YOUR RESEARCH

Communicate who your innovation is for, what they need, who you spoke to when carrying out your research and what technology or science you might use to make your innovation work.

Double Dose
DoseAIDge
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We spoke to:
- Doctors
- Patients in the waiting room
- A drug company rep
- A pharmacist
- Multiple doctors

We also surveyed a number of parents and teachers.

Research:
Our product targets any person that is taking a course of antibiotics, or any other medicine. They need some product that can help them keep track of their medication to make sure they don't accidentally take too much or too little. For our research, we went to Girven Road Medical Centre to survey some of the patients there.

Research:
We didn't just survey the patients there, we also surveyed some of the doctors, teachers at our school and some other people such as parents. As well as that, we went to the Girven Road Pharmacy and interviewed one of the pharmacists that worked there and a Medical representative at the Medical Centre. If we were to make the app (on next page) we would need to know how to use coding and maybe get a professional to help us with the technical parts.

We also called a scratchy ticket making company and they said that they could make our scratchy calendar product if we sent them a design!

From our research we discovered that the scratch off calendar would be good for the old but young busy people were also forgetting to take their medications which was our influence for the mobile app version. We also learnt that there would not usually be enough room for the sticker on pill bottles, so we would have to put it on the box in some cases.

If we were to make the app (on next page) we would need to know how to use coding and maybe get a professional to help us with the technical parts.

Antibiotic resistance is one of the most urgent threats to the public's health.

Our statistics from our surveys:
We learnt that:
- The majority of people have problems forgetting to take their medication.
- Most people would want our product.
- Older people wanted calendar, younger people wanted app.
- Almost everyone had a smartphone the app could go on.
- Most people would be willing to pay for either product.
- Usually the older the person was, the more medications they regularly took.

Do you have problems with patients forgetting to take their medication?

Yes!

Us at Girven Rd Medical Centre:

When a person takes antibiotics, sensitive bacteria are killed quickly. If they do not finish the course, but resistant ones may be left to grow and multiply.

Overuse and misuse of antibiotics threatens the usefulness of these important drugs.

When antibiotics do not work, infections often last longer, cause more severe illness, require more doctor visits or longer hospital stays, and involve more expensive and toxic medications. Some resistant infections can even cause death.

Antibiotic resistance can cause significant suffering for people who have common infections that once were easily treatable with antibiotics.

We looked at other products trying to solve our problem:

Not an actual product just a talk with pharmacist, doesn't really solve problem.

Again, just your pharmacist reminding you for picking up and dropping off medicine, doesn't solve problem.

Not sustainable (basically just a tear off blister pack), does sort of solve problem but would be expensive and complicated to purchase.

We also looked at blister packs which are sort of solving our problem but they are more for long term, even permanent, prescriptions and are not recyclable or sustainable.

INNOVATION NAME
DoseAIDge

Instep Programme Priority 1
WOODS BRAND INNOVATION
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GLOBAL A failure to address the problem of antibiotic resistance could result in:

10m deaths by 2050

Costing **£66** trillion

Communicate the problem you are trying to solve, how big it is, who it affects and why it matters.

Double Dose
DoseAIDge **2**

The problem: Antibiotic Resistance - caused by sick people forgetting to take the full course of antibiotics correctly.

This is a big problem because if they do not take their course properly the bacteria becomes resistant to the antibiotics and the antibiotics can no longer help the patient.
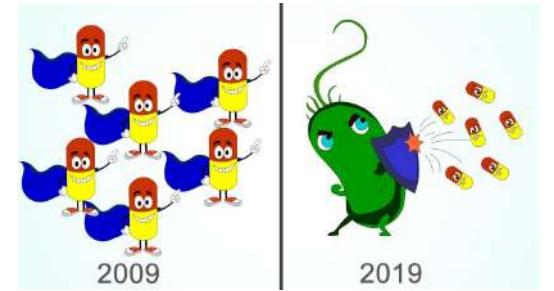
It affects doctors, chemists and mainly sick patients trying to get better on an antibiotics course.

This is really important because if the bacteria does become resistant to the antibiotics, that same bacteria could be spread to other people and then they will not be able to use antibiotics to heal themselves
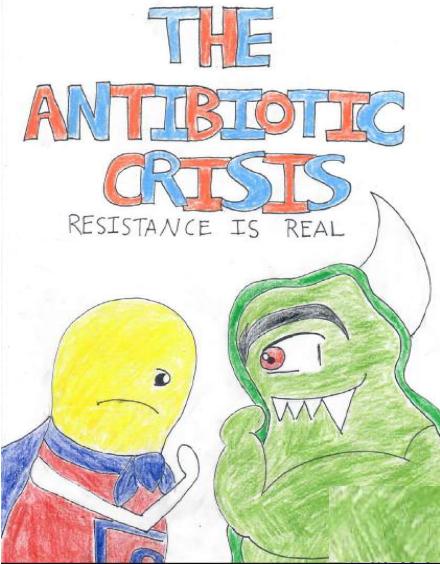
Antibiotic resistant bacteria is become more common over time.

2009   2019

Antibiotic-resistant bacteria: Bad bacteria can mutate, becoming resistant to antibiotics

Antibiotics: Kill both good and bad bacteria

Good bacteria: Dies, creating gastro-intestinal imbalance and disease

We hope that our product will help reduce the risk of, and amount of, antibiotic resistant bacteria world wide.

Comic strip: _The Antibiotic Crisis_

Bacteria inside the body (probably):

we're not scared of antibiotics!

there's just no stopping us...

How Antibiotics Work

- Antibiotics effect bacteria, but not eukaryotic cells
- Antibiotics attack bacteria in 5 ways
  - Damage the cell walls or prevent cells walls from forming
  - Damage the cell membrane
  - Prevent protein synthesis
  - Prevent DNA from being Copied
  - Interfere with bacterial Metabolism

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YOUR BIG IDEA

Summarise your idea using our 'fill in the blanks' template below and a visual which reflects your project.

Double Dose
DoseAIDge

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MY INNOVATION IS CALLED DoseAIDge

MY NAME / TEAM NAME IS Double Dose

I / WE GO TO SCHOOL AT Aquinas College

MY / OUR BIG IDEA IS To make a scratch off sticker & mobile app telling people when to take their antibiotics during a course.

AND IT HELPS Anyone given a course of antibiotics. Plus reduces the risk of bacteria becoming resistant to antibiotics.

BY SOLVING THE PROBLEM OF Forgetting to take antibiotics or taking them incorrectly causing the bacteria to become resistant to antibiotics and

INNOVATION NAME
Antibiotic Aid

Instep Programme Priority 1

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Explain your final idea, how it works and how it solves a problem.

Our two final ideas are a scratchy calendar on the side of your pill bottle or box where you could scratch a small date square providing a record of when you've taken your medication, and an app which had all your prescription information on it which you would get to by using your NHS number.

Easy to use.

Solves problem.

Convenient.

Useful.

The scratchy calendar would be a sticker on the side of your pill box or bottle (any box from the biggest, 12.5cm by 9.5cm to the smallest, 6.5cm by 8.5cm) that could have any antibiotic course on it kind of like this:

Cheap.

Good for older people.

Can be personalized for prescription.

Sustainable.

Fun/interesting with scratchy bit.

Solves problem.

Convenient.

The app would work because your prescriptions are in your info the doctors have which is accessible with your NHS number, your pharmacist and doctor both have you NHS number so they can send you a text with your NHS number. You download the app and type in the NHS number and all your prescription info is there with alarm reminders for your medication. These two products solve the problem because they stop people accidentally taking too many or too few pills which can both have detrimental outcomes as mentioned on the second page.

Modern/techy because it's an app.

Good for younger people.

Cheap.

Useful.

Sustainable.

Has lots of info on it about when to next buy meds, when to next take meds, when last took meds and past prescriptions.

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