

INTRODUCTION TO PUBLIC HEALTH
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Introduction

Polio is a viral pathology that is highly contagious, mainly by the faecal-oral route, in places with low hygiene and a lack of vaccination. Despite the rarity of vaccine-derived poliovirus in the UK, recent incidents indicate the significance of effective population health interventions in preventing outbreaks and safeguarding health of the community.

Measuring the Incidence of Polio

To measure the incidence of polio, epidemiological methods are used. They are case reporting systems involving trained medical personnel reporting suspected cases to authorities after which laboratory testing is done to confirm the case (Lai *et al.*, 2022). The environmental surveillance, including sewage testing, can aid in the detection of the virus even among asymptomatic cases. Data are also obtained using population surveys and health records to find out the rate of infection and groups at risk in the community.

Monitoring the Outbreak

Real-time surveillance systems allow analysis of trends and uncovering the increase in cases in the eyes of the public health authorities. Contact tracing helps trace those that are exposed to infected individuals (Zainudin, 2025). It is also essential to monitor the vaccination rates since low immunization will put an epidemic at high risk. Targeted interventions can be facilitated with the help of geographic mapping and other tools to identify clusters.

Controlling the Spread of Polio

Control measures are aimed at curbing spread and on safeguarding the population. Mass vaccination campaign through with booster shots by vaccine-derived poliovirus type 2 (VDPV2) to the vulnerable citizens will be the most appropriate (Hill *et al.*, 2022). Seclusion and proper hygiene, including hand hygiene and sanitation are vital as a measure in infection control. Vaccination and preventive behaviours are also promoted by public awareness campaigns. When responding to vaccine-derived poliovirus, the response to immunisation should be rapid.

UK Public Health Policies and Strategies

The UK government has various policies towards the health of the population. The national immunisation program has a broad coverage of vaccines. The Health Security Agency in the UK is in charge of the outbreak of diseases and their response (Thompson *et al.*, 2022). The frameworks established by law to allow some actions to be taken to control disease like quarantine,

compulsory reporting such as the Public Health (Control of Disease) Act. The collaboration with the international agencies increases emergency capacity and response to outbreaks.

Factors Influencing Health and Wellbeing

Polio has a variety of health and wellbeing impacts on individuals. These are vaccination status, access to health services, socioeconomic status, and sanitation of the environment. Lack of awareness and poor living conditions may increase the risk of infection (Mbaeyi, 2023). When affected by paralysis, individuals may suffer disability in the long term, develop emotional distress and will need constant support of health and social care.

Health Education for Prevention

To avert outbreaks of polio, there is the need of health education. The communities should be sensitized about the importance of water and correct food safety, hygiene and vaccination. Education and reporting of symptoms early should be used to combat vaccine hesitancy. Health literacy can be increased significantly so as to slow down the spread of the infection.

Conclusion

Polio would only be effectively curbed with concerted efforts that include measurement, monitoring, control as well as supportive policies and education. All these combined efforts would assist in guarding people and, at large, safeguard the general community wellbeing.

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