BBC Bitesize

Throughout the murky meanders of medical history, millions of people died from infection every year. Even minor infections could become fatal.

In the twentieth century, that started to change, with the ground-breaking work of three medical superstars: Fleming, Florey, and Chain, who were responsible for developing the world's first antibiotic: Penicillin.

The story started in the 1860s with Louis Pasteur, whose Germ Theory paved the way for a greater understanding of bacteria.

By 1914, scientists had discovered several 'magic bullets' – chemicals that specifically targeted and killed disease-causing microorganisms in the body. But magic bullets didn't work against staphylococcus, a nasty little brute of a bacteria that could lead to everything from pimples and impetigo, to pneumonia and meningitis. Step forward, Alexander Fleming...Our first superstar wasn't having any of this staphylococcus nonsense.

He saw how it had killed soldiers in the First World War, and set about finding a solution. Which came about by accident, when he left a petri dish full of staphylococcus just sitting in his lab. As you do.

When he returned to the dish, a mould had started growing, killing the pesky bacteria. He called this mould 'Penicillin.'

"Ahaaaa," Fleming thought,

"I've got you now, staphy."

But that's where his breakthrough petered out, because he never tested his penicillin on an infected animal, which meant he never fully realised its properties. And he just sort of...moved on. But unknowingly, Fleming had set the scene for our next two superstars to shine.

Howard Florey and Ernst Chain were researchers at Oxford University. When they discovered Fleming's findings in 1937, they decided to put penicillin to the test. They applied for funding from the hard-up wartime government, who gave them a whopping £25. Ooh, don't spend it all at once, fellas.

But Florey and Chain made do, and quickly set up a mould-growing lab to test infected mice. And, eventually, humans.

The first person they treated with penicillin was policeman Albert Alexander in 1940. He'd been accidentally scratched by a rose thorn in his mouth, that had become badly infected with staphylococcus. The penicillin improved Alexander's condition dramatically. But as soon as his supply ran out, Alexander died, providing a cautionary tale for any would-be rosebush canoodlers out there.

So not exactly a perfect outcome, but the impact of the trial results was ginormous. For the first time, the reliable effectiveness of an antibiotic had been proven, and it couldn't be ignored.

By the end of the Second World War, the US and UK governments had invested in tons of the stuff. 15% of people with infected injuries during the war had been saved by penicillin. That's an impressive stat for a humble bit of mould.

After the war, penicillin was officially classed as an antibiotic, and went into mass production, saving millions of lives and marking the beginning of huge government investment in new medicines.

And so we come to the end of our mouldy, marvellous tale. The discoveries of Fleming, Florey, and Chain had a monumental impact on medicine, preventing millions of unnecessary deaths.

Granted, other factors helped them out. These included war, advanced production technology, and a healthy dollop of chance (we're looking at you and your lucky mould, Fleming.)

Today, penicillin is still commonly used as an effective cure for many infections. You've probably had it yourself. However, like everything amazing in life, it has its limitations. Just as magic bullets were discovered to be ineffective against staphylococcus, penicillin is ineffective against superbugs like MRSA.

So let's hope this latest challenge will inspire innovative medical minds today! (That's you!)