

THE ANTIBIOTIC TALES

SONNY LIEW
HSU LI YANG



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EPIGRAM
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PREFACE

Antimicrobial resistance or AMR is the ability of microorganisms to resist the effect of antimicrobial agents used to target them. The term is most commonly used to describe bacterial resistance to antibiotics, but it also broadly covers other microorganisms such as fungi, parasites (an example being the family of protozoa that causes malaria) and viruses, such as HIV.

AMR poses one of the most critical infectious disease threats to human and animal health worldwide, recognised by all member states of the United Nations in a historic high-level meeting in September 2016.¹

It has many parallels with climate change in that it is a natural phenomenon. The ability of microorganisms (and macro-organisms like mammals!) to evolve and adapt to hostile environments has been accelerated by human activity; in this case, the overuse and abuse of antimicrobial agents in human medicine and agriculture.

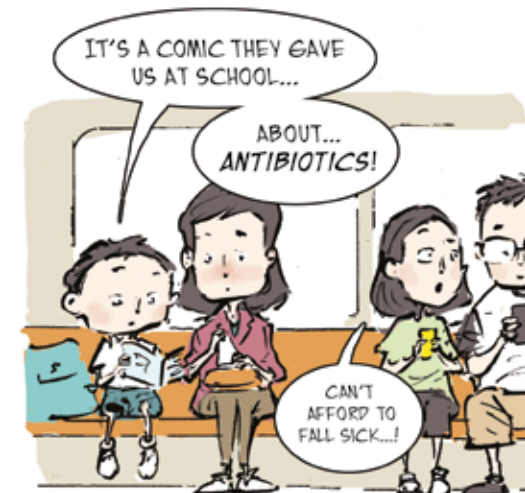
Moreover, just like climate change a couple of decades ago, AMR is invisible to and poorly understood by the majority of people.

The idea for this comic book came from our wish to explain AMR in a way that is accessible and easy to understand even by children. In the Notes section at the end of the book, we have included more details on some of the stories and the points raised.

Of course, it would be impossible to cover all the complex and intricate issues surrounding AMR in one short book—many parts of the unfolding story of AMR in agriculture and human health are still poorly understood by doctors and scientists themselves. The path to minimising the impact of AMR without disrupting much of what we enjoy, in the form of affordable agricultural products and advanced medical care, remains unclear.

Nonetheless, greater understanding of the issue, coupled with the application of more human minds and resources, will be the key to developing ingenious solutions to the different aspects of the “AMR problem”.

Sonny & Li Yang



¹ United Nations General Assembly. *Political Declaration of the High-Level Meeting of the General Assembly on Antimicrobial Resistance: resolution/adopted by the General Assembly*. New York: United Nations, 2016. <https://digitallibrary.un.org/record/845917?ln=en>.

THE POST-ANTIBIOTIC APOCALYPSE

THE YEAR IS 2119, AND A RAGTAG GROUP OF SURVIVORS ARE MAKING THEIR WAY THROUGH THE RUINS OF WHAT WAS ONCE THE KALLANG INDUSTRIAL PARK...

STOP RUNNING, OREN!

YOU COULD FALL...!

AAH!

OREN!!!



DID YOU GET CUT??

I TOLD YOU NOT TO RUN...!



NO...NO CUTS...

OKAY. GOOD...

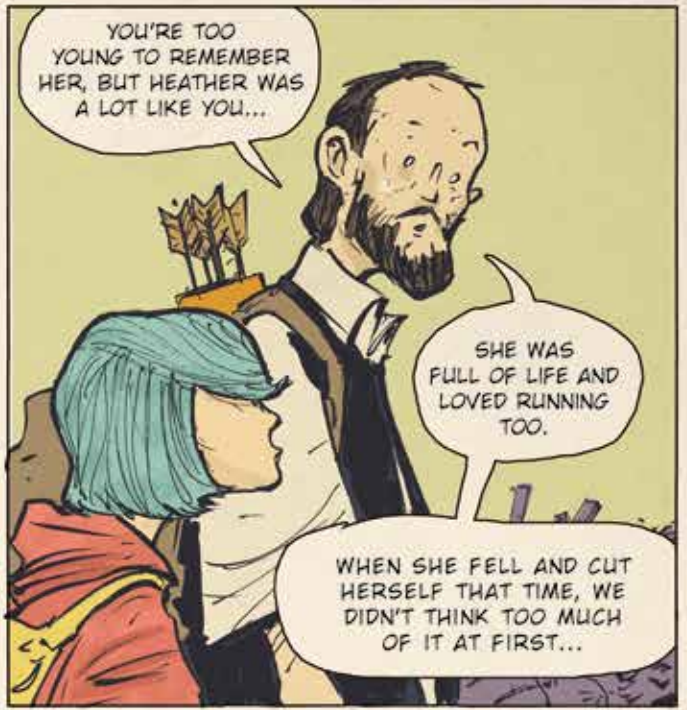


YOU KNOW WHAT HAPPENED TO YOUR SISTER...



I DON'T KNOW WHY MOM KEEPS BRINGING UP HEATHER...

WELL... SHE LOVED YOUR SISTER VERY MUCH, AS MUCH AS SHE LOVES YOU...



YOU'RE TOO YOUNG TO REMEMBER HER, BUT HEATHER WAS A LOT LIKE YOU...

SHE WAS FULL OF LIFE AND LOVED RUNNING TOO.

WHEN SHE FELL AND CUT HERSELF THAT TIME, WE DIDN'T THINK TOO MUCH OF IT AT FIRST...



BUT THE WOUND GOT INFECTED, AND DESPITE OUR BEST EFFORTS, IT JUST GOT WORSE AND WORSE...

YOUR SISTER GOT A FEVER AND SOON PASSED AWAY...



GRANDPA SAYS HE REMEMBERS A TIME WHEN INFECTIONS FROM CUTS WEREN'T A BIG DEAL...

YES, THAT'S RIGHT...

AFTER HUMANS DISCOVERED ANTIBIOTICS, THERE WAS A TIME WHEN WE WERE ABLE TO USE THEM TO MAKE HUGE STRIDES IN MEDICINE...



IT ALLOWED US TO PERFORM SURGERY— FROM TEETH EXTRACTIONS TO BRAIN OPERATIONS, KNEE REPLACEMENTS TO HEART TRANSPLANTS...

ALL THESE WERE MADE POSSIBLE BY HAVING ANTIBIOTICS AVAILABLE TO FIGHT BACTERIAL INFECTIONS...

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Eisner Award-winning graphic novelist Sonny Liew and infectious diseases expert Dr Hsu Li Yang interweave revelatory stories in *The Antibiotic Tales* that explain the problems caused by the careless use of antibiotics in humans and animals. Presenting a unique format featuring a comic within a comic—one set in present-day Singapore; the other, a post-apocalyptic scenario set in Kallang in 2119—the captivating pages point to the urgent issue of antimicrobial resistance (AMR) and its impact on our health, food and agriculture.

SONNY LIEW

SONNY LIEW IS THE CREATOR OF *THE ART OF CHARLIE CHAN HOCK CHYE*, A *NEW YORK TIMES* AND AMAZON BESTSELLER, AND THE FIRST GRAPHIC NOVEL TO WIN THE SINGAPORE LITERATURE PRIZE IN 2016.

HSU LI YANG

DR HSU LI YANG IS THE HEAD OF THE INFECTIOUS DISEASES PROGRAMME AT THE SAW SWEE HOCK SCHOOL OF PUBLIC HEALTH, NATIONAL UNIVERSITY OF SINGAPORE. HE HAS SPENT MANY YEARS RESEARCHING AND TREATING PATIENTS SUFFERING FROM DRUG-RESISTANT INFECTIONS.

“It’s hard to be charming about a danger that causes millions of deaths, but Sonny Liew has managed that. He’s combined useful life advice, political wisdom and a cautionary tale that may help us stave off disaster.”

Paul Levitz, 75 Years of DC Comics: The Art of Modern Mythmaking

“Antibiotic resistance is one of the most urgent health threats of our time. The World Health Organization welcomes *The Antibiotic Tales* as an important contribution to increasing understanding of antibiotic resistance and ensuring people benefit from the life-saving power of antibiotics for generations to come.”

**Dr Tedros Adhanom Ghebreyesus, Director-General,
World Health Organization (WHO)**



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