

EXP 3: Evaluation of Prompting Tools Across Diverse AI Platforms: ChatGPT, Claude, Bard, Cohere Command, and Meta

Aim:

- To compare the performance, user experience, and response quality of different AI platforms (ChatGPT, Claude, Bard, Cohere Command, and Meta) within a specific use case, such as summarizing text or answering technical questions.

Instructions:

- 1. Define the Use Case:**
 - Select a specific task for evaluation across platforms (e.g., summarizing a document, answering a technical question, or generating a creative story / Code).
 - Ensure the use case is applicable to all platforms and will allow for comparison across response quality, accuracy, and depth.
- 2. Create a Set of Prompts:**
 - Prepare a uniform set of prompts that align with the chosen use case.
 - Each prompt should be clear and precise, ensuring that all platforms are evaluated using the same input.
 - Consider multiple prompts to capture the versatility of each platform in handling different aspects of the use case.
- 3. Run the Experiment on Each AI Platform:**
 - Input the prompts into each AI tool (ChatGPT, Claude, Bard, Cohere Command, and Meta) and gather the responses.
 - Ensure the same conditions are applied for each platform, such as input format, time to respond, and prompt delivery.
 - Record response times, ease of interaction with the platform, and any technical issues encountered.
- 4. Evaluate Response Quality:**
 - Assess each platform's responses using the following criteria:
Accuracy, Clarity, Depth, Relevance
- 5. Compare Performance:**
 - Compare the collected data to identify differences in performance across platforms.
 - Identify any platform-specific advantages, such as faster response times, more accurate answers, or more intuitive interfaces.

Deliverables:

- A comparison table outlining the performance of each platform (ChatGPT, Claude, Bard, Cohere Command, and Meta) based on accuracy, clarity, depth, and relevance of responses.
- A final report summarizing the findings of the experiment, including recommendations on the most suitable AI platform for different use cases based on performance and user experience.

Prompt:

Define Antibiotics

ChatGPT answer:

Antibiotics are a class of medicines used to treat bacterial infections. They work by either killing bacteria (bactericidal) or inhibiting their growth and reproduction (bacteriostatic). Antibiotics are ineffective against viral infections, such as the common cold or flu.

How Antibiotics Work:

1. **Targeting Bacterial Cell Walls:** Some antibiotics, like penicillin, weaken the bacterial cell wall, causing the bacteria to burst.
2. **Inhibiting Protein Synthesis:** Antibiotics such as tetracyclines and macrolides block the production of essential proteins needed for bacterial survival.
3. **Disrupting DNA/RNA Synthesis:** Drugs like fluoroquinolones interfere with the replication of bacterial DNA or RNA.
4. **Blocking Metabolic Pathways:** Sulfonamides inhibit the synthesis of essential vitamins like folic acid that bacteria need.

Types of Antibiotics:

- **Broad-spectrum:** Effective against a wide range of bacteria (e.g., amoxicillin).
- **Narrow-spectrum:** Target specific types of bacteria (e.g., isoniazid for tuberculosis).

Usage and Precautions:

- Overuse or misuse of antibiotics can lead to antibiotic resistance, where bacteria evolve to survive these treatments.
- Always complete the prescribed course to ensure the infection is fully treated.

Discovery:

Antibiotics were first discovered by Alexander Fleming in 1928 when he observed that the mold *Penicillium* produced a substance (penicillin) that killed bacteria.

Gemini AI:

Antibiotics are medicines used to fight bacterial infections in humans and animals. They work by either killing the bacteria or preventing them from multiplying. Antibiotics are crucial in treating a wide range of bacterial infections, from minor skin infections to life-threatening diseases like pneumonia and sepsis.



Antibiotics pills

Types of Antibiotics:

- **Penicillins:** One of the oldest and most widely used classes of antibiotics. They work by interfering with the bacteria's cell wall synthesis.



Penicillin antibiotics

- **Cephalosporins:** Similar to penicillins, they also disrupt bacterial cell wall synthesis. They are often used to treat infections resistant to penicillins.

Cephalosporins					
Cephalosporins are bactericidal beta-lactam antibiotics derived from the fungus <i>Acremonium</i> — they disrupt peptidoglycan formation in the cell wall.					
(They have no activity against LAME: <i>Listeria</i> , Atypicals (<i>Mycoplasma</i> / <i>Chlamydia</i>), <i>MRSA</i> and Enterococci. (Only <i>MRSA</i> exception being 5 th Generation drugs: Ceftriaxone etc.)					
1 st Gen	2 nd Gen	3 rd Gen	4 th Gen	5 th Gen	
adroxil laxolin laxolin zedone	Cefaclor Cefuroxime Cefotetan Cefprozil	Cefixime Cefdinir Cefotaxime Cefazidime	Ceftriaxone Cefodizime Cefquinome	Cefepime Ceftazidime Ceftolozane	
General Rule 1 st Gen are predominantly active against gram-positives, with succeeding generations progressively more active against gram-negative strains (often with reduced gram-positive activity, except 4th, which are extended spectrum agents).			Adverse Effects Nausea, diarrhea, rash, pain and inflammation at injection site. Those allergic to penicillins may show cross-sensitivity with some cephalosporins, but the figure is thought to be considerably less than the 10% commonly cited.		

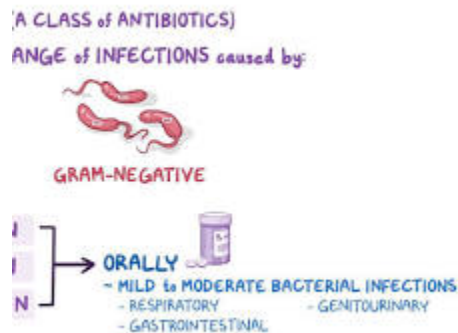
Cephalosporins antibiotics

- **Tetracyclines:** They inhibit protein synthesis in bacteria, preventing them from growing and multiplying.



Tetracyclines antibiotics

- Macrolides: They also interfere with protein synthesis in bacteria, but in a different way than tetracyclines.



Macrolides antibiotics

- Fluoroquinolones: They target the DNA replication process in bacteria, preventing them from reproducing.

Table 1 Fluoroquinolones Withdrawn From US M

Generic Name (Brand Name)	Reason for Withdrawal
Grepafloxacin (Raxar)	Adverse cardiac events: card repolarization; QT interval prolongation; ventricular arrhythmia (torsade de pointe)
Sparfloxacin (Zagam)	QT prolongation and phototox
Trovafloxacin (Trovan)	Hepatic toxicity
Gatifloxacin (Tequin)	Increased risk of hypoglycemia and hyperglycemia
Norfloxacin (Noroxin)	Commercial reasons

- Fluoroquinolones antibiotics

Important Considerations:

- Antibiotics only work against bacterial infections, not viral infections like the common cold or flu.
- It's crucial to complete the full course of antibiotics prescribed by your doctor, even if you feel better before finishing. Stopping early can lead to antibiotic resistance.
- Misusing antibiotics can contribute to the development of antibiotic-resistant bacteria, making infections harder to treat.

If you suspect you have a bacterial infection, consult your doctor to determine if antibiotics are necessary.

Meta AI:

Antibiotics are medications that specifically target and kill or inhibit the growth of microorganisms, primarily bacteria, fungi, and some types of protozoa. They are used to treat infections caused by these microorganisms.

Characteristics of Antibiotics:

1. Targeted action: Antibiotics specifically target microorganisms, leaving human cells relatively unaffected.
2. Bactericidal or bacteriostatic: Antibiotics can either kill bacteria (bactericidal) or inhibit their growth and reproduction (bacteriostatic).
3. Narrow or broad spectrum: Antibiotics can be effective against a wide range of microorganisms (broad-spectrum) or specifically target a particular type (narrow-spectrum).

Types of Antibiotics:

1. Penicillins (e.g., amoxicillin, penicillin G)
2. Cephalosporins (e.g., cephalexin, ceftriaxone)
3. Macrolides (e.g., erythromycin, azithromycin)
4. Fluoroquinolones (e.g., ciprofloxacin, levofloxacin)
5. Tetracyclines (e.g., doxycycline, minocycline)
6. Aminoglycosides (e.g., gentamicin, tobramycin)

Important Considerations:

1. Misuse and overuse: Overprescription and misuse of antibiotics contribute to antibiotic resistance.
2. Resistance: Bacteria can develop resistance to antibiotics, making them less effective.
3. Side effects: Antibiotics can cause adverse reactions, such as allergic reactions, digestive issues, and interactions with other medications.

Proper Use:

1. Only use antibiotics for bacterial infections: Antibiotics are ineffective against viral infections.
2. Follow prescription guidelines: Complete the full course of treatment, even if symptoms resolve before finishing the medication.
3. Consult a healthcare professional: Before taking antibiotics, consult a doctor or pharmacist to ensure proper use and minimize potential risks.

Cohere AI:

Antibiotics are a type of medication used to treat and prevent bacterial infections. They are designed to either kill or inhibit the growth of bacteria, helping the body's immune system fight off the infection. Antibiotics work by targeting specific processes or structures that are essential for the survival of bacteria, while minimizing harm to human cells. These medications are an important tool in modern medicine, as they have significantly reduced the impact of many bacterial diseases that were once life-threatening. However, their effectiveness is threatened by the emergence of antibiotic-resistant bacteria, which has led to a global health concern and the need for responsible antibiotic use and development of new antibiotics.

