Antibiotic resistance occurs naturally, but misuse of antibiotics in humans and animals is accelerating the process. A growing number of infections such as pneumonia, tuberculosis, gonorrhoea, and salmonellosis are becoming harder to treat as the antibiotics used to treat them become less effective. Antibiotic resistance is rising to dangerously high levels in all parts of the world. New resistance mechanisms are emerging and spreading globally, threatening our ability to treat common infectious diseases. The global action plan aims to ensure prevention and treatment of infectious diseases with safe and effective medicines. The Global action plan on antimicrobial resistance has 5 strategic objectives:

- History of antibiotics can be described in two segments: early history and modern history. Most important is the discovery of penicillin by Alexander Fleming.
- Antibiotics - An Introduction. Infections are very common and responsible for a large number of diseases adversely affecting human health. Most of the infectious diseases are caused by bacteria. Infections caused by bacteria can be prevented, managed, and treated through anti-bacterial group of compounds known as antibiotics. Definition. Antibiotics can be loosely defined as the variety of substances derived from bacterial sources (microorganisms) that control the growth of or kill other bacteria. Antibiotic Resistance Threats in the United States, 2013 is a snapshot of the complex problem of antibiotic resistance today and the potentially catastrophic consequences of inaction. The overriding purpose of this report is to increase awareness of the threat that antibiotic resistance poses and to encourage immediate action to address the threat. Antibiotics are among the most commonly prescribed drugs used in human medicine. However, up to 50% of all antibiotics prescribed for people are not needed or are not optimally effective as prescribed.
- How Antibiotic Resistance Spreads. Animals get antibiotics and develop resistant bacteria in their guts. George gets antibiotics and develops resistant bacteria in his gut. Antibiotic-associated diarrhoea, a short-term consequence of post-antibiotic dysbiosis, is well known. Here, Prof. The human gut microbiota refers to microorganisms living in the intestine, which have been estimated to equal the total number of human cells in the body. Microbial colonization of the human gut begins in utero as bacteria have been found in the umbilical cord, placenta, amniotic fluid, and meconium. After birth, the gastrointestinal tract is colonized by a rapidly diversifying microbiota, and it is in the early years of life that a stable gut microbiome is established. Such effects may play a role in the worldwide childhood obesity epidemic and highlight the importance of judicious use of antibiotics during infancy, favouring narrow-spectrum antibiotics.