Antimicrobial Stewardship
Northern Ireland

Dr Lorraine Doherty
Assistant Director of Public Health
(Health Protection)
Public Health Agency
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Co Authors
Dr Muhammad Sartaj. SpR Public Health
Ms Sinead Mc Ilroy, Chair NI Regional Antimicrobial Pharmacists Network
Antimicrobial Stewardship
The first Antimicrobial Resistance Action Plan (AMRAP) Northern Ireland

✓ Launched in 2002.
✓ Identified 6 priority areas for targeted action:
  - Prudent antimicrobial use in the community;
  - Prudent antimicrobial use in hospitals;
  - Infection control;
  - Prudent antimicrobial use in animals;
  - Education, information dissemination and research, and Surveillance.
Examples of Key AMRAP Achievements

- CAP prescribing guidelines - For Primary care audit of Primary care Prescribing guidelines
- AMRAP commissioned a series of research projects Interactive training pack: ‘The Bug Investigators’ to all schools
- All-Ireland conferences
- Appointment of an antimicrobial pharmacist
NI Strategic Approach to Antimicrobial Resistance

- Antimicrobial Resistance Action Committee (ARAC) convened 2008
- Need for regional strategic approach identified and action agreed.
- Strong focus on Antimicrobial Stewardship
Development of the NI Strategy for Tackling Antimicrobial Resistance (STAR)

ARAC identified the key areas for future action and agreed that this Strategy and the accompanying Action Plan should include a focus on antimicrobial stewardship.

1. Antimicrobial stewardship in all HSC settings;
2. Monitoring of antimicrobial usage and surveillance of resistance;
3. Professional education and practice;
4. Public engagement and information, and
5. Research and development.
Elements of Northern Ireland Antimicrobial Stewardship Programme (AMS)

- Antimicrobial Management team
- Trust AMS policy- should include
  - Antimicrobial Trust guideline development and implementation
  - Monitoring of Implementation
  - Provision of Appropriate information
  - Education and Training

- Quality Improvement Measures- This should include both process and outcome indicators
Potential Indicators for Our AMS Programme (Logical Framework)

- Indicators at output level
- Indicators at outcome level
- Indicators at Impact level
Potential indicators at Output level

- Each Trust has an appropriate Policy and implementation plan in Place.
- Audit on Compliance with guidelines conducted.
- Regular Updates of Trust guidelines for antibiotic prescribing.
Potential Indicators at Outcome level

- Total antimicrobial load by class;
- Total Defined Daily Doses (DDDs) of all antimicrobial agents;
- Usage trends by DDD of agents that have a high, medium and low propensity to cause *C. difficile*;
- Ratio of IV to oral antimicrobial use;
- Percentage compliance with guidelines;
- Antimicrobial spend per bed day, and Antimicrobial load per bed day.
Potential Indicator at Impact Level

- Decrease mortality from drug resistant microbes.
- Decrease in Number of infections with resistant bacteria.
Example of Implementation in Southern Trust, Northern Ireland

The Southern Trust, as part of an antibiotic stewardship programme implemented the following measures in 2009:

- New guidelines for antibiotic treatment and surgical prophylaxis with removal of cephalosporins and quinolones except for selected conditions.
- Audit of compliance with Trust antibiotic guidelines and timely feedback of information to the clinician via E-dash board.
- Weekly antibiotic ward rounds.
Outcome of Implementation in Southern Trust

- 75% reduction in the use of high-risk antibiotics.
- 25% increase in the use of low-risk antibiotics,
- Equating to a total reduction in antibiotic use of 6%
- Lead to substantial reduction in antibiotic expenditure
75% reduction in the use of high-risk antibiotics (Southern Trust)
C. difficile rate was reduced by 77% from 162 cases in 2008 compared with only 38 in 2009

Figure 2: Incidence of C. difficile infections

CDI infections per 1000 bed days

- Craigavon Area Hospital (CAH)
- Daisy Hill Hospital (DHH)
Antimicrobial Pharmacists Network

- 2008 – DHSSPS funding Trust Antimicrobial Pharmacists.
- Anticipated key role – ensure safe and effective antibiotic prescribing at ward level through the implementation regional antibiotic prescribing policies.
- DHSSPSNI requested that the antimicrobial pharmacists would operate as a regional network
- Joint working arrangement across Trusts - all antimicrobial pharmacists and in multidisciplinary clinical teams (including microbiologists and ID specialists, IPCNs and primary/secondary care medicines governance pharmacists)
Function of Regional Network

- Regional antimicrobial guidelines
- Risk management strategies
- Policy implementation at practice level
- Education and awareness
- Clinical audit
Antimicrobial Stewardship Pack for Primary Care

- Assist GP practices raise awareness of Antimicrobial Stewardship. Antimicrobial stewardship is an activity that includes appropriate selection, dosing, route and duration of antimicrobial therapy.
- Launch 16th November at EAAD event.

HSC Public Health Agency

Improving Your Health and Wellbeing
Example of NI Audit of implementation of the primary care guidelines

Recommended Antibiotic 2008 Vs 2009

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<td>17%</td>
<td>27%</td>
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<td>20%</td>
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Links with HCAI work Programme

- Chair of AMP Network sits on Regional HCAI Forum
- Antimicrobial Pharmacist for Primary Care part of Joint Working Team
- ECDC Point Prevalence Survey 2012
Community onset CDI cases receiving Antimicrobial Therapy in Northern Ireland, Jan-Jun 2011
Summary

✓ STAR document awaited
✓ Work ongoing to enhance antimicrobial stewardship and monitoring in health and social care system
✓ Work programme on HCAIs closely aligned
✓ Improvements to surveillance of antimicrobial resistance required
✓ Data linkage projects on AMR underway
✓ EAAD event 16th November, Belfast
Many Thanks