**HIC-Vac Human Challenge Studies - Storyboard & transcript**

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| **Scene #** | **Script** | **Visuals** |
| 1 | Can we speed up coronavirus vaccines? | We see a clock and time passing next to a vaccine. |
| 2 | A human challenge study, where volunteers would be purposefully exposed to coronavirus, could help. | We see a doctor exposing someone to infection in a clinic.  |
| 3 | The usual way of testing how successfully a new vaccine protects people is a “field study”, where healthy volunteers are vaccinated then compared to people who weren’t.  | We see two large groups of young people. A force field appears around half of them to show they have been vaccinated. |
| 4 | But this depends on enough people being exposed to the infection naturally. These studies normally need large numbers of volunteers and can take a long time.  | Zoom out and we see vaccinated people move out into a diverse population (going about their everyday lives) where we see coronavirus infection in the air. Some people are a different colour and have the coronavirus infection. The vaccinated people stay uninfected.  |
| 6 | This is where human challenge studies could speed up progress.  | Return to clock but time is going faster. |
| 7 | Challenge trials normally involve carefully selected young, healthy adult volunteers, and this group of people are also at the lowest risk of getting severe symptoms and outcomes from coronavirus. | We see a group of young healthy adults in a clinical environment. |
| 8 | Doctors would fully explain how the study works, and the possible risks involved before the volunteers agree to take part. | We see a Dr and a speech bubble explaining risks. |
| 9 | To test a vaccine, some of the volunteers would be vaccinated and others not. All volunteers would be given the lowest dose of virus that can be used to infect people.  | Force-fields appear around half of the young people in the clinic. We see a doctor character giving volunteers the virus using a dropper to drop it into their noses.Those not vaccinated change colour to show they have the infection. |
| 10 | Scientists would then monitor them for signs of infection, including a raised temperature, over time to work out how protected the vaccinated group are. | Zoom into a young person on a bed being attended to by a scientist. They are having their temperature checked. |
| 11 | This would be done in a specialised medical isolation unit with care from doctors and nurses around the clock. The volunteers would stay within the unit for the duration of the study to prevent it being spread to other people.  | Young people are in the unit, and we see people being checked by doctors and nurses. |
| 12 | Deliberately infecting healthy people with coronavirus is ethically complex, particularly as there is no guaranteed cure. Even in low risk groups, there is a small chance people could become seriously unwell, suffer longer term effects or even die. | We see a young person in the unit on a bed. A doctor is next to them. |
| 13 | There is also a question over how much can be learned from testing vaccines in younger, healthy people rather than the at-risk populations, such as older people, who would benefit the most from a vaccine.  | We return to the view of the diverse population going about normal life from earlier. Young people have a strong vaccine forcefield, while a question mark appears over the forcefield of older and at-risk people. |
| 14 | But human challenge studies have been carried out safely for many years and have helped tackle a wide range of diseases, including malaria, flu and typhoid. If human challenge studies can speed up the development of a coronavirus vaccine and help scientists understand the disease better, they could help save many thousands of lives.  | We see people and the virus in the air. |