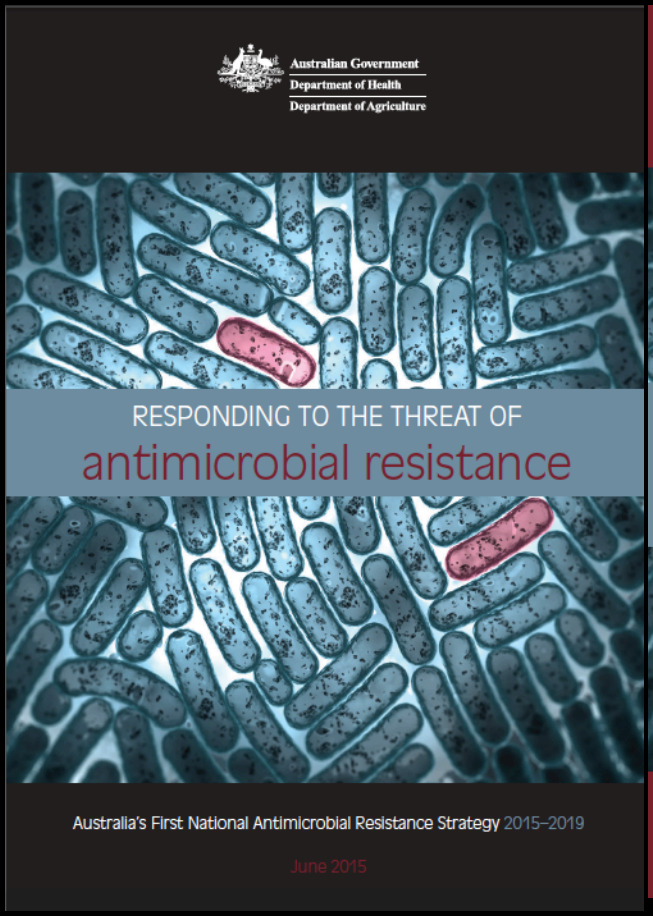
AMS and the social life of medicine

On belief, culture, inter-professional dynamics and institutional context

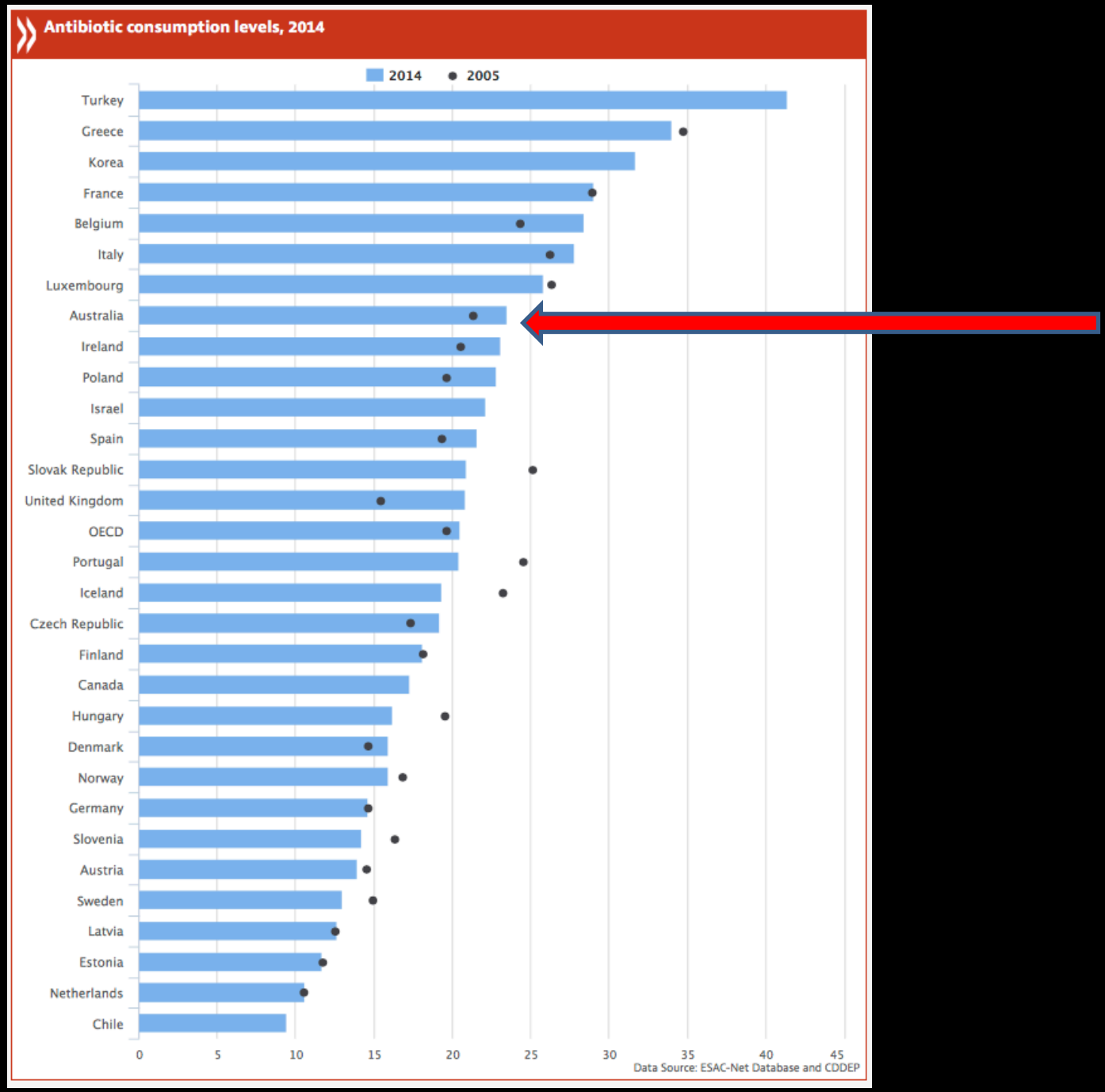
Professor Alex Broom
UNSW Sydney
@broomalex

International Program

- Why do we over-use?
- What social factors/behaviours drive over-use and mis-use?
- In which way do we need to change our thinking to change ‘prescribing’ and reduce the overall antimicrobial load?
- How might this be one key platform for addressing AMR more broadly?
- **How might AMS engage social factors?**

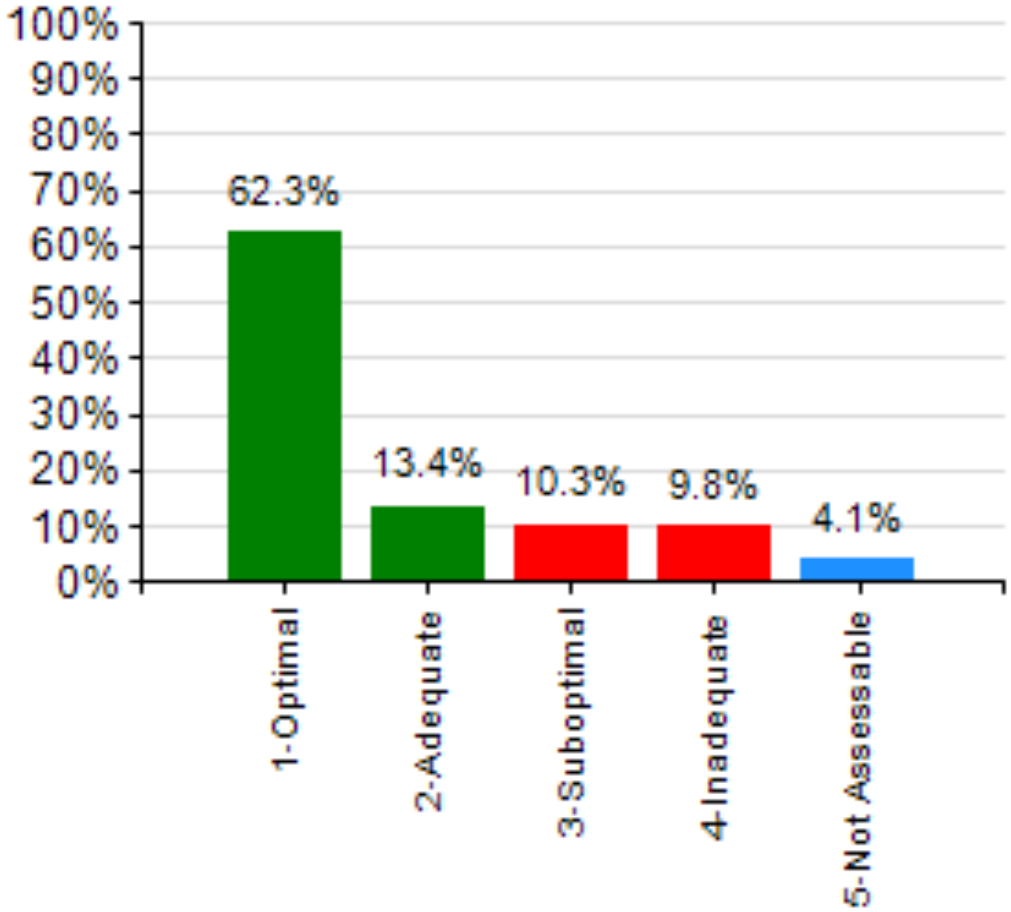


Government's *National Antimicrobial Resistance Strategy* & *Implementation Plan* cite "judicious prescribing" and "clear governance arrangements…and accountability"


Antibiotic consumption levels, 2014
2014
2005
Turkey
Greece
Korea
France
Belgium
Italy
Luxembourg
Australia
Ireland
Poland
Israel
Spain
Slovak Republic
United Kingdom
OECD
Portugal
Iceland
Czech Republic
Finland
Canada
Hungary
Denmark
Norway
Germany
Slovenia
Austria
Sweden
Latvia
Estonia
Netherlands
Chile
0
5
10
15
20
25
30
35
40
45
Data Source: ESAC-Net Database and CDDEP

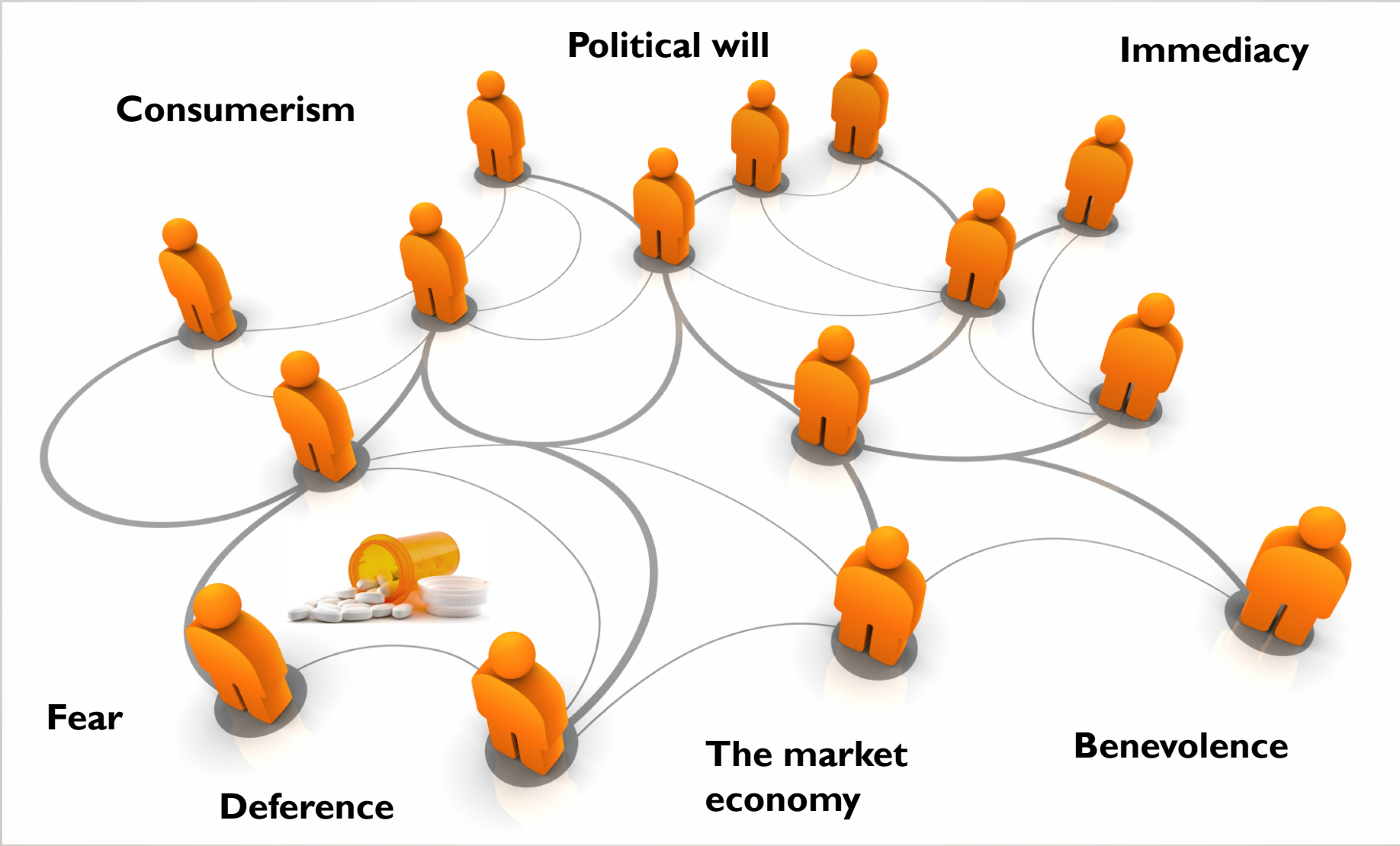
Appropriateness?

Appropriateness of Antimicrobial National Data 2016



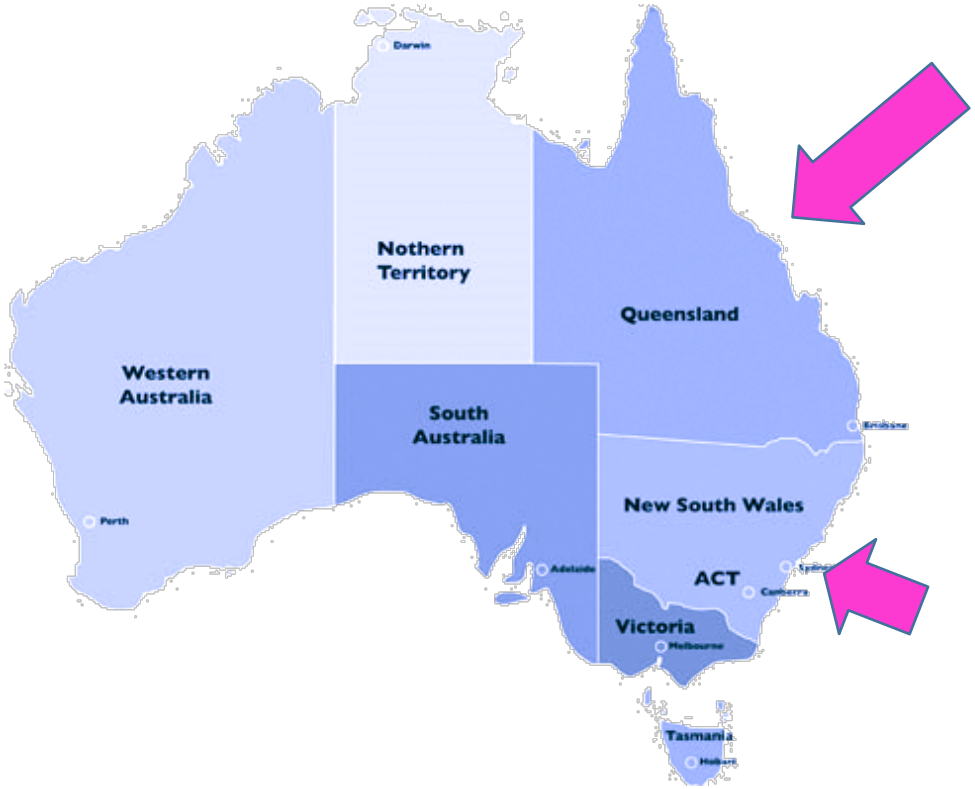
Appropriate	75.8%
Inappropriate	20.1%
Not Assessable	4.1%

THE COMPLICATED SOCIAL WORLD OF ANTIBIOTIC 'PRESCRIBING'



A Program of Research

- Hospitals
  - 7 hospitals in total
  - Metro, regional, remote
  - Public/private
  - QLD and NSW
- Qual interviews
  - >150 doctors
  - >100 nurses
  - >50 pharmacists
  - >20 managers
- focus groups
  - ICU, Inter professional, junior doctors, surgeons,
  - pharmacists



Sunshine Coast Hospital and Health Service

ASID

Australian Government
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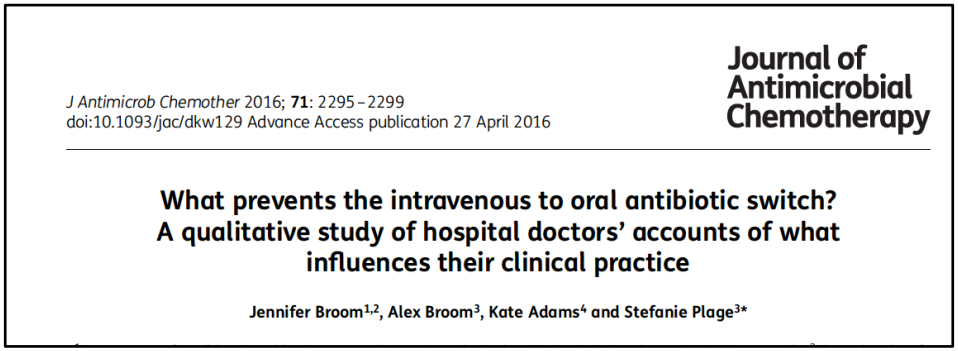
NSW GOVERNMENT

Queensland Government
Queensland Health

Clinical/Sociological Nexus



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Journal of Antimicrobial Chemotherapy

What prevents the intravenous to oral antibiotic switch? A qualitative study of hospital doctors' accounts of what influences their clinical practice

Jennifer Broom[1,2], Alex Broom[3], Kate Adams[4] and Stefanie Plage[3]*

Available online at www.sciencedirect.com

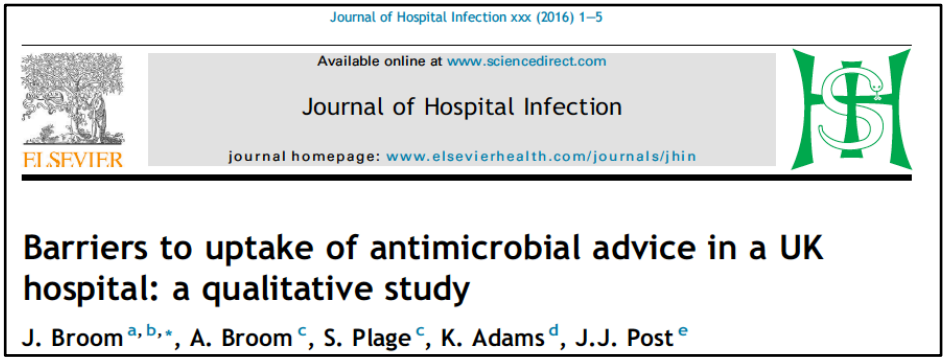
Journal of Hospital Infection

journal homepage: www.elsevierhealth.com/journals/jhin

ELSEVIER

Optimizing antibiotic usage in hospitals: a qualitative study of the perspectives of hospital managers

A. Broom [a,*], A.F. Gibson [a], J. Broom [b,c], E. Kirby [a], T. Yarwood [c,d,e], J.J. Post [f,g]



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ELSEVIER

Barriers to uptake of antimicrobial advice in a UK hospital: a qualitative study

J. Broom [a,b,*], A. Broom [c], S. Plage [c], K. Adams [d], J.J. Post [e]

Social Science & Medicine 146 (2015) 95–103

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ELSEVIER

The path of least resistance? Jurisdictions, responsibility and professional asymmetries in pharmacists' accounts of antibiotic decisions in hospitals

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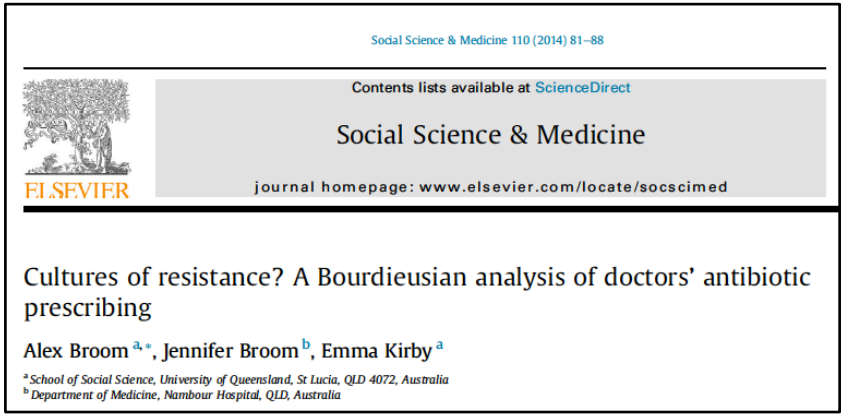

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ELSEVIER

Cultures of resistance? A Bourdieusian analysis of doctors' antibiotic prescribing

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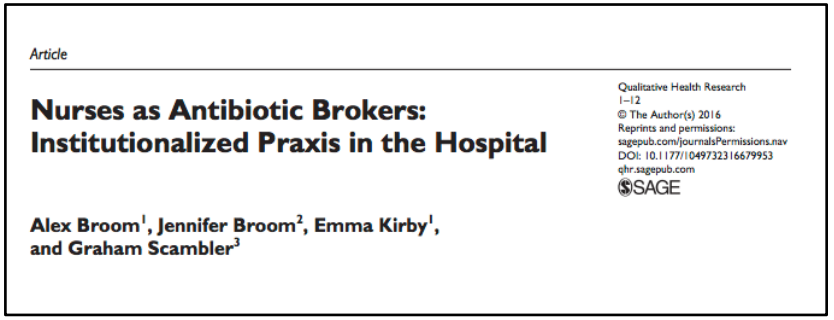

Article

Nurses as Antibiotic Brokers: Institutionalized Praxis in the Hospital

Qualitative Health Research
1–12
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DOI: 10.1177/1049732316679953
qhr.sagepub.com
SAGE

Alex Broom[1], Jennifer Broom[2], Emma Kirby[1], and Graham Scambler[3]

Vulnerability, fear and risk

Doctor: I probably tend to over treat rather than under treat.

I: And why is that?

Doctor: Oh, fear of relapse and uncertainty that they're going to get better. And actually lack of evidence-based knowledge in myself... Safety for us is not making a mistake, not missing something, where a patient has a bad outcome … mis-prescribing is more of [a broader] issue. [Consultant, Paediatrics, Male]

- P3, I think if you're looking more at the human aspect [of] what antibiotics are prescribed…It is possible that many times good medicine takes a back seat, and the driver is fear. Surgeon is fearful of his surgical site infection or his numbers looking bad. I am fearful of a patient dying on my watch. I would like them to survive until the morning and die later on.

- P5: Take over from the real instinct.

- P4: The fear is that you're missing sepsis. That fear, there's nothing wrong with that.

- P3: The fear is there. The fear is always there.

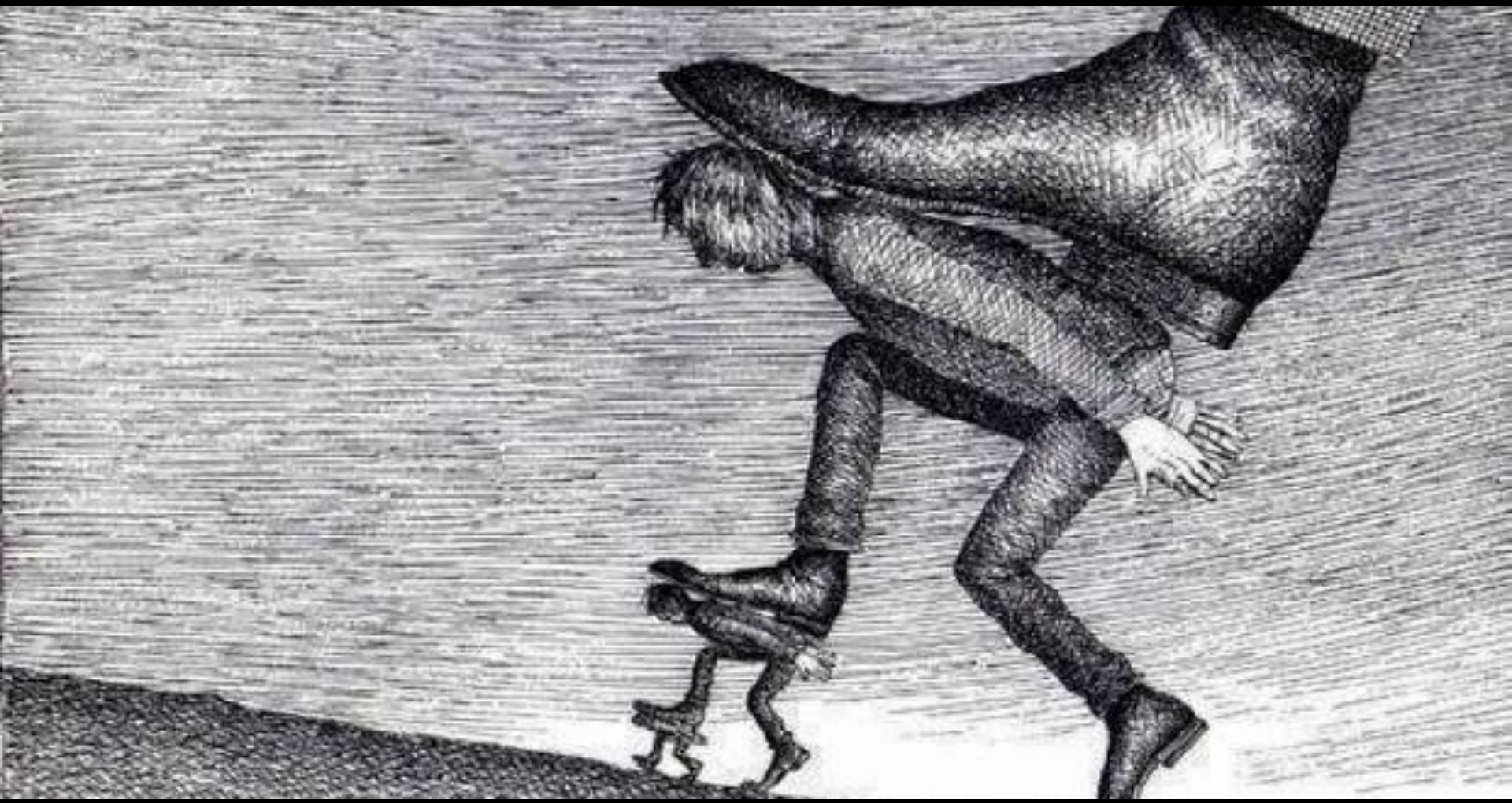
- P5: Of course. They're very fearful.

- P3: [P3 starts role playing a surgeon] "He was all right when he came and now he is not good. He has deteriorated under my watch. I don't like that."

- P5: [P5 continues roll playing surgeon and how they would talk to another doctors] "Why did you change the antibiotics?"

- P3: "I don't like that." This surgeon shouts. I won't touch his antibiotics, let him have them <laughter>. [If] this surgeon's timid, I'll cross off his antibiotics <laughter>. Fear is always there and I think fear could be about the person, of your statistics, of your numbers looking good or numbers looking bad, something happening on your watch.

Power, hierarchies, norms



I don’t want to prescribe the wrong thing and look stupid, and I don’t want to prescribe something that might have bad interactions and look dangerous…every decision being plagued with this possibility that you’re being dangerous…we err between passive stupidity and dangerous. Passive and stupid when we’re not making any decisions and dangerous when we do… [Non-consultant, Surgery]

So, I think the people who would do a third or fourth degree [vaginal] tear while that consultant was on duty would undertake antibiotic prescribing according to [that consultant's] practice. And then if you were [seeing a patient] outside of that consultant's duty day then you would do whatever that [other] consultant normally does. [Non-consultant, Obs & Gyn, Female]

Ritual, manners & mythologies

(Surgery Focus Group)

P6: There are other practices that we do inter-operatively… we would put Betadine in the wound. Whether or not we should do or not do, but we all do it because it's just part of the culture.

P5: Superstition.

P6: Superstition …Yeah, it's called the Betadine blessing… the Betadine blessing is where you put Betadine over your bowel and anastomosis in an attempt to allow it to heal better… Then another consultant of mine does Gentamicin powder in his wounds… he closes up the wound that has mesh in it, so hernia repair for example, and then he would literally open up a Gentamicin bottle and put it into the wound and then he'll close it up. It's Gentamicin fairy dust. Again, [he says he's had] no wound infections at all, no complications at all…. he would sprinkle his fairy dust and never had a wound infection ever, ever. Never had one person come back in.

P5: We are probably over-treating it. To prevent one infection, we have to sprinkle on 20 patients to prevent one.

M2: … Does any of this get recorded during the surgery, that this is done?

P6: Betadine blessing, no.

M2: Or Gentamicin sprinkle?

P6: It's not consistent, but I would write maybe…

P5: "Betadine paint on the wound."…. Just subtle.

M2: Are antibiotics…recorded?

P5: Yeah, [they] should be.

P6: The anaesthetist will record that.

M2: I was just wondering.

P5: If it's not recorded it's not given [said sarcastically].

The private life of medicine

[Junior Doctors Focus Group]

P5: I want to bring up is about the private and public difference… I've seen antibiotics being given more liberally in private… Medicare [Australian national health insurance scheme] doesn't pay for readmission within 30 days if it's related to the surgery. So someone comes in with DVT or skin infection, wound infection, the patient either has to come to public or fork out money from his [sic] pocket for private admission. Yeah, I've seen it really experienced in a well-regarded private surgeon giving antibiotic for skin excision and even given antibiotic to go home.

M2: To avoid readmission?

P5: To avoid readmission.

P6: Yeah.

P5: So that's in the private land. It doesn't happen in public because we don't care. We are happy for them to come back. As in, *we care*… [emphasis]

P6: We care about the community and long-term antibiotic resistance.

P5: That's right, as in financial incentive is not part of our agenda. It doesn't really matter to us, but that happens a lot in private land because the penalty is much bigger, the consequences.

P6: The financial penalty. Yes, there are wound infections… it's bad because the patient has to be readmitted or re-present and it tarnishes their reputation, and so managing one situation excessively stops them from coming back and reducing their reputation.

P5: Improve the data.

P6: Improve their data, etcetera without [considering] the longevity of all this antibiotic resistance.

[Junior Doctors Focus Group]

P2: Yeah. It's [antibiotic use] something that you don't just learn from a book.

P1: True.

P2: You just need to be burned once, have a person die, and then treat everyone else the same regardless, I think.

P4: [But] to turn on consultants' like … <laughter> so much of their allegiance can be not at the [public] hospital. They have private rooms and they have other obligations. So I think that can, in some instances, not all, lead to defensive medicine, because they want to think...

P2: I agree, yeah.

P4: …"I'm not here today. You man the fort." They don't, perhaps, gather all the information and they just take the safest [antibiotic] option.

P2: Yeah, that's true…Especially a Friday.

M1: Why Fridays?

P2: Because no one's around over the weekend.

P4: Yeah.

P5: Yeah. You tend to be more careful on a Friday.

P2: You try not to stop IV antibiotics on a Friday.

P5: Yeah.

P2: No, we're not changing antibiotics on a Friday.

P4: Mondays.

[Junior Doctors Focus Group]

ntext-sensitive policy: Core vs. periphery

Managerialism and governance

Hospital Manager: I honestly believe lip service is paid to it [antimicrobial mis-use]. You could go start preaching from the mountaintops telling people how much we're spending [on antibiotics], what it's [antibiotic resistance] costing us […] It's just as I said […] there's no measureable in it so therefore it doesn't matter.

What are pharmacists thinking?

- Alex: Of those [incorrect antibiotic scripts] you pull up, how many would be changed to what you suggest?
- Pharmacist: Well I guess it’s hard because it probably depends. 25-30% max maybe.
- Alex: So around about two-thirds of the advice you give is ignored?
- Pharmacist: Yep.
- Alex: Why is that?
- Pharmacist: ...because they think they know more, they don’t have time to fix it. By the time they read or come across, they’re like “well, they’ve already had two days of it, and it’s working, so let’s continue it.” That's a big one, “it’s working.” It’s not a good reason.

Nursing and brokering

[conversation about non-approved use of antibiotics]

Alex: So talk to me about how all that [getting antibiotics] works…?

P: Or it doesn't work [laughter]. It can be that you're ringing a pharmacist to get antibiotics up for your patient or we've run out of Vancomycin….but it gets pinched from other wards.

I: There's…trading that goes on?

P: There's a lot of black-market trading that goes on, a bit of skulduggery that goes on, especially after hours and weekends. [nurse]

Habitus in the hospital

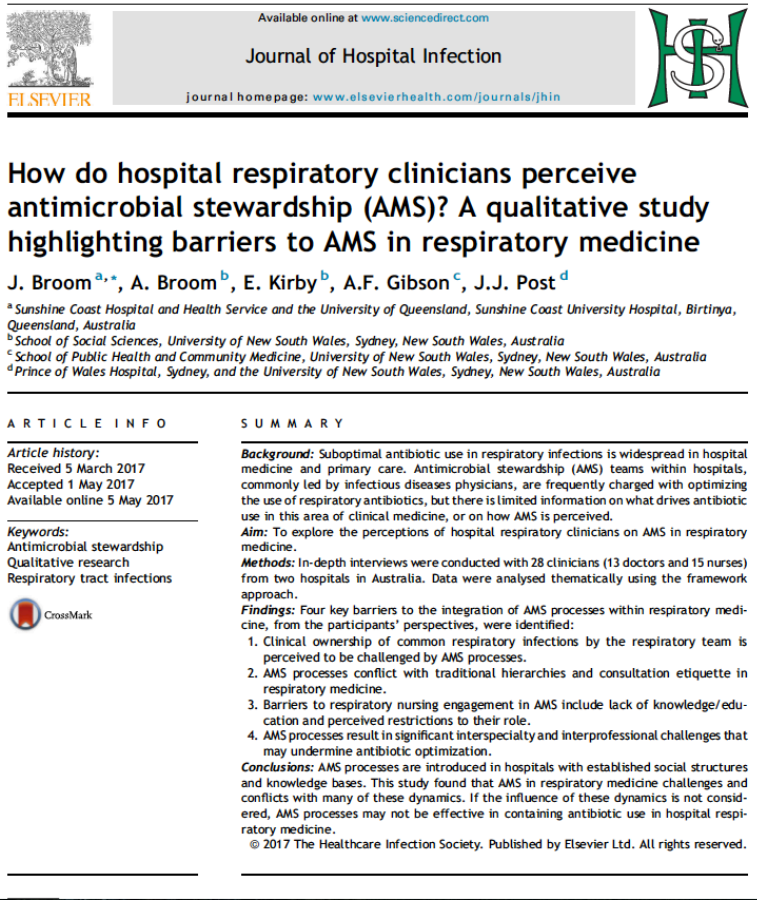
- Habitus describes the ways by which the external (social) is internalised resulting in collective patterns of thinking and doing, without necessarily rational or conscious reasoning (Bourdieu &Wacquant, 1992) [cf. gut feeling? intuition?]
- Actors are often more concerned with appropriate behaviour within hierarchies and managing immediate risks
- For practices to change, the solicitations of the field must change (i.e. the game and its rules).
- Resistance does not represent a sufficiently serious risk, vis-à-vis social, professional, clinical costs.
- Norms can shift and perceptions of risk/responsibility can be addressed if desire is there.
- When we talk about governance, we need to recognise that ABx are already being governed – they are governed by sense of risk, norms, hierarchies, professional etitique, tradition, mythologies
- **By norms, values, hierarchies, rites of passage, KPI culture, managerialism, risk aversion, litigation culture and so forth.**
- **Sub-optimal antibiotic prescribing is a logical choice in the social world of the hospital**

Targeting specific clinical issues…

- AMS processes – why do clinicians dislike antibiotic approvals?
- Why are respiratory infections managed so frequently with broad spectrum antibiotics?
- Why do we delay IV to oral switch?
- Why is surgical antibiotic prophylaxis so overprescribed?
- How is ‘prescribing’ in fact interprofessional?
- And so on….

Respiratory medicine… what are the barriers?

- **Clinical**
  - 1. Pneumonia vs COPD
  - 2. Viral vs bacterial
  - 3. Colonisation vs pathogen
- **Social barriers**
  - 4. Perception of resistance
  - 5. Value of antibiotic clinical guidelines
  - 6. Hospital hierarchies



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Journal of Hospital Infection

journal homepage: www.elsevierhealth.com/journals/jhin

How do hospital respiratory clinicians perceive antimicrobial stewardship (AMS)? A qualitative study highlighting barriers to AMS in respiratory medicine

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Qualitative research
Respiratory tract infections

SUMMARY

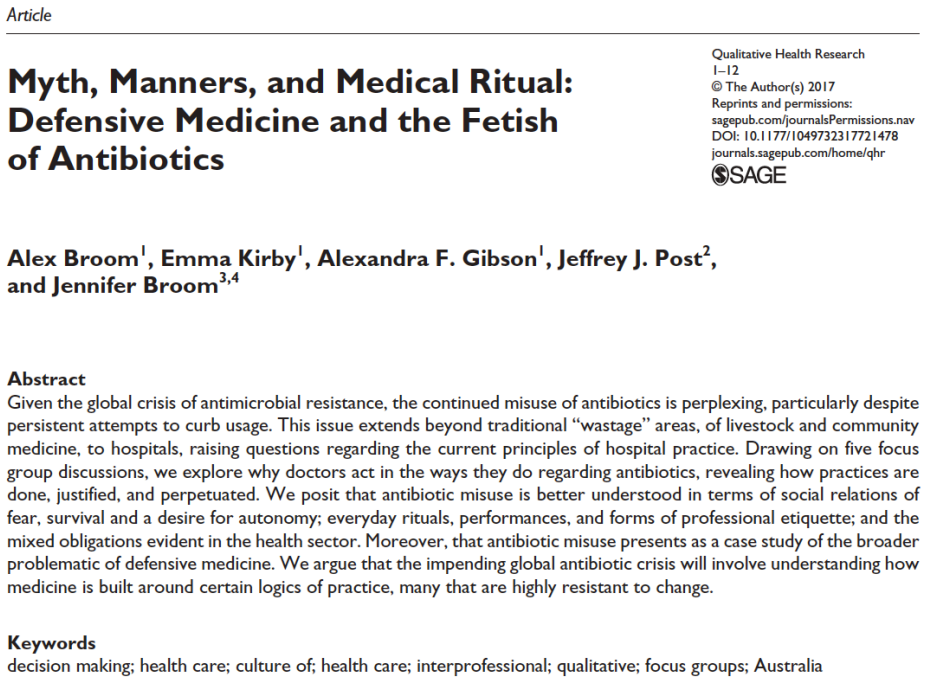
Background: Suboptimal antibiotic use in respiratory infections is widespread in hospital medicine and primary care. Antimicrobial stewardship (AMS) teams within hospitals, commonly led by infectious diseases physicians, are frequently charged with optimizing the use of respiratory antibiotics, but there is limited information on what drives antibiotic use in this area of clinical medicine, or on how AMS is perceived.
Aim: To explore the perceptions of hospital respiratory clinicians on AMS in respiratory medicine.
Methods: In-depth interviews were conducted with 28 clinicians (13 doctors and 15 nurses) from two hospitals in Australia. Data were analysed thematically using the framework approach.
Findings: Four key barriers to the integration of AMS processes within respiratory medicine, from the participants' perspectives, were identified:

1. Clinical ownership of common respiratory infections by the respiratory team is perceived to be challenged by AMS processes.
2. AMS processes conflict with traditional hierarchies and consultation etiquette in respiratory medicine.
3. Barriers to respiratory nursing engagement in AMS include lack of knowledge/education and perceived restrictions to their role.
4. AMS processes result in significant interspecialty and interprofessional challenges that may undermine antibiotic optimization.

Conclusions: AMS processes are introduced in hospitals with established social structures and knowledge bases. This study found that AMS in respiratory medicine challenges and conflicts with many of these dynamics. If the influence of these dynamics is not considered, AMS processes may not be effective in containing antibiotic use in hospital respiratory medicine.

Surgical Antibiotic Prophylaxis… What are the barriers?

- **Clinical**
  - Competing demands in the operating theatre – other decisions regarded as more urgent
  - Fear of litigation and adverse patients outcomes
  - Lack of confidence in guideline protection
  - Benevolence towards individual patients
  - Improvisation – acceptable and widespread
- **Social**
  - AMS team not in the operating theatre (not part of the “team”)
  - Hierarchical barriers – consultants trump everyone else
  - Risk ownership



Article

Myth, Manners, and Medical Ritual: Defensive Medicine and the Fetish of Antibiotics

Qualitative Health Research
1–12

DOI: 10.1177/1049732317721478
journals.sagepub.com/home/qhr
SAGE

Alex Broom[1], Emma Kirby[1], Alexandra F. Gibson[1], Jeffrey J. Post[2], and Jennifer Broom[3,4]

Abstract
Given the global crisis of antimicrobial resistance, the continued misuse of antibiotics is perplexing, particularly despite persistent attempts to curb usage. This issue extends beyond traditional “wastage” areas, of livestock and community medicine, to hospitals, raising questions regarding the current principles of hospital practice. Drawing on five focus group discussions, we explore why doctors act in the ways they do regarding antibiotics, revealing how practices are done, justified, and perpetuated. We posit that antibiotic misuse is better understood in terms of social relations of fear, survival and a desire for autonomy; everyday rituals, performances, and forms of professional etiquette; and the mixed obligations evident in the health sector. Moreover, that antibiotic misuse presents as a case study of the broader problematic of defensive medicine. We argue that the impending global antibiotic crisis will involve understanding how medicine is built around certain logics of practice, many that are highly resistant to change.

Keywords
decision making; health care; culture of; health care; interprofessional; qualitative; focus groups; Australia

IV-Oral Switch… What are the barriers?

Consumerism

- Patient expectations, fear of litigation and clinical failure

Hierarchy

- Waiting for consultant permission to de-escalate

Process issues

- Waiting until after the weekend, until the next consultant ward round etc..

Mythical powers of IV antibiotics

- IV is always better…isn't it?

J Antimicrob Chemother 2016; **71**: 2295–2299
doi:10.1093/jac/dkw129 Advance Access publication 27 April 2016

Journal of Antimicrobial Chemotherapy

What prevents the intravenous to oral antibiotic switch? A qualitative study of hospital doctors' accounts of what influences their clinical practice

Jennifer Broom[1,2], Alex Broom[3], Kate Adams[4] and Stefanie Plage[3]*

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Objectives: Escalating antimicrobial resistance worldwide necessitates urgent optimization of antimicrobial prescribing to preserve antibiotics for future generations. Early intravenous (iv) to oral switch campaigns are one strategy that hospital-based antimicrobial stewardship programmes can incorporate to minimize inappropriate antibiotic use. Yet, iv antibiotics continue to be offered for longer than is clinically indicated, increasing hospital length of stay, increasing costs and placing patients at risk (e.g. cannula-related infections). This study aims to identify why this inappropriate prescribing trend continues.

Methods: Twenty doctors (9 females and 11 males) working at a teaching hospital in north-east England participated in semi-structured interviews about their experiences of antibiotic use. NVivo10 software was used to conduct a thematic content analysis of the full interview transcripts driven by the framework approach. Results are reported according to COREQ guidelines.

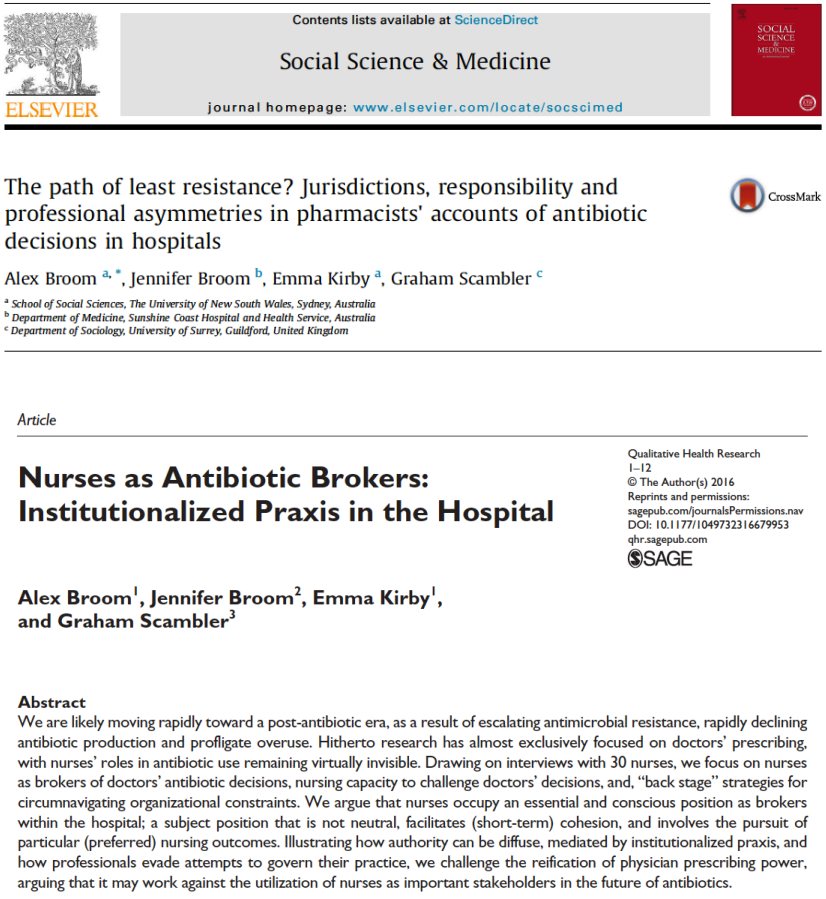
Results: Decisions around the choice of iv over oral antibiotics were influenced by three key issues: (i) *consumerism*, i.e. participants were concerned about the risk of litigation or complaints if patient expectations were not met; (ii) *hierarchy* of the medical team structure limited opportunities for de-escalation of antibiotics; and (iii) iv antibiotics were perceived as more potent and having significant *mythical qualities*, which participants acknowledged were not necessarily evidence based.

Conclusions: The iv to oral switch interventions should tailor strategies to demystify iv versus oral antibiotic efficacy, engage consumers around the negative effects of iv antibiotic overuse and examine strategies to streamline team decision-making. Addressing these issues has the potential to reduce inappropriate antibiotic use and resistance.

UNSW SYDNEY

Interprofessional Care… What are the barriers?

- Hierarchical structures in hospitals
- Medical/intraprofessional hierarchies limit pharmacy and nursing influence over doctors
- Education/engagement
- Limited nursing education/engagement in AMS
- Who owns the risk?
- Treating team (and especially the treating consultant) own the risk for the patient
- Medical autonomy
- Autonomous decision making highly valued in medicine
- Prescribing power
- Prescriber perceived to have ultimate power
- AMS team not at the bedside



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The path of least resistance? Jurisdictions, responsibility and professional asymmetries in pharmacists' accounts of antibiotic decisions in hospitals

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[b] Department of Medicine, Sunshine Coast Hospital and Health Service, Australia
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Article

Nurses as Antibiotic Brokers: Institutionalized Praxis in the Hospital

Qualitative Health Research
1–12

DOI: 10.1177/1049732316679953
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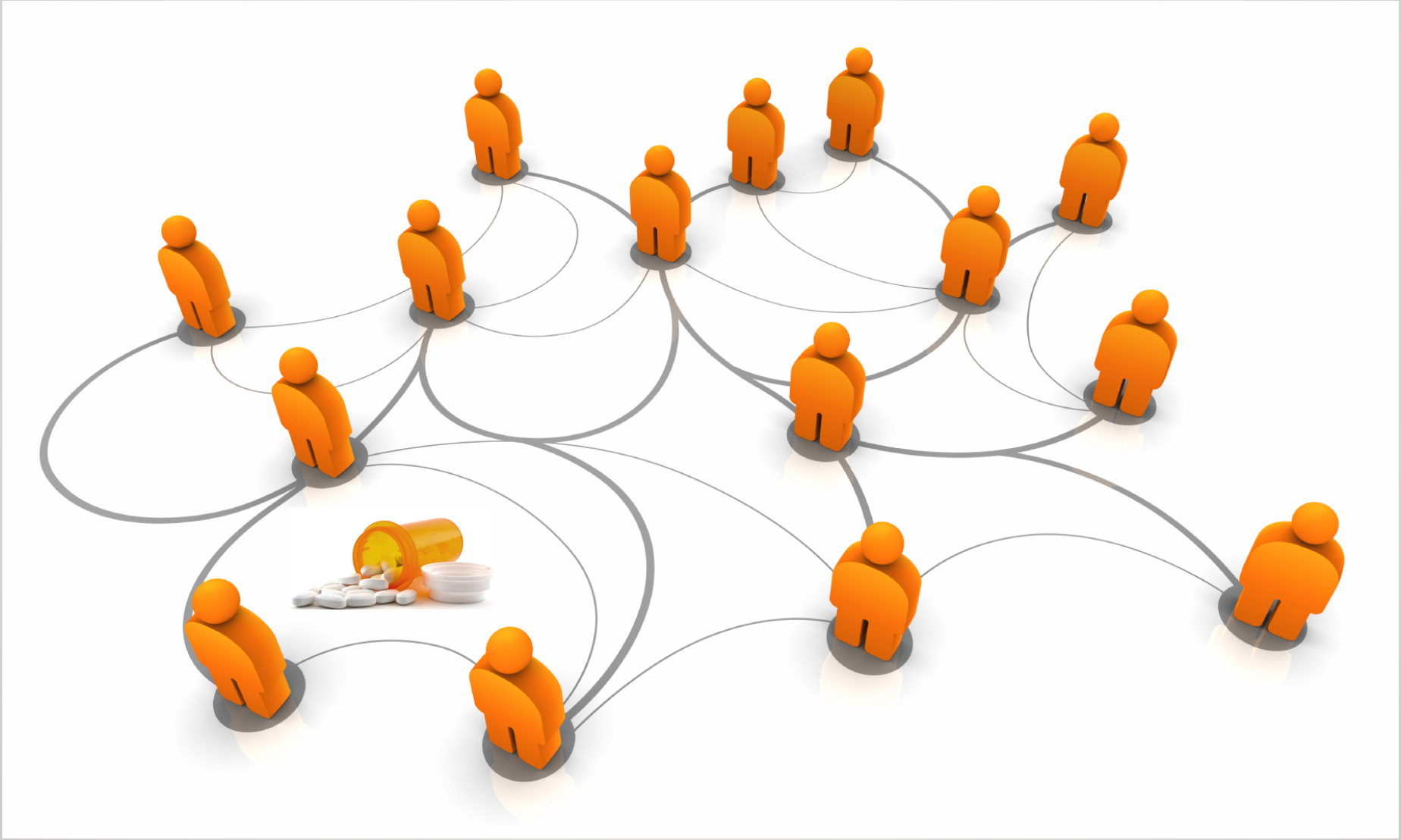
Abstract

We are likely moving rapidly toward a post-antibiotic era, as a result of escalating antimicrobial resistance, rapidly declining antibiotic production and profligate overuse. Hitherto research has almost exclusively focused on doctors' prescribing, with nurses' roles in antibiotic use remaining virtually invisible. Drawing on interviews with 30 nurses, we focus on nurses as brokers of doctors' antibiotic decisions, nursing capacity to challenge doctors' decisions, and, "back stage" strategies for circumnavigating organizational constraints. We argue that nurses occupy an essential and conscious position as brokers within the hospital; a subject position that is not neutral, facilitates (short-term) cohesion, and involves the pursuit of particular (preferred) nursing outcomes. Illustrating how authority can be diffuse, mediated by institutionalized praxis, and how professionals evade attempts to govern their practice, we challenge the reification of physician prescribing power, arguing that it may work against the utilization of nurses as important stakeholders in the future of antibiotics.

UNSW SYDNEY

THE COMPLICATED SOCIAL WORLD OF ANTIBIOTIC PRESCRIBING



CONCLUSIONS

- Social and behavioural factors have a significant influence on our capacity to enact AMS
- Interventions that take into account these issues may have a greater chance of having a sustainable impact on antibiotic use
- To change antibiotic use we may have to change the way we think and interact as a team and as a hospital (and as a community)

- **If you don't document why, you can't promote change**