

Antibiotic Resistance Debate Kit

Evaluation Report

Distributed Oct 2014-Jan 2015

Evaluated Sept – Nov 2015

- We estimate that at least 526 kits have been already used by teachers.
- 70% of teachers who use a debate kit once, keep using it year after year.
- 100% of the teachers said that their students are now aware of the issues surrounding the bad use of antibiotics.

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1. Introduction

This debate kit was funded by [e-Bug](#) (a project operated by Public Health England) and [Science Foundation Ireland](#). Gallomanor collaborated with E-Bug to research the kit, and asked for advice from teachers to ensure its educational suitability.

The **kit discusses whether the NHS should tell GPs to give back-up prescriptions instead of immediate antibiotics wherever possible**. This question sets ground for the discussion of all the extremely important topic of Antibiotic Resistance. The kit shows students how complex this topic is, and encourages them to explore and think about some of the main concerns surrounding the use of antibiotics.

All the facts in the kit were researched and we linked teachers to a page with references and additional information relating to it: debate.imascientist.org.uk/antibiotic-resistance-resources/

This kit included yet one additional feature: we developed an **online tool to track how each class changes its views**. It is an online survey that teachers should fill at three different stages during the activity and it gives results at the end. Results are analysed in point 3.3 of this evaluation report.

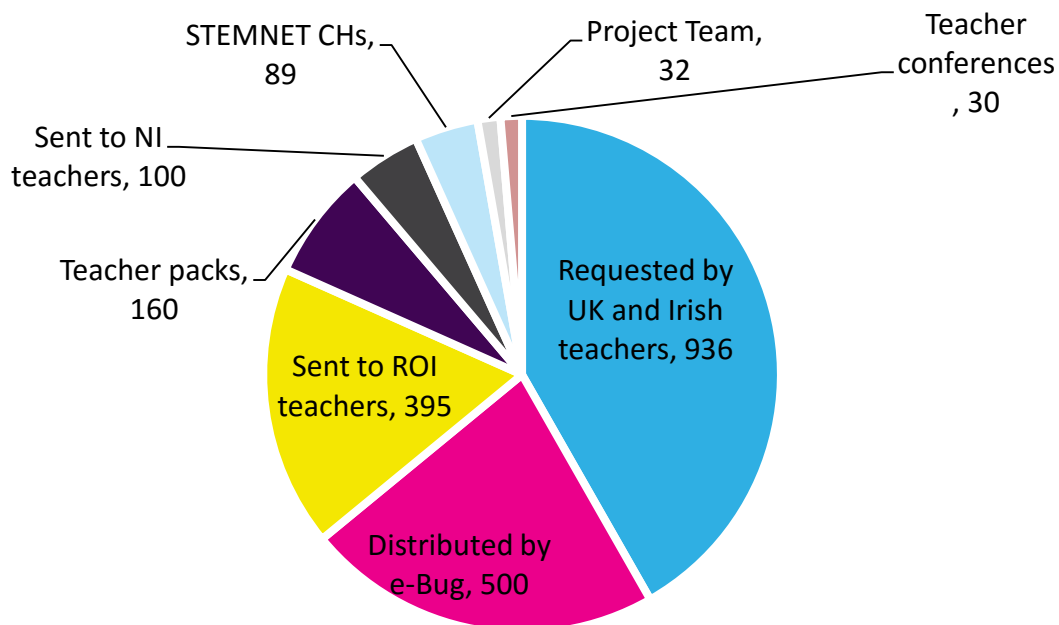


2. Distribution

2,400 kits were printed in October 2014: 936 were posted out to teachers in the United Kingdom (UK) and the Republic of Ireland (ROI) who requested them, 353 were posted to the heads of science of half of the schools in the ROI, and 100 were distributed in Northern Ireland (NI) through [W5-online](#) STEMNET Contract Holder.

On top of these, 500 kits were distributed by the E-Bug and 32 were distributed among the project team. Debate kits were also sent to 160 teachers who took part in *I'm a Scientist, Get me out of here* in November 2014 in the teacher packs. Finally, we sent 89 kits to STEMNET Contract holders to distribute them in their region, and 30 were given away in teacher conferences (see chart below). There are 158 remaining kits. Around 100 of them will be distributed in future teacher conferences, and we will keep 50 as spare copies.

A PDF version of the debate kit is also available to download from our website and E-Bugs website: Up to date, we estimate that the Antibiotics Resistance Kit has been **downloaded 380 times** between both websites.



3. Usage

It is very important for us to know if kits are used by teachers.

3.1 Usage – how many kits were used?

In order to get an accurate report of how many kits were used we asked a random sample of 100 teachers who'd requested a Antibiotics Resistance Debate Kit if they had used it. We then followed up non-responders with reminder emails.

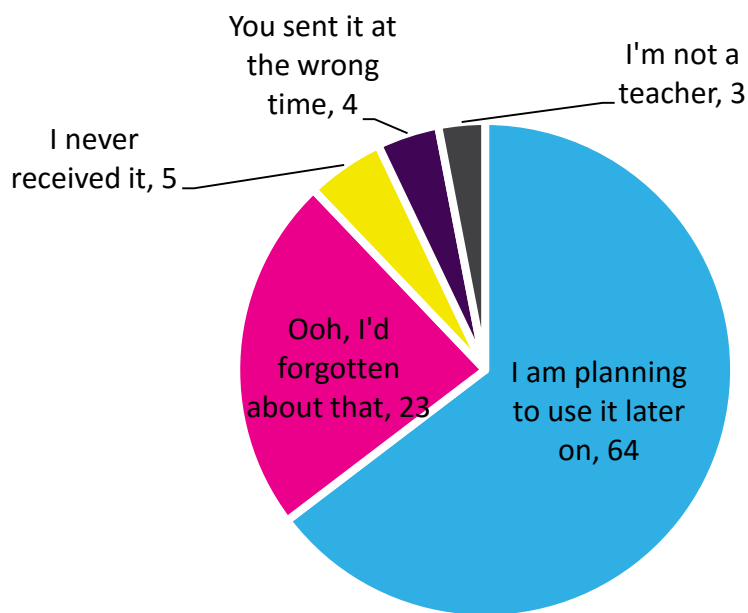
At the time of writing, **61 out of the randomised sample of 100 teachers have responded** to tell us if they've used the debate kit: **20 (33%) of them said they had used the kit.**

By extrapolating the percentage of randomly selected responders who'd used the kit up to the 812 teachers who requested kits, 33% of 936 gives an estimate of 309 kits used by the teachers who requested them. If we estimate that at least 17% of the other kits distributed to different teachers were used (half of the usage of requested kits), 17% of 1,274 is 217. Therefore, this very broad approximation gives an estimate of at least 526 kits used.

We estimate that at least 526 kits have been already used by teachers.

3.2 Usage – why some of the kits didn't get used?

All teachers who had requested a Antibiotics Resistance Debate Kit – not only the randomised control group – were sent the email in appendix 1 to ask them if they had used it. Teachers who clicked on the NO link were taken to a survey asking them why they hadn't used kit. Here are the responses from the 102 teachers told us why they hadn't used the Kit:



In the future, we will send teachers an email 3 months after sending the kit to remind them about it and ask if they have used it already.

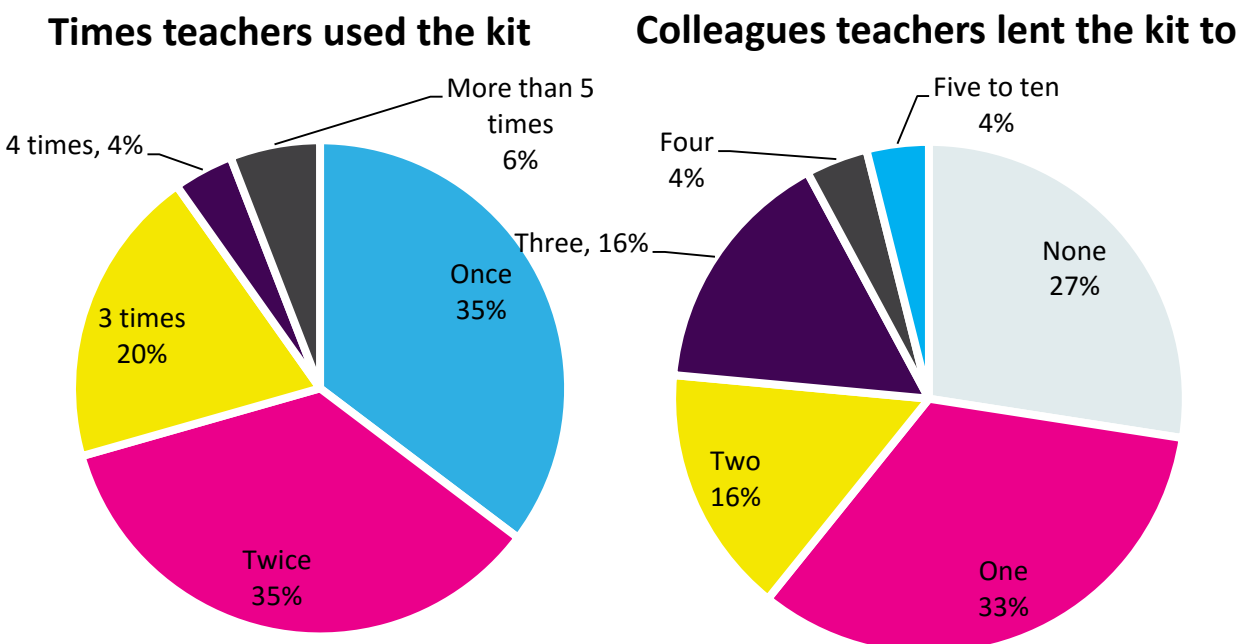
65% (64 out of 102) of the teachers that hadn't already used the kit were planning to use it later.

3.3. Usage – how were the kits used?

51 teachers who said they'd used the Antibiotics Resistance Debate Kit filled out the feedback survey about it and responded to certain questions on how they had used the kit.

The responses were very positive: 72% of them had already lent the kit to at least one colleague. More than half of the teachers (65%) said they had used the kit more than once, **94% of them plan to use it again, and none said they don't intend to use it again in the future.**

We know that teachers tend to use the kits year after year. We recently evaluated the repeated usage of the Drugs and Sport Debate Kit, which discussed doping in sport and was sent to teachers in 2012. We emailed 105 teachers who had told us they had used the kit in 2012 and asked them if they had used it since. 23 teachers got back to us. 16 (70%) of them replied to say they had used the kit again.



We linked teachers to a page with references and additional information relating to it. **The references page was visited by 167 different users.**

In the classroom, Antibiotics Resistance Debate kits were used mostly in science lessons, but also with Science trainee teachers and mature students on an Access to Bioscience course:



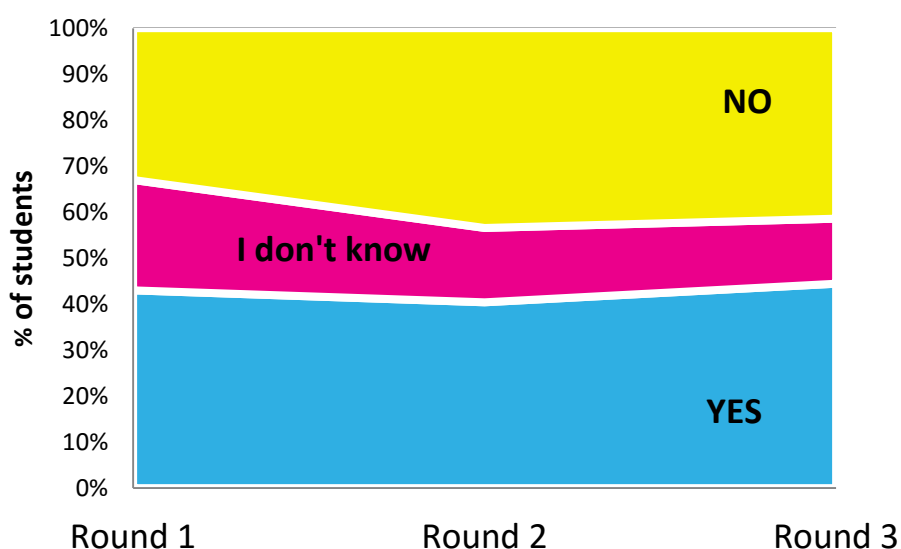
I have mature students on an Access to Bioscience course. We did not use the debate kit as a direct learning resource but to give ideas on possible research topics. The brief is to examine different views and evidence so it helped in this respect. I keep all the debate kits for this purpose and we use them in January."

65% of teachers used the kit several times and 73% lent it to their colleagues.

Usage of online resources and tools

We linked teachers to a page with references and additional information relating to it, which had 167 unique page views.

We developed an **online tool to track how each class changes its views**. It is an online survey that teachers should fill at three different stages during the activity and it gives results at the end. This tool was used by **34 classes** to monitor how their students changed their views as they discussed the topic.



Teachers asked the students if they thought the NHS should tell GPs to give back-up prescriptions instead of immediate antibiotics whenever possible, before starting the debate (round 1), half way in (round 2), and at the end of the activity (round 3). As the graph above shows, **the opinion of the students slightly shifted from “I don’t know” to either “YES” or “NO” answers**. There is no right or wrong answer, the only point of this survey is analysing whether the students change their minds throughout the debate, which they clearly do. This is extremely important, since it proves that **the students reflected on the issues surrounding antibiotic resistance during the debate**.

It should be noted that the students’ opinion changes might be under-represented in these data, as only the overall opinion of the class was recorded, not the individual opinion changes of each particular student.

4. Aims and achievements

In the same feedback survey, we asked teachers if they agreed with certain outcomes of using the debate kit. We also asked them to rate the kit's content and design.

The kit received many positive comments and praise from the teachers:

	Excellent	Pretty good	OK	Not great	Rubbish
Overall	63%	37%	0%	0%	0%
Content	63%	37%	0%	0%	0%
Design & format	67%	29%	4%	0%	0%



Great for getting pupils to really think about the issues that arise from antibiotics. It really improved interest and discussion in Science



Really good - this is quite a dry topic and this made it relevant, engaging and fun!



The format is smashing for our use and leaves some information to be found out by the students themselves.

63% of teachers thought the kit is overall "excellent" and the remaining 37% thought it is "pretty good".

4.1 Specific outcomes related to Antibiotics Resistance

In the feedback survey, we asked the teachers to what extent they agree with a number of specific outcomes of using the Antibiotics Resistance Debate Kit.

All the teachers said that their students know more about the topic of Antibiotics, and 53% strongly agreed with this. **90% of them confirmed that their students had learnt what back-up prescriptions are after using the kit.**

All the teachers stated that using the debate kit allowed their students to develop higher thinking skills around Antibiotics Resistance, getting to be more aware of the issues surrounding the bad use of antibiotics.

100% of the teachers said that their students are now aware of the issues surrounding the bad use of antibiotics.

Appendix 1: Evaluation methodology

All teachers who had requested a Antibiotics Resistance Debate Kit were sent the **email** below in September 2015, to ask them if they had used the debate kit. The clicks on the YES and NO links were then tracked and counted.

Teachers who clicked on the NO link were taken to a survey asking them why they hadn't used the Antibiotics Resistance debate kit and inviting them to make any comments or suggestions. Teachers who clicked on the YES link were taken to an online survey about their use and opinion of the Antibiotics Resistance Debate Kit.

The **survey** mainly asked about the usage of the kits: if they have been used more widely than just one debate with one class, whether the teachers lent the kit to any colleagues, how many times have they used the debate kit... And what were the main outcomes of the kit of their students and for them as teachers.

Last << Test Month sent >> we sent you an Antibiotic Resistance Debate Kit which I hope you received, and we have one question for you:

Have you used the Antibiotics Debate Kit?

Yes – I have used the kit

No – I haven't used the kit

You can help us make more free kits for schools by clicking YES or NO above. If you also fill in the survey that would be brilliant... and **you could win a £50 M&S voucher!**

Thank you for your feedback.

**All the best,
Angela**

I'm a Scientist, Get me out of here
01225 326 892 | angela@gallomanor.com



Thank you for letting us know you used the Antibiotic Resistance Debate Kit.

If you have a few more minutes, we'd really appreciate if you could answer this survey. It will help us measure what you and your students gained from the kit, and will help us make future kits as useful for teachers as possible.

Also, if you fill in the survey you will have the chance of winning £50 M&S voucher!

It will take less than 5 minutes. Don't feel you have to write lots, brief answers are fine.

1. How many times have you used the Antibiotic Resistance Debate Kit?

- 1
- 2
- 3
- 4
- 5+

2. Do you intend to use the Antibiotic Resistance Debate Kit again, in the future?

- Yes
- No
- Haven't decided

3. What subjects has the kit been used to teach? (please tick all that apply)

- Science
- Maths
- General Studies
- Other (tell us what) Please enter an 'other' value for this selection.

4. How many teachers have you lent the Antibiotic Resistance Debate Kit to?

- 0
- 1
- 2
- 3
- 4
- 5-10
- 11+

5. How would you rate the Debate Kit?

5. How would you rate the Debate Kit?	Excellent	Pretty good	OK	Not great	Rubbish
Overall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design & format	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. To what extent do you agree with the following outcomes of using the Antibiotic Resistance Debate Kit?

6. To what extent do you agree with the following outcomes of using the Antibiotic Resistance Debate Kit?	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
My students know more about antibiotics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students know what back-up prescriptions are.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students know more about antibiotic resistance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students are more aware of the issues surrounding the bad use of antibiotics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. The main outcomes from using the Debate Kit, for you as a teacher, were...
(please tick all that apply)

- It offers a new teaching approach
- It improves team/group work
- It promotes the engagement of all the students
- It introduces certain bioethical issues
- It contains recent and up to date information
- It requires little preparation and planning time
- I am now more confident at running a debate.
- My students are better at seeing all sides of an issue and sharing them with the rest of the group.
- Other (please specify) Please enter an 'other' value for this selection.

8. Do you have any comments on the *content* of the debate kit?

9. Is there anything else you would like to add, such as things you particularly liked or disliked about the Debate Kit, or what you would change about it?

10. Leave your email so we can let you know if you've won a £50 voucher!

Submit