



## COMPONENT 2

MAJOR HEALTH ISSUE

WRITTEN REPORT

HEPATITIS B

MODULE NAME:

INTRODUCTION TO PUBLIC HEALTH

STUDENT:

Albena Vassileva

2207094

LECTURER:

Bianca Sanfilippo

(LCHS4004\_LON)

December 2022

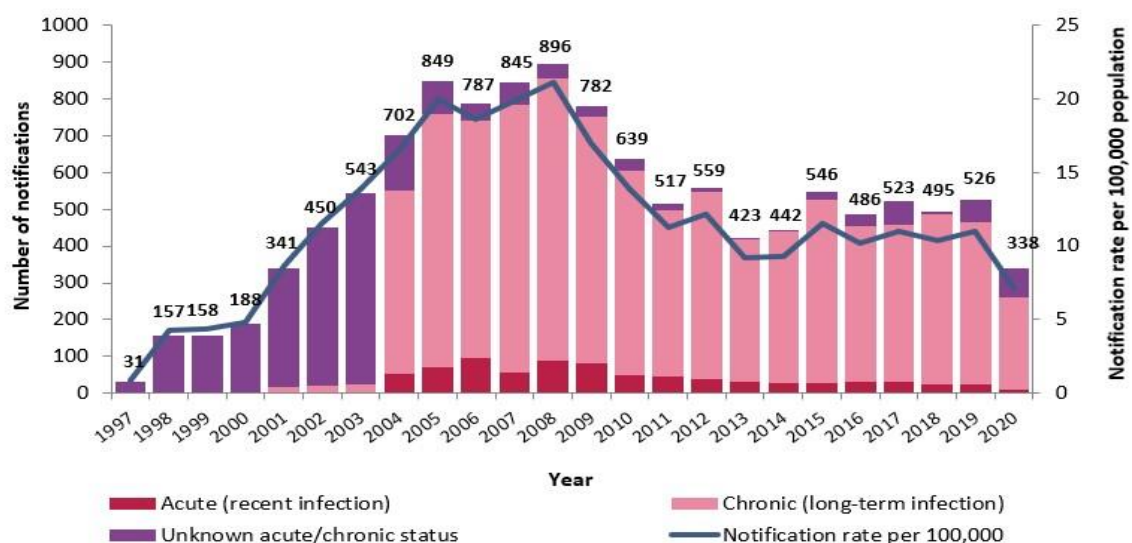
## INTRODUCTION

This report discusses the Hepatitis B as one of the main and most common Health issues in the UK and in the world. It is an infection disease caused by a virus called Hepatitis B virus (HBV) that attacks and injured seriously and sometimes fatally the liver. At the moment is estimates that two billion people in the world (1 in 3) person have been infected and about 300 million are living with a chronic hepatitis B infection. Each year up to 1 million people die from Hepatitis B despite that is preventable and treatable. The virus does not spread by sneezing or coughing but is passed from person to person through blood, semen, or other body fluids. Hepatitis B does not always have symptoms, but possible symptoms can include feeling sick, a high temperature, diarrhoea, loss of appetite, tummy pain and yellowing of the eyes jaundice and skin. However, hepatitis is often caused by a virus, can also be caused by toxins, alcohol use, some medications, and certain medical conditions. Hepatitis B is also called "silent epidemic" because most of the people do not have symptoms when they are newly or chronically infected. The prevalence of HBV in the Uk population is between 0,1% and 0,5% and mostly resulting from sexual activity, drugs, and alcohol use. There is safe vaccine to prevent Hepatitis B, and the chronic Hepatitis B infection can be managed with a very effective drug therapies. The best way to know if we are affected is testing.

## Levels of the incidence that demonstrate the severity of the Hepatitis B in worldwide and UK statistics

Hepatitis B is a blood-borne pathogen so its primary mode of transmission is through direct blood to blood contact with an infected person. Hepatitis B is also called a silent infection because it can affect people without them knowing it, which means people can be infected without having any symptoms. Most people who are infected with Hepatitis B are unaware of their infection even for many years and they are keeping doing their normal life unknowingly spreading the virus to others through direct contact because their blood is infected, and sexually as well. There is also a liver damaging chronic state of Hepatitis B which is infectious and may be absolutely without any symptoms and some people go on to develop cirrhosis or even liver cancer. This is one of the main reasons of the severity of Hepatitis B and the high level of incidence in the UK and worldwide. Hepatitis B can be prevented by getting vaccine and hepatitis B immune globulin (HBIG) as soon as possible after coming into contact with the virus preferably within 24 hours, but not more than two weeks after the exposure. In the UK vaccination is the best way to prevent hepatitis B.

Here we can see the number of hepatitis B notifications rate per 100,000 population from 1997 to 2020



The incubation period from infection to the appearance of symptoms is around 12 weeks. If the symptoms persist for more than 6 months means that the person has developed chronic hepatitis B infection. Even if during the chronic infection many people have no symptoms, but they still remain persistently infected and infectious. To others. Laboratory diagnosis of hepatitis B involve serological testing for diverse types of hepatitis B, specific antigens, and antibodies. The different serological markers are used to identify phases of HBV infection and to determine if a patient have acute or chronic HBV infection and if is immune to HBV or is susceptible to infection. All the laboratory that diagnoses cases should report data to the health protection teams.

The prevalence rate is between 0.1% and 0.5% of the UK population and mostly results from sexual activity or injecting drug use. Other way to prevent hepatitis B is a good personal hygiene and proper sanitation which helps to prevent and spread the virus. Always washing our hands with a soap and water after using the bathroom, before preparing, serving, or eating food. The hepatitis B vaccine is provided for all babies born in the UK on or after August 2017 and become mandatory. Hospitals, GP surgeries and sexual health or GUM clinics provide usually the hepatitis B vaccination for free for anyone at risk of infection.

The aim of immunisation is to provide a minimum of 3 doses of course depending on vaccine and schedule used of hepatitis B vaccine for infants the immunisation program is to protect against future exposure risks called pre-exposure immunisation. Same for individuals at elevated risk of exposure like healthcare workers, people who injects drugs, family contacts etc. Same for individuals who already have been exposed to the virus called post exposure immunisation like recent sexual contacts with someone with an acute case of hepatitis B, babies born to hepatitis B infected mothers. In the UK are available Monovalent, bivalent, and hexavalent HepB vaccines. The most common used in adults and children is the 0,1,2 and 12 months schedule. In case of probability of hepatitis B infection and fits the criteria and confirmed, then public health actions should be taken to control and prevent further cases. Also, risk assessment needs to be completed on all probable and confirmed cases. All these actions taken by the public health are preventative methods to stop onward transmission by the health protection, including information on protected sex, sharing needles and any accessories. Although immunisation from the transmission of hepatitis B, universal precautions have an immense importance and should not be ignored. Most consideration in an institutional and healthcare settings like care homes, where individuals are exposed to the blood or body fluids of others. Any specific context should be documented in the surveillance forms. Since the introduction of the hepatitis B vaccine and other preventive measure, the worldwide prevalence of hepatitis B infections has decreased. However, chronic infections remains a big global health problem with more than 300 million people chronically infected.

Hepatitis B affects approximately 296 million people including over 6 million children under the age of 5. There are estimated 820,000 deaths every day and 25% of chronic hepatitis B infections progress to liver cancer. That is why hepatitis B vaccine saves lives and money.

Improving hepatitis B vaccination coverage, conducting seroprevalence assessments and screening of pregnant woman helps to accelerate progress and document achievement of hepatitis B control targets. During 2016-2019 Europe made substantial progress toward achieving hepatitis B control. This progress is highly supported by a recent study. To accelerate the validation of the process, some countries could consider submitting all the available documentation for validation and some others still need to generate them. Although conducting nationally hepatitis B serosurveys could be challenging, and because the Covid 19 pandemic has ultimately challenged their implementation, hepatitis B testing can be incorporated into other nationally representative serosurveys which include Covid 19 when possible.

All the vaccines should be stored in the original packaging at +2 to +8 degrees and protected from light. They are sensitive to some extent to heat and cold. The heat speeds up the decline in potency of most the vaccines and reduce their shelf life. It is of extreme importance for the vaccine effectiveness to be stored at the correct temperature. Freezing may cause reactogenicity and loss of potency of some vaccines. Also, it can cause hairline cracks in the container leading to contamination of the contents. Different hepatitis B vaccine products can be used for a primary immunisation course or if indicated as a booster or for reinforcing dose for those who have previously received another hepatitis B vaccine. Hepatitis B vaccines can be given at the same time as other vaccines but should be given at the separate site and preferably in a different limb. Hepatitis B vaccine are highly effective around 90% of adults respond adequately. Not the same effect for smokers, people suffering of obesity and people over 40 years. The vaccine is also not effective in patients with acute hepatitis B. However, immunisation should not be delayed while awaiting any test results for current or past infection.

Short term called also acute hepatitis often has no noticeable symptoms and people may not realise to have it, but if symptoms do develop it can cause chronic infections and put people at high risk of death from cirrhosis and liver cancer. As a definition is a problem that is caused by treatment of a disease, but usually goes away after treatment ends. Public health helps detect the health issues as early as possible and responds appropriately to avoid the development of the disease.

About the long-term public health consequences of the disease in health and social care setting, NHS long term plan is a great opportunity not only to treat people, but also to prevent them getting ill in the first place. This long-term plan is to support people to live longer and make healthier lifestyle maximising the opportunities that patient contact and hospital admission bring to help people to improve their health.

Primary prevention in the NHS long term plan commitments means working with partners such as Public Health England and the Government to prevent the injury before it occurs. Must make it easier for people to be able to make healthier choices and to reduce the risk of developing ill health and premature death. The big challenge was the Covid 19 impact on the population and in the health care settings because at the time of Covid pandemic more than 90% of the UK population have had at least one Covid infection and 74% of adults had received three vaccinations. Of course, the term of reference for the stationary public injury now have been set, but then we witnessed a huge labour shortage which had fatal consequences. This injury will play a crucial role in understanding how the UK can prevent another human, social and economic disaster on the scale of that caused by Covid-19 where nothing can be underestimate. Covid-19 remains a significant cause of death in the UK and worldwide but cannot be the main cause of all deaths. Hepatitis B should not be neglected as well because since 1970 deaths only due to liver disease have increased to 400% and it is the biggest cause of death in those ages between 35-49 years old. For this the NHS long term plan will always make sure that the HNS has a bright future ahead of it for helping and supporting people.

## CONCLUSION

There is no cure or medication yet that eliminate the virus or HBsAg negative, but there is a great hope for the future. Already exists are approved and implemented therapies for hepatitis B and many in development. First line therapies in the US and globally are Entecavir, Tenofovir (TDF) and Tenofovir (TAF). They are antivirals and they control and manage the virus and reduce potential liver damage. The results show the virus is suppressed, the liver enzymes and liver function test may normalize, and the liver is better able to heal. In rare cases they may even rid of the virus. Many more steps are needed to ensure the safety and efficacy of a drug before it is approved for use in humans, also the costs are estimated \$800 million and takes up to 12-15 years for an experimental drug to move from the laboratory to the patient in the Us for example. In the UK vaccination is the best way to prevent hepatitis B and since 2017 is mandatory which decrease the risk of infection. The key principles to enhance the effectiveness of hepatitis B programmes include considering national response for hepatitis care, ensuring the human rights are fair or no barrier in access to testing, prevention, and treatment services are available for everyone and securing the financial resources and all the political support to be applied these recommendations.

## REFERENCES

*What is hepatitis B?* (no date) *Hepatitis B Foundation | Baruch S. Blumberg Institute*. Available at: <https://www.hepb.org/what-is-hepatitis-b/what-is-hepb/> (Accessed: January 3, 2023).

n/a (2022) *Hepatitis B virus (HBV), Hepatitis B virus (HBV) - Blood borne viruses (BBV)*. Available at: <https://www.hse.gov.uk/biosafety/blood-borne-viruses/hepatitis-b.htm> (Accessed: January 3, 2023).

n/a (2022) *Hepatitis B: Symptoms, causes & treatment*, *Cleveland Clinic*. Available at: <https://my.clevelandclinic.org/health/diseases/4246-hepatitis-b> (Accessed: January 3, 2023).

n/a (no date) *Hepatitis B, Hepatitis B - Health Protection Surveillance Centre*. Available at: <https://www.hpsc.ie/a-z/hepatitis/hepatitisb/> (Accessed: January 3, 2023).

Falcaro, M. (2021) *Alternative hepatitis B vaccine strategies in healthy non-responders to ..., hepatitis b vaccine*. Available at: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(19\)30582-1/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(19)30582-1/fulltext) (Accessed: January 3, 2023).

Intern guidance of the public health management and control, hepatitis B vaccine p. from 4 to 11 (I am so sorry I closed the page by accident I could not find it anymore)

Agency, U.K.H.S. (2022) *Hepatitis B: The green book, Chapter 18*, GOV.UK. GOV.UK. Available at: <https://www.gov.uk/government/publications/hepatitis-b-the-green-book-chapter-18> (Accessed: January 3, 2023).

*Hepatitis B - faqs, Statistics, data, & guidelines* (2021) Centers for Disease Control and Prevention. Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/hepatitis/hbv/index.htm> (Accessed: January 3, 2023).

n/a (no date) *about the nos long term plan , NHS choices*. NHS. Available at: <https://www.longtermplan.nhs.uk/about/> (Accessed: January 3, 2023).