

Multifaceted interventions to reduce
antibiotic prescribing:
lessons from *'ChAP'* and *'GAPS'*

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THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

Changing Antibiotic Prescribing - *ChAP*



- Nested in
- 1332 GP registrars
- Educational setting
- Intervention: online modules & F2F teaching
- Analysis of 189,000 self-recorded consultation data
- Successful reduction of AB prescribing for LRTI (*15.8%*)
- Compulsory part of training
- Grant from RACGP/TG Ltd

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General Practitioner
Antimicrobial
Stewardship
Programme Study



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- 27 GP practices in SEQ
- 110 GPs
- Real life practice setting
- Intervention: online modules & POC tools
- Analysis of PBS and MBS data
- Successful reduction of all AB prescribing (*approx. 3.8 prescriptions/GP/month*)
- Incentive CPD points & \$1000
- Supported by DoH

The interventions

Prescriber-focused

- Online modules
 - Background on AB use and AMR
 - Communication skills straining
- CRP testing at POC
- Delayed prescribing protocol
- Audit and feedback

Patient-focused

- Decision aids
- Waiting room poster
- Patient handout

1. Online modules

Based on GRACE-INTRO[#] and adapted for Australia for ChAP* study

- Background module – antibiotic use and resistance
- Communication module – “CHESTTS”
- (CRP)

CHESTTS

Gather Information

- Concerns
- History and Examination
- Expectations

Exchange Information

- Symptoms
- Timelines
- Treatment

Check Information

- Summing up



The screenshot shows a Moodle course page titled "INternet TRaining for Antibiotic Use". The page is part of the "HPMI" (Health Professional Module) content. The main heading is "CHanging Antibiotic Prescribing". Below this, there are logos for "THE UNIVERSITY OF NEWCASTLE AUSTRALIA" and "THE UNIVERSITY OF QUEENSLAND AUSTRALIA", along with "General Practice Training valley to coast" and "aoggp Addable to Outback GP training program". The course is identified as "INTRO / ChaP". The page content includes a description of the training session and a list of core elements: Introduction (10 mins), Antibiotic Resistance Rates in Europe and the Western Pacific, The Association Between Antibiotic Use and Resistance, and Antibiotic Use and Resistance at the General Practice Level. A "LESSON MENU" on the right lists 11 lessons, including "Introduction", "INTRO: UK Team", "The ChAP Team", "Overview of the INTRO/ChAP Training Programme", "The Problem for Healthcare", "Antibiotic Prescription Rates in Europe and Australia", "Australian GP Registrar Prescribing", "Antibiotic Resistance Rates in Europe and the Western Pacific", "The Association Between Antibiotic Use and Resistance", "Antibiotic Use and Resistance at the General Practice Level", and "Antibiotics Can Have Long".

[#]Little P et al. Effects of internet-based training on antibiotic prescribing rates for acute respiratory-tract infections: a multinational, cluster, randomised, factorial, controlled trial. *Lancet*. 2013;382(9899):1175-82.

*van Driel ML et al. Changing the Antibiotic Prescribing of general practice registrars: the ChAP study protocol for a prospective controlled study of a multimodal educational intervention. *BMC Fam Pract* 2016;17:67. DOI: 10.1186/s12875-016-0470-7.

2. CRP testing

- Only used in GAPS
- CRP machine on loan for 3 months
- 50 tests provided free of charge
- To be used as practice sees fit
- 'QuickRead CRP kits' (Orion Diagnostics)
- ABACUS ALS & GAPS coordinator trained practices
- Access to online training module



Little P et al. Effects of internet-based training on antibiotic prescribing rates for acute respiratory-tract infections: a multinational, cluster, randomised, factorial, controlled trial. *Lancet*. 2013;382(9899):1175-82.

Cals JW et al. Enhanced communication skills and C-reactive protein point-of-care testing for respiratory tract infection: 3.5-year follow-up of a cluster randomized trial. *Ann Fam Med* 2013;11(2):157-64.

3. Delayed prescribing protocol

- Based on evidence of effectiveness in PHC*
- Significant reduction of AB use
- Addressed in online module
- Stickers to attach to script
- Script left at reception or given to patient

Dr A Practitioner
99 Station Street
Central NSW 2001
Phone: (00) 0000 0000
Prescriber no.: 123456

Delayed Prescription
to be dispensed
if symptoms persist
or become more severe

Patient's Medicare no.: 2900724551-1

(Pharmacological)
benefits
antibiotic
number

Safety Not addressed
card holder
(see relevant text)

Concomitant or dependent
PBS beneficiary or Safety Not
addressed card holder

Patient's name: Suzie Citizen
Address: 22 Smith Street
Cityside NSW 2001

Date: 03/04/07
XXXXXXXXXXXX
non PBS

Brand substitution not permitted

Qty: 50 0 repeat
1 item

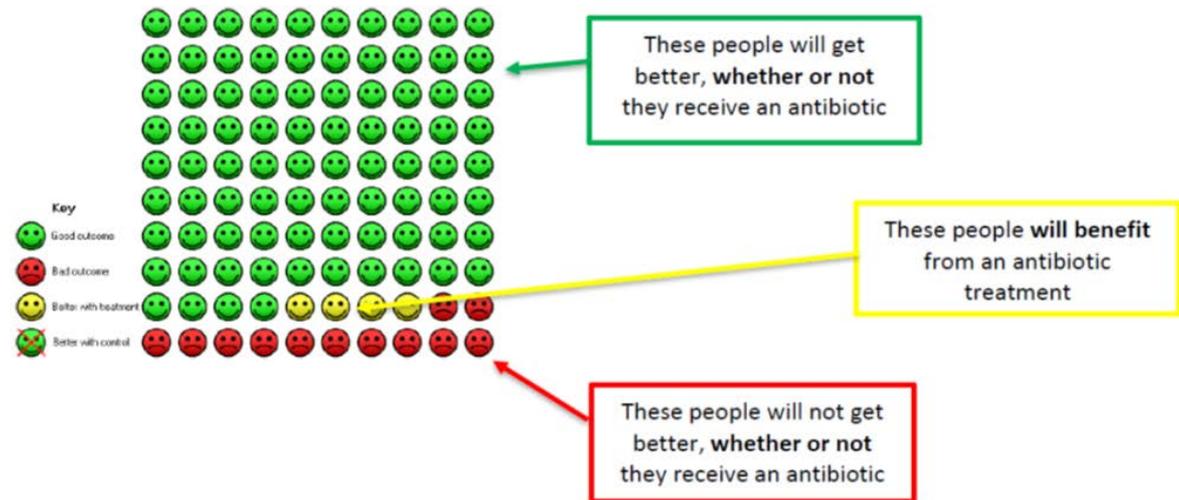
Dr. A Practitioner
MBBS
A Practitioner



*Spurling GKP et al. Delayed antibiotics for respiratory infections. Cochrane Database of Systematic Reviews 2013, Issue 4. Art. No.: CD004417. DOI: 10.1002/14651858.CD004417.pub4.

4. Decision aids

- 'Cates plots'*
- Based on Cochrane reviews
 - *Acute sore throat*
 - *Acute rhinosinusitis*
 - *Acute otitis media*
 - *Acute bronchitis*



*http://www.nntonline.net/visualrx/cates_plot/

5. Waiting room poster

- ‘Behavioural **nudge**’
- GPs publicly pledge commitment to reducing *inappropriate* AB prescribing
- Personalised with photos of GPs in the practice



Antibiotics
Can do **harm** as well as good

We want to give you some important information about antibiotics:

- Help fight infections that cause serious illness
- Can cause side effects like skin rashes, diarrhoea, or yeast infections
- Make the 'good' bacteria resistant, which can make future infections harder to treat

It is important that you only use antibiotics when they are necessary to treat your illness

How can you help?

- Carefully follow your doctor's instructions.
- Your doctor will discuss whether you need antibiotics or not
- When you have a cough, sore throat, or other illness, your doctor will help you select the best possible treatments

Your health is very important to us.

As your doctors, we promise to treat your illness in the best way possible. We are also dedicated to avoid prescribing antibiotics when they are likely to do more harm than good.

If you have any questions, please feel free to ask your doctor, nurse, or pharmacist.


Chris Del Mar


Helen Anon


[Signature]



6. Patient handout

- Developed for GAPS
- NPS leaflet
- UK and GRACE-INTRO*

Do you really need antibiotics?

Do antibiotics help?

If your symptoms such as a cough or sore throat are caused by a virus then antibiotics won't help you get better

Most coughs and colds are caused by a virus which means antibiotics don't help

Taking antibiotics can be harmful

Antibiotics can cause side effects like skin rashes, diarrhoea or yeast infections (thrush)

Antibiotic resistance is a growing problem

If you have taken antibiotics you are more likely to carry resistant bacteria in your body

This means that future infections are more difficult to treat because antibiotics might not work when you really need them

You can also spread these resistant bacteria to other people such as your family

Antibiotics kill the natural 'good' bacteria in your body that keep the harmful bacteria under control

What can be done to make me better?

If you have a cough or sore throat or other illness your doctor will help you select the best possible treatment

If an antibiotic could do more harm than good, your doctor will explain this to you

Your doctor will give you advice about how to manage your symptoms

How can I help?

Carefully follow your doctor's instructions

If you have any questions, please feel free to ask your doctor, nurse or pharmacist



*Francis N et al. Effect of using an interactive booklet about childhood respiratory tract infections in primary care consultations on reconsulting and antibiotic prescribing: a cluster randomised controlled trial. BMJ 2009;339:b2885 doi:10.1136/bmj.b2885.

Responses to the interventions

Interviews from ChAP and GAPS

- Uptake varied: GAPS – 50% CRP – 50% Online modules
- Helpful: *“I think it helped them to know that you are not just avoiding antibiotics, but that it actually ... overall was better for them”*
- Choice is important
- Negative vs positive message: *“I would have appreciated some discussion about appropriate settings to give antibiotics.”*
- Delayed prescribing: *“I am not really sure how the patient has the insight to recognise when to start the antibiotics.”*
- Concerted action is needed: *“So the message that we have been giving in general practice is not being reinforced necessarily by our specialist colleagues [...] they may be the ones who perpetuate the myth that an antibiotic will fix everything.”*

I just can't make sense
of this data.



Have you tried
looking at the
pictures?



fresh spectrum

Implications for Practice - Supporting implementation

- Ongoing education targeted at all stages of professional spectrum
- Concerted action across primary-secondary/tertiary care
- Evidence for a range of interventions:
 - More intensive interventions seem to work
 - But simple ones can work as well
 - Flexible delivery
- Facilitation?
- Reimbursement and incentives?
- **AMS** must be routine practice!



“What if we don’t change at all ...
and something magical just happens?”