

## **Expert testimony 2**

Education at point of first contact with a health professional

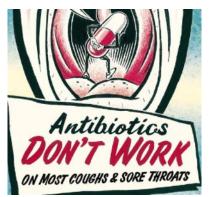
School education

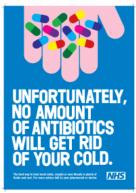
Peer education

Cliodna McNulty
Head, Public Health England Primary Care Unit



## Point of first contact: setting the scene





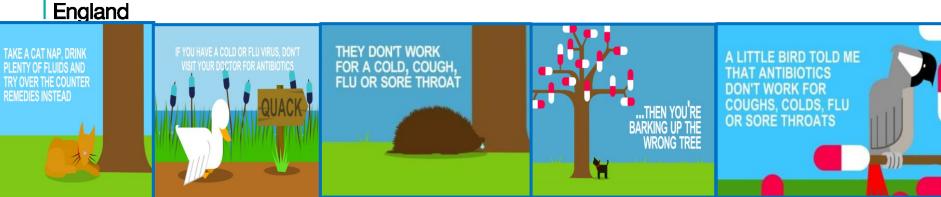
- If respondent aware of a campaign they have improved knowledge (2003 Andy & 2008 poster campaign
- Knowledge and antibiotic prescription rate not related

### So are campaigns a waste of money?

- No I think knowledge is important, and is the first step in behaviour change
- **❖** Posters / videos need to be visible at point of care
- We need to make posters more active: for the patient and clinician, to change knowledge into intention – and then action.
- We need to follow up with shared decision making supporting the posters or videos

## Public Health England

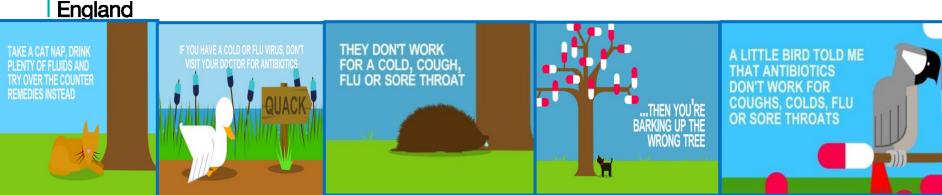
### Using videos in GP surgeries



- **❖** 3119 patients were observed in 3 GP practices
- **❖ 145** patients (4.6%) were observed watching the animations
- ◆ 132 /145 (91%) remembered seeing them
- ❖ There was a significant difference in patient response, towards positive intention to change behaviour, for 5 of the 7 questions
- next time they had a cough, cold or sore throat they would be:
  - 60% less likely to visit their GP practice, p=0.001
  - 63% less likely to ask for an antibiotic, p=0.001
  - 55% more likely to self care with rest, fluids and pain relief, p=0.01



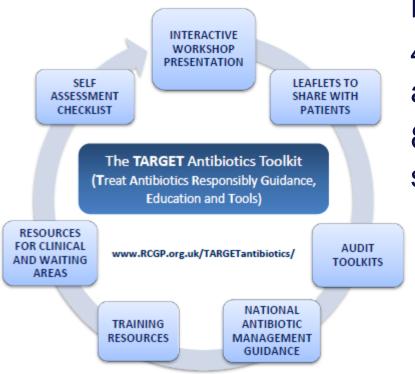
### Using videos in GP surgeries



- Other evaluations of life channel videos have found similar process problems & effects for other public health messages
- There should be a more efficient way of using this approach, as numerous adverts, reduce useful viewing content
- Process evaluation essential to ensure patients can actually see them
- ❖ A valuable tool to consider, especially if highlighted by the clinician in the consultation.

## **Evaluation of TARGET** (Treat Antibiotics

Public Health Responsibly; Guidance, Education, Tools) England



### RCT using Zelen design:

42 of 80 intervention practices accepted workshops: 318 GP staff, 80 control practices had usual support

Qualitative: 35 GPs, 13 stakeholders and 5 nurses within 29 interviews and 4 focus groups from England and Scotland.







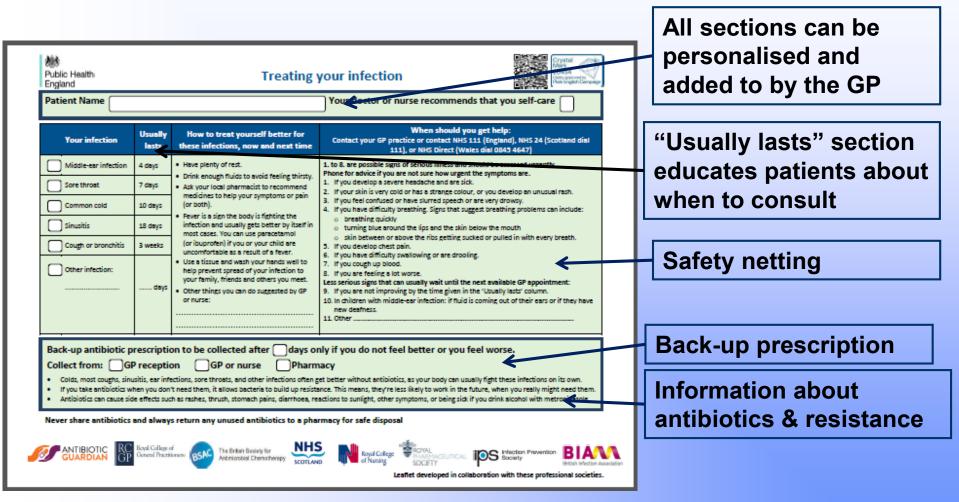








## TARGET solution: Shared Patient Information



Read codes: Delayed:8CAk, Leaflet: 8CE







## **Evaluation of TARGET** (Treat Antibiotics

Public Health Responsibly; Guidance, Education, Tools)

Coherence	<ul> <li>AMR is a well understood concept</li> <li>Others are responsible too eg. general public, hospitals</li> <li>For some it's a low priority</li> </ul>
Cognitive Participation	<ul> <li>There is an engagement with tackling AMR</li> <li>Increased promotion is needed to encourage engagement with the TARGET Antibiotics Toolkit</li> </ul>
Collective Action	<ul> <li>GP workload and time constraints make implementation difficult for some</li> <li>It's important that the TARGET Antibiotics Toolkit is easily available, easily accessible and flexible</li> </ul>
Reflexive Monitoring	<ul> <li>The TARGET Audit Toolkits and the TARGET Self Assessment Checklist need to be promoted as a monitoring tool for GPs and commissioners</li> <li>Monitoring needs to be adopted to fully understand the value of the toolkit</li> </ul>

The GOTARGET Study: An evaluation of the TARGET (Treat Antibiotics Responsibly; Guidance, Education, Tools) Antibiotics Toolkit to improve antimicrobial stewardship in primary care using the Normalisation Process Theory Jones, L.F., Owens, R. and McNulty, C.A.M. On behalf of the TARGET working group. BSACannual meeting 2016



### **Leaflets to Share with Patients**

"Actually being able to pass them a piece of paper. Instead of passing them a prescription but it's something to take away. It's good. I think it's helpful because it looks official as well"- GP "Having hard copies of the leaflets would be a good idea ..GPs are so busy & they've got so much going on in their heads, it's only the keen ones that will use it and remember ..having it ..to hand visually on the desk will help." - Stakeholder 9

"Here's the problem, it's not a click away"

- GP

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## RCT results: total antibacterial prescribing

Intervention practices: no significant change

Controls: prescribing increased by 3.8%.

Intervention	N	Estimated relative change in prescribing (95% CI)	P value
Control	59	1.038 (1.013 to 1.065)	0.003
Intervention accepted workshop	42	1.004 (0.966 to 1.044)	0.83
Intervention refused workshops	34	1.018 (0.987 to 1.050)	0.26



## RCT results: Co-amoxiclav prescribing

Controls: 7.8% increase

Intervention accepted workshop: 7.6% decrease

Intervention refused workshop: 12.4% increase

Practice group	N	Estimated relative change in prescribing (95% CI)	P value
Control practices	60	1.078 (1.020 to 1.141)	0.008
Intervention accepted workshop	42	0.924 (0.854 to 0.999)	0.05
Intervention declined workshop	34	1.124 (1.036 to 1.220)	0.005

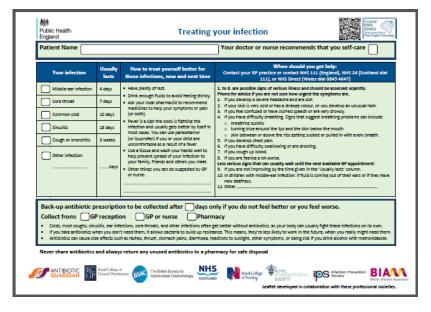


### **Evaluation of TARGET: conclusions**





Action planning at workshops will help convert intentions to use posters, videos and leaflets into action: who and how?

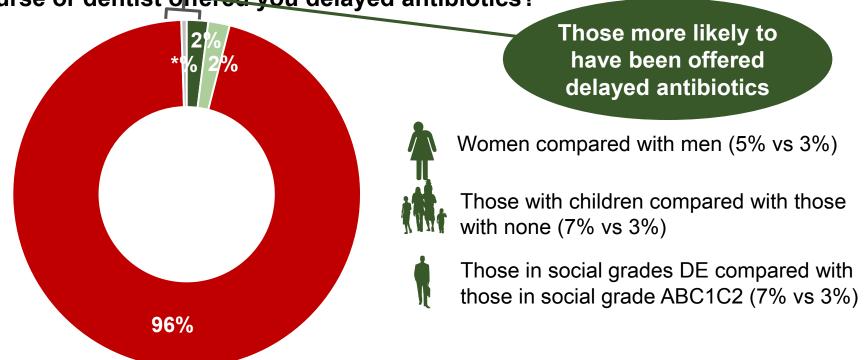


- Easy access to leaflet to "Nudge" use
  - Hard copy tear off
  - Computer access: Leaflet now available on several GP computer systems



## Few report being offered a delayed antibiotic

Q18 In the last 12 months, in which if any of the following circumstances has a GP, nurse or dentist offered you delayed antibiotics?



- Offered at time of diagnosis to be picked up if felt no better or worse in few days
- Offered opportunity to return to surgery to picked up prescription if felt no better or worse in few days
- Neither
- Don't know

Base: All respondents (1,625); Fieldwork: 24th – 30th January 2014



## Only 17% of general public know what a delayed antibiotic is divided about support for their use

Q15 In general, to what extent are you in favour of or opposed to GPs, nurses or dentists issuing delayed antibiotic prescriptions for the following infections?



Base: All respondents (1,625); Fieldwork: 24th - 30th January 2014

## Which way to delay?: PIPS trial

	No	Recontact	Postdate	Collect	Patient- led	LR chi p
Sx severity	1.62	1.60	1.82	1.68	1.75	0.6
Duration mod bad Sx days (median)	3	4	4	4	4	0.3
Belief in Abs	71%	74%	73%	72%	66%	0.8
Ab use	26%	37%	37%	33%	39%	0.3
V satisfied	79%	74%	80%	88%	89%	0.8

Symptom severity primary outcome: 0=no problem....6 as bad as it could be; alpha 0.71-0.79; SRM 1.6



### **NIHR TARGET**

http://www.bristol.ac.uk/primaryhealthcare/researchthemes/target/resources/

### Mismatch between doctors concerns and parents/carers concerns



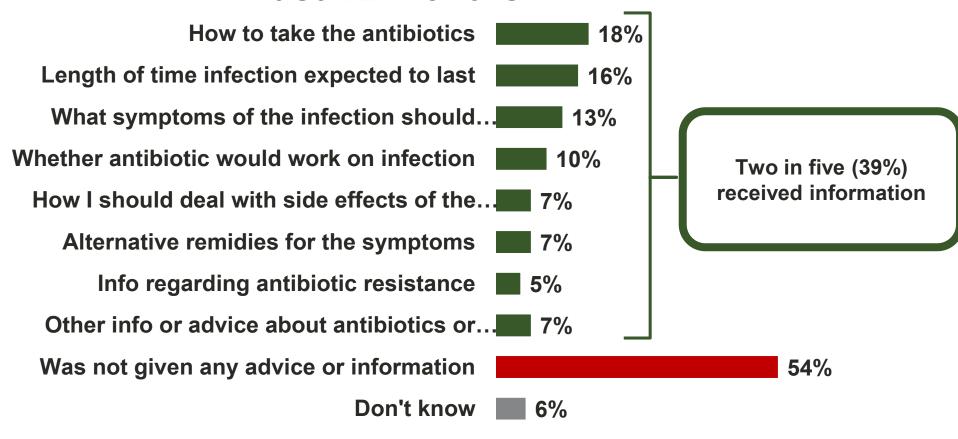




Parents want reassurance and advice: How to treat symptoms, how to manage the impact on their family (disrupted sleep, eating pattern) what to look out for so child does not get seriously ill



# Information or advice reported by those visiting health professional for infection in last 12 months

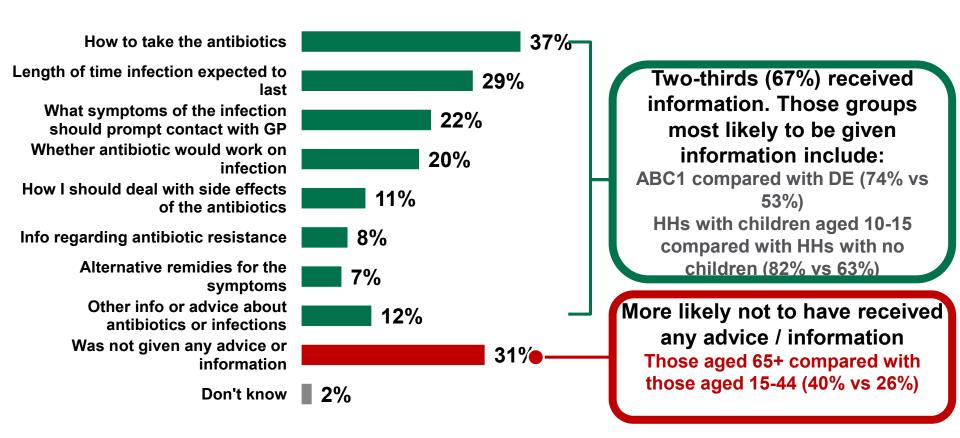


Base: All respondents who have had an infection in the past 12 months (1,059); Fieldwork: 24<sup>th</sup> – 30<sup>th</sup> January 2014

McNulty CAM, Lecky D, Hawking MKD, Roberts C, Quigley A, Butler CC. How much information about antibiotics do people recall after consulting in primary care? Family Practice 2016, 1-6.



# Reported advice when prescribed an antibiotic by a health professional



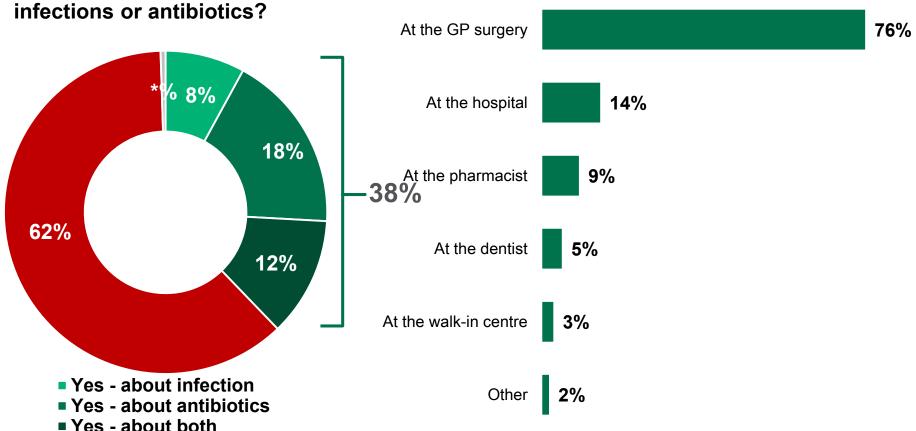
Base: All respondents who have visited a health professional for an infection in last 12 months and were prescribed an antibiotic (439); Fieldwork Jan 2014



# And only around two in five say they were given printed information

Q27 Did the healthcare professional give you any printed information such as a leaflet or pamphlet about infections or antibiotics?

Q27A Where were you when you were given this information by a healthcare professional?



Base: All respondents who received advice or information from a health professional (156)



### e-Bug Resources

#### Launched in 2011



### 4-7 yrs

• Online Science Show

### Launched in 2009



## 7-11 yrs

- Junior school lesson plan
- Student website

### Launched in 2009



### 11-15 yrs

- Senior school lesson plan
- Student website

### **Launched 2014/15**

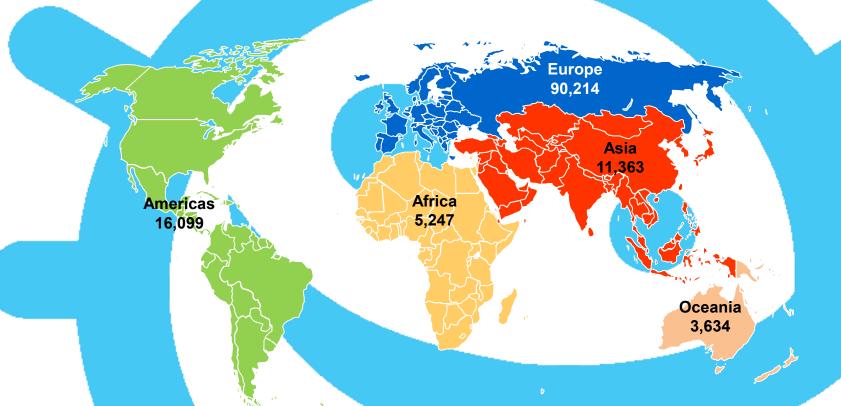


## 15-18 yrs

- Young adult lesson plan
- Peer education resources
- Student website

## Worldwide Visits to e-Bug website



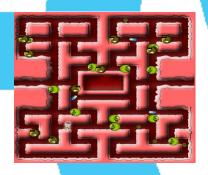


Country with most visits	Visits	Avg pages viewed per session	Avg visit duration
UK	34,333	7.52	00:05:38
Spain	10,814	2.28	00:01:48
France	10,234	5.44	00:04:31
Hungary	8,822	11.43	00:08:56
United States	7,520	4.87	00:04:45

**126,557** worldwide visits to the e-Bug website in the last academic year (1 September 2015 to 18 July 2016)

## Antibiotic e-Bug game evaluation

- 153 pupils, aged 9-11, completed before and after questionnaires.
- > 6 focus groups with 48 pupils



Body Busters, a Pacman like game

"That was my favourite game"



Doctor Doctor, role play about treating bacteria & viruses

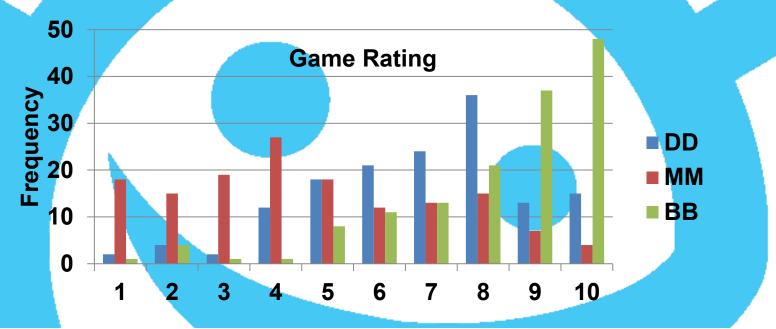
"I think it would be better if it had more levels"



Microbe Mania, a microbe ID quiz

"It was very boring, I just kept doing the same thing"

# Game ratings for Doctor Doctor (DD) Microbe Mania (MM) and Body Busters(BB)



Question	% Correct before	% Correct after	p-value
Which of these would antibiotics be used for?	27.5	40.5	0.01
Finish the sentence (circle one) Antibiotics	9.2	20.9	<0.001

## **Games** – implications

- Games can be useful to engage students in the topic of hygiene and antibiotics
- They need to have a gaming element
- They will chat about the experience afterwards if there is flow in the game
- > Must not have too much text
- > Incentives and more levels may help to increase use
- Teachers do use the more "boring games" as a quiz in class

## e-Bug Games & e-Bug bots

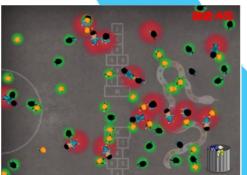




<b>Visits</b>	<b>Visits</b>
2 months <b>before</b>	2 months <b>after</b>
new launch	new launch
22,204	39,984



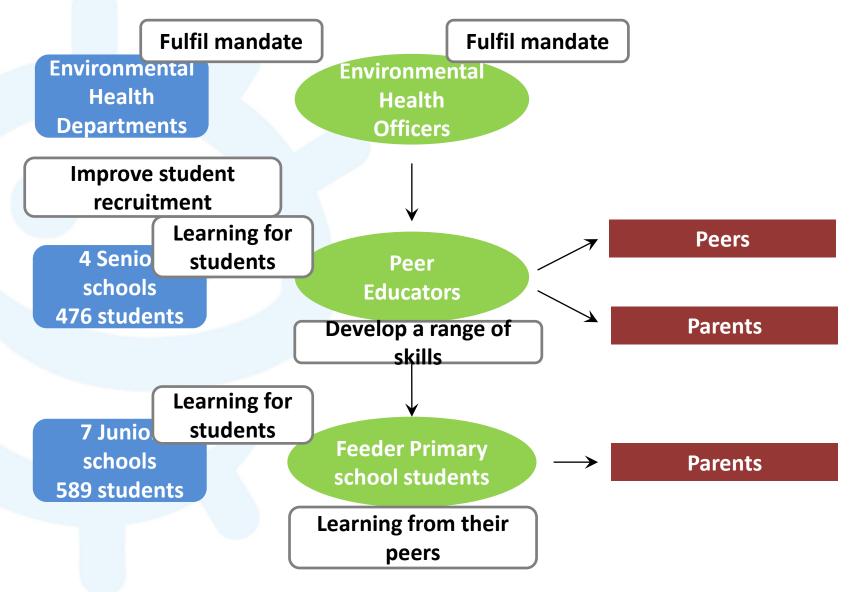






Game	Total Visits (8 <sup>th</sup> May – 18 <sup>th</sup> July)	
Stop the Spread	2771	
Chicken Surprise	2081	
<b>Body Busters</b>	1928	
Doctor Doctor	1252	
Bogey Bus	1091	
Microbe Mania	856	
Horrid Hands	846	
Happy Holidays	797	
Super Sneezes	640	
Kitchen Mayhem	630	
Farm Fun	448	
Microbe		
Mayhem	137	

## Principles of peer education & e-Bug



### Peer education activities

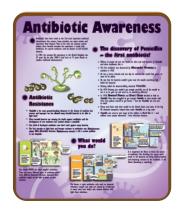
### Used e-Bug ability appropriate activities











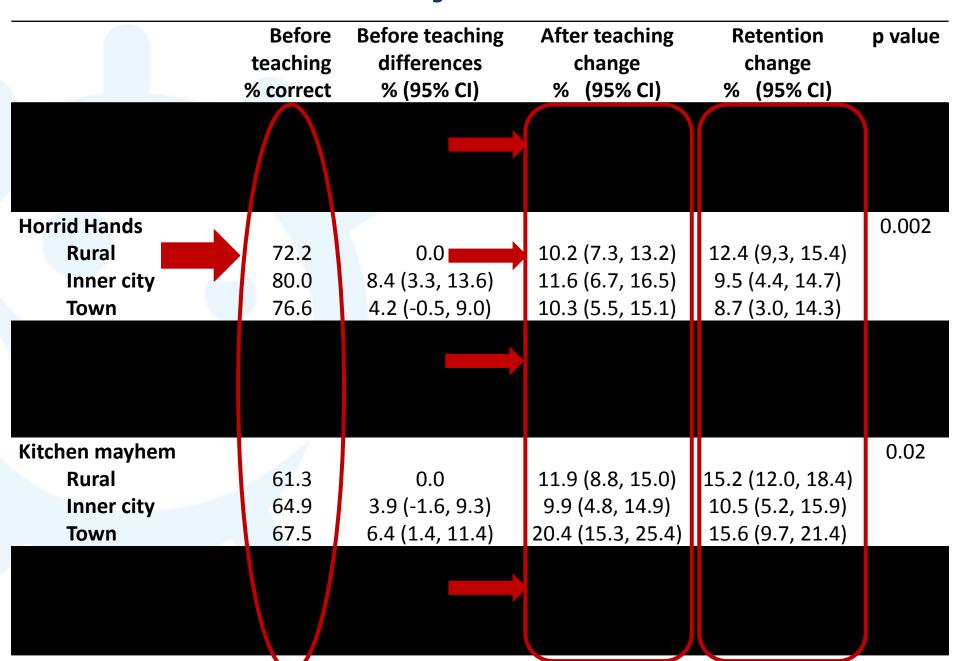
- Knowledge questionnaire before, after and 6 weeks later
- Qualitative data on the questionnaire and in focus groups

"It's quite a good learning experience, because you build up your confidence to like speak and, like in front of an audience." Peer Educator, Year 8

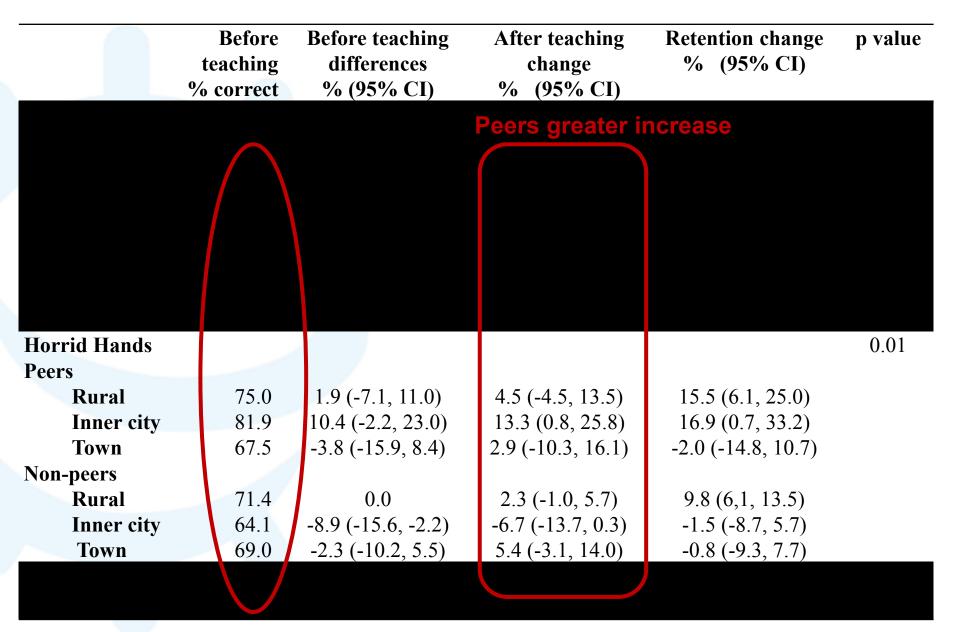
"... I think that it's more of a fun way of learning if you get someone like, from like your age, you can get across learning in your like, your way kind of thing..." Peer Educator, Yr 8

The reciprocal learning, from the team of Year 8 students, was really special. This made the event really stick in everyone's minds. This was truly life changing...." Headteacher.

## Results – junior schools



### Peer education results senior schools



### Peer education results senior schools

	Before teaching % correct	Before teaching differences % (95% CI)	After teaching change % (95% CI)	Retention change % (95% CI)	p value
<b>Super Sneezes</b>					0.01
Peers					
Rural	58.3	-2.8 (-10.3, 4.8)	22.3 (14.8, 29.8)	22.8 (14.5, 30.9)	
<b>Inner city</b>	67.2	8.0 (-3.2, 19.1)	32.5 (21.8, 43.2)	29.0 (14.2, 43.8)	
Town	58.3	-0.7 (-11.4, 10.0)	19.7 (8.2, 31.1)	12.9 (2.2, 23.6)	
Non-peers					
Rural	60.6	0.0	16.2 (12.8, 19.6)	18.8 (15.2, 22.4)	
<b>Inner city</b>	60.4	-0.5 (-6.2, 5.2)	11.0 (4.8, 17.1)	9.4 (2.9, 15.8)	
Town	58.5	-1.0 (-7.6, 5.7)	18.3 (11.0, 25.7)	8.6 (1.3, 15.9)	
Antibiotic Aware	eness				< 0.001
Peers					
Rural	30.6	-5.7 (-14.6, 13.2)	23.0 (14.2, 31.9)	36.8 (27.3, 46.3) <b>F</b>	Peers
<b>Inner city</b>	51.5	16.1 (3.2, 29.0)	40.4 (28.0, 52.7)	44.3 (26.6, 62.0) <b>c</b>	<b>jreater</b>
Town	32.9	-2.1 (-14.5, 10.2)	18.4 (4.4, 32.3)	20.3 (7.6, 32.9) <b>r</b>	etention
Non-peers					
Rural	37.0	0.0	25.1 (20.9, 29.3)	23.4 (18.9, 28.0)	
Inner city	39.4	1.8 (-5.2, 8.6)	17.0 (9.8, 24.2)	13.4 (5.9, 20.9)	
Town	37.0	0.3 (-7.7, 8.4)	13.7 (4.9, 22.4)	10.8 (2.2, 19.4)	



## **Another venue: Beat the Bugs**

6 week community hygiene activities which aim to increase awareness and change behaviour

#### 6 x one hour sessions:

- An Introduction to Microbes
- Hand and Respiratory hygiene
- Food hygiene
- Oral hygiene
- Antibiotics
- Self-care and action planning for the future
- ✓ Variety of activities available to suit a range of ability
- Action planning at end of each session and revisited



E-Bug Beat the Bugs course. PHE, Kingfisher & Cardiff University: resources at www.e-Bug.eu



## **Beat the Bugs TARGET leaflet**

toms

### When to get help

See your doctor the same day if you develop any of the

symp



**Bad headache** 



Skin is very cold



Feel confused



Trouble breathing

# Chest pain



**Problems swallowing** 



Coughing blood

**Less serious symptoms** can usually wait until the next available GP appointment.

If you have more serious symptoms call 999.

### Managing your infection

#### Your infection

- Who to contact for more help
  - · How long infections lasts
  - Help make yourself better
    - · When to get help





NHS 111 (England)
Dial 111

NHS Direct (Wales)
Dial 0845 4647

NHS 24 (Scotland) Dial 111)



NHS Direct Wales
0845 46 47
Galw ECHYD Cymru



#### Developed in collaboration with:









The pictures in this leaflet are sourced from: FreeImages.com, Pixabay.com, NHS Photo Library, COC Image Library.



### **Beat the Bugs TARGET leaflet**

### Your infection



Sore Throat	





### **Usually lasts**

Mon	Tues	Weds	Thurs	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	7			

An ear ache usually lasts 4 days

Mon	Tues	Weds	Thurs	Fri	Sat	Sing
1	2	3	4	5	6	[7]
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

A sore throat usually lasts 7 days

Mon	Tues	Weds	Thurs	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

A cold usually lasts 10 days

Mon	Tues	Weds	Thurs	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

A cough usually lasts 21 days

### How to help make yourself better

Whatever your infection, you can do the following to help:



Get plenty of rest





Ask your pharmacist for advice and medicine for the pain



Paracetamol may help a fever but take as directed



Tissues help to stop infections spreading



Hand washing helps to stop infections spreading

If you are getting worse, or your symptoms are lasting longer than the chart suggests, phone NHS 111, NHS Direct or NHS 24.

## School nurses as a teaching source

 23 school nurses, 8 school nurse assistants 11 teachers participated in interviews or focus groups in four localities in England

### **Prioritising**

**SN's work is 'needs-led'** "we look at the public health profile and how health messages are being given, and how we can help support"

Teacher's main health priority is spread of infection: "hygiene, how do you prevent, try & prevent, minimise the risk"

Many school nurses support schools with health education but do not teach it. "it'd be great to have them in and helping with sessions and a visible presence in the school, but obviously their timetables don't allow that"

Teachers and
SNs need more
training to
deliver health
education, such
as training on eBug

School nurses & teachers are 'stretched' professionally, due to changes in educational system & budget cuts

SNs manage relationships with schools, parents and students

SNs& teachers report needing hands on, interactive activities to teach young people about health

Hoekstra BA, Young VL, McNulty CAM . BMC Nursing 2016



## e-Bug Training Module

### .The training module aims to:

- > show what resources are available
- show how to use the resources

### The training covers:

- Introduction to e-Bug
- > Accessing e-Bug resources
- > e-Bug and the National Curriculum
- ➤ The e-Bug resources
- ➤ Using e-Bug in different learning environments

Is accredited by Royal Society of Biology



e-bug team and schools, designed by Charlotte Eley

### Many thanks to:

- The e-Bug team at the PCU: Vicki young, Charlotte Eley, Cath Hayes Steve Cooper
- Our e-Bug partners and schools, across Europe & beyond
- The TARGET team past and present at the PHE PCU: Leah Jones, Rebecca Owens, Donna Lecky, Meredith Hawking, Katherine Butler
- All those involved in TARGET materials especially: the RCGP, BSAC, RPS, DH, behavioural team at PHE, Elizabeth Beech, Ruth Dale, RCN, ARHAI, Nick Francis, Phil Howard
- The GPs and patients involved in development of materials & their evaluation
- > The IPSOS Mori team





## **Any Questions?**



