



North of England  
Commissioning Support

# Troubled Waters: Urinary Tract Infection in Older People

**Benjamin Kelly-Fatemi  
Care Home Pharmacist  
Newcastle Care Homes Programme  
November 2015**

# Overview



- Background
- Challenges faced
- Local attempts to improve prescribing
- Summary & Questions

# Background



- Urinary Tract Infection (UTI) is one of the most common indications for antibiotic use across primary and secondary care
- Accounts for:
  - 1-3% of all GP consultations per year
  - 19.7% of all HCAI
- One of the most frequent reasons for emergency hospital admission
  - 67 admissions per 100 000 population per quarter (2012/13)

# Background



- One of the most common indications for antibiotics in care homes
- Evidence of over diagnosis and overtreatment of UTI in these settings

Why?

# Overtreatment



- Sensitisation to atypical symptoms
- Ease of obtaining a urine sample
- Bacteriuria
- Immediate vs delayed consequences of withholding treatment
- Complacency

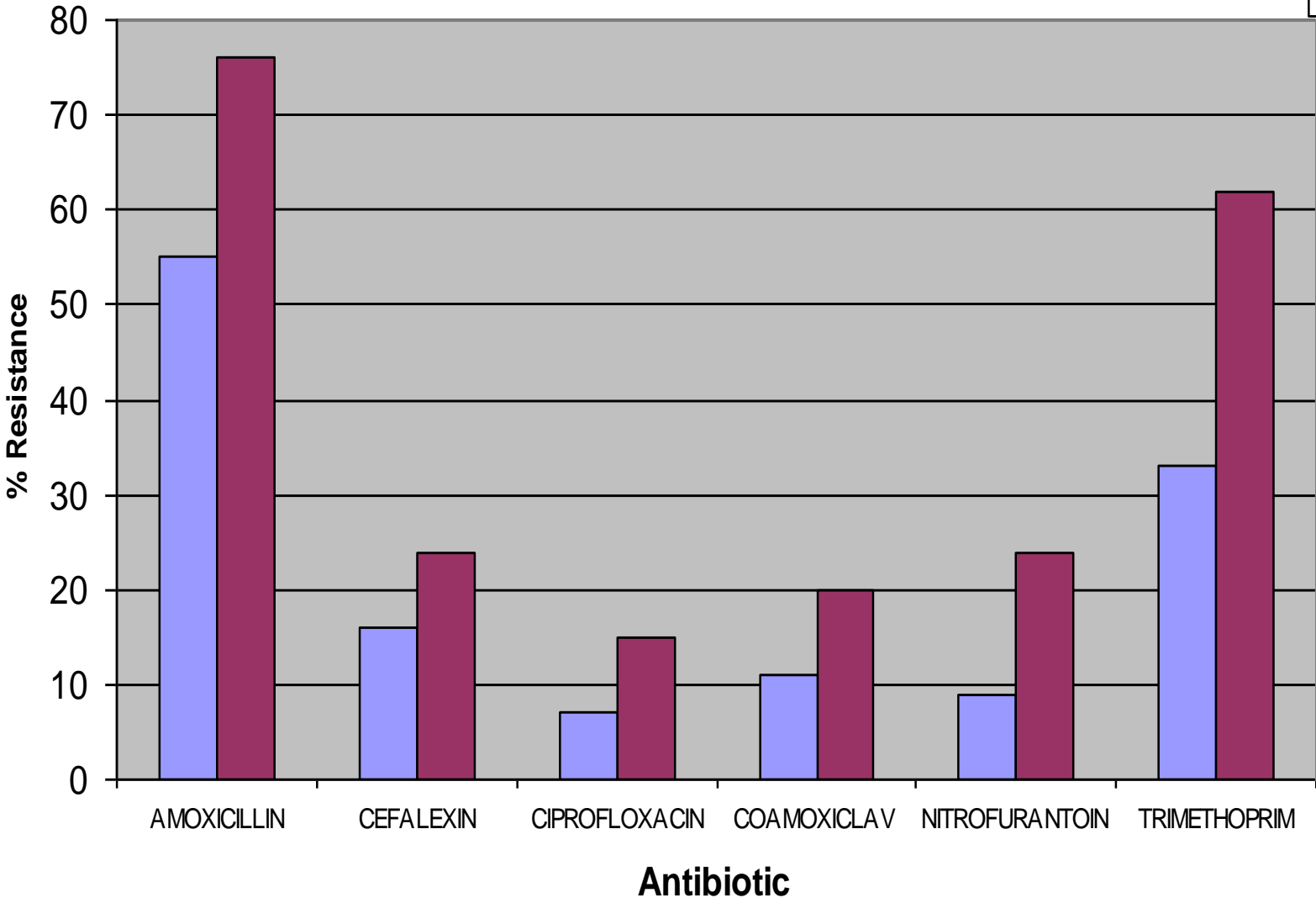
# Improving antimicrobial use



- Limited range on formulary for
  - 1<sup>st</sup> line trimethoprim & nitrofurantoin
  - 2<sup>nd</sup> line (C&S) – cefalexin & amoxicillin
- Empirical guidelines clear and easy to follow
- Evidence – antibiotic resistance greater in care homes, elderly population?

**% Resistance in samples from care homes compared with the general population**

Community  
Care Homes



# Urine Trouble



- First line agents:
  - Trimethoprim
    - *?high local resistance in care homes*
  - Nitrofurantoin
    - *Contraindicated if GFR <45ml/min*
- Second line agents:
  - Amoxicillin
    - *High rate of local resistance*
  - Cefalexin
    - *C.Difficile association – prescribers discouraged from using*



# Barriers to treating UTI in elderly



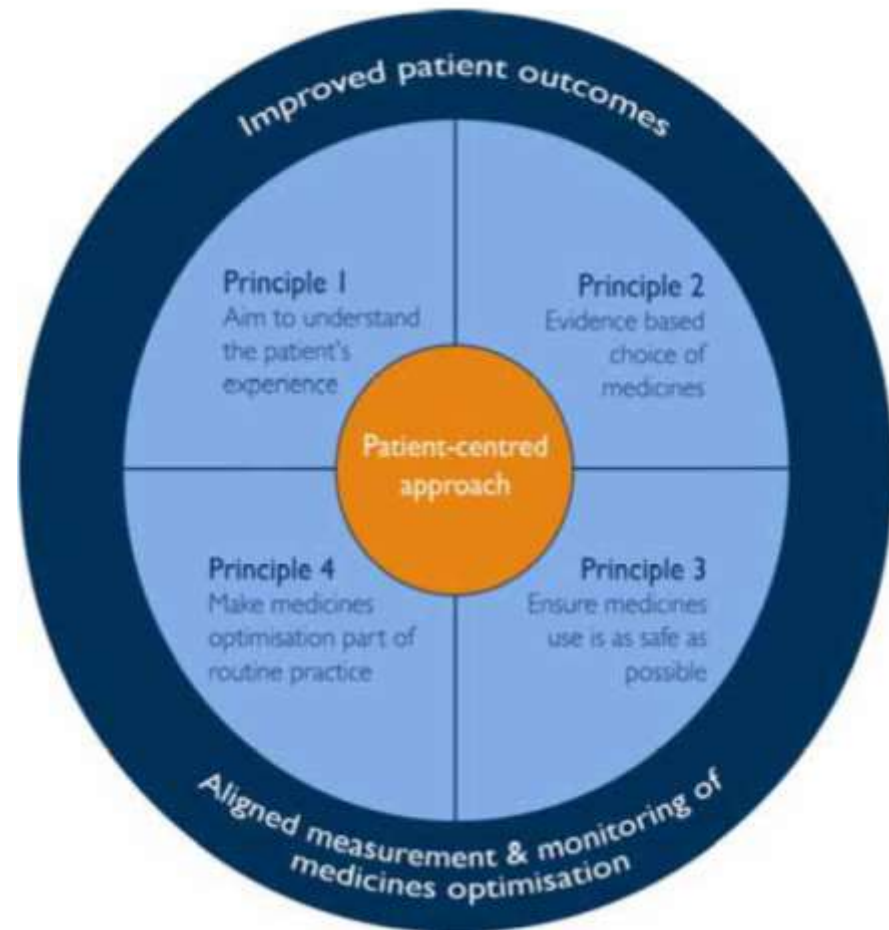
## Anecdotally...

- *“Sometimes I feel I have to prescribe something to appease staff/family/resident after being called out – the way I see it is a little bit of trimethoprim can’t harm anyone”*
- *“It can be hard to differentiate between a chest and urine infection in elderly patients so when I’m unsure I just give amoxicillin to cover both”*
- *“We don’t always have capacity for a home visit, if a urine is dipped and is positive, and the resident doesn’t sound too unwell I’ll sometimes prescribe without seeing the resident”*
- *“Samples get often get lost in the system from care homes for a number of reason. This makes follow up very difficult!”*

# Medicines Optimisation



- Aim to understand the patient's experience
- Evidence based choice of medicines
- Ensure medicines use is as safe as possible
- Make medicines optimisation part of routine practice



# Optimising an antibiotic?



- Is the resident sensitive to the antibiotic?
  - If not, check recent sensitivities before prescribing
  - Evidence based choice of medicines
- Course Length
  - Evidence based choice of medicines
- Clinically most appropriate choice
  - e.g. allergies, renal function
  - Ensuring medicines use is safe as possible
- Formulation
  - Understanding the patient experience

# Optimised Antibiotics



- Fully optimised antibiotic prescription:
  - *“The most appropriate treatment for a patient, taking into account available sensitivities, patient co-morbidities, appropriate course length and follow up, and patient acceptability”*

# Action Plan



- Baseline audit
- Training for all homes on how to correctly obtain a urine sample, and when best to send
- Surveillance of urine samples sent from homes
  - Support from microbiology

# Baseline Audit



- Showed **69%** of prescriptions were fully optimised for residents
- Examples of unoptimised practices found:
  - Inappropriate course length
  - Empirical antibiotics for men in unexceptional circumstances
  - Empirical antibiotics for CAUTI w/out micro advice
  - Antibiotics prescribed for asymptomatic patients



**NEWCASTLE UPON TYNE HOSPITALS NHS TRUST**

Special Details:

**CAUTI/UTI Project**

PLEASE SEND SEPARATE SAMPLES FOR EACH LABORATORY

NHS No.                      Hosp. No.

Surname  Forename

D.O.B.           Sex (Please circle)  M  F

↑ **AFFIX LABELS TO ALL COPIES** ↑

URGENT SAMPLES TELEPHONE EACH APPROPRIATE LABORATORY TO ENSURE URGENT PROCESSING AND CLEARLY MARK WHICH TESTS ARE URGENT

Ward  Freeman Hosp Consultant

Specimen Date:           Time:    hrs

Private/Cat.

Requesting MO:  Bleep No.  Signature:

INSERT SPECIMENS FOR HAEMATOLOGY IN FRONT BAG AND SPECIMENS FOR BIOCHEMISTRY / IMMUNOLOGY IN REAR BAG

**BIOCHEMISTRY**  
Tel. No.: 26437

**HAEMATOLOGY**  
Tel. No.: 31013

**MICROBIOLOGY/VIROLOGY**  
Tel. No.: 26291

<input type="checkbox"/> U/E	<input type="checkbox"/> Glucose
<input type="checkbox"/> Bone Profile	<input type="checkbox"/> tick if fasting
<input type="checkbox"/> Liver Profile	<input type="checkbox"/> HbA1c
<input type="checkbox"/> Gamma-GT	<input type="checkbox"/> Urine Microalbumin
<input type="checkbox"/> Creatinine	<input type="checkbox"/> Cholesterol
<input type="checkbox"/> Ionised Calcium	<input type="checkbox"/> Lipid Profile
<input type="checkbox"/> Magnesium	<input type="checkbox"/> tick if fasting
<input type="checkbox"/> Urate	<input type="checkbox"/> Thyroid Profile
<input type="checkbox"/> Troponin	<input type="checkbox"/> on T4 <input type="checkbox"/> CBZ/PTV
<input type="checkbox"/> CRP	<input type="checkbox"/> Cyclosporin
<input type="checkbox"/> Ferritin	<input type="checkbox"/> Tacrolimus
<input type="checkbox"/> Immunoglobulins	

<input type="checkbox"/> FBC	<input type="checkbox"/> INR
<input type="checkbox"/> ESR	<input type="checkbox"/> APTR
<input type="checkbox"/> Blood Urea	<input type="checkbox"/> Creatinine Clearance
<input type="checkbox"/> GFR	
<input type="checkbox"/> Hb	
Other <input type="text"/>	

**MSU  CSU**

**GP request  Nurse request**

<input type="checkbox"/>	Pain or burning when passing urine	<input type="checkbox"/>
<input type="checkbox"/>	Back pain	<input type="checkbox"/>
<input type="checkbox"/>	Strong smelling, cloudy or blood stain urine	<input type="checkbox"/>
<input type="checkbox"/>	Passing small amounts of urine	<input type="checkbox"/>
<input type="checkbox"/>	Passing more urine than normal	<input type="checkbox"/>
<input type="checkbox"/>	Nausea or vomiting	<input type="checkbox"/>
<input type="checkbox"/>	Increased confusion or agitation	<input type="checkbox"/>
<input type="checkbox"/>	Facial flush or feeling hot	<input type="checkbox"/>
<input type="checkbox"/>	Temperature above 38°C	<input type="checkbox"/>
<input type="checkbox"/>	Arterial blood pressure	<input type="checkbox"/>
<input type="checkbox"/>	Respiratory rate	<input type="checkbox"/>
<input type="checkbox"/>	Heart rate	<input type="checkbox"/>
<input type="checkbox"/>	ANCA	<input type="checkbox"/>
<input type="checkbox"/>	DNA Abs	<input type="checkbox"/>

Other (please specify):

USE A SEPARATE FORM FOR MICROBIOLOGY/VIROLOGY SPECIMENS

PLEASE USE A BALL POINT PEN, PRESS FIRMLY AND WRITE IN CAPITALS

# Improving antibiotic use



- Education and training
  - Use of antibiotics
  - Antibiotic stewardship
  - Appropriate use of urine dipsticks
  - Appropriate sampling technique
    - Following up sample requests
- Empowering care home staff to challenge potentially inappropriate practices

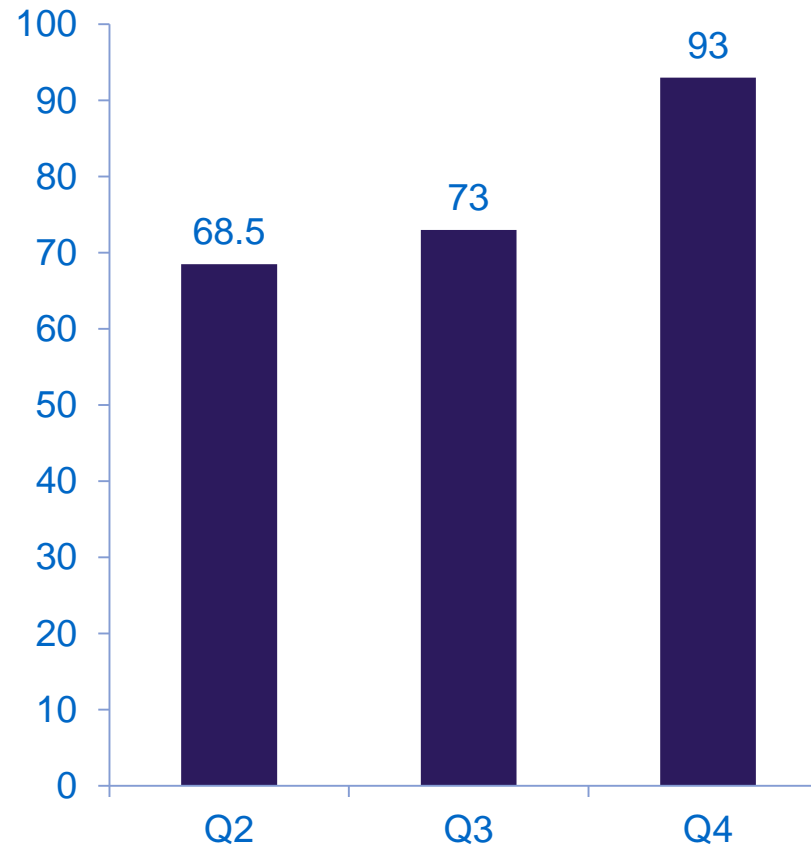


# Results of improvement work



**% antibiotics optimised for CAUTI/UTI 13/14**

**% optimised**



**No. of antibiotic prescriptions**

Q2 - 135

Q3 - 147

Q4 - 105

# Barriers faced in improving prescribing...



- Incomplete MSU/CSU forms
- Out of hours prescribing
- Prophylactic antibiotics
- Transient care home work force
- Resistance to change – “more work”

# Summary



- A multidisciplinary approach to conserving and improving use of antimicrobials has been shown to be successful in the care home setting
- Through working together, we can strive to ensure that optimising antimicrobial use becomes embedded in routine practice

# Take home thoughts...



- What can you change in your day to day practice to improve prescribing for UTIs?
- How do urine samples come in to your practice?
- What systems can you put in place to sustain antibiotic stewardship?
- Is inappropriate use of prophylactic antibiotics a problem in my area?

# Contact details



[e: benjamin.kelly-fatemi@nhs.net](mailto:benjamin.kelly-fatemi@nhs.net)



[@benkellyfatemi](https://twitter.com/benkellyfatemi)

Thank you for listening, any questions or comments are most welcome.