A strategy to reduce co-amoxiclav resistance and Clostridium *difficile* infection rates

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Background

- **Antibiotic exposure** is a risk factor for developing *Clostridium difficile* infection
- Limiting exposure to certain antibiotics by **restrictive antimicrobial stewardship** is effective for reducing CDI.

- **Resistance to antibiotics is a global threat**
- Resistance is accelerated by the **misuse and abuse** of antibiotics
- Co-amoxiclav is one antibiotic which is commonly overused by all Health Boards in Wales
- Due to this overuse co-amoxiclav resistance is high especially in Cwm Taf where resistance rates are up to 51.3% in E. coli bacteriæmias.
The plan

<table>
<thead>
<tr>
<th>Co-amoxiclav removed from secondary antimicrobial guidelines</th>
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<td>Remove one size fits all drug</td>
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<th>Co-trimoxazole re-introduced</th>
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<td>Against Committee on safety of Medicines advice</td>
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<th>3- antibiotic regimes introduced</th>
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<td>Improve antimicrobial stewardship through use of narrow spectrum antibiotics</td>
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Did it work?

• Concerns were raised about:
  ▫ potential safety impact of introducing co-trimoxazole
  ▫ complex dosing and monitoring of gentamicin

BUT

• The guidelines have been successfully implemented in both health boards.
• Average compliance is up to 85% in Cwm Taf and 95% at Velindre.
Outcomes - Reduced use

Trends in beta-lactam/beta-lactamase inhibitor combinations usage 2009-2014
Outcomes - Reduced use

![Graph showing reduced use of antibiotics over time with a significant decrease in antibacterial use as indicated by the red arrow.]
Outcomes - Clostridium *difficile*

Chart 1. Cwm Taf University Health Board monthly numbers of C. difficile, for the period Apr 10 to Aug 15

New guidelines introduced
Outcomes - *Clostridium difficile*

Velindre Cancer Centre

Number of C. difficile

2013-2014

Month
Outcomes - Resistance

It’s too soon to tell!
Changes in resistance takes months to see a difference
Outcomes - any harm?

- Anecdotal reports suggest there has been no increase in adverse effects seen with co-trimoxazole
- A small audit on gentamicin prescribing showed no toxic levels or rises in creatinine due to gentamicin.
Conclusions

• Early indications have shown the removal of co-amoxiclav from guidelines can be an effective strategy for reducing resistance and CDI.
• However it is important to note that restriction of an antibiotic is only one part of a successful antimicrobial stewardship programme.
Thank you for listening

Any Questions?