[youtube:http://www.youtube.com/watch?v=2IwvXdsIzCg auto]

Video made in 2010 - below is an archive article which contains important and relevant information as of 2011.

Biological warfare: Threat from mutant viruses, superbugs, and other organisms

The thought of catching a cold and then getting cancer is horrifying. Such a scenario has come a big step closer - A british scientist in Birmingham tried in 1995 to make new mutant superbugs out of human cancer genes and viruses closely related to strains causing common cold.

Although the research was designed to help find a cancer cure, the possibility of accidental escape was alarming. Even more worrying was the thought that a hundred similar or more dangerous experiments might be going on that we had yet to find out about.

Licences are granted every week

Licences are granted every week for work that many might find distasteful, unethical, or dangerous - humanising pigs or fish with extra genes, or releasing microbes into the environment. This is work few want to talk about for fear of public reaction.

The British government admitted in mid 1998 that more than a million people were sprayed from the air in secret germ warfare tests during the 1970s. The strain used was a "harmless" e-coli bacterium together with bacillus globigii. 150 miles of coastline and land 30 miles inland was exposed.

Any human, animal, insect or plant gene can be added to any microbe.

Superbugs are the most powerful gene inventions of all. Each new strain has the potential of a

biochemical factory - able to make complex substances like human insulin in a test-tube. Other strains have power to destroy. Researchers need dangerous viruses to develop vaccines and find cures, but there are risks.

Fears over safety justified

The fears over safety justified are however - the same University lost control of smallpox virus in 1978. A woman died, and a catastrophe was only prevented because hospital staff had been immunised against smallpox as children. Smallpox vaccination stopped some time ago so a similar escape in ten years time could cause a huge epidemic.

Escapes of viruses have happened before - in 1973 smallpox virus was released by laboratory in London - two died. In 1985 workers at the same laboratory narrowly missed death when smallpox ampoules were found lying in a biscuit tin in a fridge - dated 1952 but still deadly. Accidents happen.

No vaccine exists against many new mutant microbes - developed with potential for use as weapons. Porton Down Biological Warfare laboratory in the UK is worried - and has made intensive efforts to prepare for germ warfare defence (see letter from Director of Porton Down - Parliamentary written answer).

There were fears of biological weapons in the first Gulf War, with repeated claims by servicemen of possible exposure. We know that germ warfare agents can have long term effects on people and environment, for example, during the Second World War an experiment was made with anthrax spores on Gruinard Island in Scotland, which became uninhabitable for fifty years.

Hard to predict danger from mutant bugs

Most mutant viruses are not infectious, harmless and perish fast after release - as we have seen with experiments using soil bugs in agriculture. But limited field trials have found that released microbes can survive in fields and lakes.

Gene changes in one country have potential to affect a whole continent, and ultimately the planet as a whole.

Medical disaster is one thing, perhaps a highly infectious version of HIV, or a new cancer epidemic. Environmental contamination is another. Microbes can travel fast in dust, in water, on car wheels, on clothing, on animals.

Risks regarded as very low by most experts - but price of serious error could be huge.

Already MPs in 1993 called for a Gene Charter covering ethical and safety issues. Each new headline on gene research show how current legislation is running years behind the technology.

However, there is little point in controls if scientists can get on a plane and continue risky experiments elsewhere. Nothing less than international agreement will do. In most countries of the world much more hazardous experiments are permitted than the ones banned in Britain this week.

A world summit on biotechnology is urgently needed.