed on the faith-based component of the agenda to stress the importance and value of preserving one's body in a healthy state based upon common religious views in the country. Cafes and restaurants that chose to sell tobacco products were not issued licenses near residential areas, but rather beyond city limits. Moreover, preventing tobacco sales was a focused strategy for the agenda. A royal announcement was made and a high committee implemented the directive. An educational campaign to raise awareness was part of the smoking ban as well. Strategies used by the country involved developing partnerships, using religious doctrine, and political will and leadership [5]. Finally, collaborating with the World Health Organization (WHO) to influence a government-led agenda aided the overall success and implementation of the smoking ban throughout Saudi Arabia.

Compare and Contrast Approaches

Both case studies had some similarities and some differences. For example, the similarities included an emphasized on a well-planned educational campaign to change the hearts and minds of the commonwealth [6,7]. In addition, both case studies emphasized partnerships and collaborations with important stakeholders [6,7]. Finally, both case studies enacted similar legislation and bans to enforce the compliance of businesses. The main difference between the case studies involved the fact that Saudi Arabia can make laws and create conditions

without public consent. In the United States, partnerships and collaborations were formed to aid in the passing of laws to ban smoking in the state of Massachusetts. Although, finesse, education, and motivational strategies based on behavior change modeling were employed by government agencies in partnership with key stakeholders in both situations to change the hearts and minds of the public [8-10].

Principles of Epidemiology

Competencies involved in both case studies utilized common best practices and principles of epidemiology such as the following rubric:

- Recognizing health issues related to the public.
- Identifying health issues related to the public.
- Ensuring identification of health issues related to the public.
- Validating identification of health issues related to the public.
- Conducting, overseeing, organizing, implementing, supervising, managing, designing, and reporting surveillance activities and key findings [6,7,11].

Finally, key stakeholders involved in both of the case studies participated in creating policy and facilitating scientifically sound decision-making practices to move the smoking ban agenda forward toward completion [6,7,11].

Human Health Issues, Risk Assessment, Cost Benefit, and Policy Cycles

Human health issues can be addressed in a health and wellness program or initiative by promoting common goals and objectives that may be important to the target culture or society. Common themes that can be promoted include: (1) eliminating sedentary lifestyles, (2) reducing obesity, (3) improving physical appearance, (4) improving well-being, (5) health care expense reductions, and (6) reduction of morbidity and mortality [1-3]. The rising costs of healthcare and the desire to lower government expenditures can lead to cost benefit analysis of public health programs. Public health programs and government agencies use cost benefit analysis to justify many health programs and initiatives (Cottrell et al., 2018) [2]. By using quantitative and qualitative data analysis tools, health professionals can make public health programs more effective and efficient while providing evidence to persuade stakeholders that health initiatives and programs are worthy of support [1,3].

Furthermore, health professionals can analyze risk assessment by using the following framework criteria: (1) no risk, (2) risk-risk, (3) technology-based standards, (4) risk-benefit analysis, and (5) cost-effectiveness analysis [1-3]. Policy cycles necessary for public health initiatives will commonly include: (1) financial policy plans, (2) implementing, (3) managing, and (4) analyzing contextual opportunities, constraints, and health financing challenges [1-3,12]. In addition, a policy cycle necessitates sufficient tools to reinforce a systematic approach to the identified challenges.

Conclusion

This discussion compared and contrasted case studies using principles of epidemiology. Approaches used in two case studies in relation to establishing smoke-free environments were examined. Finally, the evaluation of human health issues, risk assessment, cost benefit analysis, and policy cycles was addressed. Basic epidemiology competencies are required when working in public health. Policy Cycle for Health Financing Actions and Reforms graphic in figure 1.

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