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# Hospital pharmacists – how can they implement antimicrobial stewardship to ensure rationale use of antimicrobials?

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Workshop 1

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# Disclosure of Relevant Financial Relationships

- Nothing to declare



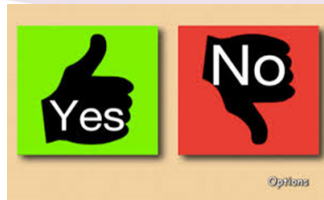
- Do hospital pharmacists have a role in antimicrobial stewardship programmes (ASP)?



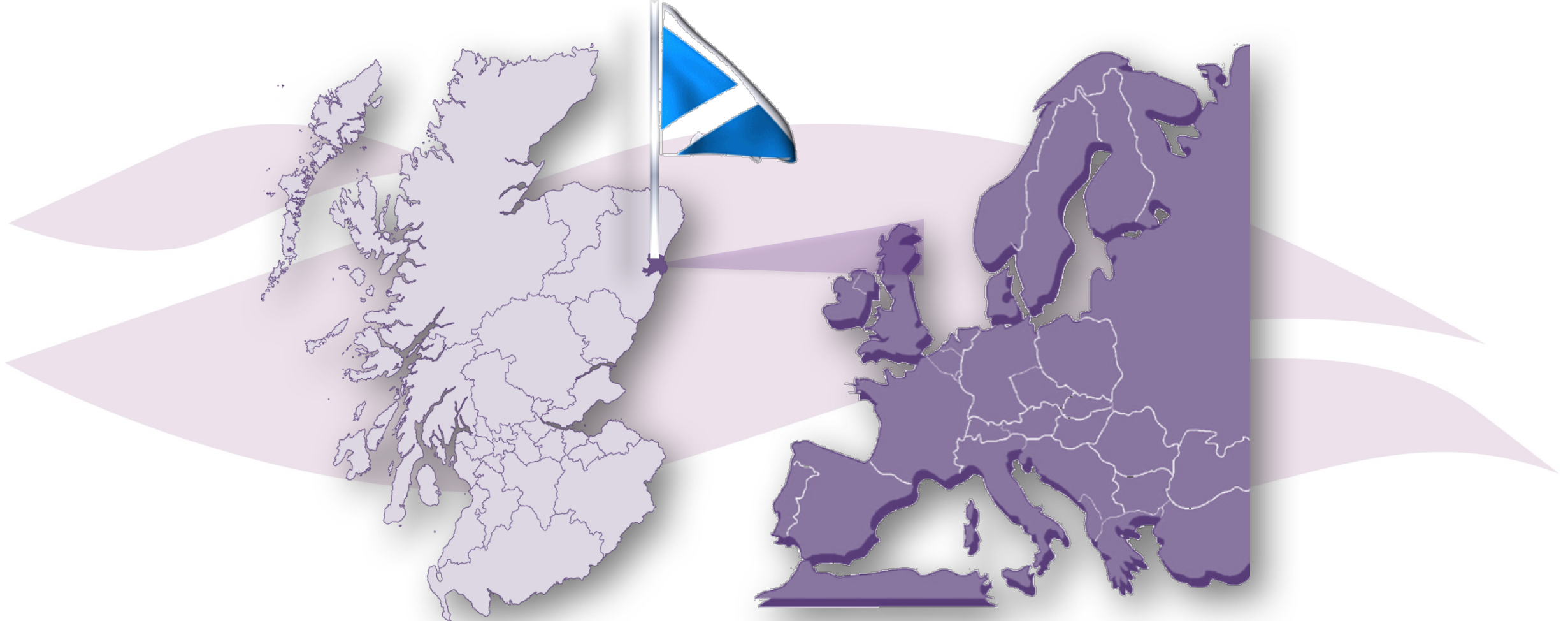
- Is there more than one component to an ASP?



- Does a reduced hospital length-of-stay reflect a better clinical outcome?



# Where from ...



# Learning Objectives

- To understand the importance of appropriate antimicrobial treatment and the implications associated with misuse of antimicrobials
- To explore the different ways in which antimicrobial treatment may be optimized by hospital pharmacists
- To ensure adequate pharmaceutical care is delivered to patients on antimicrobials by implementation of appropriate strategies

# Workshop design and outline

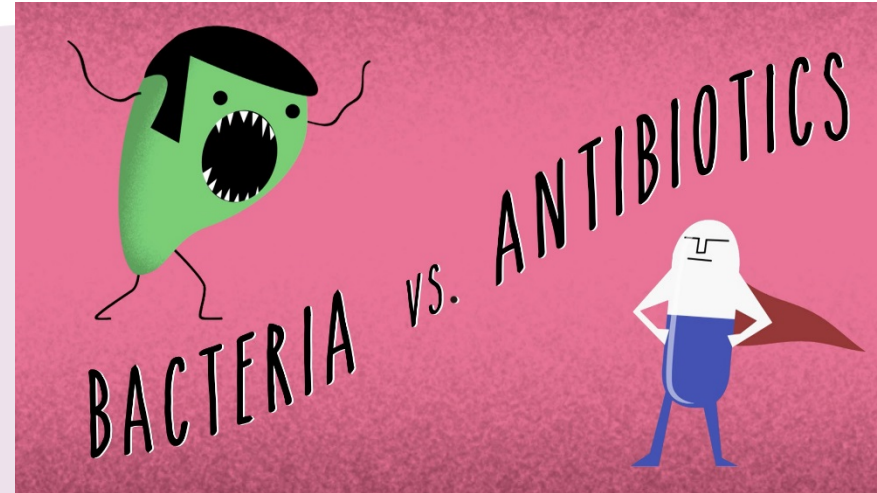
- **13:30 – 13:45** Introduction
- **13:45 – 15:00** Group work relating to interventions aimed at optimising antimicrobial use
  - Allocate topics to groups
  - Each group to nominate scribe and presenter
  - Discussion by groups in terms of advantages and disadvantages of each intervention and application to cases provided – use flip charts
- **15:00 – 15:30** Coffee break + ??? cake
- **15:30 – 16:30** Group feedback/discussion – feel free to share on social media
- **16:30 – 17:00** Conclusion – literature based definitions – hoping all still awake!



# Why a need to optimize antimicrobial use?

- Increased resistance and a need to influence antimicrobial susceptibilities

- Spiralling costs



- Improve patient quality of care eg achieving more rapid clinical cure, minimising ADR's, reducing hospital length of stay



# What roles have been attributed to the pharmacist?

Some....

- Formularies
- Restricting access
- Guidelines/Clinical Pathways
- Automatic stop orders
- Automatic therapeutic substitution
- Streamlining
- Intravenous to oral conversion
- Provide advice on dose adjustments through TDM
- Provider education
- Monitoring trends in antibiotic use within ward/unit/hospital
- Monitoring patients for antibiotic related adverse drug reactions





Your turn now.....

Think about each of these possible interventions.....

What does the intervention involve?

Then discuss these with members of your group.

Discuss which would be the most appropriate to implement in the cases provided.

# Interventions reported in the literature

## Formularies

- ✓ Restrict the classes of antimicrobials and the number of antimicrobials within each class
- ✓ Various ways of implementing: e.g.
  - a) Therapeutic substitution – the automatic replacement of a non-formulary prescribed agent with a formulary agent with a similar spectrum of activity
  - b) Antimicrobial order forms – usually specific to a particular indication; limit prescribing to a specific antimicrobial

# Interventions reported in the literature

## Restricting access

This involves having only a specific category of prescribers allowed to prescribe certain antimicrobials – usually infectious diseases and microbiology e.g. use of traffic light systems, use of ‘Alert’ or ‘Protected’ antibiotic policies

# Interventions reported in the literature

## **Guidelines/Clinical Pathways**

Usually for the treatment of a specific infection and aimed at limiting the number of options that may be prescribed

## **Automatic stop orders**

Usually used for areas where the need for antimicrobials is likely to be transient e.g. surgical prophylaxis and use will be stopped unless there is a review of treatment; maximum 3 days IV therapy then must review

# Interventions reported in the literature

## Streamlining

Involves matching of antimicrobial treatment to culture and sensitivity reporting; usually important in switching from an empiric broad spectrum antimicrobial to an appropriate culture-sensitivity guided prescribing

# Interventions reported in the literature

## Intravenous to oral conversion

Assessment of a patient for the suitability of oral treatment; the prescribing clinician is contacted to suggest the change if oral therapy is suitable; this is usually part of an IVOST policy

# Interventions reported in the literature

## **Provider education/Academic detailing**

Various educational methods have been used to influence clinicians to adhere to the institution's best practices; important to promote a team approach to stewardship with all members of the team responsible for appropriate prescribing – involving all in education.



# Outcomes of interventions

## *Reduction in resistance patterns*

There is a relationship between reduced antimicrobial use and reduced rates of resistance

Evidence for this is however surprisingly sparse and sometime conflicting!

Also established relationship between antimicrobial stewardship and reduced healthcare associated infections

# Outcomes of interventions

*Economic advantages reported*

*But*

Patient outcomes and costs of the intervention implemented are often not considered

# Outcomes of interventions

## *Patient outcome measures*

Usually defined as a “clinical cure” or a “clinical failure”

NB: Length of hospital stay is not necessarily an accurate measure of clinical outcomes

# But overall.....

There is a lack of evidence as to which is the best way to optimise antimicrobial treatment with some conflicting results

There is a need for more, well designed trials

There is also need to tailor programmes so that they “fit” with local practices

# Thank you for participating!

