Antimicrobial Stewardship: Sharing Best Practice

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AMS in Wound Care

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NHS
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Current Status

- Antimicrobial resistance (AMR) is increasing and most worrying is the resistance of first line antibiotics to common infections

- AMR has been detected in common wound pathogens e.g. methicillin resistant Staphylococcus aureus (MRSA)

- WHO has listed AMR as one of the ten greatest global threats
  - Only 12 new antimicrobial drugs entered the market from 2017 to 2021
  - Current antibiotics may become useless within the next few decades
  - Things as common as strep throat or child's scratched knee could once again kill

UK AMR National Action Plan 2019-2024 - Recap

Lincolnshire Community Health Services NHS Trust

KEY TARGETS FOR INFECTION BURDEN

MEASURING SUCCESS

Target: to reduce the incidence of a specified set of drug-resistant infections in humans in the UK by 10% by 2025; and halve the number of healthcare associated Gram-negative blood stream infections

KEY TARGETS FOR ANTIMICROBIAL PRESCRIBING

MEASURING SUCCESS

Target: to reduce UK antimicrobial use in humans by 15% by 2024, including:

- a 25% reduction in antibiotic use in the community from the 2013 baseline;
- a 10% reduction in use of 'reserve' and 'watch' antibiotics in hospitals from the 2017 baseline

New NAP 2024-2029 Human Health Targets

Target 1a: by 2029, we aim to **prevent any increase** in a specified set of **drug-resistant infections** in humans from the 2019 to 2020 financial year (FY) baseline.

Target 1b: by 2029, we aim to **prevent any increase in Gram-negative bloodstream infections** in humans from the FY 2019 to 2020 baseline.

Target 2a: by 2029, we aim to **increase** UK public and healthcare professionals' **knowledge** on AMR **by 10%,** using 2018 and 2019 baselines, respectively.

Target 4a: by 2029, we aim to **reduce** total **antibiotic use** in human populations **by 5%** from the 2019 baseline.

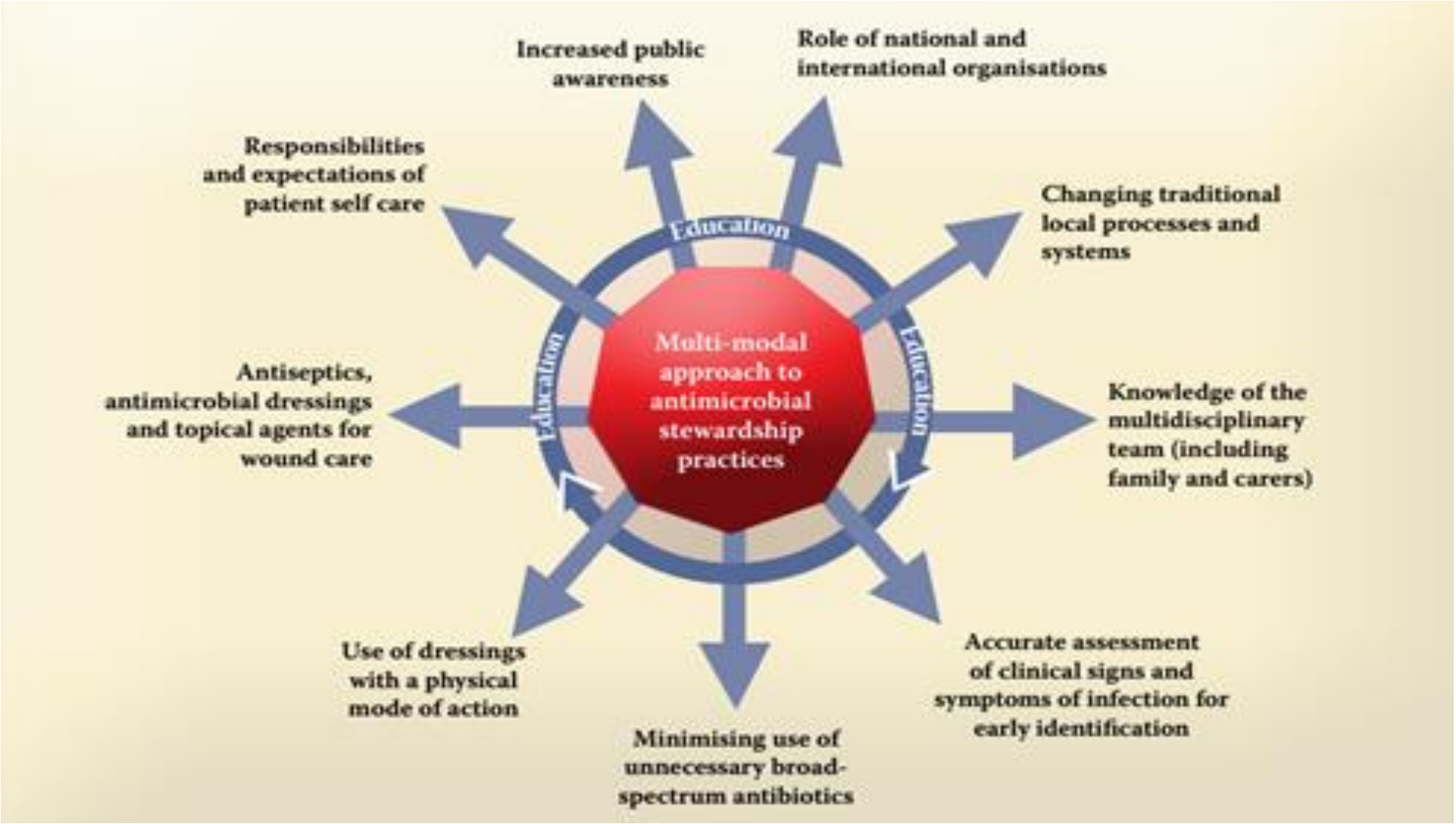
Target 4b: by 2029, we aim to **achieve 70%** of total use of antibiotics from the **Access category** (new UK category) across the human healthcare system.

What is it?

- A solution for reducing and preventing further AMR
  - Multi-modal approach
  - Promoting judicious use of antimicrobials to preserve effectiveness
  - Systemic change and increased public awareness

- In wound care
  - Early identification of infection and infection risk is key
  - Appropriate use of antimicrobials (systemin or topical)

- Everything is underpinned by education
  - Effective infection control methods
  - Effective use of antimicrobials – what, when, where, how and for how long



Multi-modal approach to antimicrobial stewardship practices underpinned by education

Educating patients, family and carers

There is a need to

- Explain antimicrobial resistance
- Address why it is a concern for everyone
- Discuss strategies to reduce the risk of wound infection including
  - Hand hygiene
  - Maintaining a clean environment

Educating the current workforce

Education underpins the delivery of quality care

Healthcare professionals should consistently be educated to a high standard to enable them to deliver safe and effective care (NMC, 2020)

Education on AMS is a vital component to the delivery of best practice and should focus on

- Infection prevention – back to basics approach
- Understanding the infection continuum
- Antimicrobial treatment selection

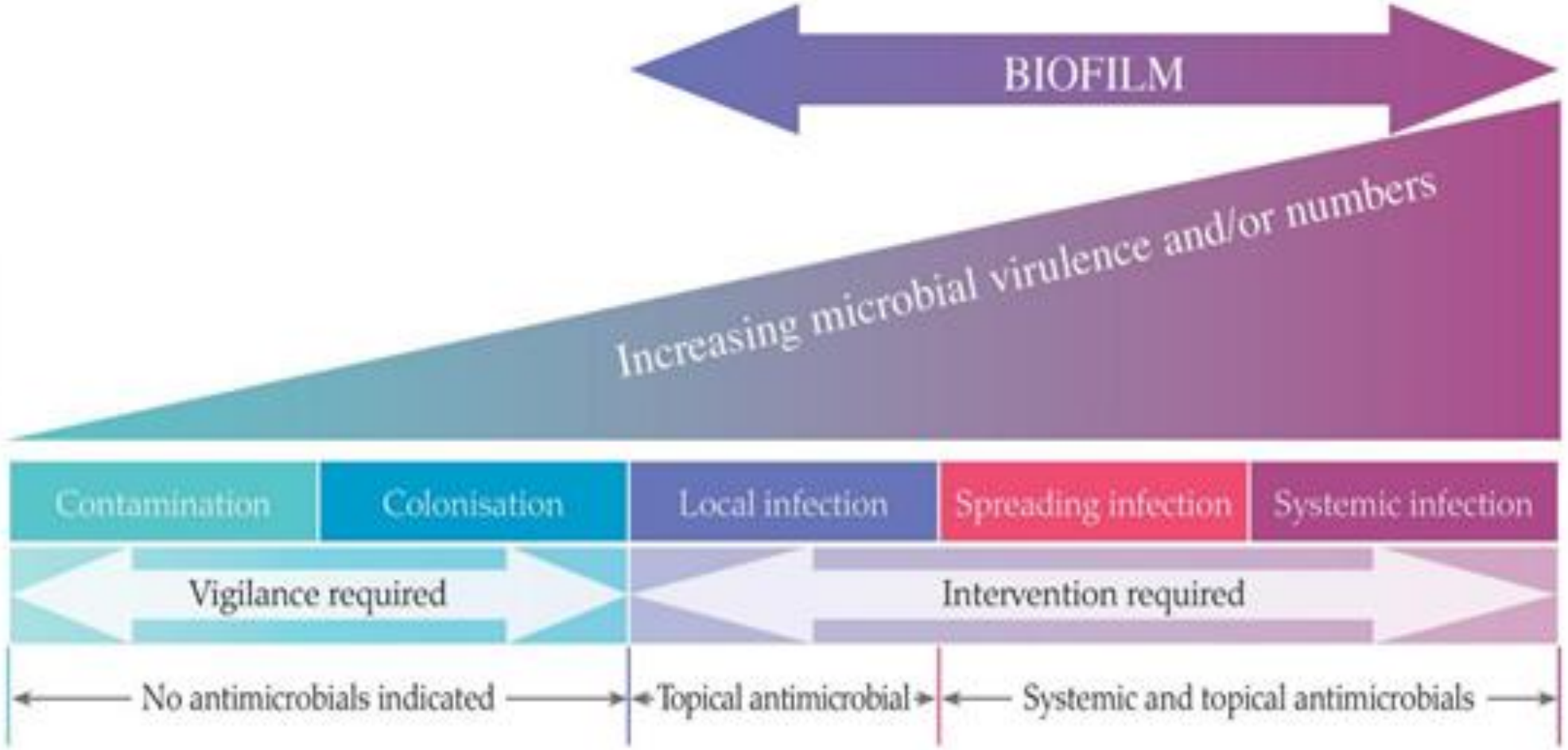
Infection Prevention

- Preventing infections from occurring in the first place is one of the best ways to reduce the need to prescribe antibiotics and prevent AMR

- Every infection prevented reduces the need for and use of antimicrobial which in turn lessens the potential for development of resistance

(Public Health England, 2017)

Understanding the wound infection continuum

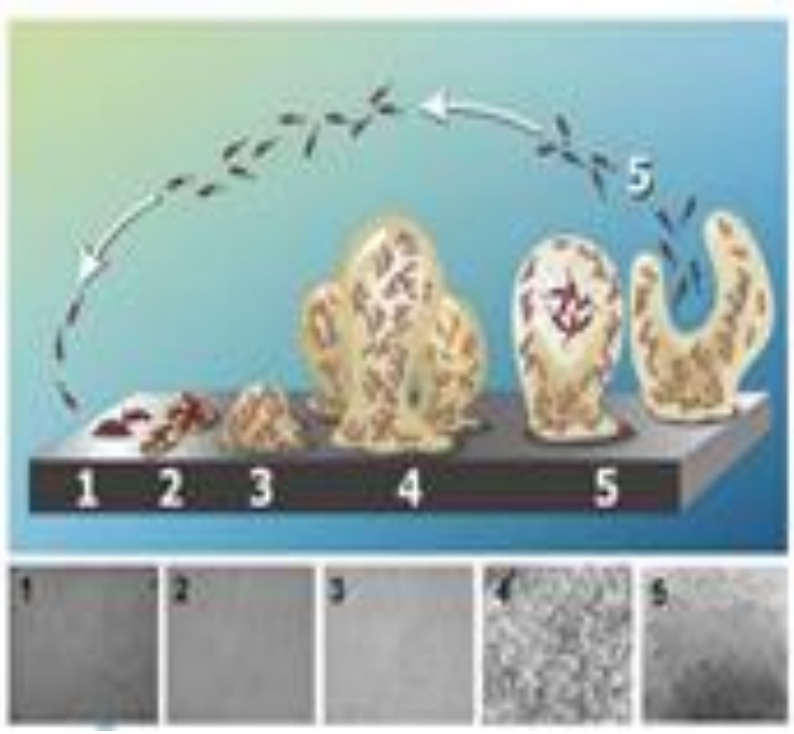


International Wound Infection Institute (2016)

Biofilm

What are they?

- Surface attached communities of microorganisms embedded in a thick slimy barrier of sugars and proteins
- Barriers shield microorganisms from the bodies natural immune system and from many antimicrobial agents
- Can form in a wound within 24 hours



Antimicrobial treatment selection

Wound care staff should

- Be aware of local polices
- Consider antibiotic sensitivity problems
- Regular review of antibiotics and topical antiseptics used
- Frequent holistic re-assessment of the wound – Scottish Ropper Ladder for Infected Wounds
- 8 rights of medicines administration

(Public Health England, 2017)

Acute and Chronic wound infection

Acute Wounds

- Usually clear indicators of infection
- Swab – single organism
- Usually treat with antibiotics

Acute and Chronic wound infection

Chronic Wounds

- Local infections are more difficult to diagnose
- Swab – usually multiple mixed organisms
- 78.2% of chronic wounds have biofilm
- Only use systemic antibiotics in chronic wounds when there is evidence of systemic infection

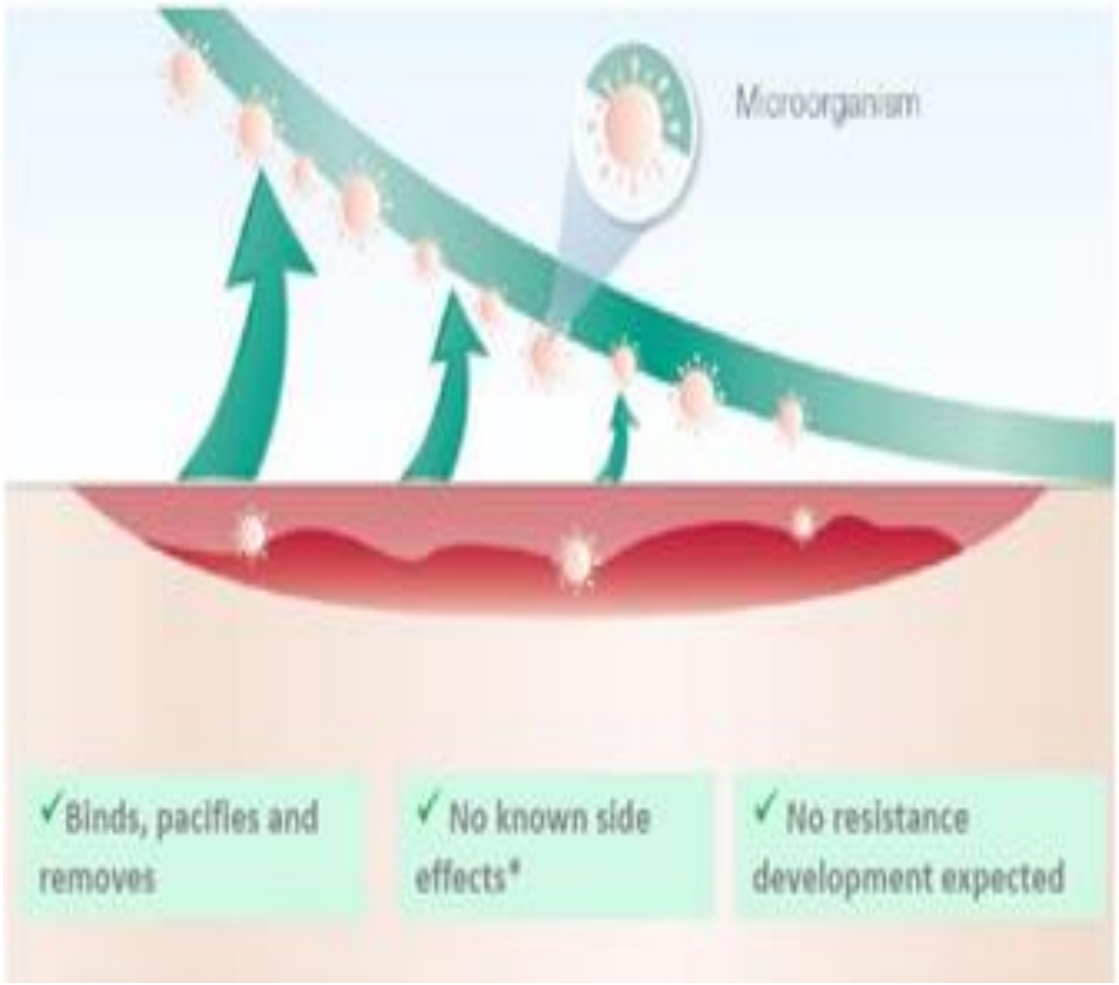
Identifying when to use antimicrobials

- Change in wound Parameters
  - Increase in exudate, pain, redness, temperature, odour , measurements
  - Consider topical antimicrobials

- Change in the patient's clinical picture
  - Spreading or systemic infection, RED flags > think sepsis
  - Consider topical antimicrobials AND systemic antibiotics

- Biofilm presence
  - Biofilm-based wound care
  - Debridement, cleaning and topical antimicrobials

Do I really need to use an antimicrobial dressing?



Dressings with a physical mode of action

These dressings remove bioburden without the need for an antimicrobial agent

Treatment for wound infection that do not involve the use of antibiotics, antimicrobials or antiseptics are essentials in promoting AMS (WUWHS, 2020)

Key points going forward

- AMS requires a multidisciplinary approach
- Education is key
- Rapid intervention if spreading or systemic infection is suspected
- Topical antimicrobial treatment should be monitored
- Knowledge of dressing properties and antiseptics is required
- Knowledge of when, what and how to apply antimicrobial dressings is needed
- Clinical decision-making must be based around AMR and AMS principles

Change is difficult for anyone but in the current climate, it is essential we adhere as much as possible to AMS strategies

Thank You