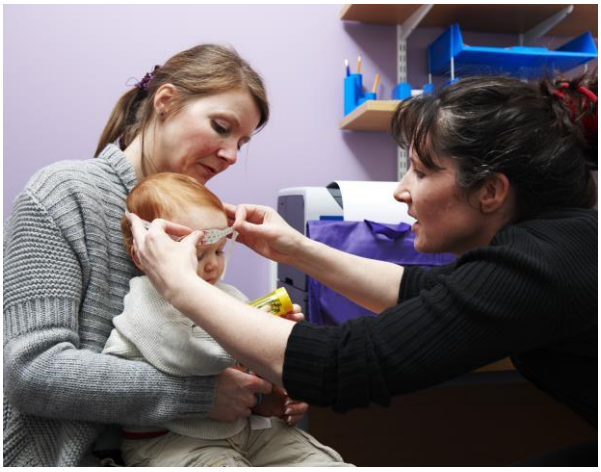
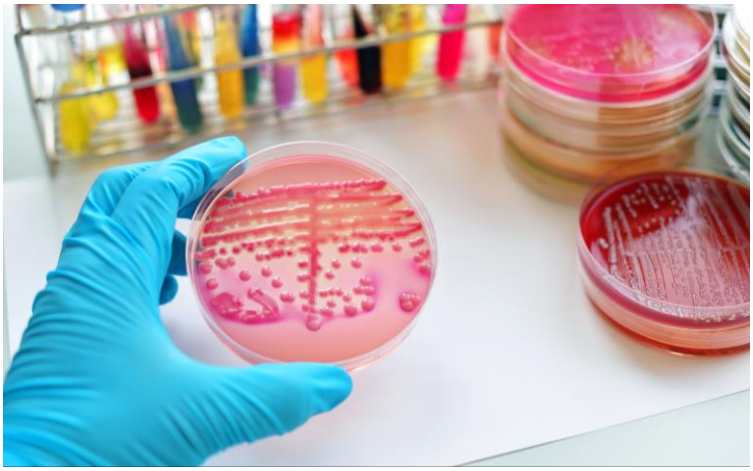
NHS
Health Education England

Embedding national antimicrobial prescribing and stewardship competences into curricula

A survey of health education institutions

Executive summary





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Executive summary

Background

The threat posed by antimicrobial resistance to the future of healthcare and modern medicine is widely recognised. Education of healthcare workers and students on rational infection control, antimicrobial prescribing and antimicrobial stewardship is a key part of antimicrobial resistance containment activities. Health Education England (HEE) is responsible for ensuring that our future workforce has the right numbers, skills, values, cultural sensitivities and behaviours to meet patients' needs and deliver high quality care. The antimicrobial prescribing and stewardship (AMPS) competences can provide clarity for regulators, education providers and professional bodies to inform standards, guidance and the development of training. The competences consist of five dimensions; infection prevention and control, antimicrobial resistance and antimicrobials, the prescribing of antimicrobials, antimicrobial stewardship and monitoring and learning.

Methodology

A gap analysis/self-assessment survey was sent through HEE local offices to health education institutions asking questions about how antimicrobial prescribing and stewardship competencies were being embedded into the undergraduate curricula of health care students. The survey was completed separately for each of the courses; medicine, adult nursing, dentistry, pharmacy, midwifery, independent prescribing courses and allied health professionals. Respondents were asked to name the responding health care courses; their awareness of the national AMPS competencies; which undergraduate or independent prescribing courses specifically include learning content to address the five dimensions of the AMPS competences; the main mode of antimicrobial resistance content delivery; and methods used to evaluate learners' knowledge about antimicrobial resistance content.

Results

We had responses from 45 universities who provided responses for 100 different heath courses, including 17 medical, 13 pharmacy, 22 independent prescribing, 5 dental, 23 nursing, 13 midwifery and 7 allied health professional courses. 86 courses (86%) confirmed they were aware of these AMPS competencies. Overall implementation of each domain was as follows:

COMPETENCY	**Dentistry**	**Pharmacy**	**Medicine**	**Midwifery**	**Nursing**	**Indep prescr**	**Allied Health**
1: Infection prevention and control.	100%	98%	99%	85%	86%	72%	94%
2: Antimicrobial resistance and antimicrobials.	97%	100%	99%	59%	56%	75%	41%
3: Prescribing antimicrobials.	88%	81%	96%	41%	29%	90%	30%
4: Antimicrobial stewardship.	73%	77%	91%	51%	42%	77%	25%
5: Monitoring and learning	50%	48%	63%	23%	16%	68%	14%
Total average	**82%**	**81%**	**90%**	**52%**	**46%**	**76%**	**41%**

Conclusion

We had an average response rate of 46% from all health education institutions, and more may need to be done to explore how and what the rest of the 54% have done to implement the AMPS competences. The average implementation rate for all universities and courses was 67% for all the dimensions. This may not be satisfactory for some courses, especially in relation to the levels of professional clinical practice expected from qualified professionals. HEE may have a role in raising awareness nationally through its local offices, individual professional schools councils, professional bodies, regulators and the royal colleges.

Recommendations

Recommendations for HEE

- Inform the four regional directors of education and quality, local teams, advisory groups and local deans of the variation with which antimicrobial prescribing and stewardship (AMPS) principles are included within curricula.
- Inform relevant bodies including The Medical Schools Council, Dental Schools Council, Pharmacy Schools Council, Council of Deans of Health, Health and Care Professions Council, professional bodies, professional regulators and the royal colleges of the variation with which AMS principles are included within curricula.
- Explore whether HEE's Standardised Computerised Revalidation Instrument for Prescribing and Therapeutics (SCRIPT) package could be made more widely available to support undergraduate teaching within the prescribing professions.
- Explore the role of antimicrobial resistance, antimicrobial stewardship, infection prevention and control and sepsis within the prescribing simulator training tool for all NHS doctors to practice their prescribing skills.
- Explore further the provision of educational resources and tools on infection prevention and control and antimicrobial resistance and stewardship, designed specifically for undergraduate training.
- Encourage wide publicity when undergraduate students are granted access to HEE's e-Learning for Health (eLfH) resources in 2017, especially those available around infection prevention and control and antimicrobial resistance and stewardship.
- Undertake scoping work to identify whether there are any gap areas in relation to educational resources available to support current prescribers with prescribing antimicrobials and, if necessary, make recommendations to address the gaps.
- Explore the feasibility of an individualised online formative assessment tool for health students and professionals to support learning on infection prevention and control and antimicrobial resistance and stewardship.

Recommendations for other institutions and organisations

- The Medical Schools Council, Dental Schools Council, Pharmacy Schools Council, Council of Deans of Health and Health and Care Professions Council should share the findings of this survey with theirs members and discuss this at their executive committee

meetings. Areas for improvements and promotion of best practices should be highlighted to universities represented on these bodies.

- Professional bodies, professional regulators and the royal colleges should take account of these findings, and consider making recommendations as part of their curricula reviews of health education institutions and postgraduate curricula. They should also explore the possibility including antimicrobial prescribing and stewardship principles in professional registration examinations.
- Public Health England (PHE), Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) and English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) should discuss these findings and consider any gaps that need addressing, including the provision of adequate and effective education tools for undergraduate students, around infection prevention and control and antimicrobial resistance and stewardship.
- Universities should consider the results of this survey within their institutions, and use up to date national guidance and other resources on antimicrobial resistance and stewardship in their learning materials to teach undergraduate students.
- Clinical tutors and lecturers should be made aware of how and where to access the latest national information on principles around infection prevention and control, antimicrobial resistance and antimicrobial stewardship.
- All stakeholders should consider the importance of making students aware of how to recognise, and assess patients on the risk of developing antibiotic associated hypersensitivity reactions. An educational resource to support this learning for all health workers should be considered.
- The uptake of online learning resources around infection prevention and control and antimicrobial resistance and stewardship for undergraduate learning, should be encouraged and supported by the Medical Schools Council, Dental Schools Council, Pharmacy Schools Council, Council of Deans of Health and Health and Care Professions Council.
- All health universities should proactively raise awareness of issues around antimicrobial resistance, such as through national initiatives like the European Antibiotic Awareness day and Antibiotic Guardian campaign. Clinical lecturers, tutors and students should all be encouraged to take the pledge of becoming antibiotic guardians. Information raising and sharing on antimicrobial resistance with local communities should be encouraged.
- Educational outreach by clinicians and health professionals to universities on infection prevention and control and antimicrobial stewardship should be encouraged. Local antimicrobial networks should consider building links with local health universities, and support any learning requirements that undergraduate students may have. This could be actioned locally through sustainability and transformation plans (STPs) with support from local workforce action boards (LWABs).

- The inclusion of members of the multidisciplinary team to support teaching and learning on infection prevention and control, antimicrobial resistance and stewardship. Interdisciplinary learning on this area should be encouraged.
- Providers, commissioners and local authorities should be reminded of their responsibilities in ensuring that training sites provide opportunities for trainee prescribers and undergraduates on clinical placements to develop the knowledge and skills around antimicrobial prescribing and stewardship expected from fully qualified practitioners, and ensuring that their qualified staff remain up to date. All clinical staff should receive education on antimicrobial resistance as part of mandatory training.