University of Southampton | CAHP
Centre for Applications of Health Psychology

Research on changing behaviour within/beyond the health care setting

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Key behaviours contributing to antibiotic stewardship

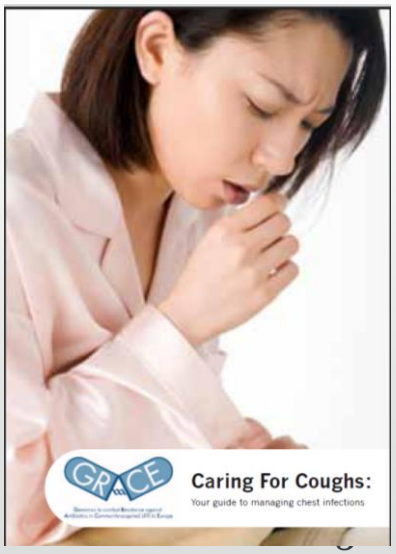
- preventing infections occurring and spreading
- reducing inappropriate antimicrobial demand and use

(by targeting health professional and/or public behaviour)

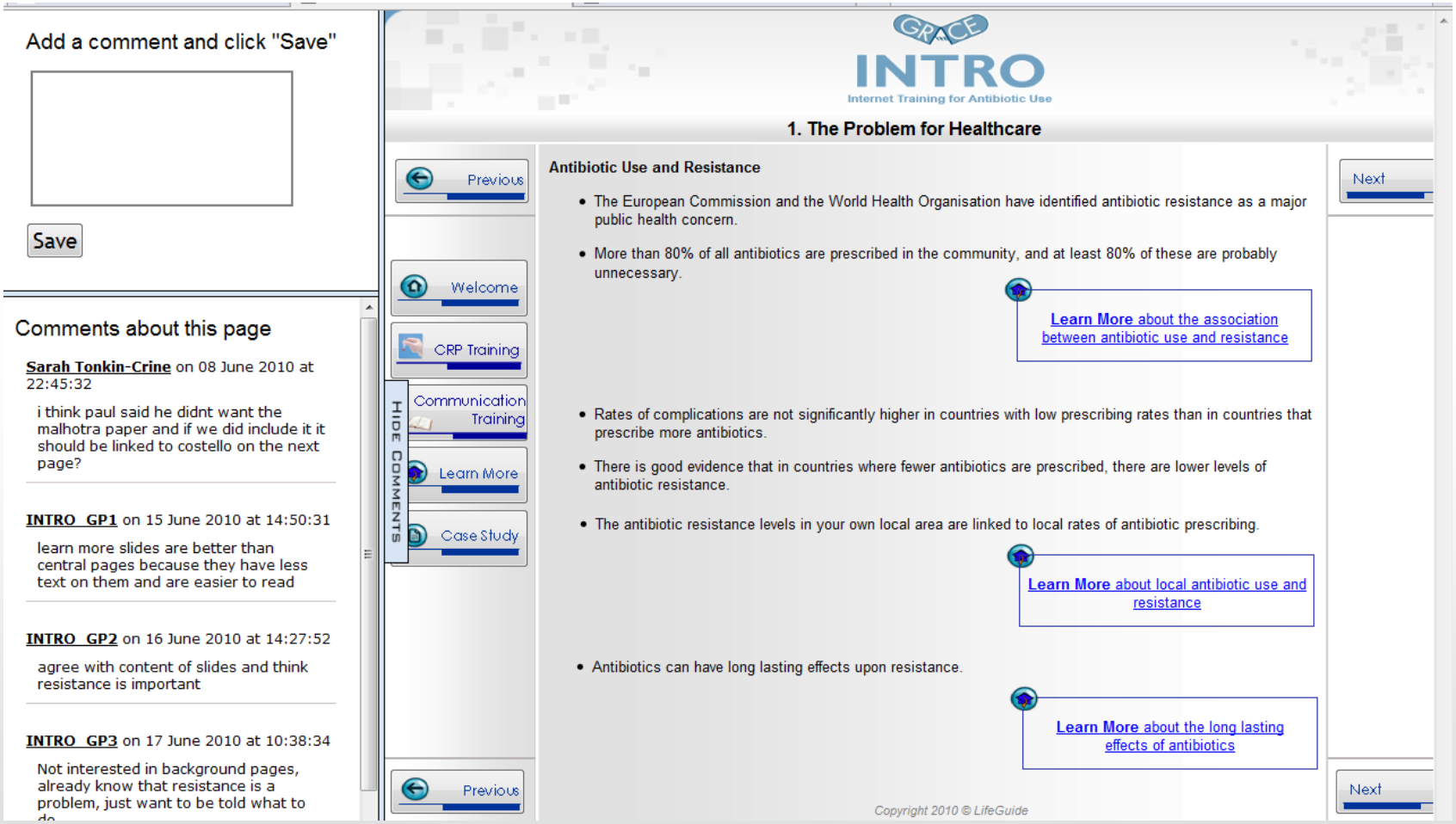
Reducing inappropriate antimicrobial demand/use

EU-funded project led by Paul Little, primary care: 'GRACE/INTRO'

- web-based GP education (plus patient booklet) to reduce antibiotic prescribing/resistance across Europe
- intervention created in English by CAHP team, translated/modified for Spain, Poland, Belgium, Netherlands
- trialled in 246 practices, successfully reduced prescribing ca. 20% (Lancet, 2014)
- about to be disseminated via CLAHRC



Using the LifeGuide software to develop the intervention

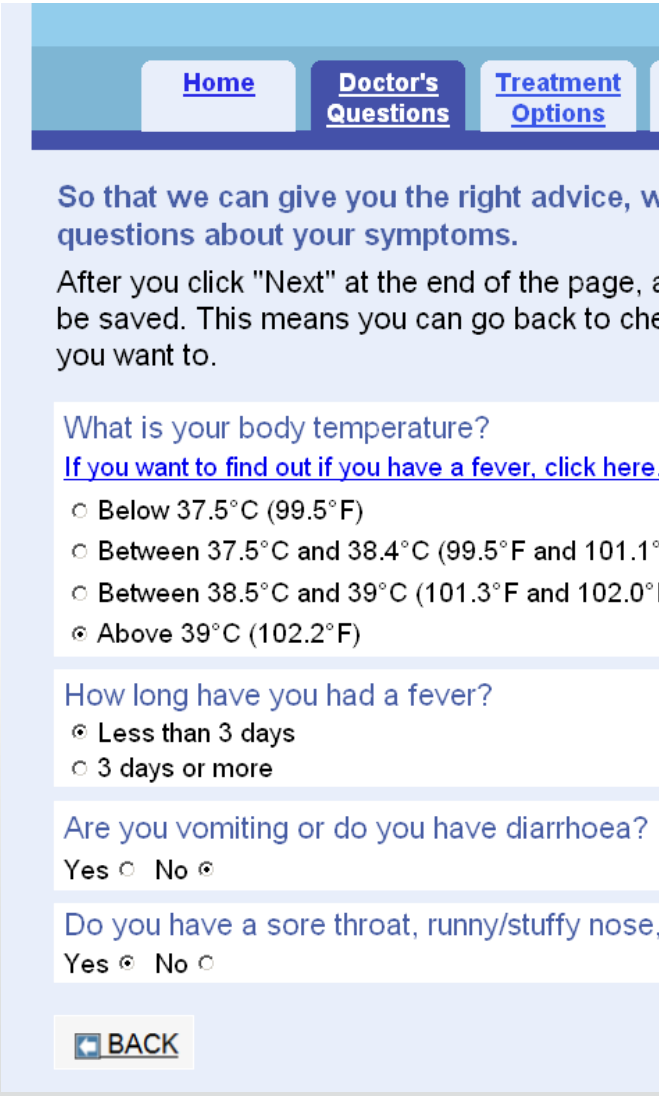


Reducing inappropriate antimicrobial demand/use

'Internet Dr'

(with Paul Little, Mike Moore, Judy Joseph, Steph Hughes)

- Web-based self-care advice for respiratory symptoms to reduce GP consultations (hence antibiotic use)
- Successfully trialled in students and primary care
- Included in CLAHRC rollout of INTRO



Preventing infections occurring and spreading

Behaviour to reduce transmission of pandemic flu

DoH-funded inter-institution collaboration, led by PHE (Influence)

- Developed/evaluated (using mixed methods) messages to promote vaccination uptake, antiviral use

Behaviour to reduce transmission of respiratory infection in the home

- Handwashing intervention: PRIMIT

PRIMIT WEBSITE:
INCREASING HAND-WASHING TO LOWER TRANSMISSION OF INFECTIONS

RANDOMISED CONTROLLED TRIAL

- Aim to lowering number of illnesses & severity at home
- 20,066 participants over 3 winters
- Households of 2 or more
- Measures at baseline, 1, 2 & 3 months
- Colds, flu & gastrointestinal viruses
- Sample cross-checked with GP notes & nasal swabs

WEBSITE LAYOUT

- 4 sessions across 3.5 weeks
- Tunnelled section then menu
- Tailored content: demograph, daily handwashing level, feedback
- 4 types of content: motivational, information, planning, tailored

SESSION 1, TUNNELLED PAGES, MOTIVATION

VIRUS DEFENCE

Simple steps to reduce colds and flu

Why Try to Lower the Risk of Catching Colds and Flu?

No-one likes getting colds or flu, but we get used to putting up with them.

By using the simple ideas on this website you can actually cut down on how many colds you and your family get each year, and how bad they are.

Cut Down on Colds and Flu Now!

Protect Your Health

This is really important if anyone in your house is more at risk from colds and flu - **for example young children, older people, or people with poor health or breathing difficulties such as asthma.**

It may take a bit of practice for you and your family to use the ideas on this website.

But once you have learnt them they will become habits that you'll do easily.

And they will help protect you from catching colds and flu every year.

BACK NEXT

MOTIVATION

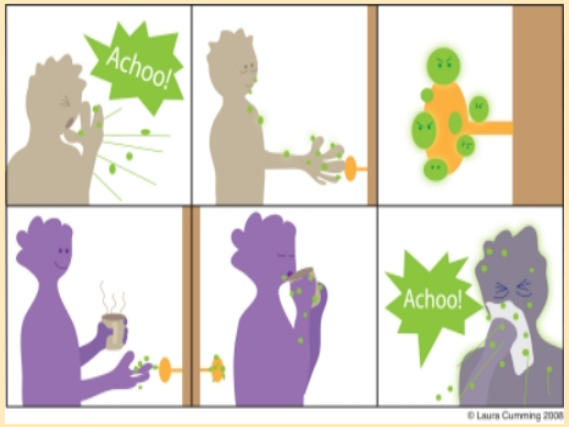
VIRUS DEFENCE

Simple steps to reduce colds and flu

Why Washing Your Hands is the Best Way to Protect Yourself and Others

Viruses live for hours outside the body:

- they settle on surfaces after being breathed out
- they get on infected people's hands when they cough and sneeze, or touch their face
- they are on surfaces touched by infected people's hands



You can pick them up by:

- touching an infected surface e.g. a cup, door handle, stair rail, computer keyboard, shop counter, money
- then touching your face either **consciously** like scratching an itch, or **automatically** like rubbing your eyes.

It is very easy to touch your face without noticing that you are doing it.

If your fingers have viruses on them and then you touch your eyes, nose or mouth you are likely to infect yourself. Our eyes have tear drains that flow into the nose and so can pass a virus down into it.

PLANNING

How Often Do You Wash Your Hands?

If you think about **how much you have washed your hands over the last week**, which circle best describes each activity? Please click on one circle for each activity.

WASHING YOUR HANDS INCLUDES USING A HAND GEL OR USING SOAP AND WATER

Over the last week, I washed my hands:	almost never	some times	quite often	very often	almost always
Before I ate a meal	○	○	○	○	◉
Before I ate snacks (e.g. crisps, sweets, fruit)	○	◉	○	○	○
when I went to the toilet	○	○	○	○	◉
when I came into the house (e.g. after work, shopping, travelling)	○	◉	○	○	○
after I had been close to someone who had a cold or flu	○	○	○	◉	○
after blowing my nose or sneezing/coughing on my hands	○	○	◉	○	○

BACK NEXT

PLANNING, TAILORED

Are You Happy With Your Plan?

This plan aims to help you wash your hands MORE than you already do
- the more you wash your hands, the better protected you and your family are from colds and flu.

To increase your handwashing simply think about times when it is easy to wash them.

For example, if you usually wash your hands 'some times' before eating snacks, why not try washing them 'quite often' from now on?

If you would like to have another go at making your commitment, just click on the 'back' button below.

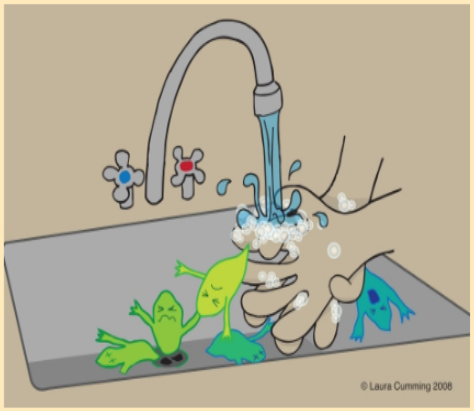
BACK NEXT

PLANNING, TAILORED

A GOOD PLAN!

You have chosen a plan that will help to protect you and your family from cold and flu viruses.

Next, you can decide how you would like to use your plan to help remind you to wash your hands.



BACK NEXT

PLANNING

Helping Remind You to Wash Your Hands

Now you can decide what you think would be the best way to use your plan and help remind you to wash your hands.

For example, you could:

Print a copy of your plan (click here)

- **Put it up around your house**
- **Sign it and keep a copy**
- **Show it to someone else and ask them to help remind you**

BACK NEXT

FURTHER SESSIONS, TUNNELLED PAGES

Would You Shake This Hand?

Probably not!

The funny thing is that if your hands were this dirty you would feel too embarrassed to touch other people - or too disgusted to touch your own face.

But it is hard to know if hands are dirty just by looking at them - they can have lots of viruses on them but still look clean

It's a bit like cleaning your teeth - other people can't always tell if they are clean just by looking, but you know they feel smooth and shiny after they have been brushed.

When you wash your hands you can tell they are clean because they smell nice, and feel soft and smooth. That is when you can be confident that they are cleaner and safer.

But remember - we use our hands so much that it doesn't take long for them to become dirty again - **and that is why it is good to wash them regularly**

BACK TO MENU NEXT PAGE

RCT FINDINGS

- Handwashing 10+ times a day at final measure:
  - 53.1% of intervention group
  - 36.6% of control group
- Fewer consultations in intervention group
- Fewer gastrointestinal infections in intervention group
- No effects of gender, age, deprivation on outcomes

MRC Medical Research Council

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How did the PRIMIT website change hand hygiene behaviour? Analysis of behaviour change in study of 19000 people

A PRImary care trial of a website based Infection control intervention to Modify Influenza-like illess and respiratory infection Transmission

Ben Ainsworth, Mary Steele, Beth Stuart, Judith Joseph, Paul Little & Lucy Yardley

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Relationship of TPB constructs to hand-washing

- Used pre-post questionnaires to determine associations

Construct	Change across time M (SD)	Association with change in behaviour
Intention	+0.94 (1.2)	$r_{(6050)} = .46$
Attitude	+0.47 (.97)	$r_{(6049)} = .30$
Perceived Behavioural Control	+0.59 (1.6)	$r_{(5959)} = .17$
Perceived Risk	+0.12 (1.36)	$r_{(5938)} = .11$
Subjective Norms	+0.73 (1.61)	$r_{(5957)} = .26$

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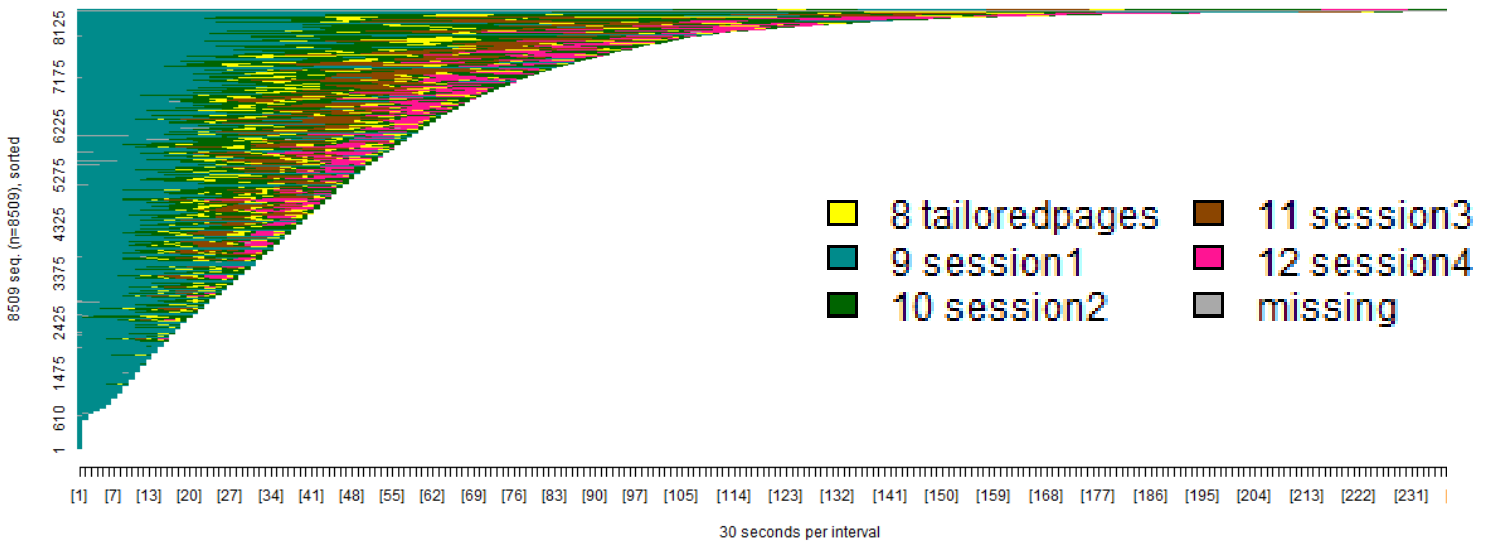
What mediated behaviour change?
Usage Analysis

3 ways to investigate:

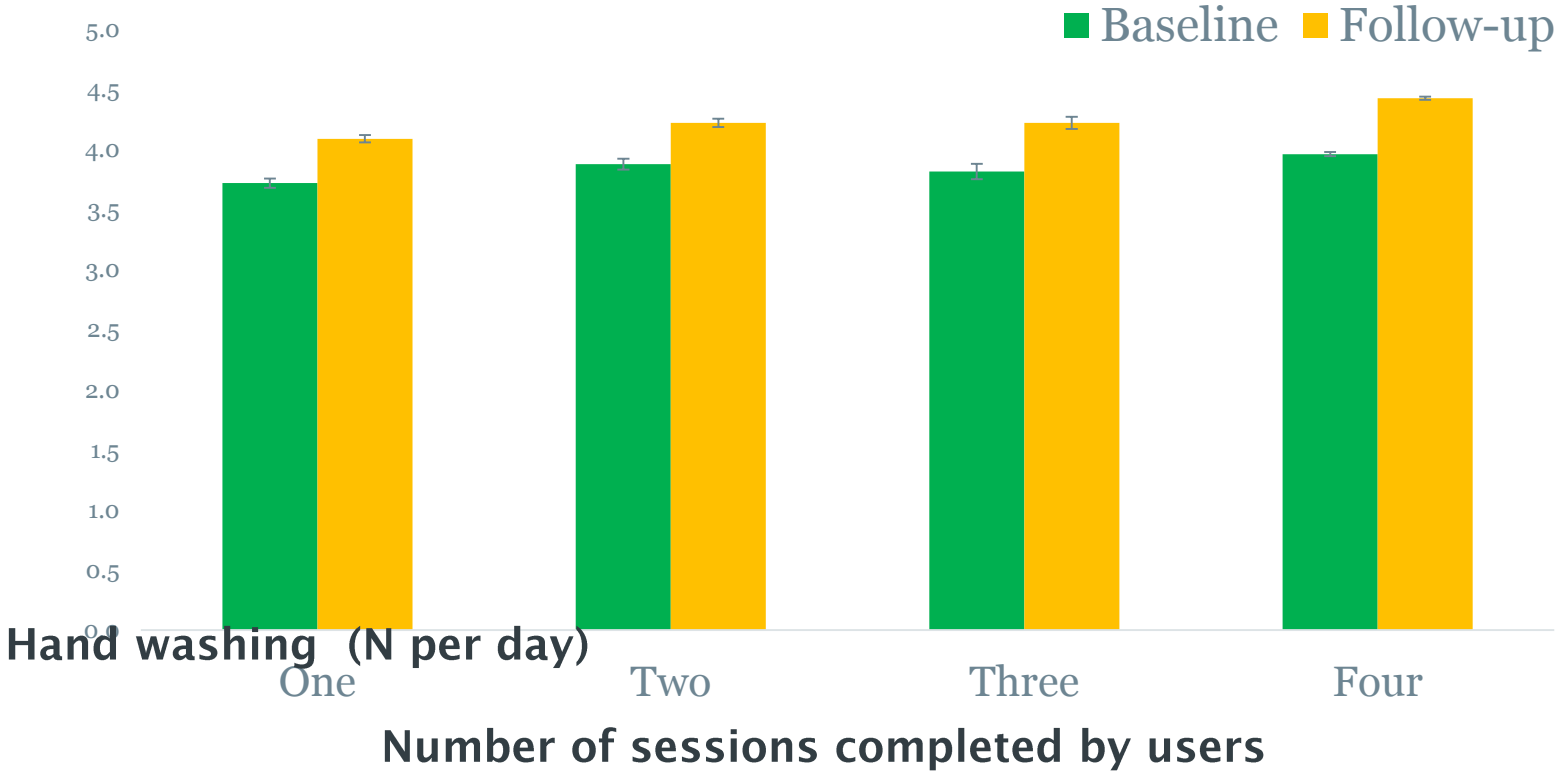
- **Website session usage (did any session / pattern of sessions lead to hand-washing increase?)**
- Content (did any particular content lead to hand-washing increase?)
- Population demographics (Did individual differences lead to different use of the website?)

Website usage (Sessions 1 - 4)



Session visited	Number (/8993)	%
1	8843	98.3
2	6636	73.8
3	5411	60.2
4	4850	54.0

Website usage (sessions 1 to 4– in relation to behaviour)



- Similar outcomes observed regardless of whether users logged in 1-4 times (*overall effect size* $h_p^2 = .003$).
- Supports notion that 'impact' is in first session.
- No difference between groups for intention change across 16-weeks ($F = 2.2$, $p = .09$)

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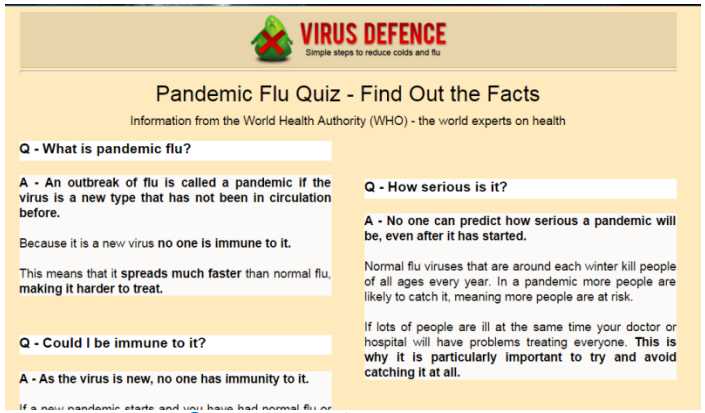
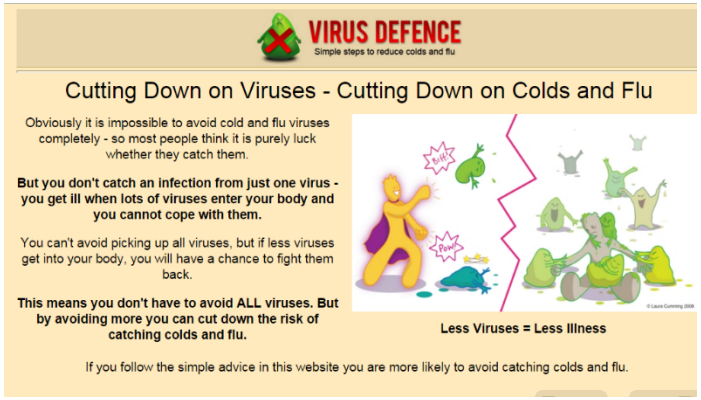
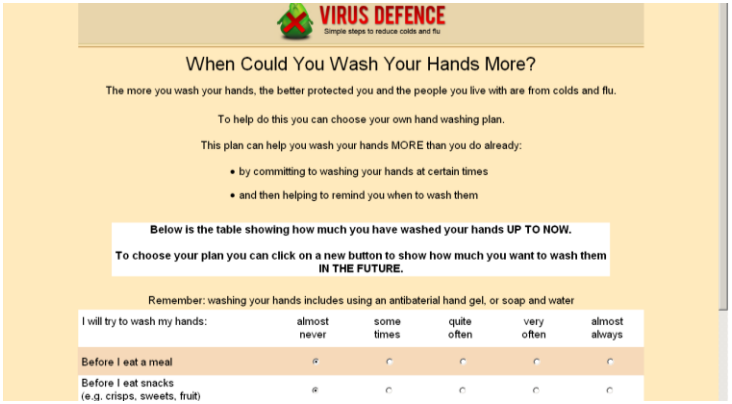
What mediated change in handwashing? _ PRIMIT Intervention Design



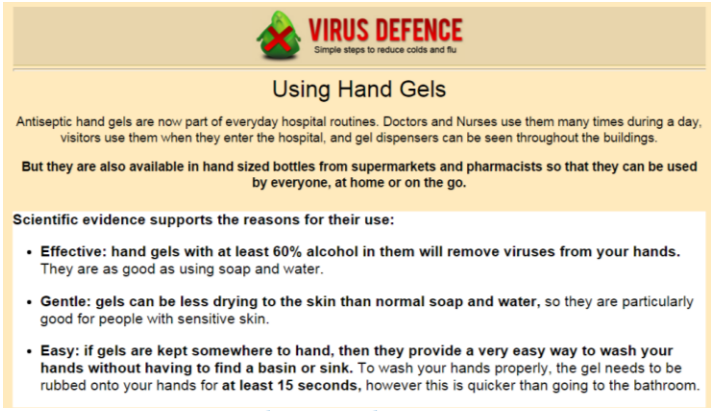
Information pages



Motivational pages



If-then planning



Tailored content

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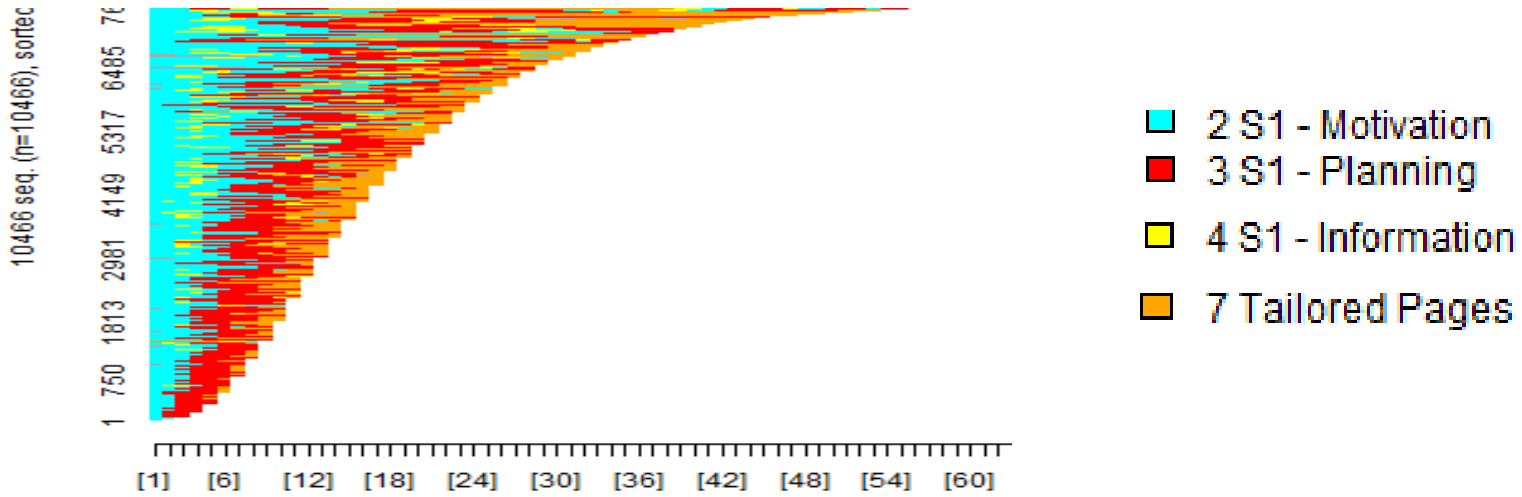
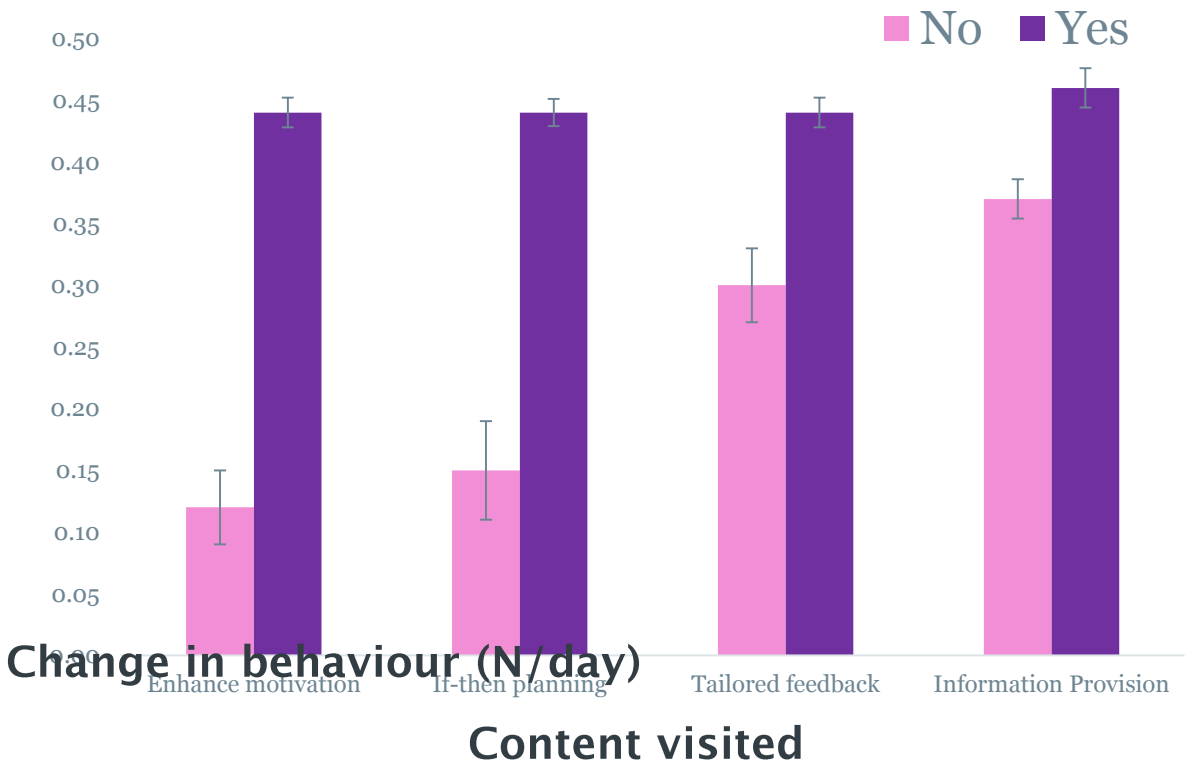
Website usage (Session 1 subdivision)



Lifeguide visualisation tool used to determine common usage pathway patterns.

Website usage (TPB Codings) – in relation to Session 1 outcome



Content	Effect size (d_{corr})
Enhance motivation	0.36
If-then planning	0.35
Tailored Feedback	0.33
Information Provision	0.11

- Note: confound of 'order effect' (i.e. users progress through website in specific order)

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3 ways to investigate:

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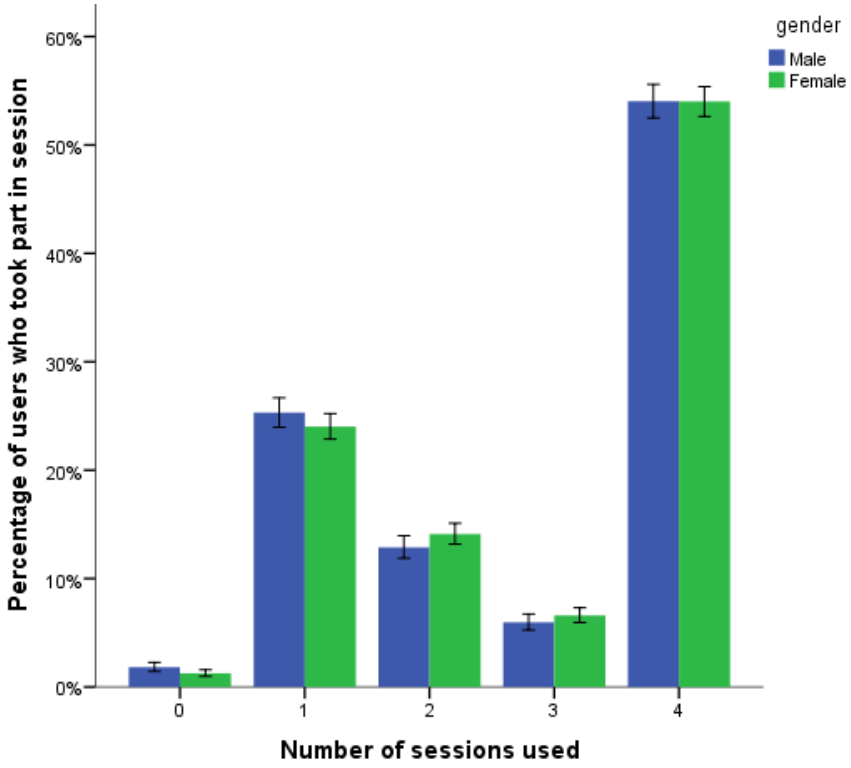
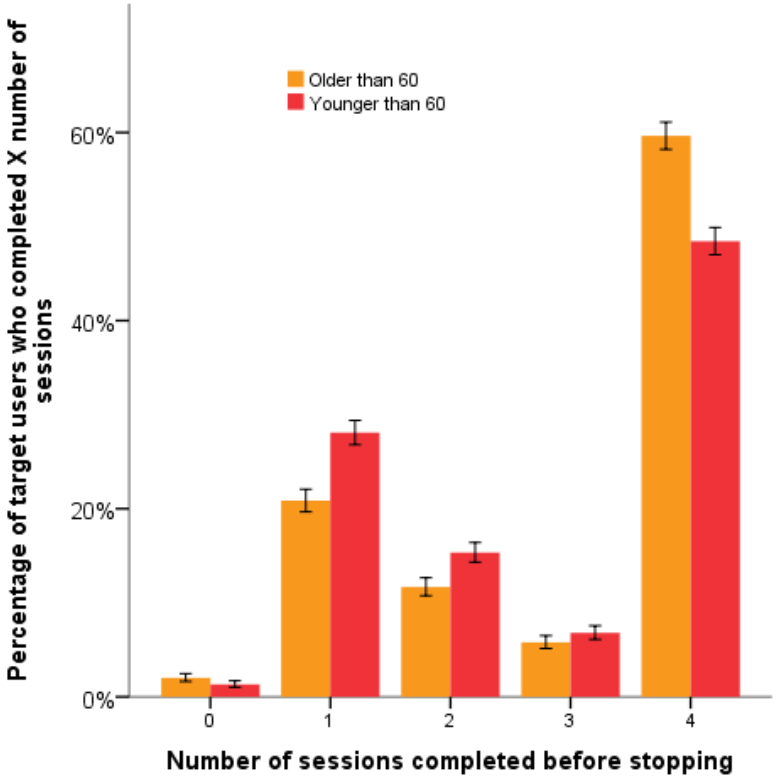
- **Population demographics (Did individual differences lead to different use of the website?)**

Dose effect – did session 1 have a different effect in women vs. men, or in +40 vs -40





- No gender differences for number of sessions used.
- *Younger users more likely to use 1 or 2 sessions, but not to continue until end.*

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Conclusions & Implications

- Importance of if-then planning for habitual behaviour
- Sustained engagement with website unnecessary
- Value of detailed usage analysis
    - more in-depth analysis can look at specific variables for specific interventions
- Interventions with less linear structure will allow better testing of specific components
    - not always possible.

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Thank you for listening!

@benainsworth