Overview

The Global Health Education and Learning Incubator at Harvard University (GHELI) supports interdisciplinary education about world health through the production, curation, and dissemination of educational public goods. This exemplar work was a final project for "World Health: Challenges and Opportunities," a General Education course at Harvard College taught by GHELI Faculty Director Sue J. Goldie. For this creative assessment designed with support from GHELI, students systematically analyze a societal health challenge they care about and create a "real world" product intended to influence policy or motivate change.

Abstract

A set of infographics targeting healthcare providers and patients to educate about antibiotic resistance in India.

Artist

Sanjana Singh (2024)

Caption

Since the invention of antibiotics a little over a century ago, bacteria-killing drugs have become one of the most important tools in healthcare. Infections that were once death sentences are now able to be cured with just a few doses. However, the effectiveness of antibiotics is quickly diminishing as bacteria grow resistant to the medication and superbugs resistant to multiple antibiotics emerge. India, in particular, has become a hotspot for antimicrobial resistance (AMR). Over the course of just 5 years, the common bacteria pneumoniae and E. Coli's susceptibility to antibiotic imipenem decreased by 22%. In 2019, 4.95 million deaths in India were associated with resistant infections, and 1.27 million were directly caused by it. These statistics are correlated to the rate of consumption of antibiotics in the country. In 2019, the country used a whopping 12.9 billion units of antibiotics, far exceeding the per capita global rate. These infographics aim to educate patients and providers on how to use and prescribe antibiotics responsibly.

Artist Lens

I decided to create two educational materials for my project: an infographic targeting healthcare providers in private hospitals and a flyer to be distributed to patients and the general public in the same healthcare facilities' waiting rooms. Together, these materials are meant to educate providers and the public about why AMR is something to be concerned about and how many common practices in the country, like overprescription, self-prescription, and unfinished courses of antibiotics, contribute to the problem.

Both of the educational materials include specific design elements influenced by their target audiences. I wanted the flyer to be fun and eye-catching so that people in waiting rooms would choose willingly to read it. The vision I had for distribution is to have it on tables in the waiting room as reading during long wait times. The material on it is supposed to encourage good antibiotic consumer habits and is not very data-driven. The infographic has a much more minimalistic design that is meant to display a level of professionalism. While both materials are meant to educate about the same issue, the information that is included in each is vastly different.

The infographic is filled with statistics and discusses AMR at a higher level. I envisioned the infographic as not only educating physicians who are not aware of the issue, but also reminding those who know about resistance of the severity and duty they have to the public to follow the practices that I outline at the end of the infographic. I tried to focus on including educational information as well as action items. While it is important for people to learn why this is an issue to inspire change in their behavior, it is also important that people understand what changes can be made in their habits. Both materials walk through background information as well as recommendations for behavior.

Media

Digital

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RESPONSIBLE ANTIBIOTIC PRESCRIPTION

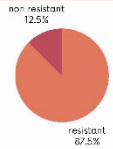
Overprescription of antibiotics is leading to antimicrobial resistance, decreasing the effectiveness of these antidotes when they are medically vital.
Prescribe antibiotics conservatively to protect the health of your patients and your local and global communities.

INDIA (2010)

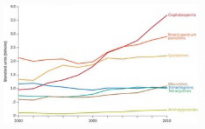
highest rate of antibiotic consumption in the world

12.9 BILLION
units of antibiotics consumed

WHY SHOULD YOU CARE?



Acinetobacter baumannii infections resistant to the broad-spectrum antimicrobial carbapenem



Trends in antibiotic consumption in India over a decade displaying an overall rapid increase.

In 2019, roughly 1 of every 9 deaths in India were associated with antimicrobial resistance. 297,000 deaths were directly caused by AMR.

(PLOS Medicine, 2019)

WARNING

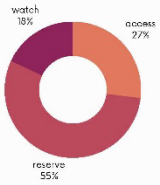
Antibiotic manufacturers and patients alike pressure to prescribe antibiotics even when the correct intervention.

REMINDER

Always prioritize healthcare over profit and ensure antibiotics will be effective in helping patients before prescription

HOW TO PRESCRIBE

There are three classifications of antibiotics: access, reserve, and watch. Access antibiotics are ideal for prescription. Whenever possible, prescribe this medication. The current distribution shown to the right is far skewed from the global consumption trends and needs to be changed.



Other Recommendations:

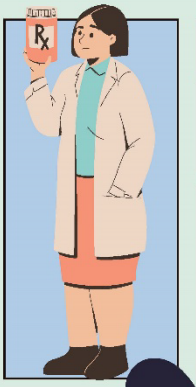
1. Avoid broad-spectrum antibiotics; prescribe equally effective narrow-spectrum instead.
2. Test infections to determine if they are bacterial in nature and if antibiotics will be effective.
3. Give patients proper education on how to adhere to regimens for dosing.

(Nature, 2023)

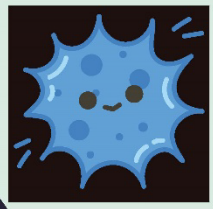
Consume Antibiotics Responsibly

Health Awareness

01 Antibiotics are important tools for healthcare. They can protect us from bad infections. However, not all infections can be treated with antibiotics. It is important to only take antibiotics when they are going to be effective measures.



02 Antimicrobial resistance is when bacteria grown resistant to the effects of antibiotics. Every time antibiotics are taken, we are exposing bacteria to the medicine and giving them time to adapt immunity.



03 Always get a prescription from a physician. Trust your doctor to know if antibiotics are the correct medication for you. If you are curious about the medication you are prescribed, ask questions! Never pressure your physician to prescribe.

04 If you are given a prescription, be sure to take the full course of medication that is prescribed and follow the regimen your doctor tells you about. This helps avoid antimicrobial resistance so we can all stay healthy!

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